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MCAS EL TORO
SSIC NO. 5090.3.A

Final

Letter Report, Supplemental Groundwater Sampling, IRP Site 2 Groundwater,

FORMER MARINE CORPS AIR STATION EL TORO, CALIFORNIA

Base Realignment and Closure
Program Management Office West
1455 Frazee Road, Suite 900
San Diego, California 92108

Comprehensive Long-Term Environmental Action Navy
Contract Number N62742-03-D-1837, CTO 0025
DCN: ET-1837-0025-0005

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Letter Report, Supplemental Groundwater Sampling, IRP Site 2 Groundwater,

FORMER MARINE CORPS AIR STATION EL TORO, CALIFORNIA

Prepared for:
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Comprehensive Long-Term Environmental Action Navy
Contract Number N62742-03-D-1837, CTO 0025
DCN: ET-1837-0025-0005

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A Chain of Custody and Groundwater Monitoring Well Purging and Sampling Log

B Validation Report

ACRONYMS AND ABBREVIATIONS

µg/L	micrograms per liter
1,2,3-TCP	1,2,3-trichloropropane
BCT	Base Realignment and Closure (BRAC) Cleanup Team
bgs	below ground surface
BRAC	Base Realignment and Closure
CFR	Code of Federal Regulations
CLEAN	Comprehensive Long-Term Environmental Action Navy
CTO	contract task order
DO	dissolved oxygen
DON	Department of the Navy
FS	feasibility study
ID	identification
IDW	Investigation-derived waste
IRP	Installation Restoration Program
MCL	maximum contaminant level
msl	mean sea level
NA	Not available
NACFAC	Naval Facilities Engineering Command
NCP	Pollution Contingency Plan
ORP	oxygen reduction potential
PCE	tetrachloroethene
pH	negative log of the hydrogen ion concentration
QAPP	Quality Assurance Project Plan
ROD	Records of Decision
SAP	Sampling and Analysis Plan
SARA	Superfund Amendments and Reauthorization Act
TCE	trichloroethene
U.S.	United States
VOC	volatile organic compound

1. INTRODUCTION/BACKGROUND

Station-wide groundwater is routinely monitored to assess concentration distribution and groundwater elevations at Installation Restoration Program (IRP) sites that do not have a signed Record of Decision (ROD). During the 1st sampling event in March 2006 (Round 23), samples from wells near IRP Site 2 were collected. The result from well 02NEW07 (32 micrograms per liter [μg/L]) was anomalously higher than historic concentrations which ranged from non-detect to 8 μg/L. Since associated quality control parameters did not indicate analytical errors, a re-sampling of the wells was initiated. This sampling was to be conducted during the Round 24 station-wide sampling in November 2006. The sampling was discussed during the September 2006 Base Realignment and Closure Act (BRAC) Cleanup Team (BCT) meeting. The objective was to confirm the anomalous result. In addition, perchlorate distribution was evaluated to provide ancillary and confirmatory data on whether the elevated TCE concentration in well 02NEW07 was caused by changes in the groundwater flow regime. In addition to the IRP Site 2 wells routinely sampled as part of Station-wide sampling, several wells that delineated the VOC plume were sampled. Sampling of these additional wells was conducted in accordance with the Final Sampling and Analysis Plan, IRP Site 2 (CDM 2007). This memorandum presents the procedures and results from this supplemental sampling event and selected wells from the Round 24 sampling event.

This memorandum was prepared for the Department of the Navy (DON), Southwest Division, Naval Facilities Engineering Command (NAVFAC Southwest) as authorized by the United States (U.S.) Navy, Naval Facilities Engineering Command, Pacific (NAVFAC Pacific) under contract task order (CTO) no. 025 of the Comprehensive Long-Term Environmental Action Navy (CLEAN) III program, contract number N62742-03-D-1837. It complies with CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) Title 40 Code of Federal Regulations (CFR), Section [§] 300).

2. SAMPLING PROCEDURES

Groundwater samples were collected from selected existing groundwater monitoring wells, as listed in Table 1, at IRP Site 2 between November 2006 and January 2007 for the purpose of a comprehensive and contemporaneous mapping of groundwater elevations and the VOC distribution. Groundwater monitoring wells 02NEW08A, 02NEW02, 02NEW16, and 02NEW07, were sampled in November 2006 in accordance with the Final Sampling and Analysis Plan (SAP)/Quality Assurance Project Plan (QAPP) (CDM 1996) and the Work Plan Addendum for Groundwater Monitoring (CDM 2000). Groundwater monitoring wells 02NEW18, 02NEW19, 02NEW26, 02NEW27, 02NEW28, 02NEW29, 02NEW30, and 02PZ04 were sampled in January 2007 in accordance with the Final SAP (CDM 2007).

The sampling activities consist of collecting water-level measurements, well purging, and groundwater sampling from selected existing monitoring wells. These wells were selected to assess VOC concentrations at the tetrachlorethene (PCE) plume (02NEW08A), the portion of the trichloroethene (TCE) plume historically with elevated concentrations (02NEW29, 02NEW30, 02PZ04), the TCE distribution near the Station Boundary (02NEW28, 02NEW18, and 02NEW29), the downgradient extent of TCE (02NEW26, 02NEW27, 02NEW07), and the eastern extent of TCE (02NEW16 and 02NEW02).

Low-flow groundwater purge and sampling was conducted using a non-dedicated bladder pump system according to *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures*, EPA Ground Water Issue, EPA/540/S-95/504, 1996.

The locking cap was removed from each well prior to sampling, a photoionization detector (PID) was used to obtain an initial reading for organic vapors, and those readings were recorded on the groundwater monitoring well purging and sampling log, see Appendix A. Water levels in groundwater monitoring wells were allowed to reach their static levels, measured, and recorded prior to the start of sampling.

A new disposable bladder was installed in the QED SamplePro® MicroPurge Bladder Pump at each of groundwater monitoring wells. The outside of the bladder pump was decontaminated using a Liquinox, and deionized water, three-rinse system between monitoring locations. Dedicated tubing from the bladder to the sampling point was used for each well. Nylon string was used to secure the depth of the pump. Once the pump was slowly lowered to and secured at the appropriate depth, it was attached to the QED MP15 Digital Pressure Controller and Power Pack. The pressure controller was set up for 3 cycles per minute (cpm), of 16.0 seconds of air refill and 4.0 seconds groundwater discharge at approximately 50 to 75 psi. A Horiba U-22 or YSI 556 was used to measure conductivity, pH, DO, turbidity, and temperature during purging. These readings were recorded on groundwater monitoring well purging and sampling log. In accordance with the Final SAP, groundwater samples were collected once the parameters stabilized within 10 percent for three consecutive measurements, and turbidity was below 10 nephelometric units (NTUs) (or was stabilized within 10 percent if above 10 NTUs). Groundwater parameters were recorded on a sampling and purging log (Appendix A).

All groundwater samples were submitted to a State-certified analytical laboratory and analyzed for VOCs by EPA Method 8260B and perchlorate by EPA Method 314.0.

Liquid investigation-derived waste (IDW) was generated during the following activities:

- Decontamination of non-disposable sampling equipment,
- Decontamination of personal protective equipment,
- Purged water generated during groundwater sampling,

Small quantities of liquid IDW were collected and stored temporarily in five-gallon buckets and transferred to the Site 24 groundwater treatment facility located on Station.

3. GROUNDWATER SAMPLING RESULTS

3.1 GROUNDWATER ELEVATIONS

Groundwater elevations from the wells sampled are summarized on Table 1. These elevations have decreased approximately 1 to 9 feet from the sampling round in May 2005 following the wet year (Earth Tech 2006). The decreases in groundwater elevations at wells 02NEW07, 02PZ04, and 02NEW28 were higher as compared to well 02NEW26. The predominant groundwater gradient direction within IRP Site 2 and to the Station boundary is toward the southwest. As the groundwater flows from IRP Site 2, the gradient direction changes abruptly toward the northwest (Earth Tech 2006).

3.2 VOC DISTRIBUTION

The groundwater analytical results for this supplemental sampling event along with historical data are summarized in Table 2 and the VOC distribution is shown on Figure 1. Groundwater analytical results from previous sampling events and from wells abandoned in late 2003 are also presented on Figure 1 for comparison purposes. Concentration versus time graphs showing reportable concentrations of TCE and PCE from selected wells (02NEW28, 02PZ04, 02NEW26, 02NEW07, 02NEW29/02NEW17, and 02DGMW60/02NEW30) are shown on Figures 3 through 8. Historical analytical results for these wells are shown in Table 2.

The groundwater sampling results from November 2006 to January 2007 show that the TCE plume has the same general spatial distribution and concentrations as previous sampling events (based on existing monitoring wells sampled) with small variations.

- The highest reported TCE concentration was at the replacement well 02NEW29 (170 µg/L). Well 02NEW29 was intended to be a replacement well for 02NEW17. Based on the results from the previous sampling round, the highest TCE concentration was located at well 02DGMW60, approximately 150 feet downgradient from well 02NEW29. Well 02NEW30 was intended to be a replacement for well 02DGMW60 and was located approximately 55 feet cross gradient. The TCE concentration in well 02NEW30 was 39 µg/L as compared to 101 µg/L for well 02DGMW60 for the July 2003 sampling event (Earth Tech 2006). This data indicates that the general distribution is consistent with results from the last sampling event.
- During this event, the TCE concentration at well 02NEW28 was 4.9 µg/L. This value is consistent with concentrations reported during the previous three sampling rounds.
- TCE concentration at well 02NEW26 was 8.7 µg/L during this event. This value is consistent with concentrations reported during the last four sampling events which ranged between 0.9 µg/L (18 May 2005) and 4.5 µg/L (24 August 2005). TCE at this location shows a slight increase.
- Consistent with historical data, TCE was not detected above reporting limits in off station well 02NEW07 during this sampling event. The TCE concentration of 32 µg/L reported during the station-wide sampling event (Round 23) appears to be an anomaly. Therefore, as shown on Figure 1, the downgradient extent of TCE above the maximum contaminant level (MCL) has been defined between groundwater monitoring wells 02NEW26 and 02NEW07.

3.3 PERCHLORATE DISTRIBUTION

The latest perchlorate results are summarized in Table 2 and perchlorate distribution is shown on Figure 2. Analytical results from previous sampling events including data from wells abandoned in late 2003 are also presented in Figure 2 for comparison purposes. Concentration versus time graphs showing reportable concentrations of perchlorate are plotted for selected wells; Figure 9 presents concentrations associated with wells 02NEW07, 02NEW26, 02NEW28, and 02PZ12, and Figure 10 presents concentrations associated with wells 02DGMW60/02NEW30, 02NEW17/02NEW29, 02PZ04, and 02NEW16.

Based on the data collected during the IRP Site 2 investigations and from data collected during the IRP Site 1 RI, perchlorate reported in groundwater at IRP Site 2 is related to the release of

perchlorate at Site 1. Further assessment of perchlorate in groundwater is being conducted as a component of Site 1 investigations. Perchlorate is not considered a chemical of concern at IRP Site 2; however, groundwater collected at IRP Site 2 has been analyzed for perchlorate.

Based on results from the recent sampling events, concentrations of perchlorate in groundwater at IRP Site 2 have the same general spatial distributions and concentrations as previously documented. In general, perchlorate is primarily located to the southeast of the TCE plume as delimited by monitoring wells located in and to the southeastern side of Borrego Canyon Wash. The lateral extent of perchlorate to the southeast is defined by groundwater monitoring well 02NEW02, and the southwestern extent of perchlorate was defined by groundwater monitoring wells in the TCE plume that were abandoned in late 2003 and by existing groundwater monitoring wells 02NEW18 and 02NEW19. The upgradient extent is believed to have originated at IRP Site 1. Reportable perchlorate concentrations extend beyond well 02NEW26 with perchlorate reported at 4.01 µg/L in well 02NEW07.

The highest concentrations of perchlorate at IRP Site 2 during previous monitoring events are associated with well 02PZ12, located on the southeastern side of Borrego Canyon Wash. However, perchlorate concentrations in this well slightly decreased from 20.3 µg/L (25 July 2003) to 16.7 µg/L (27 August 2005); well 02PZ12 was not sampled during the current sampling round. The highest concentration from the current monitoring round was 16.2 µg/L at well 02NEW28. Increases in perchlorate concentrations were observed at well 02NEW28 [from 4.2 µg/L (20 May 2005) to 16.2 µg/L (10 January 2007)] and at well 02NEW26 [from 2.3µg/L (04 September 2004) to 11.0 µg/L (24 August 2005)].

4. QUALITY CONTROL AND DATA VALIDATION

Laboratory data were validated by Laboratory Data Consultants of Carlsbad, California, in accordance with the cited method and

- EPA Contract Laboratory National Functional Guidelines for Organic Data Review, October 1999
- EPA Contract Laboratory National Functional Guidelines for Inorganic Data Review, February 1994
- EPA SW 846 Third Edition, Test Methods for Evaluating Solid Waste, update I, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996)

Laboratory data were validated as specified in the U.S. Navy Engineering Command, Southwest Division, Environmental Work Instruction EW#1. Level IV validation was performed on 20 percent or more of the samples, with the balance validated at Level III.

The data validation findings are summarized, indicating the findings of the review process. Data are reported flagged with appropriate qualifiers to indicate their usability.

Data may was assigned the following qualifiers:

U Not detected (including not present or adjusted detection limit because of blank contamination)

J Estimated concentration

R Data is not usable

Combinations of qualifiers such as UJ are possible.

The field duplicate pairs were compared and the results were within the acceptance criteria. Field and method blanks collected and analyzed did not have any analytes detected that were also detected in field samples.

All data were found usable for the purposes intended and no data was rejected. The qualification assigned to data was considered in the conclusions or recommendations of the investigation.

5. CONCLUSIONS AND RECOMMENDATIONS

The following conclusions were reached based on the results discussed above:

- The elevated TCE concentration at well 02NEW07 appears to be an anomaly.
- Perchlorate concentrations have the same general spatial distribution and concentrations as had been previously observed.
- Data collected during this supplemental sampling event are consistent with previous data regarding the VOC distribution and site conceptual model, which was presented in the Draft Final Feasibility Study (FS) Addendum (Earth Tech 2005) and the Groundwater Contaminant Distribution report (ECS 2005).

Recommendations:

Based on these results, there are no new significant findings that would alter the remedy evaluation. In addition the VOC distribution and groundwater flow regime are consistent with interpretations presented in the Draft Final FS Addendum. It is recommended that the finding presented herein be incorporated into the Proposed Plan.

6. REFERENCES

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Figures

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MCAS EL TORO
SSIC NO. 5090.3.A

SENSITIVE RECORD

PORTIONS OF THIS RECORD ARE CONSIDERED SENSITIVE AND ARE NOT AVAILABLE FOR PUBLIC VIEWING

FIGURES 1 AND 2

FOR ADDITIONAL INFORMATION, CONTACT:

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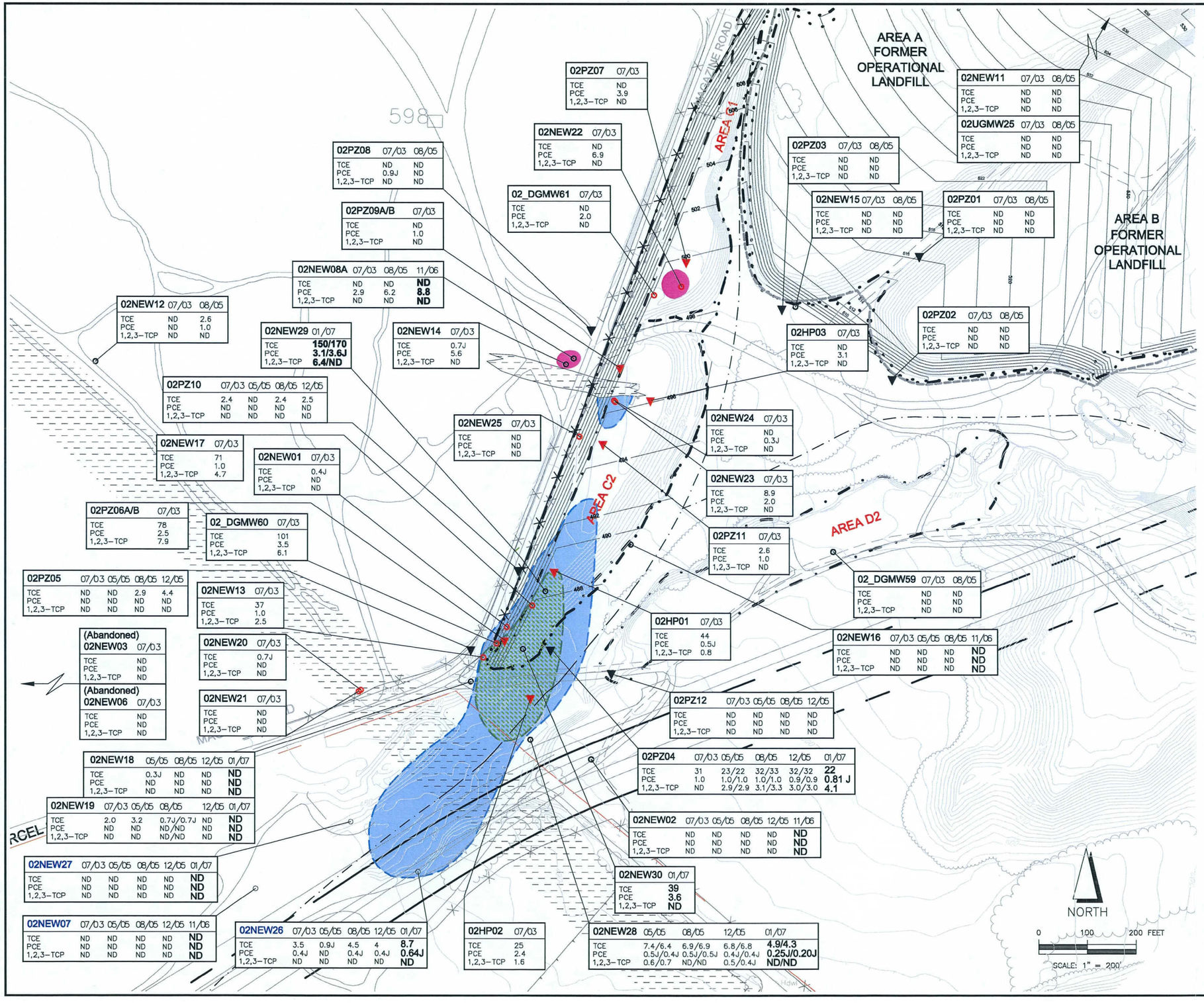
SENSITIVE



EXPLANATION:

- BORREGO CANYON WASH
- UNIMPROVED ROADS
- IMPROVED ROADS
- FENCE
- 600 — ELEVATION CONTOURS IN FEET ABOVE MEAN SEA LEVEL (MSL) CONTOUR INTERVAL = 10 FEET (JULY 20, 2000)
- MCAS EL TORO BOUNDARY
- ALTON PARKWAY RIGHT OF WAY
- APPROXIMATE BOUNDARY OF FORMER OPERATIONAL LANDFILL
- APPROXIMATE LIMIT OF UNCONTROLLED DUMPING
- 02NEW20 — GROUNDWATER MONITORING WELL
- 02PZ01 — PIEZOMETER
- 02NEW22 — ABANDONED GROUNDWATER MONITORING WELL
- 02PZ07 — ABANDONED PIEZOMETER
- 02NEW26 — OFF STATION GROUNDWATER MONITORING WELL
- TCE ABOVE 5 g/L DASHED WHERE INFERRED
- PCE ABOVE 5 g/L DASHED WHERE INFERRED
- 1,2,3 TCP ABOVE DETECTION, DASHED WHERE INFERED
- INFERRED LOWER HYDRAULIC CONDUCTIVITY ZONE WITHIN BEDROCK
- ND — NOT DETECTED ABOVE REPORTING LIMIT
- J — INDICATES ESTIMATED VALUE
- 1J/1 — INDICATES ORIGINAL AND DUPLICATE RESULT
- CONCENTRATIONS SHOWN IN MICROGRAMS PER LITER (µg/L)

Letter Report — Draft

Estimated Extent of TCE, PCE and 1,2,3-TCP in Groundwater

IRP Site 2

Date: 03-07	Former MCAS El Toro	Figure
Project No. 95653	EarthTech — A tyco International Ltd. Company	1

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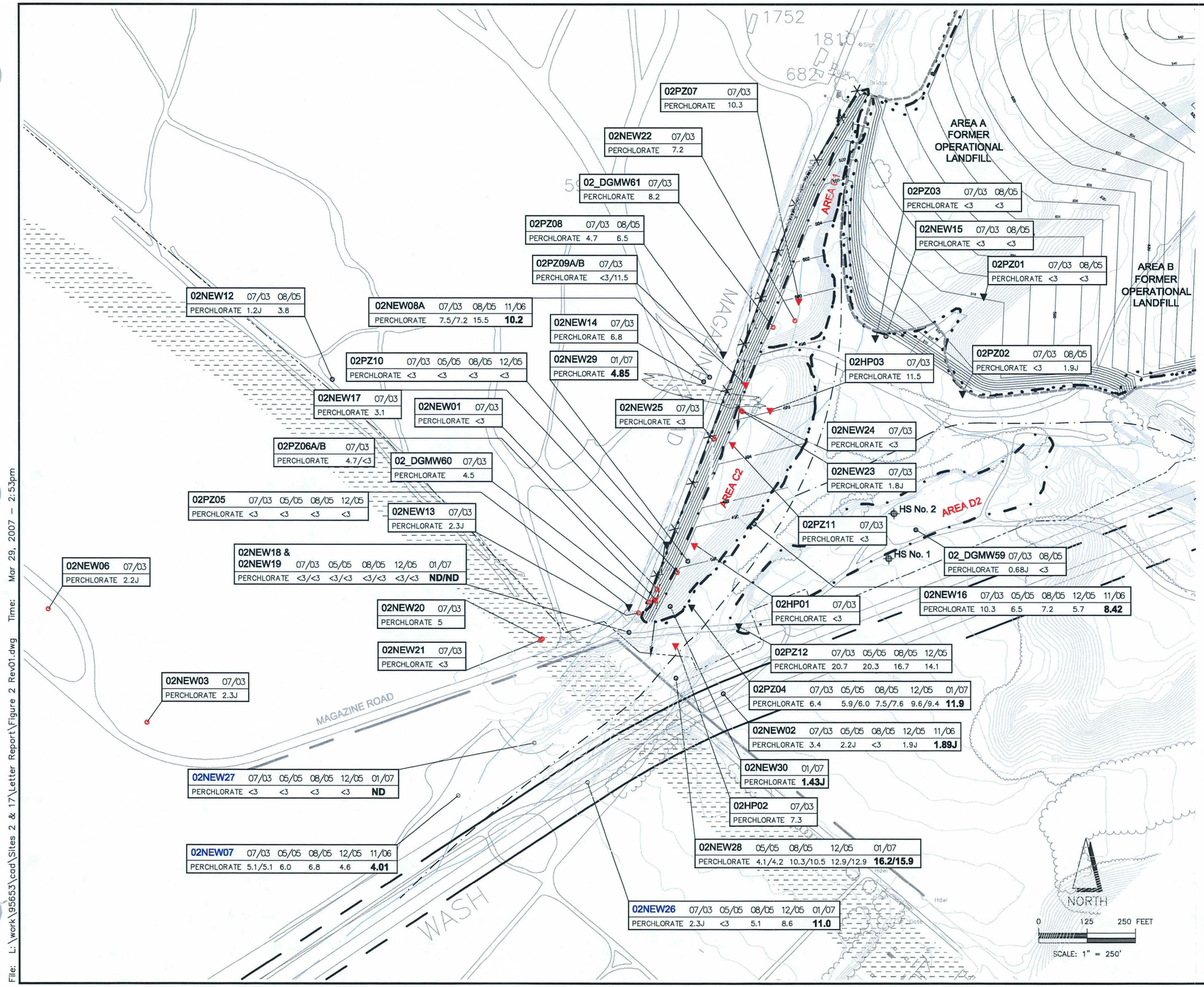

EXPLANATION

- STREAM OR WASH
- UNIMPROVED ROADS
- IMPROVED ROADS
- FENCE
- ELEVATION CONTOURS IN FEET ABOVE MEAN SEA LEVEL (MSL) CONTOUR INTERVAL = 10 FEET (JULY 20, 2000)
- MCAS EL TORO BOUNDARY
- ALTON PARKWAY RIGHT OF WAY
- APPROXIMATE BOUNDARY OF FORMER OPERATIONAL LANDFILL
- APPROXIMATE LIMIT OF UNCONTROLLED DUMPING
- 02NEW24 GROUNDWATER MONITORING WELL
- 02NEW22 ABANDONED GROUNDWATER MONITORING WELL
- 02PZ01 PIEZOMETER
- 02PZ07 ABANDONED PIEZOMETER
- 02NEW07 OFF STATION GROUNDWATER MONITORING WELL
- HS No. 1 HOMESTEAD WELL
- GROUNDWATER DIRECTION (SEPTEMBER 2002)
- POTENTIAL HYDRAULIC BARRIER
- ND NOT DETECTED ABOVE REPORTING LIMIT
- J INDICATES ESTIMATED VALUE
- 1J/1 INDICATES ORIGINAL AND DUPLICATE RESULT
- CONCENTRATIONS SHOWN IN MICROGRAMS PER LITER (µg/L)

Letter Report — Draft

Estimated Extent of Perchlorate in Groundwater

IRP Site 2

Date: 03-07	Former MCAS El Toro	Figure
Project No. 95653	EarthTech — A tyco International Ltd. Company	2

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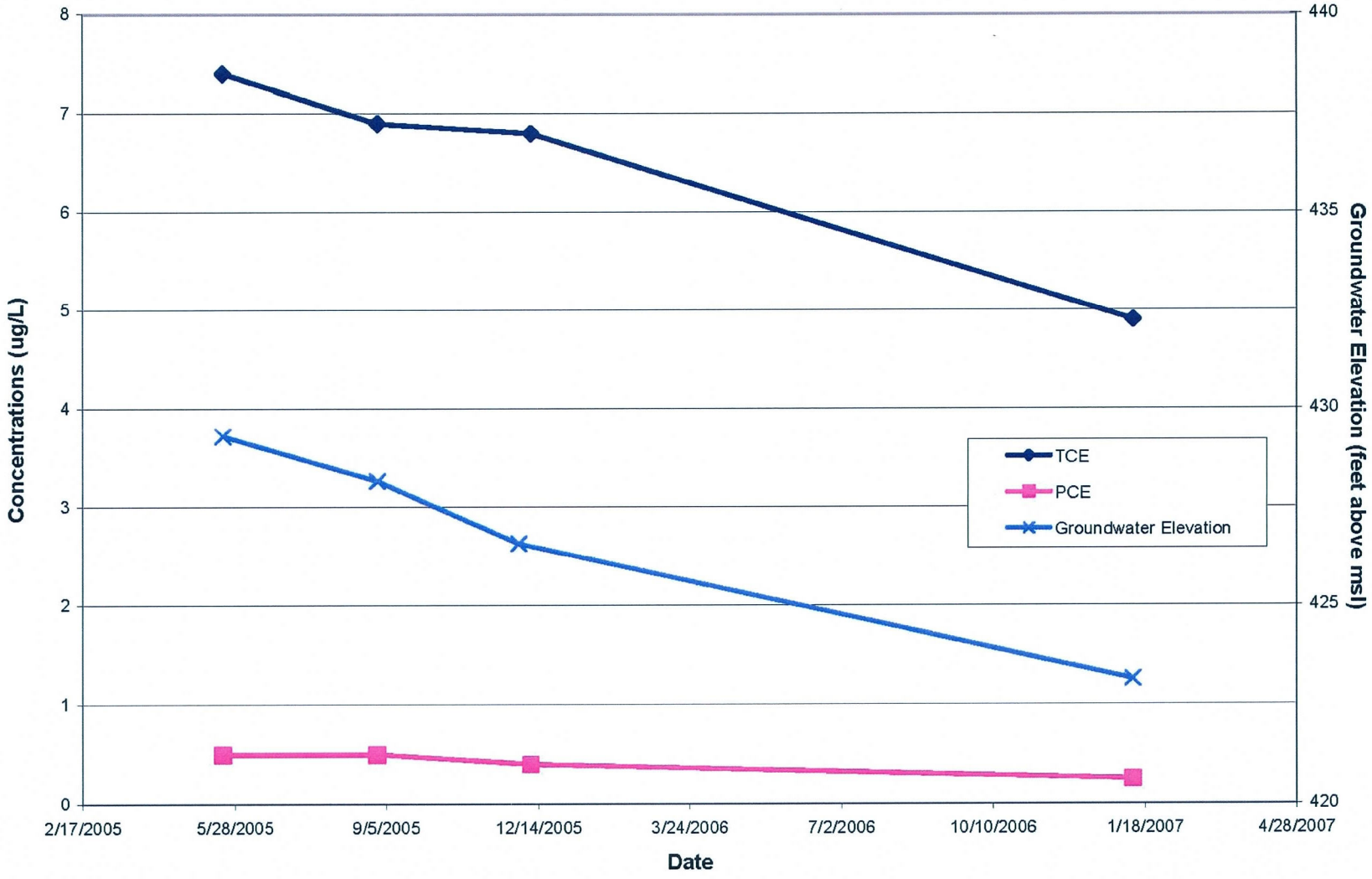

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Well 02NEW28:
TCE and PCE Concentrations vs. Time

IRP Site 2

Date: 03-07	Former MCAS El Toro	Figure
Project No. 95653	EarthTech A tyco International Ltd. Company	3

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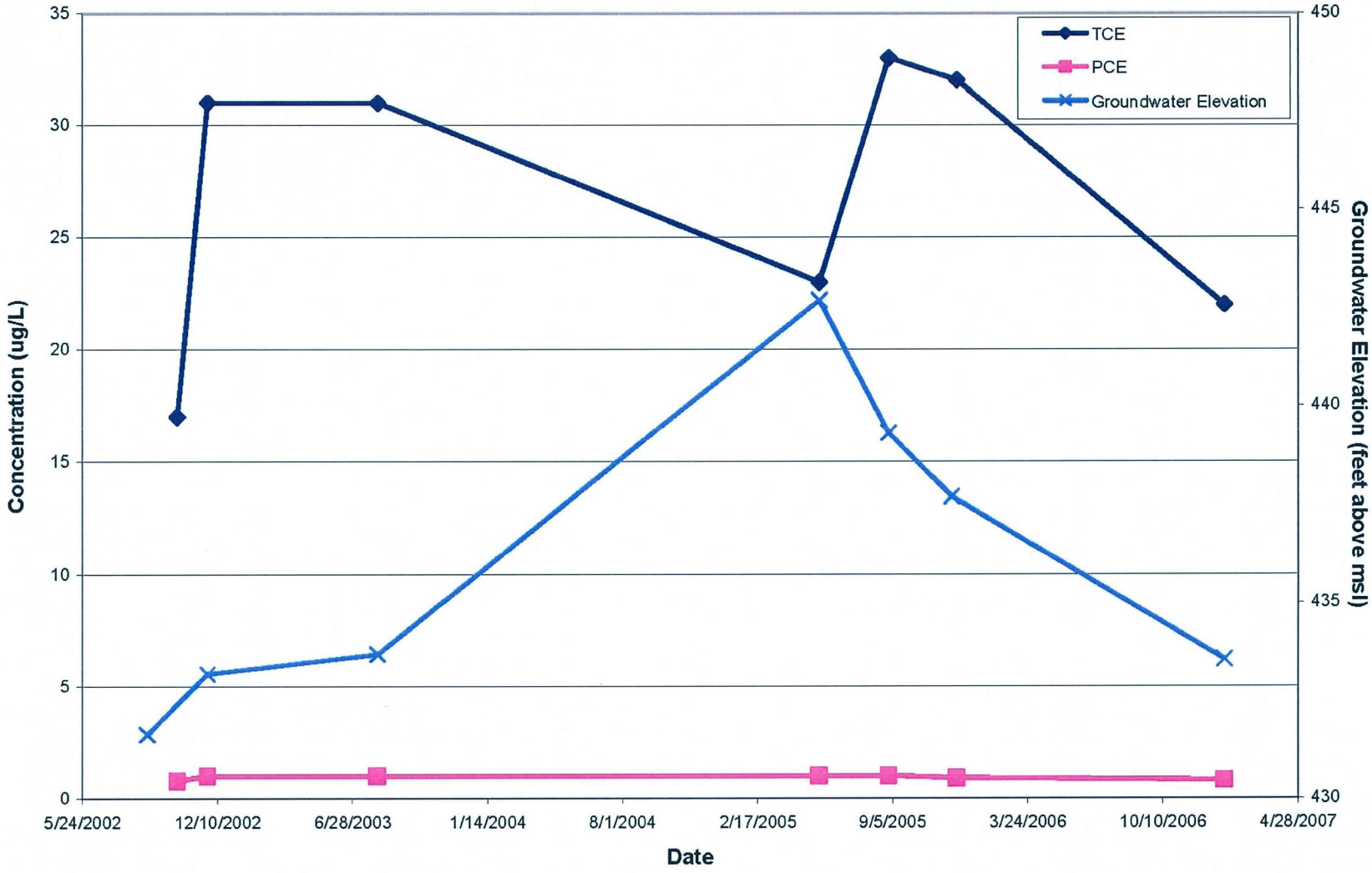

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Well 02PZ04:
TCE and PCE Concentrations vs. Time

IRP Site 2

Date: 03-07	Former MCAS El Toro	Figure
Project No. 95653	EarthTech A tyco International Ltd. Company	4

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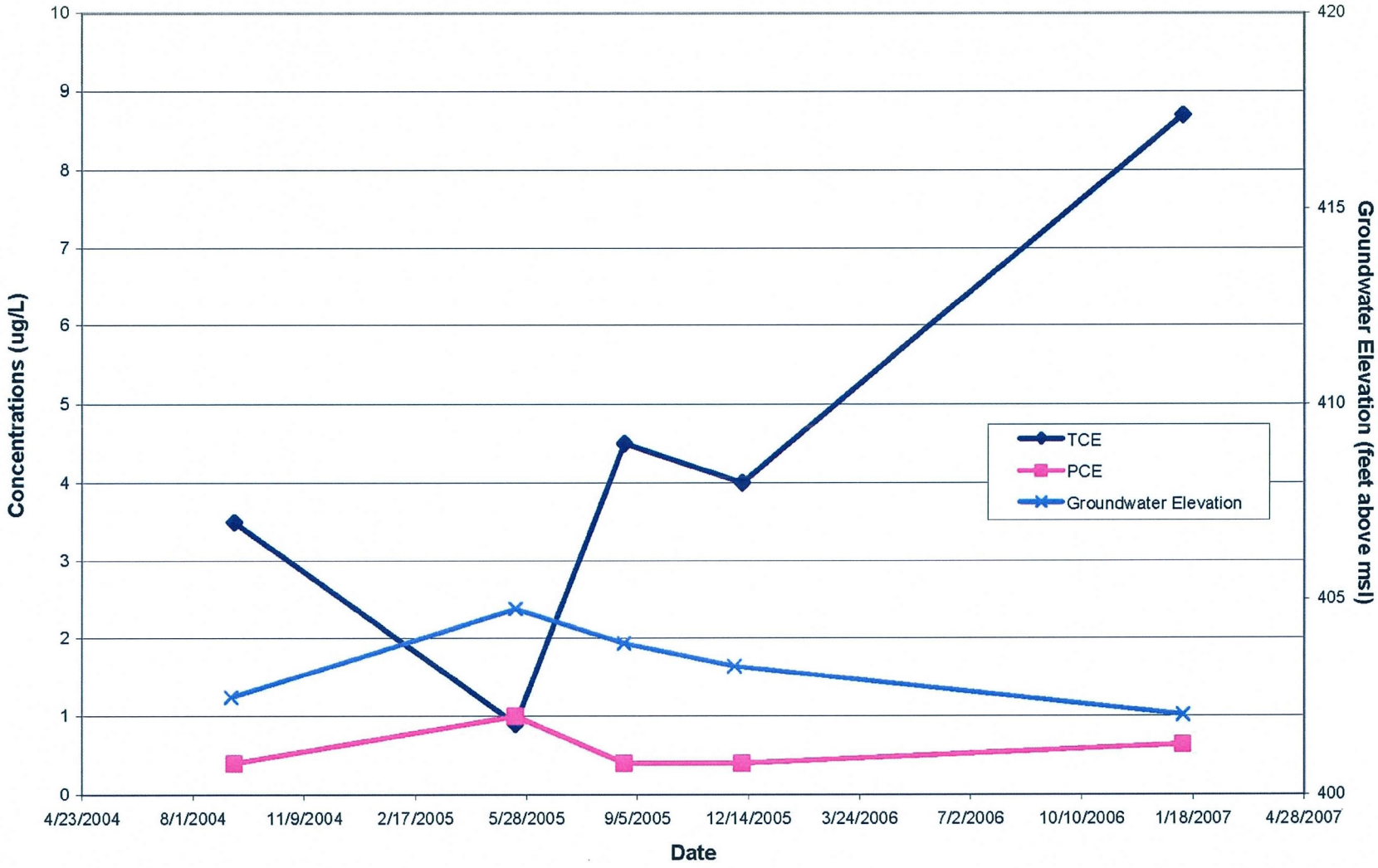

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Well 02NEW26:
TCE and PCE Concentrations vs. Time

IRP Site 2

Date: 03-07	Former MCAS El Toro	Figure
Project No. 95653	EarthTech A tyco International Ltd. Company	5

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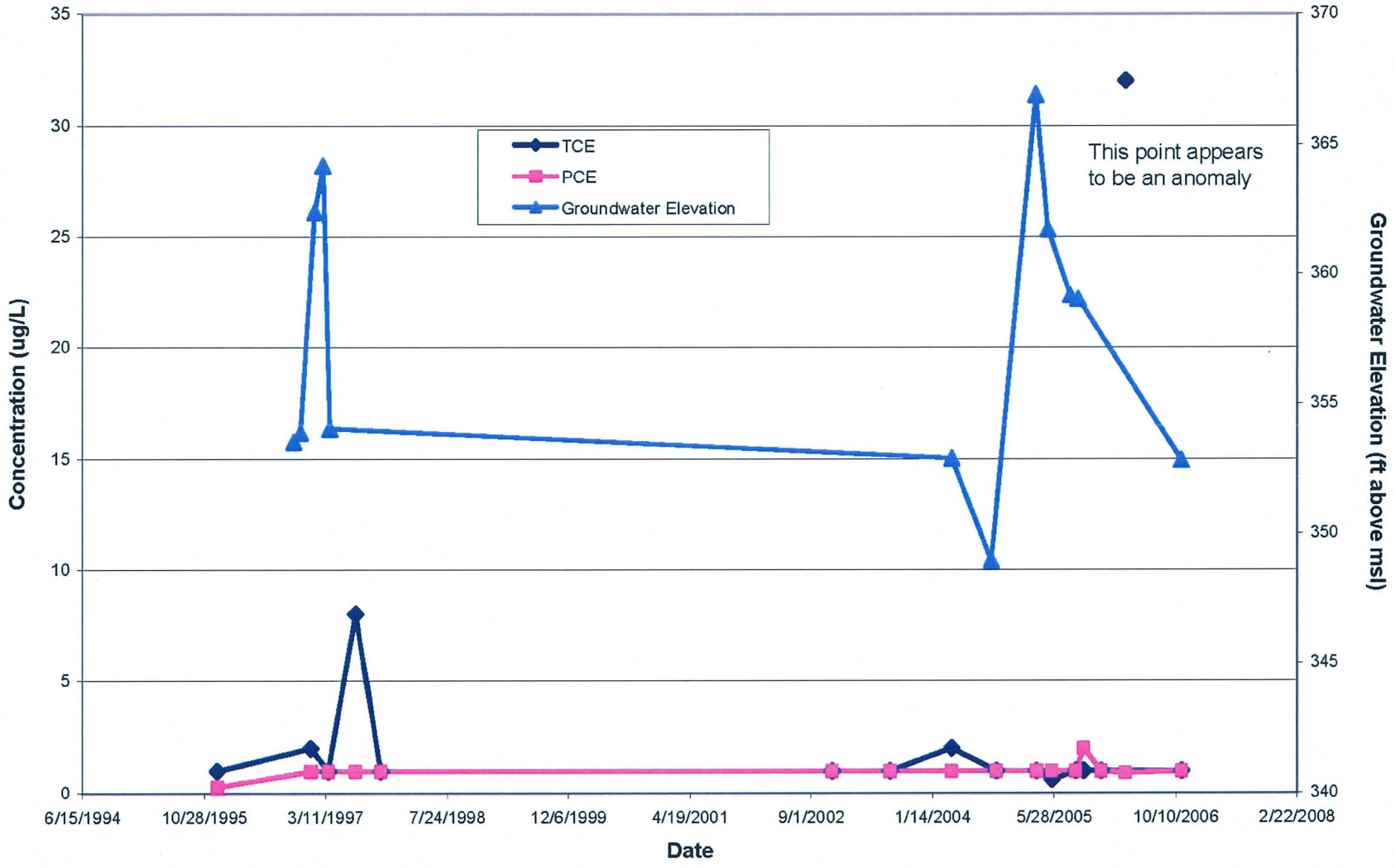

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Well 02NEW07:
TCE and PCE Concentrations vs. Time

IRP Site 2

Date: 03-07	Former MCAS El Toro	Figure
Project No. 95653	EarthTech A tyco International Ltd. Company	6

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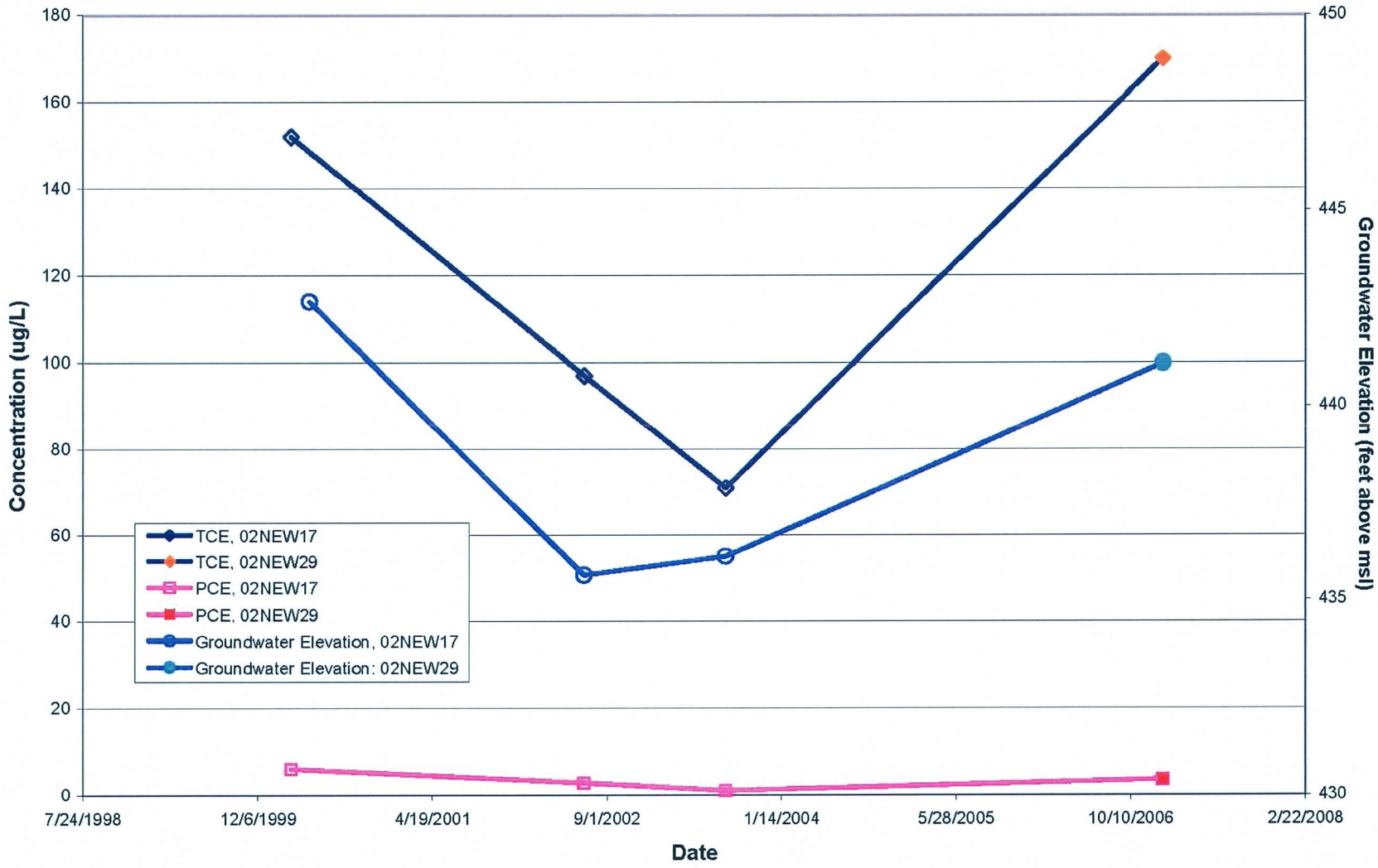

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Wells 02NEW17 and 02NEW29:
TCE and PCE Concentrations vs. Time

IRP Site 2

Date: 03-07	Former MCAS El Toro	Figure
Project No. 95653	EarthTech A tyco International Ltd. Company	7

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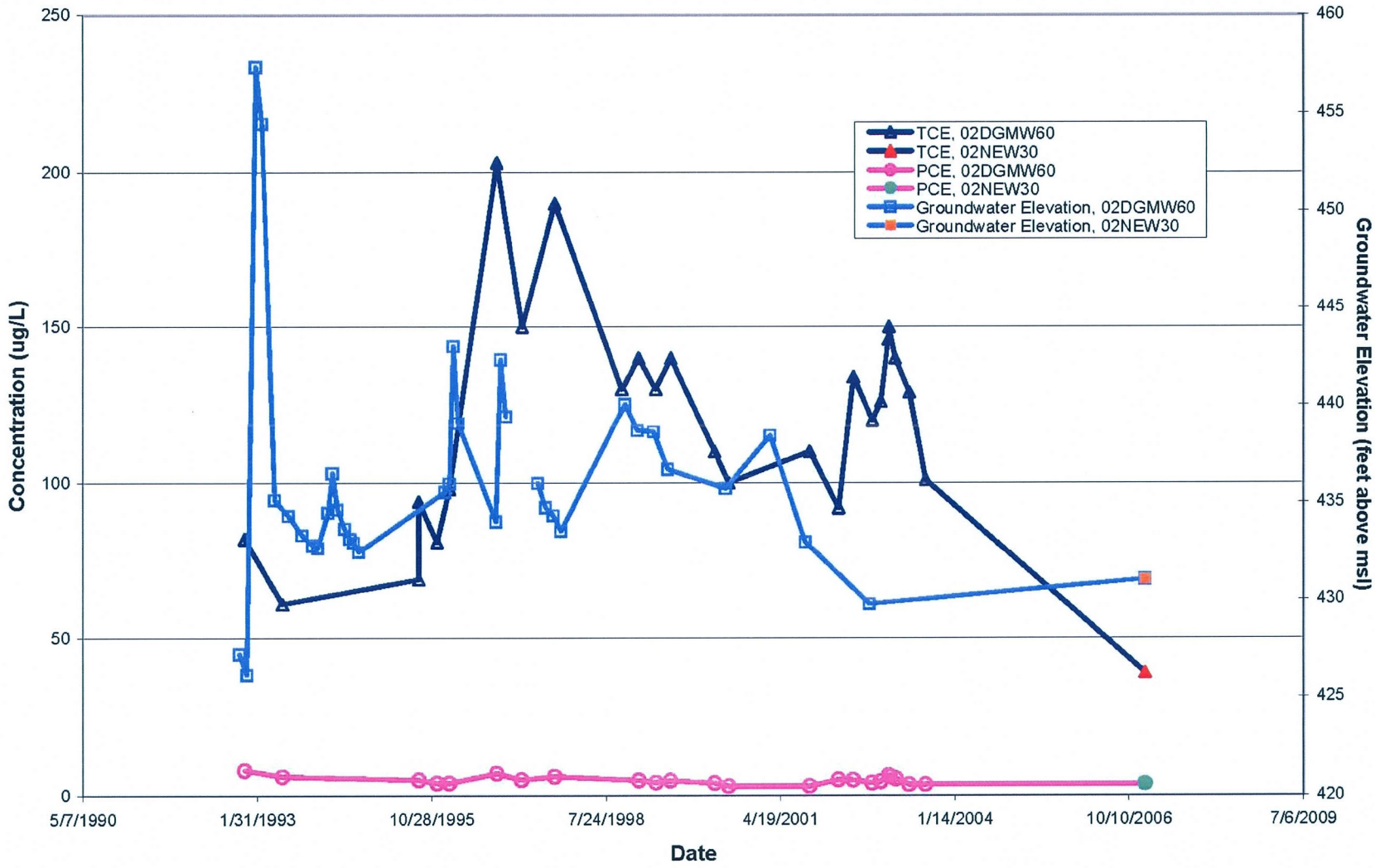

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Wells 02DGMW60 and 02NEW30: TCE and PCE Concentrations vs. Time

IRP Site 2

Date: 03-07	Former MCAS El Toro	Figure
Project No. 95653	EarthTech — A tyco International Ltd. Company	8

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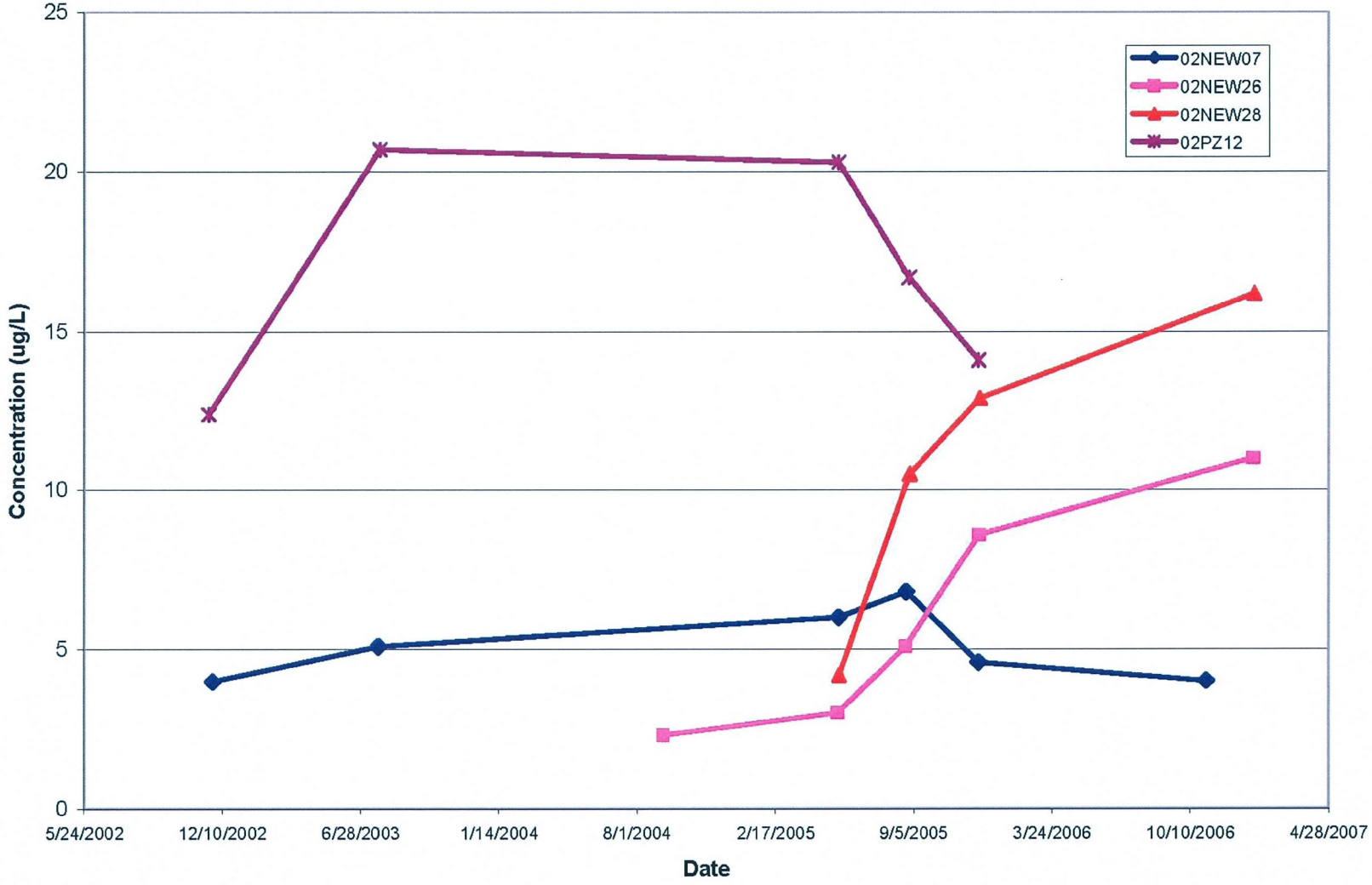

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Perchlorate Concentrations vs. Time

IRP Site 2

Date: 03-07	Former MCAS El Toro	Figure
Project No. 95653	EarthTech A tyco International Ltd. Company	9

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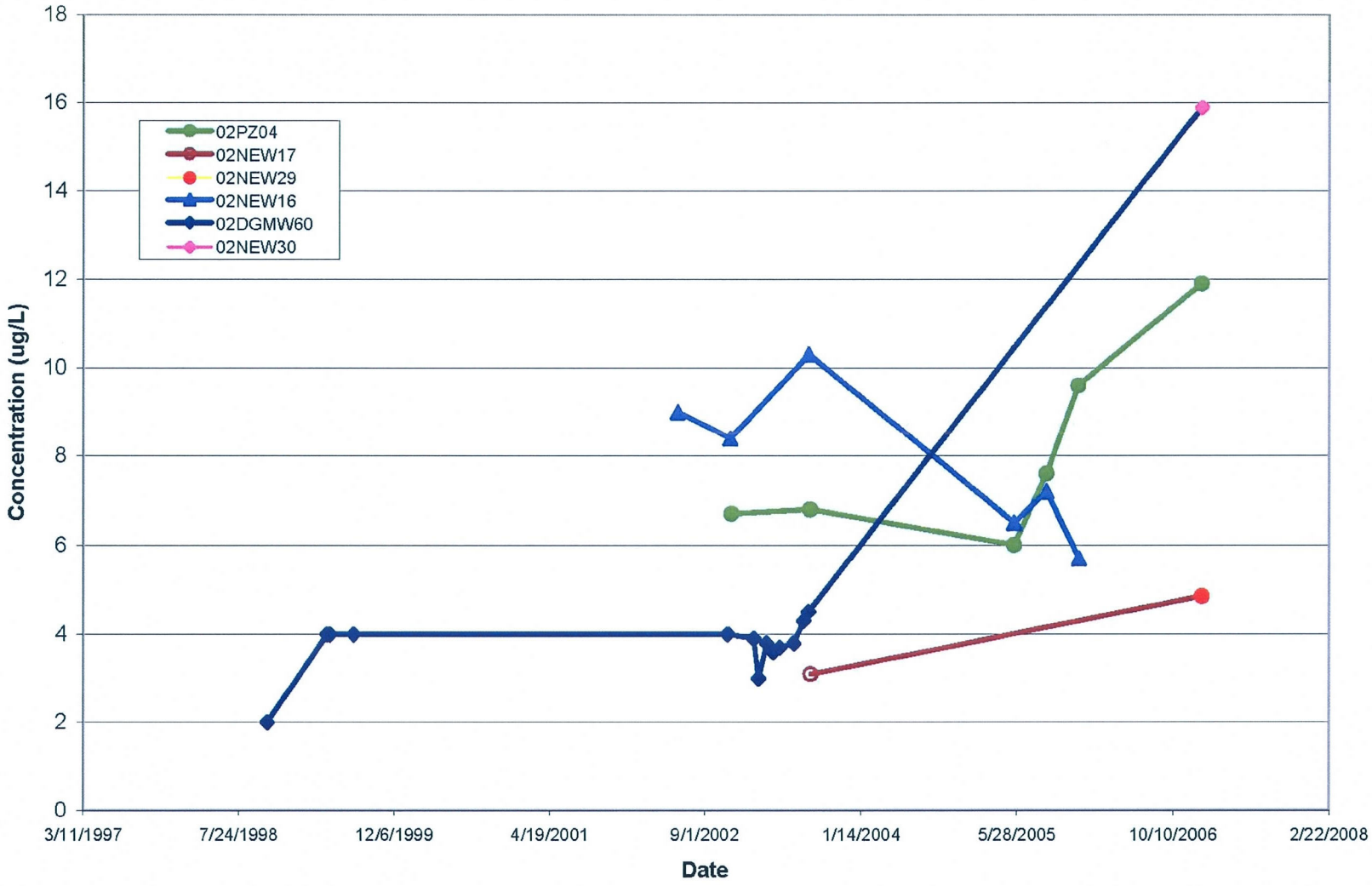

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Perchlorate Concentrations vs. Time

IRP Site 2

Date: 03-07	Former MCAS El Toro	Figure
Project No. 95653	EarthTech A tyco International Ltd. Company	10

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Tables

Table 1: Selected Monitoring Wells, November 2006 – January 2007

Well ID	Screen Interval (feet bgs)	Groundwater Elevation (feet above msl)	EMAX Sample ID	Groundwater Elevation (May 2005) (feet above msl)
02NEW08A	84-104	463.24	K011-01	466.06
02NEW02	75-95	424.95	K011-02	430.03
02NEW16	25-65	447.28	K011-03	453.88
02NEW07	103-143	353.47	K011-04	361.73
02NEW19	86-113	427.04	A086-01	433.95
02NEW18	52-82	430.63	A086-02	436.28
02NEW26	70-95	402.38	A066-01	404.76
02NEW27	150-170	367.28	A066-02	371.67
02PZ04	60-80	434.25	A066-03	442.68
02NEW29	47-67	433.46	A066-04	NA
02NEW28	60-70	423.36	A066-05/A066-6	429.30
02NEW30	64-84	439.75	A066-09	NA

NOTES:
bgs – below ground surface
ID – Identification
msl – mean sea level
NA - data is not available, wells were installed in 2006

Table 2: Groundwater Sampling Results for Selected Wells (Selected Analytes)

Well I.D.	Date Sampled	Cis 1,2 DCE (µg/L)	PCE (µg/L)	1,1,2-TCA (µg/L)	TCE (µg/L)	1,2,3 TCP (µg/L)	Perchlorate (µg/L)
02DGMW60	11/18/1992	-	8	1U	82	-	-
	6/23/1993	-	6	2	61	-	-
	8/15/1995	7.2	4.8	1.7J	69	-	-
	8/15/1995	5.4	4.6	2J	94	-	-
	11/28/1995	8	3.2	2U	81	-	-
	2/6/1996	1	4	2	98	-	-
	11/4/1996	-	7	6	203	-	-
	3/28/1997	-	5	5J	150	-	-
	10/1/1997	-	6	7	190	-	-
	10/22/1998	14	4.2	6.2	130	-	4U
	1/25/1999	14	4.8	5.9	140	-	-
	5/3/1999	13	4.4	5	130	-	4U
	7/29/1999	12	4.7	5.9	140	-	4U
	4/6/2000	-	4	4J	110	-	-
	6/27/2000	-	3	4	100	-	-
	10/5/2001	10	3	5	110	-	-
	3/20/2002	11	5	5	92	-	-
	6/12/2002	13	4.9	5.3	134	4	-
	9/30/2002	13	4	5	120	10U	-
	11/15/2002	12	4.4	4.2	126	2.8	4U
	12/28/2002	9.4	4.4	4.5	146	4.3	4U
	1/2/2003	14	5.9	6.1	150	4.3	-
	2/7/2003	18	7	9.2	140	9.1	3.9
	4/30/2003	8.2	3.5	4.7	129	5	-
	7/31/2003	14	3.5	6.1	101	6.1	4.5
02NEW30	**01/10/2007**	**4.1**	**3.6**	**0.29J**	**39**	**0.5U**	**1.43J**
02NEW02	**11/02/2006**	**0.5U**	**0.5U**	**-**	**0.5U**	**0.5U**	**1.89J**
02NEW07	12/21/1995	1U	1U	1U	1U	0.5U	-
	1/8/1997	1U	1U	1U	2	0.5U	-
	3/20/1997	1U	1U	1U	1U	0.5U	-
	7/11/1997	1U	1U	1U	8	0.5U	-
	10/22/1997	1U	1U	1U	1U	0.5U	-
	11/26/2002	1U	1U	1U	1U	0.5U	4U

Well I.D.	Date Sampled	Cis 1,2 DCE (µg/L)	PCE (µg/L)	1,1,2-TCA (µg/L)	TCE (µg/L)	1,2,3 TCP (µg/L)	Perchlorate (µg/L)
	7/23/2003	1U	1U	1U	1U	0.5U	5.1
	4/1/2004	1U	1U	1U	2	0.5U	-
	10/1/2004	1U	1U	1U	1U	0.5U	-
	3/17/2005	1U	1U	1U	1	0.5U	-
	5/19/2005	1U	1U	1U	0.6J	0.5U	6.0
	8/25/2005	1U	1U	1U	1U	0.5U	6.8
	9/26/2005	1U	1U	1U	1	0.5U	-
	12/7/2005	1U	1U	1U	1U	0.5U	4.6
	11/2/2006	1U	1U	1U	1U	0.5U	4.01
	3/16/2006	-	0.9J	-	32	-	-
	11/02/2006	**0.5U**	**0.5U**	**-**	**0.5U**	**0.5U**	**4.01**
02NEW08A	**11/02/2006**	**0.5U**	**8.8**	**-**	**0.5U**	**0.5U**	**10.2**
02NEW16	6/5/2002	1U	0.5U	1U	1U	5U	9
	11/21/2002	1U	1U	1U	1U	0.5U	8.4
	7/30/2003	1U	1U	1U	1U	0.5U	10.3
	5/19/2005	1U	1U	1U	1U	0.5U	6.5
	8/28/2005	1U	1U	1U	1U	1U	7.2
	9/21/2005	-	1U	-	1U	-	-
	3/22/2006	-	1U	-	1U	-	-
	11/02/2006	**0.5U**	**0.5U**	**-**	**0.5U**	**0.5U**	**8.42**
02NEW18	**01/11/2007**	**1.0U**	**1.0U**	**1.0U**	**1.0U**	**0.5U**	**2U**
02NEW19	**01/11/2007**	**1.0U**	**1.0U**	**1.0U**	**1.0U**	**0.5U**	**2U**
02NEW26	9/04/2004	-	0.4J	-	3.5	0.5U	2.3J
	5/18/2005	1U	1U	1U	0.9J	0.5U	3.0U
	8/24/2005	1U	0.4J	1U	4.5	0.5U	5.1
	12/8/2005	1U	0.4	1U	4	0.5U	8.6
	01/09/2007	**0.46J**	**0.64J**	**0.41J**	**8.7**	**0.5U**	**11.0**
02NEW27	**01/09/2007**	**1.0U**	**1.0U**	**1.0U**	**1.0U**	**0.5U**	**4U**
02NEW28	5/20/2005	0.5J (0.5J)	0.5J (0.4J)	0.5J (0.5J)	7.4 (6.4)	0.8 (0.7)	4.1 (4.2)
	8/28/2005	0.4J (0.4J)	0.5J (0.5J)	0.4J (0.4J)	6.9 (6.9)	0.5U (0.5U)	10.3 (10.5)
	12/9/2005	0.4	0.4	0.4	6.8	0.5	12.9
	01/10/2007	**1.0U(1.0U)**	**0.25J(0.20J)**	**0.3J(0.25J)**	**4.9(4.3)**	**0.5U(0.5U)**	**16.2(15.9)**
02PZ04	10/11/2002	2	0.8	1	17	3.5	-
	11/25/2002	2.9	1	2	31	3.1	6.7

Well I.D.	Date Sampled	Cis 1,2 DCE (µg/L)	PCE (µg/L)	1,1,2-TCA (µg/L)	TCE (µg/L)	1,2,3 TCP (µg/L)	Perchlorate (µg/L)
	8/4/2003	3.6	1	2.5	31	0.5U	6.8
	5/19/2005	2.2(2.1)	1(1)	2(2)	23(22)	2.9(2.9)	5.9(6)
	8/30/2005	2.9(2.9)	1(1)	2.4(2.4)	32(33)	3.1(3.3)	7.5(7.6)
	12/09/2005	2.8(2.8)	0.9(0.9)	2(2)	32(32)	3(3)	9.6(9.4)
	01/09/2007	**1.7**	**0.81J**	**1.6**	**22**	**4.1**	**11.9**
02PZ12	10/7/2002	1U	1U	1U	0.8	0.02U	-
	11/20/2002	1U	1U	1U	1U	0.5U	12.4
	7/25/2003	1U	1U	1U	1U	0.5U	20.7
	5/19/2005	1U	1U	1U	1U	0.5U	20.3
	12/07/2005	1U	1U	1U	1U	0.5U	14.1
02NEW17	3/10/2000	16	6	-	152	-	-
	6/27/2002	8	2.8	4.9	97	4	-
	8/6/2003	9.5	1	5.4	71	4.7	3.1
02NEW29	**01/10/2007**	**14**	**3.6J**	**5.4J**	**170**	**5U**	**4.85**

NOTES:
- - data is not available
U - data qualified as non-detect
J- indicates estimated value
(2.6) - indicates duplicate sample concentration
02NEW17 – abandoned monitoring well

Appendix A
Chain of Custody and Groundwater Monitoring Well Purging and Sampling Log

CHAIN OF CUSTODY

2 coolers

EMAX LABORATORIES, INC.

1835 W. 205th Street, Torrance, CA 90501
Tel #: 310-618-8889 Fax #: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER: 6228-003

SAMPLE STORAGE

EMAX CONTROL NO. *

PROJECT CODE:

CLIENT: CDM

PROJECT:

COORDINATOR: Curtis Moss

TEL: 858.569.1646 FAX: EMAIL:

SEND REPORT TO: Mike Ingman

COMPANY: CDM

ADDRESS: 9444 Farnham St Suite 210
San Diego, CA 92123

EMAX PM: Hsin Yi

MATRIX CODE	PRESERVATIVE CODE
DW=Drinking Water	IC = Ice
GW=Ground Water	HC = HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/ Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O=	

TAT: ☐ Rush ____hrs. ☐ Rush ____days ☐ 7 days ☐ 14 days ☐ 21 days ☐ 30 days ☐ ____days ☐

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	SIZE	TYPE	MATRIX CODE	QC	VOCs 8260B	Metals CLP 0.46	Gross Alpha Beta EPA 900	General Chem 310.1, 160.1, 300	Perchlorate (314)					COMMENTS
1	~~03~~-02_DGMW59-124		11/2/06	1007	5			GW		X	X	X							
2	04_DGMW66A-124		11/2/06	1203	5			GW		X	X	X							
3	04-DGMW66A-324		11/2/06	1208	5			GW		X	X	X							
4	05_DBMW41A-124		11/2/06	1453	5			GW		X	X	X							
5	03-DGMW64A-124		11/2/06	1003	6			GW		X	X	X	X						
6	02NEW11-124		11/2/06	0838	5			GW		X	X	X							
7	01MW201-124			1124	4			GW		X				X					
8	01MW201-324			1134	4			GW		X				X					
9	02NEW15-124			1417				GW		X	X	X		X					24 hr. TAT VOCs/Perch only
10	BT02-924			1540	2				✓	X									

Instructions

24 hr TAT on 02NEW15-124 only please for VOCs & perchlorate

Cooler #	Temp. (°C)	Sample #s

SAMPLER

COURIER/AIRBILL

RELINQUISHED BY	Date	Time	RECEIVED BY
Curtis Moss	11/2/06	1603	

NOTICE: Turn-around-time (TAT) for samples shall not begin untill all discrepancies have been resolved. For samples received and discrepacies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associted with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

Page 1 of 1

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.

1835 W. 205th Street, Torrance, CA 90501
Tel #: 310-618-8889 Fax #: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER: 6228-003
SAMPLE STORAGE

EMAX CONTROL NO. *
PROJECT CODE:

CLIENT: CDM
PROJECT: MCAS El Toro GWM RD 24
COORDINATOR: Curtis Moss
TEL: 858.869.4696 FAX: EMAIL:
SEND REPORT TO: Mike Hinman
COMPANY: 9444 Farnham St Suite 210
ADDRESS: San Diego, CA 92123
EMAX PM: Hsin Yi

MATRIX CODE	PRESERVATIVE CODE
DW=Drinking Water	IC = Ice
GW=Ground Water	HC = HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/ Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O=	

TAT: ☑ Rush 24 hrs. VOCs/Perch only; ☐ Rush ____days; ☐ 7 days; ☐ 14 days; ☐ 21 days; ☐ 30 days; ☐ ____days; ☐

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	SIZE	TYPE	MATRIX CODE	QC	VOCs 8260B	Metals CLP 6010	Alpha/Beta (900)	Perchlorate (314)	Gen Chem (300.0)	160.1			COMMENTS
1	02NEW8A-124		11/1/06	0852	6			GW		X	X	X	X					2 coolers
2	02NEW2-124		11/1/06	1030	6			GW		X	X	X	X					
3	02NEW6-124		11/1/06	1307	7			GW		X	X	X	X	X				
4	02NEW7-124		11/1/06	1152	6			GW		X	X	X	X					
5	02NEW7-524		11/1/06	1110	6			GW		X	X	X	X					
6	TB01-924		11/1/06	1430	2				TB	X								
7																		
8																		
9																		
0																		

Curtis Moss 11/1/06

Instructions: 24 hr TAT on VOCs & Perchlorate only for all Sample I.D.'s above

Cooler #	Temp. (°C)	Sample #s

SAMPLER: CM

COURIER/AIRBILL

RELINQUISHED BY	Date	Time	RECEIVED BY
Curtis Moss	11/1/06	1435	Phil Hatin

NOTICE: Turn-around-time (TAT) for samples shall not begin untill all discrepancies have been resolved. For samples received and discrepacies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associted with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.
1835 W. 205th Street, Torrance, CA 90501
Tel #: 310-618-8889 Fax #: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER:
SAMPLE STORAGE
EMAX CONTROL NO. * 07A086
PROJECT CODE:

CLIENT CDM
PROJECT MCAS El Toro IRP Site 2
COORDINATOR Curt Moss
TEL 858-869-4774 FAX EMAIL
SEND REPORT TO Mike Hogman
COMPANY CDM
ADDRESS 9444 Farnham St Suite 210
San Diego, CA 92123
EMAX PM Hsin Yi

MATRIX CODE	PRESERVATIVE CODE
DW=Drinking Water	IC = Ice
GW=Ground Water	HC = HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/ Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O=	

TAT: [X] Rush 24 hrs. / [ ] Rush ____ days / [ ] 7 days / [ ] 14 days / [ ] 21 days / [ ] 30 days / [ ] ____ days / [ ]

	SAMPLE ID LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	SAMPLING DATE	SAMPLING TIME	CONTAINER NO.	CONTAINER SIZE	CONTAINER TYPE	MATRIX CODE	QC	VOCs (8260B)	Perchlorate (314)	COMMENTS
1	1	02NEW19-1		1/11/07	0845	3	40 ml	VOA	GW		X		
	2	"		"	"	1	250 ml	Poly	GW			X	
2	3	02NEW18-1		"	1405	3	40 ml	VOA	GW		X		
	4	"		"	"	1	250 ml	Poly	GW			X	
3	5	TB03-9		"	1400	2	40 ml	VOA		TB	X		
	6												
	7												
	8												
	9												
	0												

Curt Moss 1-11-07

Instructions

Cooler #	Temp. (°C)	Sample #s
1	9.8	

SAMPLER

COURIER/AIRBILL

RELINQUISHED BY	Date	Time	RECEIVED BY
Curt Moss	1/11/07	1531	
	1/11/07	1215	
	1/11/07	1715	

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepancies resolved after 1600 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

CHAIN OF CUSTODY
EMAX CONTROL NO. 07A086
PAGE 2 OF 2

THIS PAGE IS NOT AVAILABLE.

EXTENSIVE RESEARCH WAS PERFORMED BY NAVFAC SOUTHWEST RECORDS OFFICE TO LOCATE THE MISSING PAGE. THIS PAGE HAS BEEN INSERTED AS A PLACEHOLDER AND WILL BE REPLACED SHOULD THE MISSING ITEM BE LOCATED.

FOR ADDITIONAL INFORMATION, CONTACT:

DIANE C. SILVA, RECORDS MANAGER
NAVAL FACILITIES ENGINEERING COMMAND, SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132

TELEPHONE: (619) 556-1280
E-MAIL: diane.silva@navy.mil

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.
1835 W. 205th Street, Torrance, CA 90501
Tel #: 310-618-8889 Fax #: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER:
SAMPLE STORAGE
EMAX CONTROL NO. * 07A066
PROJECT CODE:

CLIENT CDM
PROJECT MCAS El Toro IRP Site 2
COORDINATOR Curt Moss
TEL 858-869-4774 FAX EMAIL
SEND REPORT TO Mike Higman
COMPANY CDM
ADDRESS 9444 Farnham St Ste 210
San Diego, CA 92123
EMAX PM Hsin Yi

MATRIX CODE	PRESERVATIVE CODE
DW=Drinking Water	IC = Ice
GW=Ground Water	HC = HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/ Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O=	

TAT: ☒ Rush 24 hrs. ☐ Rush ____days ☐ 7 days ☐ 14 days ☐ 21 days ☐ 30 days ☐ ____days ☐

	SAMPLE ID LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	SAMPLING DATE	SAMPLING TIME	CONTAINER NO.	CONTAINER SIZE	CONTAINER TYPE	MATRIX CODE	QC	VOCs (8260B)	Perchlorate (314)	COMMENTS
1		02NEW26-1		1/9/07	1045	3	40ml	VOA	GW		X		
		"			"	1	250ml	Poly				X	
2		02NEW27-1			1420	3	40ml	VOA			X		
		"			"	1	250ml	Poly				X	
3		02PZ04-1			1628	3	40ml	VOA			X		
		"			"	1	250ml	Poly				X	
4		02NEW29-1		1/10/07	1133	3	40ml	VOA			X		
		"			"	1	250ml	Poly				X	
5		02NEW28-1			0943	3	40ml	VOA			X		
		"			"	1	250ml	Poly				X	

Instructions

Cooler #	Temp. (°C)	Sample #s
1	3.4	
2	3.0	

SAMPLER
COURIER/AIRBILL

RELINQUISHED BY	Date	Time	RECEIVED BY
Curt Moss	1/10/07	1535	
	1/10/07	17:05	

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepacies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associted with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.
1835 W. 205th Street, Torrance, CA 90501
Tel #: 310-618-8889 Fax #: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER:
SAMPLE STORAGE
EMAX CONTROL NO.* 070066
PROJECT CODE:

CLIENT CDM
PROJECT MCAS El Toro IRP Site 2
COORDINATOR Curt Moss
TEL 858-869-4774 FAX EMAIL
SEND REPORT TO Mike Higman
COMPANY CDM
ADDRESS 9444 Balboa St. Ste 210
San Diego, CA 92123
EMAX PM

MATRIX CODE	PRESERVATIVE CODE
DW=Drinking Water	IC = Ice
GW=Ground Water	HC = HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/ Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O=	

ANALYSIS REQUIRED: VOCs (8260B); Perchlorate (314)

TAT:
- [x] Rush 24 hrs.
- [ ] Rush ____ days
- [ ] 7 days
- [ ] 14 days
- [ ] 21 days
- [ ] 30 days
- [ ] ____ days
- [ ]

	SAMPLE ID LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	SAMPLING DATE	SAMPLING TIME	CONTAINER NO.	CONTAINER SIZE	CONTAINER TYPE	MATRIX CODE	QC	VOCs (8260B)	Perchlorate (314)	COMMENTS
6		02NEW28-3		1/10/07	0946	3	40 ml	VOA	GW		X		
		"		"	"	1	250 ml	Poly	GW			X	
7		TB01-9		"	1200	2	40 ml	VOA		TB	X		
8		TB02-9		"	1300	2	40 ml	VOA		TB	X		
9		02NEW30-1		"	1443	3	40 ml	VOA	GW		X		
10		02NEW30-7		"	1345	3	40 ml	VOA		SB	X		Source Blank
		"		"	1345	1	250 ml	Poly		SB		X	Source Blank
9		02NEW30-1			1443	1	250 ml	Poly	GW			X	
9													
0													

Curtis Moss 1-10-07

Instructions

Cooler #	Temp. (°C)	Sample #s

SAMPLER

RELINQUISHED BY	Date	Time	COURIER/AIRBILL RECEIVED BY
Curtis Moss	1/10/07	1535	
	1/10/07	1705	

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepancies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associted with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

GROUNDWATER MONITORING WELL PURGING AND SAMPLING LOG

PROJECT NO.: 6228-003 Round 24 GWM	SAMPLE LOCATION: 02NEW8A
PROJECT NAME: Former MCAS El Toro	SAMPLE ID: ~~JMC/CM~~ JMC 02NEW8A-124
DATE: 11/1/06	SAMPLED BY: JMC/CM
EQUIPMENT DECONTAMINATED: YES	PURGE START TIME: 0827

PURGING METHOD: QED Micropurge Dedicated Bladder Pump

SAMPLING EQUIPMENT: ~~Horiba U-22,~~ QED MP40 compressor, QED MP10 Pressure Controller, Y31556 Lamotte 2020 Turbidity Meter

Pump Intake Depth: NA	Purge Rate: 100 milliliters/minute	Minimum Purge Volume: 1260
Total Volume Removed: 4500 ml	Controller Settings: Refill: 16	Discharge: 4 Pressure: 60
Initial Groundwater Level: 49.64	Controller Adjustment: 16	4 50
Final Groundwater Level: 49.66	Controller Adjustment: —	— —

Actual Time	Volume Purged mL	Temperature °C	pH	Conductance (µS/cm)	Dissolved oxygen mg/L	ORP (mV)	Turbidity (NTU)	Static Water Level	Description
0833	300	22.45	7.00	989	4.74	171.8	3.21	49.68 JMC	clear
0836	600	22.27	6.95	978	4.23	174.8	3.02		clear
0839	900	22.26	6.94	969	3.92	175.9	3.03	49.69	clear
0842	1200	22.23	6.93	961	3.83	175.3	2.82		clear
0845	1500	22.13	6.93	949	3.74	175.2	2.84	49.68	clear
0848	1800	22.26	6.93	943	3.65	176.0	2.81		clear
0851	2100	22.37	6.93	937	3.54	175.7	3.00	49.69	clear
0852	2200	—	SAMPLED	—	—	—	—	—	—
0915	4500	—	END SAMPLING	—	—	—	—	—	—

Cuthbert Moses 11/01/06

Total Volume Purged: 2200 mL Total Time: 48 min.

Laboratory Analysis: VOCs (x) Metals Filtered (X) General chemistry ( ) Gross Alpha/Beta (X) Nitrite ( )

Other Perchlorate (EPA 314)

Total number of bottles: 6

Comments:

QC Sample Collected? Yes ( ) No (X) If YES, then type of sample and sample ID:

QA Check

Field Member	Date	Initials
Sample Collector	CM	11/01/06
Sample Coordinator	11/1/06	JMC

GROUNDWATER MONITORING WELL PURGING AND SAMPLING LOG

PROJECT NO.: 6228-003 Round 24 GWM	SAMPLE LOCATION: O2NEW2
PROJECT NAME: Former MCAS El Toro	SAMPLE ID: O2NEW2-124
DATE: 11/1/06	SAMPLED BY: JMC / CM
EQUIPMENT DECONTAMINATED: YES	PURGE START TIME: 1017

PURGING METHOD: QED Micropurge Dedicated Bladder Pump

SAMPLING EQUIPMENT: Horiba U-22, QED MP40 compressor, QED MP10 Pressure Controller, Lamotte 2020 Turbidity Meter

Pump Intake Depth: ———	Purge Rate: 100 milliliters/minute	Minimum Purge Volume: 1180
Total Volume Removed: 3600 ml	Controller Settings: Refill: 17	Discharge: 3 Pressure: 45
Initial Groundwater Level: 69.73'	Controller Adjustment: 16	4 45
Final Groundwater Level: 69.73'	Controller Adjustment: 17	3 45

Actual Time	Volume Purged mL	Temperature °C	pH	Conductance (µS/cm)	Dissolved oxygen mg/L	ORP (mV)	Turbidity (NTU)	Static Water Level	Description
1020	300	21.78	6.87	1253	4.75	159.9	3.00	69.73	clear
1023	600	21.62	6.85	1240	4.38	153.1	2.92		clear
1026	900	21.62	6.85	1235	4.11	145.6	2.74	69.74	clear
1029	1200	21.59	6.85	1234	4.14	143.7	2.70	69.73	clear
1030	1300	— Start Sampling —							
1055	3600	— END SAMPLING —							

Andrew Moss 11/01/06

Total Volume Purged: 1300 ml	Total Time: 38 min.

Laboratory Analysis: VOCs (x) Metals Filtered (X) General chemistry ( ) Gross Alpha/Beta (X) Nitrite ( )
Other Perchlorate

Total number of bottles: 6

Comments:

QC Sample Collected? Yes ( ) No (X) If YES, then type of sample and sample ID:

QA Check

Field Member	Date	Initials
Sample Collector	11/01/06	cm
Sample Coordinator	11/1/06	JMC

GROUNDWATER MONITORING WELL PURGING AND SAMPLING LOG

PROJECT NO.: **6228-003 Round 24 GWM**	SAMPLE LOCATION: 02NEW16
PROJECT NAME: **Former MCAS El Toro**	SAMPLE ID: 02NEW16-124
DATE: 11/1/06	SAMPLED BY: JMC / CM
EQUIPMENT DECONTAMINATED: **YES**	PURGE START TIME: 1254

PURGING METHOD: **QED Micropurge Dedicated Bladder Pump**

SAMPLING EQUIPMENT: **Horiba U-22, QED MP40 compressor, QED MP10 Pressure Controller, Lamotte 2020 Turbidity Meter**

Pump Intake Depth: —	Purge Rate: **100 milliliters/minute**	Minimum Purge Volume: 1126
Total Volume Removed: 4800 mL	Controller Settings: Refill: 17	Discharge: 3 Pressure: 30
Initial Groundwater Level: 44.50'	Controller Adjustment: 16	4 30
Final Groundwater Level: 44.52'	Controller Adjustment: —	— —

Actual Time	Volume Purged mL	Temperature °C	pH	Conductance (µS/cm)	Dissolved oxygen mg/L	ORP (mV)	Turbidity (NTU)	Static Water Level	Description
1254	0	24.29	6.95	1321	6.64	194.6	3.16	/	clear
1257	300	22.95	6.92	1262	7.98	179.1	2.93	44.51	clear
1300	600	22.46	6.91	1230	7.36	172.7	2.82	/	clear
1303	900	22.15	6.92	1228	8.30	167.1	2.86	/	clear
1306	1200	21.98	6.91	1220	7.30	163.1	2.78	44.51	clear
1307	1300	— Start sampling —							
1342	4800	— End sampling —							

Jessica McCall

Total Volume Purged: 1300 Total Time: 48 minutes

Laboratory Analysis: VOCs (x) Metals Filtered (X) General chemistry (X) Gross Alpha/Beta (X) Nitrite ( )

Other Perchlorate (EPA 314)

Total number of bottles: 7

Comments:

QC Sample Collected? Yes ( ) No (X) If YES, then type of sample and sample ID:

QA Check

Field Member	Date	Initials
Sample Collector	11-1-06	CM
Sample Coordinator	11-1-06	JMC

GROUNDWATER MONITORING WELL PURGING AND SAMPLING LOG

PROJECT NO.: 6228-003 Round 24	SAMPLE LOCATION: 02 NEW 7
PROJECT NAME: MCAS El Toro	SAMPLE ID: 02 NEW 7 - 124
DATE: 11/1/06	SAMPLED BY: DL
EQUIPMENT DECONTAMINATED: YES	PURGE START TIME: 0918

PURGING METHOD: Submersible Pump

Well Casing Diameter 4" ( ) 5" (X) 6" ( )

: Total Volume Removed: 80 gal

Well Total Depth	Original DTW		4"=0.66 / 5"=0.93 / 6"=1.5	Casing Volume		Purge Volume
148	- 125.65	= 22.35	x	= 20.78	X 3 casg vol.	= 62.35

Initial Groundwater Level: 125.65	Final Groundwater Level: 125.71

Actual Time	Volume Purged	Temperature	pH	Conductance (mS/cm)	Dissolved oxygen (mg/L)	ORP	Turbidity NTu	Description
0918	0	BEGAN PURGING WELL			—	—	—	
0923	10	21.4	5.0	1.23	4.69	46	6.6	clear
0928	20	21.6	5.1	1.22	5.19	40	5.2	↓
0931	26	21.6	5.1	1.23	4.62	36	5.2	↓
0935	34	21.7	5.8	1.22	5.10	39	6.4	↓
0940	44	21.7	5.8	1.22	5.63	42	7.2	↓
0943	50	21.7	5.6	1.22	5.66	43	4.0	↓
0950	64	21.7	5.8	1.21	5.68	44	3.6	↓
0952	68	— TOOK PRIMARY SAMPLES				—	—	—
0958	80	— END SAMPLING				—	—	—

Average Purge Rate: 2 gpm	Total Time: 40 min

Laboratory Analysis: VOCs (X) Metals Filtered (X) General chemistry (X) Gross Alpha/Beta (X) Nitrite ( )
Other PERCHLORATES

Total number of bottles: 6

Comments: DVM = 0.0 ppm

Collected Equipment Rinsate at 1110 - 02NEW7-524

QC Sample Collected? Yes (X) No ( ) If YES, then type of sample and sample ID: 02 NEW7-524

QA Check

Field Member	Date	Initials
Sample Collector	11/1/06	DEL
Sample Coordinator	11/4/06	CM

GROUNDWATER MONITORING WELL PURGING AND SAMPLING LOG

PROJECT NO.: ~~6228-003 Round 24~~ 6218-084	SAMPLE LOCATION: 02NEW19
PROJECT NAME: Former MCAS El Toro IRP Site 2	SAMPLE ID: 02NEW19-1
DATE: 1-11-07	SAMPLED BY: CM
EQUIPMENT DECONTAMINATED: YES	PURGE START TIME: 0820

PURGING METHOD: Micropurge/~~Dedicated~~ Bladder Pump Dedicated Pump in 2" diam. casing

SAMPLING EQUIPMENT: ~~YSI 556~~ or Horiba U-22, MP40 compressor, MP~~0~~15 Pressure Controller, ~~Lamotte 2020 Turbidity Meter~~

Pump Intake Depth: 99.5' btoc	Purge Rate: ~~100~~ 150 milliliters/minute	Minimum Purge Volume: 960 ml
Total Volume Removed: 4.5L	Controller Settings: Refill: 16	Discharge: 4 Pressure: 60
Initial Groundwater Level: 64.64'	Controller Adjustment: —	— —
Final Groundwater Level: 65.05'	Controller Adjustment:	

Actual Time	Volume Purged mL	Temperature °C	pH	Conductance ~~(µS/cm)~~ mS/cm	Dissolved oxygen (mg/L)	ORP (mV)	Turbidity NTU	Static Water Level	Description
0823	450	19.5	7.38	0.95	5.12	-186	3.5	65.11	
0826	900	19.8	7.91	0.94	1.18	-186	0.5	65.16	
0829	1350	19.8	7.92	0.94	0.73	-195	0.2	65.19	
0832	1800	19.9	7.94	0.94	0.59	-202	0.0	—	
0835	2250	19.9	7.95	0.94	0.38	-209	0.0	65.21	
0838	2700	20.0	7.94	0.93	0.25	-213	0.4	65.23	
0841	3150	20.0	7.93	0.93	0.19	-215	0.0	—	
0844	3600	20.1	7.92	0.93	0.12	-216	0.0	65.29	
0845	4050	—	Begin Sampling			—			
0848	4500	—	End Sampling			—			

Chris Muse 1-11-07

Total Volume Purged: 4.05L Total Time: 48 min.

Laboratory Analysis: VOCs (X) Metals Filtered ( ) General chemistry ( ) Gross Alpha/Beta ( ) Nitrite ( )
Other Perch. (314)

Total number of bottles: 4

Comments:

QC Sample Collected? Yes ( ) No (X) If YES, then type of sample and sample ID:

QA Check 1-11-07

Field Member	Date	Initials
Sample Collector	NA	CM
Sample Coordinator	1.15.07	JHC

GROUNDWATER MONITORING WELL PURGING AND SAMPLING LOG

PROJECT NO.: ~~6228-003-Round 24~~ 6218-084	SAMPLE LOCATION: 02NEW18
PROJECT NAME: Former MCAS El Toro IR Site 2	SAMPLE ID: 02NEW18-1
DATE: 1/11/07	SAMPLED BY: CM
EQUIPMENT DECONTAMINATED: YES	PURGE START TIME: 1340

PURGING METHOD: Micropurge ~~Dedicated~~ Bladder Pump SAMPLE PRO

SAMPLING EQUIPMENT: ~~YSI 556~~ or Horiba U-22, MP40 compressor, MP10 15 Pressure Controller, ~~Lamotte 2020 Turbidity Meter~~

Pump Intake Depth: 67'	Purge Rate: ~~100~~ 150 milliliters/minute	Minimum Purge Volume: 646 mL
Total Volume Removed: 4.35 L	Controller Settings: Refill: 17	Discharge: 3 Pressure: 50
Initial Groundwater Level: 61.00'	Controller Adjustment: —	— —
Final Groundwater Level: 62.35'	Controller Adjustment:	

Actual Time	Volume Purged mL	Temperature °C	pH	Conductance (µS/cm)	Dissolved oxygen (mg/L)	ORP (mV)	Turbidity NTU	Static Water Level	Description
1343	450	20.2	7.33	0.912	1.28	60	22.9	61.40	
1346	900	20.3	7.33	0.916	0.95	58	13.4	—	
1349	1350	20.5	7.32	0.917	0.92	56	9.4	61.58	
1352	1800	20.5	7.34	0.918	0.95	56	8.6	—	
1355	2250	20.5	7.35	0.919	0.97	56	6.9	61.78	
1358	2700	20.6	7.41	0.916	1.06	56	3.3	—	
1401	3150	20.7	7.41	0.917	1.10	57	3.3	62.15	
1404	3600	20.7	7.45	0.918	1.14	57	2.0	—	
1405	3750	BEGIN SAMPLING							
1409	4350	END SAMPLING							

Cliffs Russ 1-11-07

Total Volume Purged: 3.75 L Total Time:

Laboratory Analysis: VOCs (X) Metals Filtered ( ) General chemistry ( ) Gross Alpha/Beta ( ) Nitrite ( )
Other 314.0 Perchlorate

Total number of bottles: 3VOAs + 1 250-mL Poly → 4

Comments:

QC Sample Collected? Yes ( ) No (X) If YES, then type of sample and sample ID:

QA Check

Field Member	Date	Initials
Sample Collector	1/11/07	CM
Sample Coordinator	1.15.07	[illegible]

GROUNDWATER MONITORING WELL PURGING AND SAMPLING LOG

PROJECT NO.: ~~6228-003 Round 24~~ 6218-084	SAMPLE LOCATION: 02NEW26
PROJECT NAME: Former MCAS El Toro IRP Site 2	SAMPLE ID: 02NEW26-1
DATE: 1-9-07	SAMPLED BY: CM
EQUIPMENT DECONTAMINATED: YES	PURGE START TIME: 1025

PURGING METHOD: **Micropurge Dedicated Bladder Pump**

SAMPLING EQUIPMENT: **YSI 556 or ~~Horiba U-22~~, ~~MP40 compressor~~, ~~MP10 Pressure Controller~~, ~~Lamotte 2020 Turbidity Meter~~** MP15 Controller

Pump Intake Depth: 82.5' btoc	Purge Rate: ~~100~~ 150 milliliters/minute	Minimum Purge Volume:
Total Volume Removed: 3.6 L	Controller Settings: Refill: 10	Discharge: 5 Pressure: 90 PSI CPM4
Initial Groundwater Level: ~~78.45'~~ 78.36	Controller Adjustment: 15	5 80 PSI CPM3
Final Groundwater Level: 78.69	Controller Adjustment: 16	4 80 PSI CPM3

Actual Time	Volume Purged mL	Temperature °C	pH	Conductance (µS/cm) mS/cm	Dissolved oxygen (mg/L)	ORP (mV)	Turbidity NTU	Static Water Level	Description
1028	450	19.7	6.67	1.12	2.43	164	5.5	78.71	clear
1031	900	19.8	6.56	1.12	2.37	164	5.7	78.71	clear
1034	1350	19.8	6.57	1.12	2.37	161	6.4	79.00	clear
1037	1800	19.8	6.60	1.12	2.31	159	CM ~~4.6~~ 5.6 1-9-07	—	clear
1040	2250	19.7	6.71	1.11	2.29	153	5.5	—	clear
1043	2700	19.8	6.81	1.11	2.30	148	4.2	78.~~68~~	clear
1045	3150	—	BEGIN SAMPLING						
1048	3600	—	END SAMPLING						

CM 1-9-07

Total Volume Purged: 3.15 L	Total Time: 53 min

Laboratory Analysis: VOCs (X) Metals Filtered ( ) General chemistry ( ) Gross Alpha/Beta ( ) Nitrite ( )
Other Perchlorate (314)

Total number of bottles: 4

Comments: TD= 97.85' btoc

QC Sample Collected? Yes ( ) No (X) If YES, then type of sample and sample ID:

QA Check

Field Member	Date	Initials
Sample Collector	1-9-07	CM
Sample Coordinator	1-15-07	[illegible]

GROUNDWATER MONITORING WELL PURGING AND SAMPLING LOG

PROJECT NO.: ~~6228-003 Round 24~~ 6218-084	SAMPLE LOCATION: 02NEW27
PROJECT NAME: Former MCAS El Toro ~~IRP~~ Site 2	SAMPLE ID: 02NEW27-~~X1~~ CM 1-9-07
DATE: 1-9-07	SAMPLED BY: CM
EQUIPMENT DECONTAMINATED: YES	PURGE START TIME: 1346

PURGING METHOD: Micropurge ~~Dedicated~~ Bladder Pump SAMPLE PRO (QED)

SAMPLING EQUIPMENT: YSI 556 or ~~Horiba U-22~~, ~~MP40 compressor~~, ~~MP10~~ Pressure Controller, ~~Lamotte 2020 Turbidity~~ Meter MP15

Pump Intake Depth: 167' btoc	Purge Rate: ~~100~~ 150 milliliters/minute	Minimum Purge Volume: 1617 ml
Total Volume Removed: 5.85L	Controller Settings: Refill: 11	Discharge: 9 Pressure: 90 PSI
Initial Groundwater Level: CM ~~114.90~~ 1/9/07 114.79'	Controller Adjustment: 13.5	6.5 85 PSI
Final Groundwater Level: 115.00'	Controller Adjustment: —	— —

Actual Time	Volume Purged mL	Temperature °C	pH	Conductance (~~µS~~/cm) mS	Dissolved oxygen (mg/L)	ORP (mV)	Turbidity NTU	Static Water Level	Description
1349	450	21.7	8.02	0.889	15.32	167	8.6	114.62	clear
1355	1350	20.9	5.72	1.01	4.53	189	183.0	—	somewhat cloudy
1358	1800	20.8	5.46	1.01	3.27	195	186.0	114.55	"
1401	2250	20.4	5.31	0.91	1.64	199		—	cloudy
1404	2700	20.2	5.29	0.96	0.00	199	387.0	114.56	"
1407	3150	20.2	5.30	0.99	0.00	200	438.0	—	cloudy
1410	3600	20.4	5.45	0.90	0.00	193	216.0	115.35	partly cloudy
1413	4050	20.6	5.40	0.95	0.00	191	196.0	115.01	"
1416	4500	20.4	5.39	1.03	0.00	195	188.0	115.00	"
1419	4950	20.4	5.38	1.02	0.00	198	192.0	115.00	partly cloudy
1420	5400	—	BEGIN SAMPLING						
1423	~~58~~50	—	END SAMPLING						

Total Volume Purged: 5.4L Total Time: 37 min. CM 1-9-07

Laboratory Analysis: VOCs (X) Metals Filtered ( ) General chemistry ( ) Gross Alpha/Beta ( ) Nitrite ( )
Other Perch. (314)

Total number of bottles: 4

Comments: We tagged the bottom of the well & likely suspended seds resulting in elevated turbidity.

QC Sample Collected? Yes ( ) No (X) If YES, then type of sample and sample ID:

QA Check

Field Member	Date	Initials
Sample Collector	1-9-07	CM
Sample Coordinator	1-15-07	JHC

GROUNDWATER MONITORING WELL PURGING AND SAMPLING LOG

PROJECT NO.: ~~6328-003 Round 24~~ 6218.084	SAMPLE LOCATION: 02PZ04 ~~1~~ cm
PROJECT NAME: Former MCAS El Toro IRP SITE 2	SAMPLE ID: 02PZ04-1
DATE: 1-9-07	SAMPLED BY: CM
EQUIPMENT DECONTAMINATED: YES	PURGE START TIME: 1600

PURGING METHOD: Micropurge ~~Dedicated~~ Bladder Pump SAMPLE PRO

SAMPLING EQUIPMENT: YSI 556 or Horiba U-22, ~~MP40 compressor~~, MP~~10~~ 15 Pressure Controller, ~~Lamotte 2020 Turbidity Meter~~ Power Pack

Pump Intake Depth: 70' btoc	Purge Rate: ~~100~~ 150 milliliters/minute	Minimum Purge Volume: 678 ml
Total Volume Removed: 4.65 L	Controller Settings: Refill: 14	Discharge: 6 Pressure: 70
Initial Groundwater Level: 54.38'	Controller Adjustment: 15	5 70
Final Groundwater Level: 54.72'	Controller Adjustment: —	— —

Actual Time	Volume Purged mL	Temperature °C	pH	Conductance ~~(µS/cm)~~ mS/cm	Dissolved oxygen (mg/L)	ORP (mV)	Turbidity NTU	Static Water Level	Description
1607	1050	20.9	5.87	1.24	0.59	224	>1000	—	tan cloud
1610	1500	20.8	5.87	1.22	0.64	223	753	54.77	"
1613	1950	20.8	5.94	1.23	0.76	222	660	54.78	"
1616	2400	20.7	6.01	1.23	0.94	221	589	—	"
1619	2850	20.6	6.05	1.23	0.99	220	550	54.78	"
1622	3300	20.6	6.07	1.23	0.98	219	521		cloudy w/ silt & fine sand
1625	3750	20.5	6.11	1.23	1.01	218	517		"
1628	4200	—	BEGIN SAMPLING						
1631	4650	—	END SAMPLING						

Chris Lewis 1-9-07

Total Volume Purged: 4.65 L Total Time: 31 min.

Laboratory Analysis: VOCs (X) Metals Filtered ( ) General chemistry ( ) Gross Alpha/Beta ( ) Nitrite ( )
Other Perch. (314)

Total number of bottles: 4

Comments: I wonder if this piezometer has ever been developed?

QC Sample Collected? Yes ( ) No (X) If YES, then type of sample and sample ID:

QA Check

Field Member	Date	Initials
Sample Collector	1-9-07	CM
Sample Coordinator	1-15-07	LHC

GROUNDWATER MONITORING WELL PURGING AND SAMPLING LOG

PROJECT NO.: ~~6228-003 Round 24~~ 6218-084

SAMPLE LOCATION: 02NEW29

PROJECT NAME: Former MCAS El Toro IRP Site 2

SAMPLE ID: 02NEW29-1

DATE: 1-10-07

SAMPLED BY: CM

EQUIPMENT DECONTAMINATED: YES

PURGE START TIME: 1113

PURGING METHOD: Micropurge ~~Dedicated~~ Bladder Pump SamplePro

SAMPLING EQUIPMENT: ~~YSI 556~~ or Horiba U-22, ~~MP40 compressor~~, MP~~10~~ 15 Pressure Controller, ~~Lamotte 2020 Turbidity Meter~~ Power Pack w/ CO_2

Pump Intake Depth: 57'

Purge Rate: ~~100~~ 150 milliliters/minute

Minimum Purge Volume: 590 ml

Total Volume Removed: 3.45L

Controller Settings: Refill: 17 Discharge: 3 Pressure: 50

Initial Groundwater Level: 51.11' btoc

Controller Adjustment: 17 3 40

Final Groundwater Level: 51.70'

Controller Adjustment: 17.5 2.5 30/25/30

Actual Time	Volume Purged mL	Temperature °C	pH	Conductance ~~(µS/cm)~~ mS/cm	Dissolved oxygen (mg/L)	ORP (mV)	Turbidity NTU	Static Water Level	Description
1115	300	21.4	6.96	1.59	2.80	158	0.0	51.75	clear
1118	750	21.4	6.97	1.59	2.75	153	0.1	—	"
1121	1200	21.3	6.97	1.58	2.70	154	0.0	51.72	"
1124	1650	21.1	6.97	1.58	2.64	150	0.0	—	"
1127	2100	21.1	6.97	1.58	2.60	150	0.0	51.70	"
1130	2550	21.1	6.97	1.58	2.60	150	0.0	51.70	"
1133	3000	—	BEGIN SAMPLING						
1137	3450	—	END SAMPLING						

Charles Moss 1-10-07

Total Volume Purged: 3L

Total Time: 24 min.

Laboratory Analysis: VOCs (X) Metals Filtered ( ) General chemistry ( ) Gross Alpha/Beta ( ) Nitrite ( )
Other Perch. (314)

Total number of bottles: 4

Comments: It is not possible to lower pressure and/or discharge time enough & still pump water to avoid drawing down > .33'. A 1/4" discharge tube would solve this. We have 3/8" discharge b/c that is what Earthtech used, & we used their ded. tubing.

QC Sample Collected? Yes ( ) No (X) If YES, then type of sample and sample ID:

QA Check

Field Member	Date	Initials
Sample Collector	1/10/07	CM
Sample Coordinator	1-15-07	LHL

GROUNDWATER MONITORING WELL PURGING AND SAMPLING LOG

PROJECT NO.: ~~6228-003 Round 24~~ 6218-084	SAMPLE LOCATION: 02NEW28
PROJECT NAME: Former MCAS El Toro IRP Site 2	SAMPLE ID: 02NEW28-1
DATE: 1-10-07	SAMPLED BY: CM
EQUIPMENT DECONTAMINATED: YES	PURGE START TIME: 0924

PURGING METHOD: Micropurge ~~Dedicated~~ Bladder Pump Sample Pro

SAMPLING EQUIPMENT: ~~YSI 556~~ or Horiba U-22, MP40 compressor, MP~~10~~ 15 Pressure Controller, ~~Lamotte 2020 Turbidity Meter~~ Power Pack

Pump Intake Depth: 65' btoc	Purge Rate: ~~100~~ ~~225~~ 150 milliliters/minute	Minimum Purge Volume: 628 ml
Total Volume Removed: 4.425 L	Controller Settings: Refill: 14	Discharge: 6 Pressure: 60
Initial Groundwater Level: 58.5' btoc	Controller Adjustment: 16	4 60
Final Groundwater Level: 58.80'	Controller Adjustment: 17/17.5	3/2.5 50/40

Actual Time	Volume Purged mL	Temperature °C	pH	Conductance (~~µS/cm~~) mS/cm	Dissolved oxygen (mg/L)	ORP (mV)	Turbidity NTU	Static Water Level	Description
0926	450	19.1	7.21	1.12	4.49	228	0.9	58.72	clear
0929	1125	19.4	7.22	1.13	4.24	220	0.7	59.07	"
0932	1575	19.4	7.21	1.13	4.33	205	2.3	—	"
0935	2025	19.4	7.22	1.13	4.13	200	0.8	—	"
0938	2475	19.2	7.22	1.13	4.10	197	0.3	59.00	"
0941	2925	19.1	7.23	1.14	4.10	195	0.1	58.80	clear
0943	3375	—	BEGIN SAMPLING 02NEW28-1						
0946	3825	—	BEGIN SAMPLING 02NEW28-3						
0950	4425	—	END SAMPLING						

Carla Jones 1-10-07

Total Volume Purged: 3.825 L	Total Time: 26 min.

Laboratory Analysis: VOCs (X) Metals Filtered ( ) General chemistry ( ) Gross Alpha/Beta ( ) Nitrite ( )
Other Perch. 314

Total number of bottles: 8

Comments:

QC Sample Collected? Yes (X) No ( ) If YES, then type of sample and sample ID: 02NEW28-3

QA Check

Field Member	Date	Initials
Sample Collector	1/10/07	CM
Sample Coordinator	1-15-07	JHP

GROUNDWATER MONITORING WELL PURGING AND SAMPLING LOG

PROJECT NO.: ~~6228-003 Round 24~~ 6218-084	SAMPLE LOCATION: 02NEW30
PROJECT NAME: Former MCAS El Toro IRP Site 2	SAMPLE ID: 02NEW30-1
DATE: 1-10-07	SAMPLED BY: CM
EQUIPMENT DECONTAMINATED: YES	PURGE START TIME: 1416

PURGING METHOD: **Micropurge Dedicated Bladder Pump**

SAMPLING EQUIPMENT: **YSI 556 or Horiba U-22, MP40 compressor, MP10 Pressure Controller, Lamotte 2020 Turbidity Meter** 15 Power Pack

Pump Intake Depth: 74' btoc	Purge Rate: ~~100~~ 150 milliliters/minute	Minimum Purge Volume: 715 ml
Total Volume Removed: 4.5 L	Controller Settings: Refill: 17	Discharge: 3 Pressure: 60
Initial Groundwater Level: 59.38' btoc	Controller Adjustment: 17.5	2.5 50
Final Groundwater Level: 59.84'	Controller Adjustment: —	— —

Actual Time	Volume Purged mL	Temperature °C	pH	Conductance (~~µS/cm~~) mS/cm	Dissolved oxygen (mg/L)	ORP (mV)	Turbidity NTU	Static Water Level	Description
1419	450	20.8	6.87	1.34	1.73	97	65.9	59.81	clear
1422	900	20.8	6.92	1.33	1.27	82	81.7	—	"
1425	1350	20.8	6.92	1.32	0.97	81	93.2	59.91	"
1428	1800	20.8	6.86	1.31	0.74	81	138.2	—	"
1431	2250	20.7	6.82	1.31	0.75	83	156.5	59.85	"
1434	2700	20.6	6.79	1.30	0.73	87	183.0	59.84	"
1437	3150	20.5	6.79	1.30	0.73	88	185.0	—	"
1440	3600	20.4	6.76	1.30	0.71	91	192.2	59.84	clear
1443	4050	—	BEGIN SAMPLING	—					
1446	4500	—	END SAMPLING	—					

~~Chris Moss~~ 1-10-07

Total Volume Purged: 4.05 L	Total Time: 30 min

Laboratory Analysis: VOCs (X) Metals Filtered ( ) General chemistry ( ) Gross Alpha/Beta ( ) Nitrite ( )
Other Petch. (314)

Total number of bottles: 4

Comments:

QC Sample Collected? Yes ( ) No (X) If YES, then type of sample and sample ID:

QA Check

Field Member	Date	Initials
Sample Collector	1-10-07	CM
Sample Coordinator	1.15.07	[illegible]

Appendix B
Validation Report

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

CDM Federal
9444 Farnham Street, Suite 210
San Diego, CA 92123
ATTN: Mr. Michael Higman

January 5, 2007

SUBJECT: MCAS El Toro, Data Validation

Dear Mr. Higman,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on December 12th, 2006.

LDC project# 15944:

SDG #	Fraction
06K049, 06K056	Volatiles (EPA Method SW 846 8260B)
06K097, 06K110	Metals (Method CLP SOW ILM04.0)
06K034, 06K011	TPH-G (EPA Method SW 846 8015)
06K076	TPH-E (EPA Method SW 846 8015)
	Methane, Ethane and Ethene (RSK-175)
	Wet Chemistry (Method EPA 300.0, 310.1, 314.0, 354.1, 376.2, 415.1, 160.1 and SM3500)

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Sample Qualification Report
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Manual Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 and for Inorganic Data Review, October 2004. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates

- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Erlinda T. Rauto
Operations Manager/Senior Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
01-Nov-2006	02NEW8A-124	K011-01	N	5030B	8260B	3
01-Nov-2006	02NEW8A-124	K011-01	N	GEN PREP	314.0	3
01-Nov-2006	02NEW8A-124	K011-01	N	GEN PREP	CLP-HG	3
01-Nov-2006	02NEW8A-124	K011-01	N	GEN PREP	CLP-METAL	3
01-Nov-2006	02NEW2-124	K011-02	N	5030B	8260B	3
01-Nov-2006	02NEW2-124	K011-02	N	GEN PREP	314.0	3
01-Nov-2006	02NEW2-124	K011-02	N	GEN PREP	CLP-HG	3
01-Nov-2006	02NEW2-124	K011-02	N	GEN PREP	CLP-METAL	3
01-Nov-2006	02NEW7-524	K011-05	EB	5030B	8260B	3
01-Nov-2006	02NEW7-524	K011-05	EB	GEN PREP	314.0	3
01-Nov-2006	02NEW7-524	K011-05	EB	GEN PREP	CLP-HG	3
01-Nov-2006	02NEW7-524	K011-05	EB	GEN PREP	CLP-METAL	3
01-Nov-2006	02NEW7-124	K011-04	N	5030B	8260B	3
01-Nov-2006	02NEW7-124	K011-04	N	GEN PREP	314.0	3
01-Nov-2006	02NEW7-124	K011-04	N	GEN PREP	CLP-HG	3
01-Nov-2006	02NEW7-124	K011-04	N	GEN PREP	CLP-METAL	3
01-Nov-2006	02NEW16-124	K011-03	N	5030B	8260B	3
01-Nov-2006	02NEW16-124	K011-03	N	GEN PREP	160.1	3
01-Nov-2006	02NEW16-124	K011-03	N	GEN PREP	300.0	3
01-Nov-2006	02NEW16-124	K011-03	N	GEN PREP	300.0 N	3
01-Nov-2006	02NEW16-124	K011-03	N	GEN PREP	310.1	3
01-Nov-2006	02NEW16-124	K011-03	N	GEN PREP	314.0	3
01-Nov-2006	02NEW16-124	K011-03	N	GEN PREP	CLP-HG	3
01-Nov-2006	02NEW16-124	K011-03	N	GEN PREP	CLP-METAL	3
01-Nov-2006	03-DGMW65XA-124	K049-06	N	5030B	8260B	4
01-Nov-2006	03-DGMW65XA-124	K049-06	N	GEN PREP	160.1	4

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
01-Nov-2006	03-DGMW65XA-124	K049-06	N	GEN PREP	300.0	4
01-Nov-2006	03-DGMW65XA-124	K049-06	N	GEN PREP	300.0 N	4
01-Nov-2006	03-DGMW65XA-124	K049-06	N	GEN PREP	310.1	4
01-Nov-2006	03-DGMW65XA-124	K049-06	N	GEN PREP	CLP-HG	4
01-Nov-2006	03-DGMW65XA-124	K049-06	N	GEN PREP	CLP-METAL	4
01-Nov-2006	03-DGMW65XA-124DUP	K049-06D	DUP	GEN PREP	160.1	3
01-Nov-2006	TB01-924	K011-06	TB	5030B	8260B	3
02-Nov-2006	02NEW11-124	K034-06	N	5030B	8260B	3
02-Nov-2006	02NEW11-124	K034-06	N	GEN PREP	CLP-HG	3
02-Nov-2006	02NEW11-124	K034-06	N	GEN PREP	CLP-METAL	3
02-Nov-2006	03-DGMW64A-124	K034-05	N	5030B	8260B	3
02-Nov-2006	03-DGMW64A-124	K034-05	N	GEN PREP	160.1	4
02-Nov-2006	03-DGMW64A-124	K034-05	N	GEN PREP	300.0	4
02-Nov-2006	03-DGMW64A-124	K034-05	N	GEN PREP	300.0 N	4
02-Nov-2006	03-DGMW64A-124	K034-05	N	GEN PREP	310.1	4
02-Nov-2006	03-DGMW64A-124	K034-05	N	GEN PREP	CLP-HG	4
02-Nov-2006	03-DGMW64A-124	K034-05	N	GEN PREP	CLP-METAL	4
02-Nov-2006	02-DGMW59-124	K034-01	N	5030B	8260B	3
02-Nov-2006	02-DGMW59-124	K034-01	N	GEN PREP	CLP-HG	3
02-Nov-2006	02-DGMW59-124	K034-01	N	GEN PREP	CLP-METAL	3
02-Nov-2006	01MW201-124	K034-07	N	5030B	8260B	3
02-Nov-2006	01MW201-124	K034-07	N	GEN PREP	314.0	4
02-Nov-2006	01MW201-324	K034-08	N	5030B	8260B	3
02-Nov-2006	01MW201-324	K034-08	N	GEN PREP	314.0	3
02-Nov-2006	04-DGMW66A-124	K034-02	N	5030B	8260B	3
02-Nov-2006	04-DGMW66A-124	K034-02	N	GEN PREP	CLP-HG	3

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
02-Nov-2006	04-DGMW66A-124	K034-02	N	GEN PREP	CLP-METAL	3
02-Nov-2006	04-DGMW66A-324	K034-03	N	5030B	8260B	3
02-Nov-2006	04-DGMW66A-324	K034-03	N	GEN PREP	CLP-HG	3
02-Nov-2006	04-DGMW66A-324	K034-03	N	GEN PREP	CLP-METAL	3
02-Nov-2006	02NEW15-124	K034-09	N	5030B	8260B	3
02-Nov-2006	02NEW15-124	K034-09	N	GEN PREP	314.0	3
02-Nov-2006	02NEW15-124	K034-09	N	GEN PREP	CLP-HG	3
02-Nov-2006	02NEW15-124	K034-09	N	GEN PREP	CLP-METAL	3
02-Nov-2006	05-DBMW41A-124	K034-04	N	5030B	8260B	3
02-Nov-2006	05-DBMW41A-124	K034-04	N	GEN PREP	CLP-HG	3
02-Nov-2006	05-DBMW41A-124	K034-04	N	GEN PREP	CLP-METAL	3
02-Nov-2006	BT02-924	K034-10	N	5030B	8260B	3
02-Nov-2006	05-DBMW41A-524	K049-02	N	5030B	8260B	4
02-Nov-2006	05-DBMW41A-524	K049-02	N	GEN PREP	160.1	3
02-Nov-2006	05-DBMW41A-524	K049-02	N	GEN PREP	300.0	3
02-Nov-2006	05-DBMW41A-524	K049-02	N	GEN PREP	300.0 N	3
02-Nov-2006	05-DBMW41A-524	K049-02	N	GEN PREP	310.1	3
02-Nov-2006	05-DBMW41A-524	K049-02	N	GEN PREP	CLP-HG	3
02-Nov-2006	05-DBMW41A-524	K049-02	N	GEN PREP	CLP-METAL	3
03-Nov-2006	05-DGMW68A-124	K049-03	N	5030B	8260B	4
03-Nov-2006	05-DGMW68A-124	K049-03	N	GEN PREP	CLP-HG	4
03-Nov-2006	05-DGMW68A-124	K049-03	N	GEN PREP	CLP-METAL	4
03-Nov-2006	05-DGMW68A-524	K049-04	N	5030B	8260B	4
03-Nov-2006	05-DGMW68A-524	K049-04	N	GEN PREP	CLP-HG	3
03-Nov-2006	05-DGMW68A-524	K049-04	N	GEN PREP	CLP-METAL	3
03-Nov-2006	05-DGMW68A-724	K049-05	N	5030B	8260B	4

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IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
03-Nov-2006	05-DGMW68A-724	K049-05	N	GEN PREP	160.1	3
03-Nov-2006	05-DGMW68A-724	K049-05	N	GEN PREP	300.0	3
03-Nov-2006	05-DGMW68A-724	K049-05	N	GEN PREP	300.0 N	3
03-Nov-2006	05-DGMW68A-724	K049-05	N	GEN PREP	310.1	3
03-Nov-2006	05-DGMW68A-724	K049-05	N	GEN PREP	314.0	3
03-Nov-2006	05-DGMW68A-724	K049-05	N	GEN PREP	CLP-HG	3
03-Nov-2006	05-DGMW68A-724	K049-05	N	GEN PREP	CLP-METAL	3
03-Nov-2006	BT03-924	K049-07	N	5030B	8260B	3
03-Nov-2006	04-DBMW40-124	K049-01	N	5030B	8260B	4
03-Nov-2006	04-DBMW40-124	K049-01	N	GEN PREP	CLP-HG	4
03-Nov-2006	04-DBMW40-124	K049-01	N	GEN PREP	CLP-METAL	4
03-Nov-2006	04-DBMW40-124DUP	K049-01D	DUP	GEN PREP	CLP-HG	3
03-Nov-2006	04-DBMW40-124DUP	K049-01D	DUP	GEN PREP	CLP-METAL	3
03-Nov-2006	04-DBMW40-124MS	K049-01M	MS	GEN PREP	CLP-HG	3
03-Nov-2006	04-DBMW40-124MS	K049-01M	MS	GEN PREP	CLP-METAL	3
03-Nov-2006	04-UGMW63-124	K049-08	N	5030B	8260B	4
03-Nov-2006	04-UGMW63-124	K049-08	N	GEN PREP	CLP-HG	4
03-Nov-2006	04-UGMW63-124	K049-08	N	GEN PREP	CLP-METAL	4
06-Nov-2006	05NEW1-124	K056-01	N	5030B	8260B	3
06-Nov-2006	05NEW1-124	K056-01	N	GEN PREP	160.1	3
06-Nov-2006	05NEW1-124	K056-01	N	GEN PREP	300.0	3
06-Nov-2006	05NEW1-124	K056-01	N	GEN PREP	300.0 N	3
06-Nov-2006	05NEW1-124	K056-01	N	GEN PREP	310.1	3
06-Nov-2006	05NEW1-124	K056-01	N	GEN PREP	CLP-HG	3
06-Nov-2006	05NEW1-124	K056-01	N	GEN PREP	CLP-METAL	3
06-Nov-2006	05NEW1-124DUP	K056-01D	DUP	GEN PREP	160.1	3

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
06-Nov-2006	05NEW1-124DUP	K056-01D	DUP	GEN PREP	300.0	3
06-Nov-2006	05NEW1-124DUP	K056-01D	DUP	GEN PREP	300.0 N	3
06-Nov-2006	05NEW1-124DUP	K056-01D	DUP	GEN PREP	310.1	3
06-Nov-2006	05NEW1-124DUP	K056-01D	DUP	GEN PREP	CLP-HG	3
06-Nov-2006	05NEW1-124DUP	K056-01D	DUP	GEN PREP	CLP-METAL	3
06-Nov-2006	05NEW1-124MS	K056-01M	MS	5030B	8260B	3
06-Nov-2006	05NEW1-124MS	K056-01M	MS	GEN PREP	300.0	3
06-Nov-2006	05NEW1-124MS	K056-01M	MS	GEN PREP	300.0 N	3
06-Nov-2006	05NEW1-124MS	K056-01M	MS	GEN PREP	CLP-HG	3
06-Nov-2006	05NEW1-124MS	K056-01M	MS	GEN PREP	CLP-METAL	3
06-Nov-2006	05NEW1-124MSD	K056-01S	MSD	5030B	8260B	3
06-Nov-2006	05NEW1-124MSD	K056-01S	MSD	GEN PREP	300.0	3
06-Nov-2006	05NEW1-124MSD	K056-01S	MSD	GEN PREP	300.0 N	3
06-Nov-2006	BT04-924	K056-03	TB	5030B	8260B	3
06-Nov-2006	05_DGMW67A-124	K056-02	N	5030B	8260B	3
06-Nov-2006	05_DGMW67A-124	K056-02	N	GEN PREP	CLP-HG	3
06-Nov-2006	05_DGMW67A-124	K056-02	N	GEN PREP	CLP-METAL	3
06-Nov-2006	16_MW13-124	K056-04	N	3520C	8015B DRO	4
06-Nov-2006	16_MW13-124	K056-04	N	5030B	8015B GRO	4
06-Nov-2006	16_MW13-124	K056-04	N	5030B	8260B	3
07-Nov-2006	BT05-924	K076-03	TB	5030B	8260B	3
07-Nov-2006	16_MW08-124	K076-01	N	3520C	8015B DRO	4
07-Nov-2006	16_MW08-124	K076-01	N	5030B	8015B GRO	4
07-Nov-2006	16_MW08-124	K076-01	N	5030B	8260B	4
07-Nov-2006	16_MW09-124	K076-02	N	3520C	8015B DRO	3
07-Nov-2006	16_MW09-124	K076-02	N	5030B	8015B GRO	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
07-Nov-2006	16_MW09-124	K076-02	N	5030B	8260B	4
07-Nov-2006	16_MW05-124	K076-04	N	3520C	8015B DRO	3
07-Nov-2006	16_MW05-124	K076-04	N	5030B	8015B GRO	3
07-Nov-2006	16_MW05-124	K076-04	N	5030B	8260B	3
07-Nov-2006	16_MW05-124	K076-04T	N	5030B	8260B	3
07-Nov-2006	16_MW11-124	K076-05	N	3520C	8015B DRO	3
07-Nov-2006	16_MW11-124	K076-05	N	5030B	8015B GRO	3
07-Nov-2006	16_MW11-124	K076-05	N	5030B	8260B	3
07-Nov-2006	16_MW11-124	K076-05T	N	5030B	8260B	3
07-Nov-2006	16_MW04-124	K076-06	N	3520C	8015B DRO	3
07-Nov-2006	16_MW04-124	K076-06	N	5030B	8015B GRO	3
07-Nov-2006	16_MW04-124	K076-06	N	5030B	8260B	3
07-Nov-2006	16_MW04-124	K076-06T	N	5030B	8260B	3
07-Nov-2006	16_MPE1-124	K076-07	N	3520C	8015B DRO	3
07-Nov-2006	16_MPE1-124	K076-07	N	5030B	8015B GRO	3
07-Nov-2006	16_MPE1-124	K076-07R	N	5030B	8260B	3
07-Nov-2006	16_MPE1-124	K076-07T	N	5030B	8260B	3
07-Nov-2006	16_MPE1-324	K076-08	FD	3520C	8015B DRO	3
07-Nov-2006	16_MPE1-324	K076-08	FD	5030B	8015B GRO	3
07-Nov-2006	16_MPE1-324	K076-08R	FD	5030B	8260B	3
07-Nov-2006	16_MPE1-324	K076-08T	FD	5030B	8260B	3
08-Nov-2006	16_MW01-124	K097-01	N	3520C	8015B DRO	3
08-Nov-2006	16_MW01-124	K097-01	N	5030B	8015B GRO	3
08-Nov-2006	16_MW01-124	K097-01	N	5030B	8260B	3
08-Nov-2006	16_MW01-124MS	K097-01M	MS	3520C	8015B DRO	3
08-Nov-2006	16_MW01-124MS	K097-01M	MS	5030B	8015B GRO	3

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IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
08-Nov-2006	16_MW01-124MS	K097-01M	MS	5030B	8260B	3
08-Nov-2006	16_MW01-124MSD	K097-01S	MSD	3520C	8015B DRO	3
08-Nov-2006	16_MW01-124MSD	K097-01S	MSD	5030B	8015B GRO	3
08-Nov-2006	16_MW01-124MSD	K097-01S	MSD	5030B	8260B	3
08-Nov-2006	16_MW01-124	K097-01T	N	5030B	8260B	3
08-Nov-2006	16_MW17-124	K097-02	N	3520C	8015B DRO	3
08-Nov-2006	16_MW17-124	K097-02	N	5030B	8015B GRO	3
08-Nov-2006	16_MW17-124	K097-02	N	5030B	8260B	3
08-Nov-2006	16_MW17-124	K097-02	N	GEN PREP	160.1	3
08-Nov-2006	16_MW17-124	K097-02	N	GEN PREP	300.0	3
08-Nov-2006	16_MW17-124	K097-02	N	GEN PREP	300.0 N	3
08-Nov-2006	16_MW17-124	K097-02	N	GEN PREP	310.1	3
08-Nov-2006	16_MW17-124	K097-02	N	GEN PREP	354.1	4
08-Nov-2006	16_MW17-124	K097-02	N	GEN PREP	376.2	4
08-Nov-2006	16_MW17-124	K097-02	N	GEN PREP	415.1	4
08-Nov-2006	16_MW17-124	K097-02	N	GEN PREP	CALC	4
08-Nov-2006	16_MW17-124	K097-02	N	GEN PREP	CLP-HG	3
08-Nov-2006	16_MW17-124	K097-02	N	GEN PREP	CLP-METAL	3
08-Nov-2006	16_MW17-124	K097-02	N	GEN PREP	RSK175	4
08-Nov-2006	BT06-924	K097-03	TB	5030B	8260B	3
09-Nov-2006	17_NEW1-124	K110-01	N	5030B	8260B	3
09-Nov-2006	17_NEW1-124	K110-01	N	GEN PREP	160.1	3
09-Nov-2006	17_NEW1-124	K110-01	N	GEN PREP	300.0	3
09-Nov-2006	17_NEW1-124	K110-01	N	GEN PREP	300.0 N	3
09-Nov-2006	17_NEW1-124	K110-01	N	GEN PREP	310.1	3
09-Nov-2006	17_NEW1-124	K110-01	N	GEN PREP	CLP-HG	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
09-Nov-2006	17_NEW1-124	K110-01	N	GEN PREP	CLP-METAL	3
09-Nov-2006	BT07-924	K110-02	TB	5030B	8260B	3
09-Nov-2006	17_DGMW82-124	K110-03	N	5030B	8260B	3
09-Nov-2006	17_DGMW82-124	K110-03	N	GEN PREP	160.1	3
09-Nov-2006	17_DGMW82-124	K110-03	N	GEN PREP	300.0	3
09-Nov-2006	17_DGMW82-124	K110-03	N	GEN PREP	300.0 N	3
09-Nov-2006	17_DGMW82-124	K110-03	N	GEN PREP	310.1	3
09-Nov-2006	17_DGMW82-124	K110-03	N	GEN PREP	CLP-HG	3
09-Nov-2006	17_DGMW82-124	K110-03	N	GEN PREP	CLP-METAL	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K011										
314.0	02NEW2-124	AQ	N							
				PERCHLORATE	2.00	1.89J		J	UG/L	
8260B	02NEW16-124	AQ	N							
				ACETONE	50	50U		UJ	UG/L	
				STYRENE	0.50	0.43J		J	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
8260B	02NEW2-124	AQ	N							
				ACETONE	50	50U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
8260B	02NEW7-124	AQ	N							
				ACETONE	50	50U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
8260B	02NEW7-524	AQ	EB							
				ACETONE	50	50U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TOLUENE	0.50	0.36J		J	UG/L	
8260B	02NEW8A-124	AQ	N							
				ACETONE	50	50U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
8260B	TB01-924	AQ	TB							
				ACETONE	50	50U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
CLP-METAL	02NEW16-124	AQ	N							
				ARSENIC	0.0100	0.00767J		J	MG/L	
				BARIUM	0.200	0.114J		J	MG/L	
				POTASSIUM	5.00	1.33J		J	MG/L	
				VANADIUM	0.0500	0.0206J		J	MG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K011										
CLP-METAL	02NEW2-124	AQ	N							
				ARSENIC	0.0100	0.00553J		J	MG/L	
				BARIUM	0.200	0.0796J		J	MG/L	
				POTASSIUM	5.00	1.73J		J	MG/L	
				VANADIUM	0.0500	0.0178J		J	MG/L	
CLP-METAL	02NEW7-124	AQ	N							
				ANTIMONY	0.0600	0.0449J		J	MG/L	
				ARSENIC	0.0100	0.00792J		J	MG/L	
				BARIUM	0.200	0.0714J		J	MG/L	
				MANGANESE	0.0150	0.0138J		J	MG/L	
				POTASSIUM	5.00	2.11J		J	MG/L	
				VANADIUM	0.0500	0.0173J		J	MG/L	
CLP-METAL	02NEW8A-124	AQ	N							
				ARSENIC	0.0100	0.00993J		J	MG/L	
				BARIUM	0.200	0.0409J		J	MG/L	
				POTASSIUM	5.00	2.01J		J	MG/L	
				VANADIUM	0.0500	0.00587J		J	MG/L	
				ZINC	0.0200	0.00515J		J	MG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K034										
8260B	01MW201-124	AQ	N							
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				1,2-DICHLOROETHANE	0.50	0.50U		UJ	UG/L	
				2-BUTANONE	100	100U		UJ	UG/L	
				4-METHYL-2-PENTANONE	50	50U		UJ	UG/L	
				BROMODICHLOROMETHANE	0.50	0.50U		UJ	UG/L	
				BROMOFORM	0.50	0.50U		UJ	UG/L	
				ETBE	5.0	5.0U		UJ	UG/L	
				HEXACHLOROBUTADIENE	0.50	0.50U		UJ	UG/L	
				N-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	
				SEC-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	
				TAME	5.0	5.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TERT-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	
8260B	01MW201-324	AQ	N							
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				1,2-DICHLOROETHANE	0.50	0.50U		UJ	UG/L	
				2-BUTANONE	100	100U		UJ	UG/L	
				4-METHYL-2-PENTANONE	50	50U		UJ	UG/L	
				BROMODICHLOROMETHANE	0.50	0.50U		UJ	UG/L	
				BROMOFORM	0.50	0.50U		UJ	UG/L	
				ETBE	5.0	5.0U		UJ	UG/L	
				HEXACHLOROBUTADIENE	0.50	0.50U		UJ	UG/L	
				N-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	
				SEC-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	
				TAME	5.0	5.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TERT-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K034										
8260B	02-DGMW59-124	AQ	N							
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				1,2-DICHLOROETHANE	0.50	0.50U		UJ	UG/L	
				2-BUTANONE	100	100U		UJ	UG/L	
				4-METHYL-2-PENTANONE	50	50U		UJ	UG/L	
				BROMODICHLOROMETHANE	0.50	0.50U		UJ	UG/L	
				BROMOFORM	0.50	0.50U		UJ	UG/L	
				ETBE	5.0	5.0U		UJ	UG/L	
				HEXACHLOROBUTADIENE	0.50	0.50U		UJ	UG/L	
				N-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	
				SEC-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	
				TAME	5.0	5.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TERT-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	
8260B	02NEW11-124	AQ	N							
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				1,2-DICHLOROETHANE	0.50	0.50U		UJ	UG/L	
				2-BUTANONE	100	100U		UJ	UG/L	
				4-METHYL-2-PENTANONE	50	50U		UJ	UG/L	
				BROMODICHLOROMETHANE	0.50	0.50U		UJ	UG/L	
				BROMOFORM	0.50	0.50U		UJ	UG/L	
				ETBE	5.0	5.0U		UJ	UG/L	
				HEXACHLOROBUTADIENE	0.50	0.50U		UJ	UG/L	
				N-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	
				SEC-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	
				TAME	5.0	5.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TERT-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K034										
8260B	02NEW15-124	AQ	N							
				1,3-DICHLOROPROPANE	0.50	0.50U		UJ	UG/L	
				2-BUTANONE	100	100U		UJ	UG/L	
				BROMOCHLOROMETHANE	0.50	0.50U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
8260B	03-DGMW64A-124	AQ	N							
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				1,2-DICHLOROETHANE	0.50	0.50U		UJ	UG/L	
				2-BUTANONE	100	100U		UJ	UG/L	
				4-METHYL-2-PENTANONE	50	50U		UJ	UG/L	
				BROMODICHLOROMETHANE	0.50	0.50U		UJ	UG/L	
				BROMOFORM	0.50	0.50U		UJ	UG/L	
				ETBE	5.0	5.0U		UJ	UG/L	
				HEXACHLOROBUTADIENE	0.50	0.50U		UJ	UG/L	
				N-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	
				SEC-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	
				TAME	5.0	5.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TERT-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K034										
8260B	04-DGMW66A-124	AQ	N							
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				1,2-DICHLOROETHANE	0.50	0.50U		UJ	UG/L	
				2-BUTANONE	100	100U		UJ	UG/L	
				4-METHYL-2-PENTANONE	50	50U		UJ	UG/L	
				BROMODICHLOROMETHANE	0.50	0.50U		UJ	UG/L	
				BROMOFORM	0.50	0.50U		UJ	UG/L	
				ETBE	5.0	5.0U		UJ	UG/L	
				HEXACHLOROBUTADIENE	0.50	0.50U		UJ	UG/L	
				N-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	
				SEC-BUTYLBENZENE	0.50	0.23J		J	UG/L	
				TAME	5.0	5.0U		UJ	UG/L	
				TERT-BUTANOL	20	31		J	UG/L	
				TERT-BUTYLBENZENE	0.50	0.23J		J	UG/L	
8260B	04-DGMW66A-324	AQ	N							
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				1,2-DICHLOROETHANE	0.50	0.50U		UJ	UG/L	
				2-BUTANONE	100	100U		UJ	UG/L	
				4-METHYL-2-PENTANONE	50	50U		UJ	UG/L	
				BROMODICHLOROMETHANE	0.50	0.50U		UJ	UG/L	
				BROMOFORM	0.50	0.50U		UJ	UG/L	
				ETBE	5.0	5.0U		UJ	UG/L	
				HEXACHLOROBUTADIENE	0.50	0.50U		UJ	UG/L	
				N-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	
				SEC-BUTYLBENZENE	0.50	0.22J		J	UG/L	
				TAME	5.0	5.0U		UJ	UG/L	
				TERT-BUTANOL	20	37		J	UG/L	
				TERT-BUTYLBENZENE	0.50	0.22J		J	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K034										
8260B	05-DBMW41A-124	AQ	N							
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				1,2-DICHLOROETHANE	0.50	0.50U		UJ	UG/L	
				2-BUTANONE	100	100U		UJ	UG/L	
				4-METHYL-2-PENTANONE	50	50U		UJ	UG/L	
				BROMODICHLOROMETHANE	0.50	0.50U		UJ	UG/L	
				BROMOFORM	0.50	0.50U		UJ	UG/L	
				ETBE	5.0	5.0U		UJ	UG/L	
				HEXACHLOROBUTADIENE	0.50	0.50U		UJ	UG/L	
				N-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	
				SEC-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	
				TAME	5.0	5.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TERT-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	
				TOLUENE	0.50	0.81		U	UG/L	
8260B	BT02-924	AQ	N							
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				1,2-DICHLOROETHANE	0.50	0.50U		UJ	UG/L	
				2-BUTANONE	100	100U		UJ	UG/L	
				4-METHYL-2-PENTANONE	50	50U		UJ	UG/L	
				BROMODICHLOROMETHANE	0.50	0.50U		UJ	UG/L	
				BROMOFORM	0.50	0.50U		UJ	UG/L	
				ETBE	5.0	5.0U		UJ	UG/L	
				HEXACHLOROBUTADIENE	0.50	0.50U		UJ	UG/L	
				N-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	
				SEC-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	
				TAME	5.0	5.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TERT-BUTYLBENZENE	0.50	0.50U		UJ	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K034										
CLP-METAL	02-DGMW59-124	AQ	N							
				ARSENIC	0.0100	0.00566J		J	MG/L	
				BARIUM	0.200	0.151J		J	MG/L	
				MANGANESE	0.0150	0.00456J		J	MG/L	
				POTASSIUM	5.00	1.70J		U	MG/L	
				THALLIUM	0.0100	0.00539J		J	MG/L	
				VANADIUM	0.0500	0.00911J		J	MG/L	
				ZINC	0.0200	0.00985J		J	MG/L	
CLP-METAL	02NEW11-124	AQ	N							
				ANTIMONY	0.0600	0.0450J		J	MG/L	
				ARSENIC	0.0100	0.00428J		J	MG/L	
				BARIUM	0.200	0.0948J		J	MG/L	
				POTASSIUM	5.00	3.46J		J	MG/L	
				VANADIUM	0.0500	0.00904J		J	MG/L	
CLP-METAL	02NEW15-124	AQ	N							
				BARIUM	0.200	0.0626J		J	MG/L	
				POTASSIUM	5.00	1.93J		J	MG/L	
				VANADIUM	0.0500	0.0123J		J	MG/L	
CLP-METAL	03-DGMW64A-124	AQ	N							
				ARSENIC	0.0100	0.00678J		J	MG/L	
				BARIUM	0.200	0.0289J		J	MG/L	
				IRON	0.100	0.0512J		J	MG/L	
				POTASSIUM	5.00	4.17J		J	MG/L	
				VANADIUM	0.0500	0.0196J		J	MG/L	
CLP-METAL	04-DGMW66A-124	AQ	N							
				ARSENIC	0.0100	0.0100U		UJ	MG/L	
				BARIUM	0.200	0.0692J		J	MG/L	
				POTASSIUM	5.00	4.88J		U	MG/L	
				VANADIUM	0.0500	0.0185J		J	MG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K034										
CLP-METAL	04-DGMW66A-324	AQ	N							
				ARSENIC	0.0100	0.00574J		J	MG/L	
				BARIUM	0.200	0.0693J		J	MG/L	
				POTASSIUM	5.00	4.48J		U	MG/L	
				VANADIUM	0.0500	0.0190J		J	MG/L	
CLP-METAL	05-DBMW41A-124	AQ	N							
				BARIUM	0.200	0.0590J		J	MG/L	
				MANGANESE	0.0150	0.00608J		J	MG/L	
				POTASSIUM	5.00	1.88J		J	MG/L	
				VANADIUM	0.0500	0.0101J		J	MG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K049										
300.0 N	03-DGMW65XA-124	AQ	N							
				NITRATE	0.100	7.25		J	MG/L	
8260B	03-DGMW65XA-124	AQ	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0U		UJ	UG/L	
				ETBE	5.0	5.0U		UJ	UG/L	
				TAME	5.0	5.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	
8260B	04-DBMW40-124	AQ	N							
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	
8260B	04-UGMW63-124	AQ	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0U		UJ	UG/L	
				ETBE	5.0	5.0U		UJ	UG/L	
				TAME	5.0	5.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	
8260B	05-DBMW41A-524	AQ	N							
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				ETHYLBENZENE	0.50	0.25J		J	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	
				XYLENES, TOTAL	1.5	1.4J		J	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K049										
8260B	05-DGMW68A-124	AQ	N							
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				BENZENE	0.50	0.45J		J	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TOLUENE	0.50	0.46J		U	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	
8260B	05-DGMW68A-524	AQ	N							
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				ETHYLBENZENE	0.50	0.22J		J	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	
				XYLENES, TOTAL	1.5	1.2J		J	UG/L	
8260B	05-DGMW68A-724	AQ	N							
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	
8260B	BT03-924	AQ	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0U		UJ	UG/L	
				ETBE	5.0	5.0U		UJ	UG/L	
				TAME	5.0	5.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	
CLP-METAL	03-DGMW65XA-124	AQ	N							
				ARSENIC	0.0100	0.00877J		J	MG/L	
				BARIUM	0.200	0.0568J		J	MG/L	
				POTASSIUM	5.00	3.27J		U	MG/L	
				VANADIUM	0.0500	0.0400J		J	MG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K049										
CLP-METAL	04-DBMW40-124	AQ	N							
				ARSENIC	0.0100	0.00600J		J	MG/L	
				BARIUM	0.200	0.0483J		J	MG/L	
				MANGANESE	0.0150	0.00799J		J	MG/L	
				POTASSIUM	5.00	1.97J		U	MG/L	
				VANADIUM	0.0500	0.0234J		J	MG/L	
CLP-METAL	04-UGMW63-124	AQ	N							
				BARIUM	0.200	0.0722J		J	MG/L	
				POTASSIUM	5.00	3.22J		U	MG/L	
				VANADIUM	0.0500	0.0184J		J	MG/L	
				ZINC	0.0200	0.00688J		J	MG/L	
CLP-METAL	05-DBMW41A-524	AQ	N							
				CHROMIUM	0.0100	0.00515J		J	MG/L	
CLP-METAL	05-DGMW68A-124	AQ	N							
				BARIUM	0.200	0.0282J		J	MG/L	
				IRON	0.100	0.0606J		J	MG/L	
				MANGANESE	0.0150	0.00900J		J	MG/L	
				POTASSIUM	5.00	2.70J		U	MG/L	
				VANADIUM	0.0500	0.0148J		J	MG/L	
CLP-METAL	05-DGMW68A-524	AQ	N							
				CALCIUM	5.00	0.106J		J	MG/L	
				ZINC	0.0200	0.00750J		J	MG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K056										
8015B DRO	16_MW13-124	AQ	N							
				JP5	0.47	0.27J		J	MG/L	
8260B	05_DGMW67A-124	AQ	N							
				1,2,3-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2,4-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				CHLOROMETHANE	1.0	1.0U		UJ	UG/L	
				ETBE	5.0	5.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TERT-BUTYL METHYL ETHER	5.0	5.0U		UJ	UG/L	
				TETRACHLOROETHENE(PCE)	0.50	0.38J		J	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	
8260B	05NEW1-124	AQ	N							
				1,2,3-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2,4-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				CHLOROFORM	0.50	0.33J		J	UG/L	
				CHLOROMETHANE	1.0	1.0U		UJ	UG/L	
				ETBE	5.0	5.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TERT-BUTYL METHYL ETHER	5.0	5.0U		UJ	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K056										
8260B	16_MW13-124	AQ	N							
				1,2,3-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2,4-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				CARBON DISULFIDE	5.0	5.0U		UJ	UG/L	
				CHLOROMETHANE	1.0	1.0U		UJ	UG/L	
				NAPHTHALENE	1.0	1.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	
8260B	BT04-924	AQ	TB							
				1,2,3-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2,4-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				CHLOROMETHANE	1.0	1.0U		UJ	UG/L	
				ETBE	5.0	5.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TERT-BUTYL METHYL ETHER	5.0	5.0U		UJ	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	
CLP-METAL	05_DGMW67A-124	AQ	N							
				BARIUM	0.200	0.0419J		J	MG/L	
				POTASSIUM	5.00	2.08J		J	MG/L	
				VANADIUM	0.0500	0.0117J		J	MG/L	
				ZINC	0.0200	0.00569J		J	MG/L	
CLP-METAL	05NEW1-124	AQ	N							
				ARSENIC	0.0100	0.00481J		J	MG/L	
				BARIUM	0.200	0.120J		J	MG/L	
				MANGANESE	0.0150	0.00513J		J	MG/L	
				POTASSIUM	5.00	2.41J		J	MG/L	
				THALLIUM	0.0100	0.00523J		U	MG/L	
				VANADIUM	0.0500	0.0152J		J	MG/L	

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Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K076										
8015B GRO	16_MW04-124	AQ	N							
				GASOLINE	0.050	0.044J		J	MG/L	
8015B GRO	16_MW05-124	AQ	N							
				GASOLINE	0.050	0.030J		J	MG/L	
8260B	16_MPE1-124	AQ	N							
				1,2,3-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2,4-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				BENZENE	0.50	0.50U		UJ	UG/L	
				CARBON DISULFIDE	5.0	5.0U		UJ	UG/L	
				CHLOROMETHANE	1.0	1.0U		UJ	UG/L	
				CIS-1,2-DICHLOROETHENE	0.50	0.31J		J	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
8260B	16_MPE1-324	AQ	FD							
				1,2,3-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2,4-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				BENZENE	0.50	0.20J		J	UG/L	
				CARBON DISULFIDE	5.0	5.0U		UJ	UG/L	
				CHLOROMETHANE	1.0	1.0U		UJ	UG/L	
				CIS-1,2-DICHLOROETHENE	0.50	0.31J		J	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	

N = Normal Sample *TB = Trip Blank*
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Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K076										
8260B	16_MW04-124	AQ	N							
				1,2,3-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2,4-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				CARBON DISULFIDE	5.0	5.0U		UJ	UG/L	
				CHLOROMETHANE	1.0	1.0U		UJ	UG/L	
				NAPHTHALENE	1.0	1.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	
8260B	16_MW05-124	AQ	N							
				1,2,3-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2,4-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				CARBON DISULFIDE	5.0	5.0U		UJ	UG/L	
				CHLOROMETHANE	1.0	1.0U		UJ	UG/L	
				NAPHTHALENE	1.0	1.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	
8260B	16_MW08-124	AQ	N							
				1,2,3-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2,4-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				CARBON DISULFIDE	5.0	5.0U		UJ	UG/L	
				CHLOROMETHANE	1.0	1.0U		UJ	UG/L	
				NAPHTHALENE	1.0	1.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	

N = Normal Sample *TB = Trip Blank*
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Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K076										
8260B	16_MW09-124	AQ	N							
				1,2,3-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2,4-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				CARBON DISULFIDE	5.0	5.0U		UJ	UG/L	
				CHLOROMETHANE	1.0	1.0U		UJ	UG/L	
				NAPHTHALENE	1.0	1.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	
8260B	16_MW11-124	AQ	N							
				1,1-DICHLOROETHANE	0.50	0.35J		J	UG/L	
				1,2,3-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2,4-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				BENZENE	0.50	0.34J		J	UG/L	
				CARBON DISULFIDE	5.0	5.0U		UJ	UG/L	
				CHLOROMETHANE	1.0	1.0U		UJ	UG/L	
				NAPHTHALENE	1.0	1.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	
8260B	BT05-924	AQ	TB							
				1,2,3-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2,4-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				CARBON DISULFIDE	5.0	5.0U		UJ	UG/L	
				CHLOROMETHANE	1.0	1.0U		UJ	UG/L	
				NAPHTHALENE	1.0	1.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K097										
354.1	16_MW17-124	AQ	N							
				NITRITE AS N	0.0200	0.0103J		J	MG/L	
8260B	16_MW01-124	AQ	N							
				1,2,3-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2,4-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0U		UJ	UG/L	
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				CHLOROMETHANE	1.0	1.0U		UJ	UG/L	
				CIS-1,2-DICHLOROETHENE	0.50	0.27J		J	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
8260B	16_MW17-124	AQ	N							
				1,2,3-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2,4-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0U		UJ	UG/L	
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				CHLOROMETHANE	1.0	1.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
8260B	BT06-924	AQ	TB							
				1,2,3-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2,4-TRICHLOROBENZENE	0.50	0.50U		UJ	UG/L	
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0U		UJ	UG/L	
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				CHLOROMETHANE	1.0	1.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K097										
CLP-METAL	16_MW17-124	AQ	N							
				BARIUM	0.200	0.0830J		J	MG/L	
				COPPER	0.0250	0.00849J		J	MG/L	
				POTASSIUM	5.00	3.37J		J	MG/L	
				THALLIUM	0.0100	0.00596J		U	MG/L	
				VANADIUM	0.0500	0.0211J		J	MG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 06K110										
8260B	17_DGMW82-124	AQ	N							
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	
8260B	17_NEW1-124	AQ	N							
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	
8260B	BT07-924	AQ	TB							
				1,2-DIBROMOETHANE	0.50	0.50U		UJ	UG/L	
				ACETONE	50	50U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	
				TRICHLOROFLUOROMETHANE	0.50	0.50U		UJ	UG/L	
CLP-METAL	17_DGMW82-124	AQ	N							
				BARIUM	0.200	0.0522J		J	MG/L	
				NICKEL	0.0400	0.0377J		J	MG/L	
				POTASSIUM	5.00	4.60J		J	MG/L	
CLP-METAL	17_NEW1-124	AQ	N							
				ARSENIC	0.0100	0.00570J		J	MG/L	
				BARIUM	0.200	0.151J		J	MG/L	
				POTASSIUM	5.00	2.76J		J	MG/L	
				VANADIUM	0.0500	0.0106J		J	MG/L	
				ZINC	0.0200	0.0128J		J	MG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Sample Qualification Report

Sample Qualification Report (All Qualified Results)

Client Sample ID : 03-DGMW65XA-124 **Lab Report Batch :** 06K049 **Lab ID :** EMXT

Sample Date : 11/01/2006 **Analysis Type:** 2RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K049-06

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
ARSENIC	0.00877		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 03-DGMW65XA-124 **Lab Report Batch :** 06K049 **Lab ID :** EMXT

Sample Date : 11/01/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K049-06

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 300.0 N					**Dilution: 1**															
NITRATE	7.25		MG/L		YES	J		J												
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMO-3-CHLOROPROPANE	2.0		UG/L	U	YES	UJ														UJ
ETBE	5.0		UG/L	U	YES	UJ														UJ
TAME	5.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 03-DGMW65XA-124 **Lab Report Batch :** 06K049 **Lab ID :** EMXT

Sample Date : 11/01/2006 **Analysis Type: RES/TOT** **Sample Matrix :** AQ

Lab Sample ID: K049-06

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
BARIUM	0.0568		MG/L	J	YES	J								J						
POTASSIUM	3.27		MG/L	J	YES	U			U					J						
VANADIUM	0.0400		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 04-DBMW40-124 **Lab Report Batch :** 06K049 **Lab ID :** EMXT

Sample Date : 11/03/2006 **Analysis Type:** 2RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K049-01

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
ARSENIC	0.00600		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 04-DBMW40-124 **Lab Report Batch :** 06K049 **Lab ID :** EMXT

Sample Date : 11/03/2006 **Analysis Type: RES** **Sample Matrix :** AQ

Lab Sample ID: K049-01

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 04-DBMW40-124 **Lab Report Batch :** 06K049 **Lab ID :** EMXT

Sample Date : 11/03/2006 **Analysis Type:** RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K049-01

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
BARIUM	0.0483		MG/L	J	YES	J								J						
MANGANESE	0.00799		MG/L	J	YES	J								J						
POTASSIUM	1.97		MG/L	J	YES	U			U					J						
VANADIUM	0.0234		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 04-UGMW63-124 **Lab Report Batch :** 06K049 **Lab ID :** EMXT

Sample Date : 11/03/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K049-08

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMO-3-CHLOROPROPANE	2.0		UG/L	U	YES	UJ														UJ
ETBE	5.0		UG/L	U	YES	UJ														UJ
TAME	5.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 04-UGMW63-124 **Lab Report Batch :** 06K049 **Lab ID :** EMXT

Sample Date : 11/03/2006 **Analysis Type: RES/TOT** **Sample Matrix :** AQ

Lab Sample ID: K049-08

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
BARIUM	0.0722		MG/L	J	YES	J								J						
POTASSIUM	3.22		MG/L	J	YES	U			U					J						
VANADIUM	0.0184		MG/L	J	YES	J								J						
ZINC	0.00688		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 05-DBMW41A-524 **Lab Report Batch :** 06K049 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type: RES** **Sample Matrix :** AQ

Lab Sample ID: K049-02

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ														UJ
ETHYLBENZENE	0.25		UG/L	J	YES	J								J						
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ
XYLENES, TOTAL	1.4		UG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 05-DBMW41A-524 **Lab Report Batch :** 06K049 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type: RES/TOT** **Sample Matrix :** AQ

Lab Sample ID: K049-02

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
CHROMIUM	0.00515		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 05-DGMW68A-124 **Lab Report Batch :** 06K049 **Lab ID :** EMXT

Sample Date : 11/03/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K049-03

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ														UJ
BENZENE	0.45		UG/L	J	YES	J								J						
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TOLUENE	0.46		UG/L	J	YES	U								J		U				
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 05-DGMW68A-124 **Lab Report Batch :** 06K049 **Lab ID :** EMXT

Sample Date : 11/03/2006 **Analysis Type:** RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K049-03

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
BARIUM	0.0282		MG/L	J	YES	J								J						
IRON	0.0606		MG/L	J	YES	J								J						
MANGANESE	0.00900		MG/L	J	YES	J								J						
POTASSIUM	2.70		MG/L	J	YES	U			U					J						
VANADIUM	0.0148		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 05-DGMW68A-524 **Lab Report Batch :** 06K049 **Lab ID :** EMXT

Sample Date : 11/03/2006 **Analysis Type: RES** **Sample Matrix :** AQ

Lab Sample ID: K049-04

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ														UJ
ETHYLBENZENE	0.22		UG/L	J	YES	J								J						
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ
XYLENES, TOTAL	1.2		UG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 05-DGMW68A-524 **Lab Report Batch :** 06K049 **Lab ID :** EMXT

Sample Date : 11/03/2006 **Analysis Type: RES/TOT** **Sample Matrix :** AQ

Lab Sample ID: K049-04

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
CALCIUM	0.106		MG/L	J	YES	J								J						
ZINC	0.00750		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 05-DGMW68A-724 **Lab Report Batch :** 06K049 **Lab ID :** EMXT

Sample Date : 11/03/2006 **Analysis Type: RES** **Sample Matrix :** AQ

Lab Sample ID: K049-05

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : BT03-924
Sample Date : 11/03/2006
Lab Sample ID: K049-07

Lab Report Batch : 06K049
Analysis Type: RES

Lab ID : EMXT
Sample Matrix : AQ

Reviewed By / Date : _____

Approved By / Date : _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMO-3-CHLOROPROPANE	2.0		UG/L	U	YES	UJ														UJ
ETBE	5.0		UG/L	U	YES	UJ														UJ
TAME	5.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 05_DGMW67A-124 **Lab Report Batch :** 06K056 **Lab ID :** EMXT

Sample Date : 11/06/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K056-02

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2,3-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2,4-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2-DIBROMO-3-CHLOROPROPANE	2.0		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
CHLOROMETHANE	1.0		UG/L	U	YES	UJ														UJ
ETBE	5.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TERT-BUTYL METHYL ETHER	5.0		UG/L	U	YES	UJ														UJ
TETRACHLOROETHENE(PCE)	0.38		UG/L	J	YES	J								J						
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 05_DGMW67A-124 **Lab Report Batch :** 06K056 **Lab ID :** EMXT

Sample Date : 11/06/2006 **Analysis Type:** RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K056-02

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
BARIUM	0.0419		MG/L	J	YES	J								J						
POTASSIUM	2.08		MG/L	J	YES	J								J						
VANADIUM	0.0117		MG/L	J	YES	J								J						
ZINC	0.00569		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 05NEW1-124
Sample Date : 11/06/2006
Lab Sample ID: K056-01

Lab Report Batch : 06K056
Analysis Type: 2RES/TOT

Lab ID : EMXT
Sample Matrix : AQ

Reviewed By / Date : _____

Approved By / Date : _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
ARSENIC	0.00481		MG/L	J	YES	J								J						
THALLIUM	0.00523		MG/L	J	YES	U			U					J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 05NEW1-124
Sample Date : 11/06/2006
Lab Sample ID: K056-01

Lab Report Batch : 06K056
Analysis Type: RES

Lab ID : EMXT
Sample Matrix : AQ

Reviewed By / Date : _____

Approved By / Date : _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2,3-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2,4-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2-DIBROMO-3-CHLOROPROPANE	2.0		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
CHLOROFORM	0.33		UG/L	J	YES	J								J						
CHLOROMETHANE	1.0		UG/L	U	YES	UJ														UJ
ETBE	5.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TERT-BUTYL METHYL ETHER	5.0		UG/L	U	YES	UJ														UJ
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 05NEW1-124 **Lab Report Batch :** 06K056 **Lab ID :** EMXT

Sample Date : 11/06/2006 **Analysis Type:** RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K056-01

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
BARIUM	0.120		MG/L	J	YES	J								J						
MANGANESE	0.00513		MG/L	J	YES	J								J						
POTASSIUM	2.41		MG/L	J	YES	J								J						
VANADIUM	0.0152		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 16_MW13-124 **Lab Report Batch :** 06K056 **Lab ID :** EMXT

Sample Date : 11/06/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K056-04

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8015B DRO					**Dilution: 0.94**															
JP5	0.27		MG/L	J	YES	J								J						
Analysis Method : 8260B					**Dilution: 1**															
1,2,3-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2,4-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
CARBON DISULFIDE	5.0		UG/L	U	YES	UJ														UJ
CHLOROMETHANE	1.0		UG/L	U	YES	UJ														UJ
NAPHTHALENE	1.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : BT04-924 **Lab Report Batch :** 06K056 **Lab ID :** EMXT

Sample Date : 11/06/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K056-03

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2,3-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2,4-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2-DIBROMO-3-CHLOROPROPANE	2.0		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
CHLOROMETHANE	1.0		UG/L	U	YES	UJ														UJ
ETBE	5.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TERT-BUTYL METHYL ETHER	5.0		UG/L	U	YES	UJ														UJ
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 16_MW01-124 **Lab Report Batch :** 06K097 **Lab ID :** EMXT

Sample Date : 11/08/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K097-01

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2,3-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2,4-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2-DIBROMO-3-CHLOROPROPANE	2.0		UG/L	U	YES	UJ														UJ
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
CHLOROMETHANE	1.0		UG/L	U	YES	UJ														UJ
CIS-1,2-DICHLOROETHENE	0.27		UG/L	J	YES	J								J						
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TRICHLOROETHENE (TCE)	90		UG/L	E	NO	J														

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 16_MW01-124 **Lab Report Batch :** 06K097 **Lab ID :** EMXT

Sample Date : 11/08/2006 **Analysis Type: DL** **Sample Matrix :** AQ

Lab Sample ID: K097-01T

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 10**															
ACETONE	500		UG/L	U	NO	UJ												UJ		
TERT-BUTANOL	200		UG/L	U	NO	UJ												UJ		

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 16_MW17-124
Sample Date : 11/08/2006
Lab Sample ID: K097-02

Lab Report Batch : 06K097
Analysis Type: 2RES/TOT

Lab ID : EMXT
Sample Matrix : AQ

Reviewed By / Date : _____

Approved By / Date : _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
THALLIUM	0.00596		MG/L	J	YES	U			U					J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 16_MW17-124 **Lab Report Batch :** 06K097 **Lab ID :** EMXT

Sample Date : 11/08/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K097-02

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 354.1					**Dilution: 1**															
NITRITE AS N	0.0103		MG/L	J	YES	J								J						
Analysis Method : 8260B					**Dilution: 1**															
1,2,3-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2,4-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2-DIBROMO-3-CHLOROPROPANE	2.0		UG/L	U	YES	UJ														UJ
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
CHLOROMETHANE	1.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 16_MW17-124
Sample Date : 11/08/2006
Lab Sample ID: K097-02

Lab Report Batch : 06K097
Analysis Type: RES/TOT

Lab ID : EMXT
Sample Matrix : AQ

Reviewed By / Date : _____

Approved By / Date : _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
BARIUM	0.0830		MG/L	J	YES	J								J						
COPPER	0.00849		MG/L	J	YES	J								J						
POTASSIUM	3.37		MG/L	J	YES	J								J						
VANADIUM	0.0211		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : BT06-924 **Lab Report Batch :** 06K097 **Lab ID :** EMXT

Sample Date : 11/08/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K097-03

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2,3-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2,4-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2-DIBROMO-3-CHLOROPROPANE	2.0		UG/L	U	YES	UJ														UJ
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
CHLOROMETHANE	1.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 17_DGMW82-124 **Lab Report Batch :** 06K110 **Lab ID :** EMXT

Sample Date : 11/09/2006 **Analysis Type: RES** **Sample Matrix :** AQ

Lab Sample ID: K110-03

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 17_DGMW82-124 **Lab Report Batch :** 06K110 **Lab ID :** EMXT

Sample Date : 11/09/2006 **Analysis Type:** RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K110-03

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
BARIUM	0.0522		MG/L	J	YES	J								J						
NICKEL	0.0377		MG/L	J	YES	J								J						
POTASSIUM	4.60		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 17_NEW1-124 **Lab Report Batch :** 06K110 **Lab ID :** EMXT

Sample Date : 11/09/2006 **Analysis Type:** 2RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K110-01

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
ARSENIC	0.00570		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 17_NEW1-124 **Lab Report Batch :** 06K110 **Lab ID :** EMXT

Sample Date : 11/09/2006 **Analysis Type: RES** **Sample Matrix :** AQ

Lab Sample ID: K110-01

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 17_NEW1-124 **Lab Report Batch :** 06K110 **Lab ID :** EMXT

Sample Date : 11/09/2006 **Analysis Type:** RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K110-01

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
BARIUM	0.151		MG/L	J	YES	J								J						
POTASSIUM	2.76		MG/L	J	YES	J								J						
VANADIUM	0.0106		MG/L	J	YES	J								J						
ZINC	0.0128		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : BT07-924 **Lab Report Batch :** 06K110 **Lab ID :** EMXT

Sample Date : 11/09/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K110-02

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 01MW201-124 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type: RES** **Sample Matrix :** AQ

Lab Sample ID: K034-07

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
1,2-DICHLOROETHANE	0.50		UG/L	U	YES	UJ														UJ
2-BUTANONE	100		UG/L	U	YES	UJ												UJ		
4-METHYL-2-PENTANONE	50		UG/L	U	YES	UJ														UJ
BROMODICHLOROMETHANE	0.50		UG/L	U	YES	UJ														UJ
BROMOFORM	0.50		UG/L	U	YES	UJ														UJ
ETBE	5.0		UG/L	U	YES	UJ														UJ
HEXACHLOROBUTADIENE	0.50		UG/L	U	YES	UJ														UJ
N-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ
SEC-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ
TAME	5.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TERT-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 01MW201-324 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K034-08

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
1,2-DICHLOROETHANE	0.50		UG/L	U	YES	UJ														UJ
2-BUTANONE	100		UG/L	U	YES	UJ												UJ		
4-METHYL-2-PENTANONE	50		UG/L	U	YES	UJ														UJ
BROMODICHLOROMETHANE	0.50		UG/L	U	YES	UJ														UJ
BROMOFORM	0.50		UG/L	U	YES	UJ														UJ
ETBE	5.0		UG/L	U	YES	UJ														UJ
HEXACHLOROBUTADIENE	0.50		UG/L	U	YES	UJ														UJ
N-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ
SEC-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ
TAME	5.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TERT-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02-DGMW59-124 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type:** 2RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K034-01

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
ARSENIC	0.00566		MG/L	J	YES	J								J						
THALLIUM	0.00539		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02-DGMW59-124 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K034-01

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
1,2-DICHLOROETHANE	0.50		UG/L	U	YES	UJ														UJ
2-BUTANONE	100		UG/L	U	YES	UJ												UJ		
4-METHYL-2-PENTANONE	50		UG/L	U	YES	UJ														UJ
BROMODICHLOROMETHANE	0.50		UG/L	U	YES	UJ														UJ
BROMOFORM	0.50		UG/L	U	YES	UJ														UJ
ETBE	5.0		UG/L	U	YES	UJ														UJ
HEXACHLOROBUTADIENE	0.50		UG/L	U	YES	UJ														UJ
N-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ
SEC-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ
TAME	5.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TERT-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02-DGMW59-124 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type:** RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K034-01

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
BARIUM	0.151		MG/L	J	YES	J								J						
MANGANESE	0.00456		MG/L	J	YES	J								J						
POTASSIUM	1.70		MG/L	J	YES	U			U					J						
VANADIUM	0.00911		MG/L	J	YES	J								J						
ZINC	0.00985		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW11-124 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type:** 2RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K034-06

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
ARSENIC	0.00428		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW11-124 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K034-06

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
1,2-DICHLOROETHANE	0.50		UG/L	U	YES	UJ														UJ
2-BUTANONE	100		UG/L	U	YES	UJ												UJ		
4-METHYL-2-PENTANONE	50		UG/L	U	YES	UJ														UJ
BROMODICHLOROMETHANE	0.50		UG/L	U	YES	UJ														UJ
BROMOFORM	0.50		UG/L	U	YES	UJ														UJ
ETBE	5.0		UG/L	U	YES	UJ														UJ
HEXACHLOROBUTADIENE	0.50		UG/L	U	YES	UJ														UJ
N-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ
SEC-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ
TAME	5.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TERT-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW11-124 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type: RES/TOT** **Sample Matrix :** AQ

Lab Sample ID: K034-06

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
ANTIMONY	0.0450		MG/L	J	YES	J								J						
BARIUM	0.0948		MG/L	J	YES	J								J						
POTASSIUM	3.46		MG/L	J	YES	J								J						
VANADIUM	0.00904		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW15-124 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type: RES** **Sample Matrix :** AQ

Lab Sample ID: K034-09

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,3-DICHLOROPROPANE	0.50		UG/L	U	YES	UJ														UJ
2-BUTANONE	100		UG/L	U	YES	UJ												UJ		UJ
BROMOCHLOROMETHANE	0.50		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW15-124 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type:** RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K034-09

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
BARIUM	0.0626		MG/L	J	YES	J								J						
POTASSIUM	1.93		MG/L	J	YES	J								J						
VANADIUM	0.0123		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 03-DGMW64A-124 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type:** 2RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K034-05

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
ARSENIC	0.00678		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 03-DGMW64A-124 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K034-05

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
1,2-DICHLOROETHANE	0.50		UG/L	U	YES	UJ														UJ
2-BUTANONE	100		UG/L	U	YES	UJ												UJ		
4-METHYL-2-PENTANONE	50		UG/L	U	YES	UJ														UJ
BROMODICHLOROMETHANE	0.50		UG/L	U	YES	UJ														UJ
BROMOFORM	0.50		UG/L	U	YES	UJ														UJ
ETBE	5.0		UG/L	U	YES	UJ														UJ
HEXACHLOROBUTADIENE	0.50		UG/L	U	YES	UJ														UJ
N-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ
SEC-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ
TAME	5.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TERT-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 03-DGMW64A-124 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type:** RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K034-05

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
BARIUM	0.0289		MG/L	J	YES	J								J						
IRON	0.0512		MG/L	J	YES	J								J						
POTASSIUM	4.17		MG/L	J	YES	J								J						
VANADIUM	0.0196		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 04-DGMW66A-124 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type:** 2RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K034-02

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
ARSENIC	0.0100		MG/L	U	YES	UJ														

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 04-DGMW66A-124 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K034-02

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
1,2-DICHLOROETHANE	0.50		UG/L	U	YES	UJ														UJ
2-BUTANONE	100		UG/L	U	YES	UJ												UJ		
4-METHYL-2-PENTANONE	50		UG/L	U	YES	UJ														UJ
BROMODICHLOROMETHANE	0.50		UG/L	U	YES	UJ														UJ
BROMOFORM	0.50		UG/L	U	YES	UJ														UJ
ETBE	5.0		UG/L	U	YES	UJ														UJ
HEXACHLOROBUTADIENE	0.50		UG/L	U	YES	UJ														UJ
N-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ
SEC-BUTYLBENZENE	0.23		UG/L	J	YES	J								J						J
TAME	5.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	31		UG/L		YES	J												J		J
TERT-BUTYLBENZENE	0.23		UG/L	J	YES	J								J						J

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 04-DGMW66A-124 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type: RES/TOT** **Sample Matrix :** AQ

Lab Sample ID: K034-02

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
BARIUM	0.0692		MG/L	J	YES	J								J						
POTASSIUM	4.88		MG/L	J	YES	U			U					J						
VANADIUM	0.0185		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 04-DGMW66A-324 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type:** 2RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K034-03

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
ARSENIC	0.00574		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 04-DGMW66A-324 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type: RES** **Sample Matrix :** AQ

Lab Sample ID: K034-03

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
1,2-DICHLOROETHANE	0.50		UG/L	U	YES	UJ														UJ
2-BUTANONE	100		UG/L	U	YES	UJ												UJ		
4-METHYL-2-PENTANONE	50		UG/L	U	YES	UJ														UJ
BROMODICHLOROMETHANE	0.50		UG/L	U	YES	UJ														UJ
BROMOFORM	0.50		UG/L	U	YES	UJ														UJ
ETBE	5.0		UG/L	U	YES	UJ														UJ
HEXACHLOROBUTADIENE	0.50		UG/L	U	YES	UJ														UJ
N-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ
SEC-BUTYLBENZENE	0.22		UG/L	J	YES	J								J						J
TAME	5.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	37		UG/L		YES	J												J		J
TERT-BUTYLBENZENE	0.22		UG/L	J	YES	J								J						J

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 04-DGMW66A-324 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type: RES/TOT** **Sample Matrix :** AQ

Lab Sample ID: K034-03

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
BARIUM	0.0693		MG/L	J	YES	J								J						
POTASSIUM	4.48		MG/L	J	YES	U			U					J						
VANADIUM	0.0190		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 05-DBMW41A-124 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type: RES** **Sample Matrix :** AQ

Lab Sample ID: K034-04

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
1,2-DICHLOROETHANE	0.50		UG/L	U	YES	UJ														UJ
2-BUTANONE	100		UG/L	U	YES	UJ												UJ		
4-METHYL-2-PENTANONE	50		UG/L	U	YES	UJ														UJ
BROMODICHLOROMETHANE	0.50		UG/L	U	YES	UJ														UJ
BROMOFORM	0.50		UG/L	U	YES	UJ														UJ
ETBE	5.0		UG/L	U	YES	UJ														UJ
HEXACHLOROBUTADIENE	0.50		UG/L	U	YES	UJ														UJ
N-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ
SEC-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ
TAME	5.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TERT-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ
TOLUENE	0.81		UG/L		YES	U			U											

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 05-DBMW41A-124 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type:** RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K034-04

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
BARIUM	0.0590		MG/L	J	YES	J								J						
MANGANESE	0.00608		MG/L	J	YES	J								J						
POTASSIUM	1.88		MG/L	J	YES	J								J						
VANADIUM	0.0101		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : BT02-924 **Lab Report Batch :** 06K034 **Lab ID :** EMXT

Sample Date : 11/02/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K034-10

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
1,2-DICHLOROETHANE	0.50		UG/L	U	YES	UJ														UJ
2-BUTANONE	100		UG/L	U	YES	UJ												UJ		
4-METHYL-2-PENTANONE	50		UG/L	U	YES	UJ														UJ
BROMODICHLOROMETHANE	0.50		UG/L	U	YES	UJ														UJ
BROMOFORM	0.50		UG/L	U	YES	UJ														UJ
ETBE	5.0		UG/L	U	YES	UJ														UJ
HEXACHLOROBUTADIENE	0.50		UG/L	U	YES	UJ														UJ
N-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ
SEC-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ
TAME	5.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TERT-BUTYLBENZENE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW16-124
Sample Date : 11/01/2006
Lab Sample ID: K011-03

Lab Report Batch : 06K011
Analysis Type: 2RES/TOT

Lab ID : EMXT
Sample Matrix : AQ

Reviewed By / Date : _____

Approved By / Date : _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
ARSENIC	0.00767		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW16-124 **Lab Report Batch :** 06K011 **Lab ID :** EMXT

Sample Date : 11/01/2006 **Analysis Type: RES** **Sample Matrix :** AQ

Lab Sample ID: K011-03

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
STYRENE	0.43		UG/L	J	YES	J								J						
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW16-124 **Lab Report Batch :** 06K011 **Lab ID :** EMXT

Sample Date : 11/01/2006 **Analysis Type:** RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K011-03

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
BARIUM	0.114		MG/L	J	YES	J								J						
POTASSIUM	1.33		MG/L	J	YES	J								J						
VANADIUM	0.0206		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW2-124 **Lab Report Batch :** 06K011 **Lab ID :** EMXT

Sample Date : 11/01/2006 **Analysis Type:** 2RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K011-02

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
ARSENIC	0.00553		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW2-124 **Lab Report Batch :** 06K011 **Lab ID :** EMXT

Sample Date : 11/01/2006 **Analysis Type: RES** **Sample Matrix :** AQ

Lab Sample ID: K011-02

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 314.0					**Dilution: 1**															
PERCHLORATE	1.89		UG/L	J	YES	J								J						
Analysis Method : 8260B					**Dilution: 1**															
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW2-124 **Lab Report Batch :** 06K011 **Lab ID :** EMXT

Sample Date : 11/01/2006 **Analysis Type: RES/TOT** **Sample Matrix :** AQ

Lab Sample ID: K011-02

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
BARIUM	0.0796		MG/L	J	YES	J								J						
POTASSIUM	1.73		MG/L	J	YES	J								J						
VANADIUM	0.0178		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW7-124 **Lab Report Batch :** 06K011 **Lab ID :** EMXT

Sample Date : 11/01/2006 **Analysis Type:** 2RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K011-04

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
ARSENIC	0.00792		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW7-124 **Lab Report Batch :** 06K011 **Lab ID :** EMXT

Sample Date : 11/01/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K011-04

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW7-124 **Lab Report Batch :** 06K011 **Lab ID :** EMXT

Sample Date : 11/01/2006 **Analysis Type: RES/TOT** **Sample Matrix :** AQ

Lab Sample ID: K011-04

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
ANTIMONY	0.0449		MG/L	J	YES	J								J						
BARIUM	0.0714		MG/L	J	YES	J								J						
MANGANESE	0.0138		MG/L	J	YES	J								J						
POTASSIUM	2.11		MG/L	J	YES	J								J						
VANADIUM	0.0173		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW7-524
Sample Date : 11/01/2006
Lab Sample ID: K011-05

Lab Report Batch : 06K011
Analysis Type: RES

Lab ID : EMXT
Sample Matrix : AQ

Reviewed By / Date : _____

Approved By / Date : _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TOLUENE	0.36		UG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW8A-124 **Lab Report Batch :** 06K011 **Lab ID :** EMXT

Sample Date : 11/01/2006 **Analysis Type:** 2RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K011-01

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
ARSENIC	0.00993		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW8A-124
Sample Date : 11/01/2006
Lab Sample ID: K011-01

Lab Report Batch : 06K011
Analysis Type: RES

Lab ID : EMXT
Sample Matrix : AQ

Reviewed By / Date : _____

Approved By / Date : _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW8A-124 **Lab Report Batch :** 06K011 **Lab ID :** EMXT

Sample Date : 11/01/2006 **Analysis Type:** RES/TOT **Sample Matrix :** AQ

Lab Sample ID: K011-01

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : CLP-METAL					**Dilution: 1**															
BARIUM	0.0409		MG/L	J	YES	J								J						
POTASSIUM	2.01		MG/L	J	YES	J								J						
VANADIUM	0.00587		MG/L	J	YES	J								J						
ZINC	0.00515		MG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : TB01-924
Sample Date : 11/01/2006
Lab Sample ID: K011-06

Lab Report Batch : 06K011
Analysis Type: RES

Lab ID : EMXT
Sample Matrix : AQ

Reviewed By / Date : _____

Approved By / Date : _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 16_MPE1-124 **Lab Report Batch :** 06K076 **Lab ID :** EMXT

Sample Date : 11/07/2006 **Analysis Type: RES** **Sample Matrix :** AQ

Lab Sample ID: K076-07R

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2,3-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2,4-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
BENZENE	0.50		UG/L	U	YES	UJ														
CARBON DISULFIDE	5.0		UG/L	U	YES	UJ														UJ
CHLOROMETHANE	1.0		UG/L	U	YES	UJ														UJ
CIS-1,2-DICHLOROETHENE	0.31		UG/L	J	YES	J								J						
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 16_MPE1-124
Sample Date : 11/07/2006
Lab Sample ID: K076-07T

Lab Report Batch : 06K076
Analysis Type: DL

Lab ID : EMXT
Sample Matrix : AQ

Reviewed By / Date : _____

Approved By / Date : _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 10**															
1,2,3-TRICHLOROBENZENE	5.0		UG/L	U	NO	UJ														UJ
1,2,4-TRICHLOROBENZENE	5.0		UG/L	U	NO	UJ														UJ
1,2-DIBROMOETHANE	5.0		UG/L	U	NO	UJ														UJ
ACETONE	500		UG/L	U	NO	UJ												UJ		UJ
CARBON DISULFIDE	50		UG/L	U	NO	UJ														UJ
CHLOROMETHANE	10		UG/L	U	NO	UJ														UJ
TERT-BUTANOL	200		UG/L	U	NO	UJ												UJ		UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 16_MPE1-324 **Lab Report Batch :** 06K076 **Lab ID :** EMXT

Sample Date : 11/07/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K076-08R

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2,3-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2,4-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2-DIBROMOETHANE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
BENZENE	0.20		UG/L	J	YES	J								J						
CARBON DISULFIDE	5.0		UG/L	U	YES	UJ														UJ
CHLOROMETHANE	1.0		UG/L	U	YES	UJ														UJ
CIS-1,2-DICHLOROETHENE	0.31		UG/L	J	YES	J								J						
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 16_MPE1-324 **Lab Report Batch :** 06K076 **Lab ID :** EMXT

Sample Date : 11/07/2006 **Analysis Type:** DL **Sample Matrix :** AQ

Lab Sample ID: K076-08T

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 10**															
1,2,3-TRICHLOROBENZENE	5.0		UG/L	U	NO	UJ														UJ
1,2,4-TRICHLOROBENZENE	5.0		UG/L	U	NO	UJ														UJ
1,2-DIBROMOETHANE	5.0		UG/L	U	NO	UJ														UJ
ACETONE	500		UG/L	U	NO	UJ												UJ		UJ
CARBON DISULFIDE	50		UG/L	U	NO	UJ														UJ
CHLOROMETHANE	10		UG/L	U	NO	UJ														UJ
TERT-BUTANOL	200		UG/L	U	NO	UJ												UJ		UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 16_MW04-124 **Lab Report Batch :** 06K076 **Lab ID :** EMXT

Sample Date : 11/07/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K076-06

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8015B GRO					**Dilution: 1**															
GASOLINE	0.044		MG/L	J	YES	J								J						
Analysis Method : 8260B					**Dilution: 1**															
1,2,3-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2,4-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
CARBON DISULFIDE	5.0		UG/L	U	YES	UJ														UJ
CHLOROMETHANE	1.0		UG/L	U	YES	UJ														UJ
NAPHTHALENE	1.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 16_MW04-124
Sample Date : 11/07/2006
Lab Sample ID: K076-06T

Lab Report Batch : 06K076
Analysis Type: DL

Lab ID : EMXT
Sample Matrix : AQ

Reviewed By / Date : _____

Approved By / Date : _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 10**															
1,2,3-TRICHLOROBENZENE	5.0		UG/L	U	NO	UJ														UJ
1,2,4-TRICHLOROBENZENE	5.0		UG/L	U	NO	UJ														UJ
1,2-DIBROMOETHANE	5.0		UG/L	U	NO	UJ														UJ
ACETONE	500		UG/L	U	NO	UJ												UJ		UJ
CARBON DISULFIDE	50		UG/L	U	NO	UJ														UJ
CHLOROMETHANE	10		UG/L	U	NO	UJ														UJ
TERT-BUTANOL	200		UG/L	U	NO	UJ												UJ		UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 16_MW05-124 **Lab Report Batch :** 06K076 **Lab ID :** EMXT

Sample Date : 11/07/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K076-04

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8015B GRO					**Dilution: 1**															
GASOLINE	0.030		MG/L	J	YES	J								J						
Analysis Method : 8260B					**Dilution: 1**															
1,2,3-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2,4-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
CARBON DISULFIDE	5.0		UG/L	U	YES	UJ														UJ
CHLOROMETHANE	1.0		UG/L	U	YES	UJ														UJ
NAPHTHALENE	1.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 16_MW05-124 **Lab Report Batch :** 06K076 **Lab ID :** EMXT

Sample Date : 11/07/2006 **Analysis Type:** DL **Sample Matrix :** AQ

Lab Sample ID: K076-04T

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 5**															
1,2,3-TRICHLOROBENZENE	2.5		UG/L	U	NO	UJ														UJ
1,2,4-TRICHLOROBENZENE	2.5		UG/L	U	NO	UJ														UJ
1,2-DIBROMOETHANE	2.5		UG/L	U	NO	UJ														UJ
ACETONE	250		UG/L	U	NO	UJ												UJ		UJ
CARBON DISULFIDE	25		UG/L	U	NO	UJ														UJ
CHLOROMETHANE	5.0		UG/L	U	NO	UJ														UJ
TERT-BUTANOL	100		UG/L	U	NO	UJ												UJ		UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 16_MW08-124 **Lab Report Batch :** 06K076 **Lab ID :** EMXT

Sample Date : 11/07/2006 **Analysis Type: RES** **Sample Matrix :** AQ

Lab Sample ID: K076-01

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2,3-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2,4-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
CARBON DISULFIDE	5.0		UG/L	U	YES	UJ														UJ
CHLOROMETHANE	1.0		UG/L	U	YES	UJ														UJ
NAPHTHALENE	1.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 16_MW09-124 **Lab Report Batch :** 06K076 **Lab ID :** EMXT

Sample Date : 11/07/2006 **Analysis Type: RES** **Sample Matrix :** AQ

Lab Sample ID: K076-02

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2,3-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2,4-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
CARBON DISULFIDE	5.0		UG/L	U	YES	UJ														UJ
CHLOROMETHANE	1.0		UG/L	U	YES	UJ														UJ
NAPHTHALENE	1.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 16_MW11-124 **Lab Report Batch :** 06K076 **Lab ID :** EMXT

Sample Date : 11/07/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K076-05

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,1-DICHLOROETHANE	0.35		UG/L	J	YES	J								J						
1,2,3-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2,4-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
BENZENE	0.34		UG/L	J	YES	J								J						
CARBON DISULFIDE	5.0		UG/L	U	YES	UJ														UJ
CHLOROMETHANE	1.0		UG/L	U	YES	UJ														UJ
NAPHTHALENE	1.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 16_MW11-124 **Lab Report Batch :** 06K076 **Lab ID :** EMXT

Sample Date : 11/07/2006 **Analysis Type: DL** **Sample Matrix :** AQ

Lab Sample ID: K076-05T

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 10**															
1,2,3-TRICHLOROBENZENE	5.0		UG/L	U	NO	UJ														UJ
1,2,4-TRICHLOROBENZENE	5.0		UG/L	U	NO	UJ														UJ
1,2-DIBROMOETHANE	5.0		UG/L	U	NO	UJ														UJ
ACETONE	500		UG/L	U	NO	UJ												UJ		UJ
CARBON DISULFIDE	50		UG/L	U	NO	UJ														UJ
CHLOROFORM	3.1		UG/L	J	NO	J								J						
CHLOROMETHANE	10		UG/L	U	NO	UJ														UJ
TERT-BUTANOL	200		UG/L	U	NO	UJ												UJ		UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : BT05-924 **Lab Report Batch :** 06K076 **Lab ID :** EMXT

Sample Date : 11/07/2006 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: K076-03

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2,3-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
1,2,4-TRICHLOROBENZENE	0.50		UG/L	U	YES	UJ														UJ
ACETONE	50		UG/L	U	YES	UJ												UJ		UJ
CARBON DISULFIDE	5.0		UG/L	U	YES	UJ														UJ
CHLOROMETHANE	1.0		UG/L	U	YES	UJ														UJ
NAPHTHALENE	1.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ
TRICHLOROFLUOROMETHANE	0.50		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

SDG 06K049

QC Outlier Report: Holding Times

Lab Report Batch: 06K049

Lab ID: EMXT

					Actual Holding Time			Criteria				Reported Dates (and Times)		
Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Prep Method	Coll To Prep	Prep To Ana	Coll To Ana	Coll To Prep	Prep To Ana	Coll To Ana	Unit of Meas	Collection Date	Preparation Date	Analysis Date
03-DGMW65XA-124	K049-06	300.0 N	AQ	GEN PREP			60.4			48	Hours	11/01/2006 14:20		11/04/2006 02:44

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 06K049 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
03-DGMW65XA-124	K049-06	CLP-METAL	AQ	ARSENIC	J	0.00877	0.0100	MG/L
				BARIUM	J	0.0568	0.200	MG/L
				POTASSIUM	J	3.27	5.00	MG/L
				VANADIUM	J	0.0400	0.0500	MG/L
04-DBMW40-124	K049-01			ARSENIC	J	0.00600	0.0100	MG/L
				BARIUM	J	0.0483	0.200	MG/L
				MANGANESE	J	0.00799	0.0150	MG/L
				POTASSIUM	J	1.97	5.00	MG/L
				VANADIUM	J	0.0234	0.0500	MG/L
04-UGMW63-124	K049-08			BARIUM	J	0.0722	0.200	MG/L
				POTASSIUM	J	3.22	5.00	MG/L
				VANADIUM	J	0.0184	0.0500	MG/L
				ZINC	J	0.00688	0.0200	MG/L
05-DBMW41A-524	K049-02	8260B		ETHYLBENZENE	J	0.25	0.50	UG/L
				XYLENES, TOTAL	J	1.4	1.5	UG/L
		CLP-METAL		CHROMIUM	J	0.00515	0.0100	MG/L
05-DGMW68A-124	K049-03	8260B		BENZENE	J	0.45	0.50	UG/L
				TOLUENE	J	0.46	0.50	UG/L
		CLP-METAL		BARIUM	J	0.0282	0.200	MG/L
				IRON	J	0.0606	0.100	MG/L
				MANGANESE	J	0.00900	0.0150	MG/L
				POTASSIUM	J	2.70	5.00	MG/L
				VANADIUM	J	0.0148	0.0500	MG/L
05-DGMW68A-524	K049-04	8260B		ETHYLBENZENE	J	0.22	0.50	UG/L
				XYLENES, TOTAL	J	1.2	1.5	UG/L
		CLP-METAL		CALCIUM	J	0.106	5.00	MG/L
				ZINC	J	0.00750	0.0200	MG/L

QC Outlier Report: Equipment Blank

Lab Reporting Batch : 06K049
Method/Preparation Batch : VO05K22 / VO05K22
Client Sample ID : 05-DGMW68A-524
Lab Sample ID : K049-04

Lab ID: EMXT
Analysis Date : 11/08/2006
Preparation Date : 11/08/2006
Preparation Type : 5030B

Analysis Method : 8260B

ETHYLBENZENE	Result	Reporting Limit	Units	Lab Qual	Comments
Equipment Blank Result:	0.22	0.50	UG/L	J	

ETHYLBENZENE contamination found in the equipment blank did not qualify any samples.

TOLUENE	Result	Reporting Limit	Units	Lab Qual	Comments
Equipment Blank Result:	0.60	0.50	UG/L		

TOLUENE was qualified due to equipment blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Unit
05-DGMW68A-124	K049-03	1	0.46	J	UG/L

XYLENES, TOTAL	Result	Reporting Limit	Units	Lab Qual	Comments
Equipment Blank Result:	1.2	1.5	UG/L	J	

XYLENES, TOTAL contamination found in the equipment blank did not qualify any samples.

CALCIUM	Result	Reporting Limit	Units	Lab Qual	Comments
Equipment Blank Result:	0.106	5.00	MG/L	J	

CALCIUM contamination found in the equipment blank did not qualify any samples.

ZINC	Result	Reporting Limit	Units	Lab Qual	Comments
Equipment Blank Result:	0.00750	0.0200	MG/L	J	

ZINC contamination found in the equipment blank did not qualify any samples.

LDC #: 15944A1

SDG #: 06K049

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III/IV

Date: 12/19/06

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 11/01 - 03/06
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	% RSD r²
IV.	Continuing calibration	SW	ICV ≤ 25%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	Not reviewed for Level III validation.
XII.	Compound quantitation/CRQLs	N	Not reviewed for Level III validation.
XIII.	Tentitatively identified compounds (TICs)	N	Not reviewed for Level III validation.
XIV.	System performance	N	Not reviewed for Level III validation.
XV.	Overall assessment of data	N	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	*TB = 7 R = 2,4 *SB = 5

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB = Source Blk

Validated Samples: ** Indicates sample underwent Level IV validation

1	1	04-DBMW40-124**	11	1	MBLK1W	21		31	
2	1	05-DBMW41A-524** R	12	2	MBLK2W	22		32	
3	1	05-DGMW68A-124**	13			23		33	
4	1	05-DGMW68A-524** R	14			24		34	
5	1	05-DGMW68A-724** SB	15			25		35	
6	2	03-DGMW65XA-124**	16			26		36	
7	2	BT03-924	17			27		37	
8	2	04-UGMW63-124**	18			28		38	
9			19			29		39	
10			20			30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	S. Trichloroethene	KK. Trichlorofluoromethane	CCC. tert-Butylbenzene	UUU. 1,2-Dichlorotetrafluoroethane
B. Bromomethane	T. Dibromochloromethane	LL. Methyl-tert-butyl ether	DDD. 1,2,4-Trimethylbenzene	VVV. 4-Ethyltoluene
C. Vinyl choride**	U. 1,1,2-Trichloroethane	MM. 1,2-Dibromo-3-chloropropane	EEE. sec-Butylbenzene	WWW. Ethanol
D. Chloroethane	V. Benzene	NN. Methyl ethyl ketone	FFF. 1,3-Dichlorobenzene	XXX. Di-isopropyl ether
E. Methylene chloride	W. trans-1,3-Dichloropropene	OO. 2,2-Dichloropropane	GGG. p-Isopropyltoluene	YYY. tert-Butanol
F. Acetone	X. Bromoform*	PP. Bromochloromethane	HHH. 1,4-Dichlorobenzene	ZZZ. tert-Butyl alcohol
G. Carbon disulfide	Y. 4-Methyl-2-pentanone	QQ. 1,1-Dichloropropene	III. n-Butylbenzene	AAAA. Ethyl tert-butyl ether
H. 1,1-Dichloroethene**	Z. 2-Hexanone	RR. Dibromomethane	JJJ. 1,2-Dichlorobenzene	BBBB. tert-Amyl methyl ether
I. 1,1-Dichloroethane*	AA. Tetrachloroethene	SS. 1,3-Dichloropropane	KKK. 1,2,4-Trichlorobenzene	CCCC.1-Chlorohexane
J. 1,2-Dichloroethene, total	BB. 1,1,2,2-Tetrachloroethane*	TT. 1,2-Dibromoethane	LLL. Hexachlorobutadiene	DDDD. Isopropyl alcohol
K. Chloroform**	CC. Toluene**	UU. 1,1,1,2-Tetrachloroethane	MMM. Naphthalene	EEEE. Acetonitrile
L. 1,2-Dichloroethane	DD. Chlorobenzene*	VV. Isopropylbenzene	NNN. 1,2,3-Trichlorobenzene	FFFF. Acrolein
M. 2-Butanone	EE. Ethylbenzene**	WW. Bromobenzene	OOO. 1,3,5-Trichlorobenzene	GGGG. Acrylonitrile
N. 1,1,1-Trichloroethane	FF. Styrene	XX. 1,2,3-Trichloropropane	PPP. trans-1,2-Dichloroethene	HHHH. 1,4-Dioxane
O. Carbon tetrachloride	GG. Xylenes, total	YY. n-Propylbenzene	QQQ. cis-1,2-Dichloroethene	IIII. Isobutyl alcohol
P. Bromodichloromethane	HH. Vinyl acetate	ZZ. 2-Chlorotoluene	RRR. m,p-Xylenes	JJJJ. Methacrylonitrile
Q. 1,2-Dichloropropane**	II. 2-Chloroethylvinyl ether	AAA. 1,3,5-Trimethylbenzene	SSS. o-Xylene	KKKK. Propionitrile
R. cis-1,3-Dichloropropene	JJ. Dichlorodifluoromethane	BBB. 4-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	LLLL.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 15944A1
SDG #: 06k049

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: ~

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? $r^2 \geq 0.99$
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: <30.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	10/05/06	ICAL	ZZZ YYY		0.018	All + BLKS	J/UJ/A

INICAL.1SB

LDC #: 15944 A1
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: —

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: <25.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	11/08/06	RKQ235	kk	30.7		1-5, MBLK1W	J/UJ/A
			F	27.8			
			~~ZZZ~~ YYY	38.9	0.025		
			TT	35.9			
	11/08/06	RKQ255	kk	25.3		6-8, MBLK2W	J/UJ/A
			~~ZZZ~~ YYY	27.8	0.023		
			AAAA	34.9			
			BBBB	37.6			
			MM	36.6			

CONCAL.1S

LDC #: 15944A4

SDG #: 06K049

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III/IV

Date: 12-19-06

Page: 1 of 1

Reviewer: MG

2nd Reviewer: ✓

METHOD: Metals (EPA CLP SOW ILMO4.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 11-1-06 through 11-3-06
II.	Calibration	A	
III.	Blanks	SW	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Matrix Spike Analysis	SW	MS
VI.	Duplicate Sample Analysis	A	DUP
VII.	Laboratory Control Samples (LCS)	A	LCS/LCSD
VIII.	Internal Standard (ICP-MS)	N	Not utilized
IX.	Furnace Atomic Absorption QC	N	" "
X.	ICP Serial Dilution	A	
XI.	Sample Result Verification	A	Not reviewed for Level III validation.
XII.	Overall Assessment of Data	A	
XIII.	Field Duplicates	N	
XIV.	Field Blanks	SW	R=2, 4 SB=5*

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; * = ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

all water

1	04-DBMW40-124**	11		21		31	
2	05-DBMW41A-524	12		22		32	
3	05-DGMW68A-124**	13		23		33	
4	05-DGMW68A-524	14		24		34	
5	05-DGMW68A-724	15		25		35	
6	03-DGMW65XA-124**	16		26		36	
7	04-UGMW63-124**	17		27		37	
8	04-DBMW40-124MS	18		28		38	
9	04-DBMW40-124DUP	19		29		39	
10	PBW	20		30		40	

Notes: ADR COPY

LDC #: 15944A4
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Page: 1 of 1
Reviewer: MG
2nd reviewer: ✓

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1 → 7	W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
QC 8, 9	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___

Analysis Method		
ICP	W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
ICP Trace	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
ICP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,

Comments: Mercury by CVAA if performed

LDC #: 15944A4
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Page: 1 of 1
Reviewer: MG
2nd Reviewer: ✓

METHOD: Trace Metals (EPA SW 846 Method 6010/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: all

					Sample Identification									
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Blank Action Limit	1	3	6	7						
Al														
Sb														
As														
Ba														
Be														
Cd														
Ca														
Cr														
Co														
Cu														
Fe														
Pb														
Mg														
Mn														
Hg														
Mo														
Ni														
K			1411.	7.055	1.97	2.70	3.27	3.22						
Se														
Ag														
Na														
Tl														
V														
Zn														
Sn														
B														

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 15944A4
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Matrix Spike Analysis

Reviewer: MG
2nd Reviewer: ✓

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

(Y) N N/A Was a post digestion spike analyzed for ICP elements that did not meet the required criteria for matrix spike recovery?

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	Matrix Spike ID	Matrix	Analyte	%R	Associated Samples	Qualifications
1	8	Water	Cd	128 (75-125)	all	J dets / A

Comments:

MS.4S2

Quality Control Outlier Reports

SDG 06K056

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 06K056 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
05_DGMW67A-124	K056-02	8260B	AQ	TETRACHLOROETHENE(PCE)	J	0.38	0.50	UG/L
		CLP-METAL		BARIUM	J	0.0419	0.200	MG/L
				POTASSIUM	J	2.08	5.00	MG/L
				VANADIUM	J	0.0117	0.0500	MG/L
				ZINC	J	0.00569	0.0200	MG/L
05NEW1-124	K056-01	8260B		CHLOROFORM	J	0.33	0.50	UG/L
		CLP-METAL		ARSENIC	J	0.00481	0.0100	MG/L
				BARIUM	J	0.120	0.200	MG/L
				MANGANESE	J	0.00513	0.0150	MG/L
				POTASSIUM	J	2.41	5.00	MG/L
				THALLIUM	J	0.00523	0.0100	MG/L
				VANADIUM	J	0.0152	0.0500	MG/L
16_MW13-124	K056-04	8015B DRO		JP5	J	0.27	0.47	MG/L

LDC #: 15944B1

VALIDATION COMPLETENESS WORKSHEET

Date: 12/19/06

SDG #: 06K056

Level III

Page: 1 of 1

Laboratory: EMAX Laboratories, Inc.

Reviewer: JVL

2nd Reviewer: ✓

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 11/06/06
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	% RSD r²
IV.	Continuing calibration	SW	ICW ≤ 25 %
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentitatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	TB = 3

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	1	05NEW1-124	11	1	MBLK1W	21		31	
2	1	05_DGMW67A-124	12	✓	MBLK2W	22		32	
3	1	BT04-924	13			23		33	
4	✓	16_MW13-124	14			24		34	
5	1	05NEW1-124MS	15			25		35	
6	1	05NEW1-124MSD	16			26		36	
7			17			27		37	
8			18			28		38	
9			19			29		39	
10			20			30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 1-144 B1
SDG #: 06 K056

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? $r^2 \geq 0.99$
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	8/29/06	ICAL	F		0.040	All + Blk	J/UJ/A
			YYY ~~ZZZ~~		0.012	↓	↓

INICAL.1S

LDC #: 15944 B1
SDG #: 06K056

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤25.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	11/08/06	RKC 259	A	35.7	-	1-3, 5, 6, MBLK1W	J/UJ/A
			kk	27.5			
			~~zzz~~ yyy	33.3	0.008		
			LL	26.8			
			AAAA	25.5			
			MM	31.8			
			KKK	29.9			
			NNN	32.9			
			F		0.036		
	11/09/06	RKC 280	A	35.7		4, MBLK2W	J/UJ/A
			kk	27.2			
			G	25.4			
			kkk	34.4			
			MMM	25.8			
			NNN	36.6			
			F		0.038		
			~~zzz~~ yyy		0.009		

CONCAL.1S

LDC #: 15944B4

SDG #: 06K056

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 12-20-06

Page: 1 of 1

Reviewer: MG

2nd Reviewer: ✓

METHOD: Metals (EPA CLP SOW ILMO4.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 11-6-06
II.	Calibration	A	
III.	Blanks	SW	
IV.	ICP Interference Check Sample (ICS) Analysis	N	
V.	Matrix Spike Analysis	A	
VI.	Duplicate Sample Analysis	A	
VII.	Laboratory Control Samples (LCS)	N	
VIII.	Internal Standard (ICP-MS)	N	
IX.	Furnace Atomic Absorption QC	N	
X.	ICP Serial Dilution	N	
XI.	Sample Result Verification	N	
XII.	Overall Assessment of Data	N	
XIII.	Field Duplicates	N	
XIV.	Field Blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

all water

1	05NEW1-124	11		21		31	
2	05_DGMW67A-124	12		22		32	
3	05NEW1-124MS	13		23		33	
4	05NEW1-124DUP	14		24		34	
5	PBW	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 15944B4
SDG #: 06K056

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Page: 1 of 1
Reviewer: MG
2nd reviewer: ✓

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1, 2	W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
QC 3, 4	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
Analysis Method		
ICP	W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
ICP Trace	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
ICP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,

Comments: Mercury by CVAA if performed

LDC #: 59444B4
SDG #: 06K056

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Page: 1 of 1
Reviewer: MG
2nd Reviewer: ✓

METHOD: Trace Metals (EPA SW 846 Method 6010/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: all

					Sample Identification									
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/l)	Maximum ICB/CCB[a] (ug/l)	Blank Action Limit	1									
Al														
Sb														
As														
Ba														
Be														
Cd														
Ca														
Cr														
Co														
Cu														
Fe														
Pb														
Mg														
Mn														
Hg														
Mo														
Ni														
K														
Se														
Ag														
Na														
Tl			5.89	0.029	0.00503									
V														
Zn														
Sn														
B														

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

BLNKSMP.4SW

Quality Control Outlier Reports

SDG 06K097

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 06K097 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
16_MW01-124	K097-01	8260B	AQ	CIS-1,2-DICHLOROETHENE	J	0.27	0.50	UG/L
16_MW17-124	K097-02	354.1		NITRITE AS N	J	0.0103	0.0200	MG/L
		CLP-METAL		BARIUM	J	0.0830	0.200	MG/L
				COPPER	J	0.00849	0.0250	MG/L
				POTASSIUM	J	3.37	5.00	MG/L
				THALLIUM	J	0.00596	0.0100	MG/L
				VANADIUM	J	0.0211	0.0500	MG/L

LDC #: 15944C1

VALIDATION COMPLETENESS WORKSHEET

Date: 12/11/06

SDG #: 06K097

Level III ADR

Page: 1 of 1

Laboratory: EMAX Laboratories, Inc.

Reviewer: JG

2nd Reviewer: ✓

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 11/08/06
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	% RSD r²
IV.	Continuing calibration	SW	1W ≤ 25%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentitatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	TB = 4

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1 1	16_MW01-124	11 1	MBLK1W	21		31	
2	16_MW01-124DL	12 1	MBLK2W	22		32	
3 1	16_MW17-124	13		23		33	
4 1	BT06-924	14		24		34	
5 1	16_MW01-124MS	15		25		35	
6 1	16_MW01-124MSD	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 159440I
SDG #: 06K097

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? $r^2 \geq 0.99$
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: <30.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	8/29/06	ICAL	F		0.040	All + Blks	J/UJ/A
			~~YYY ZZZ~~		0.012	↓	↓

INICAL.1S

LDC #: 15944C1
SDG #: 06K097

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: <25.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	11/10/06	RKC322	A	27.1		1, 3-6, MBLKIW	J/UJ A
			TT	27.4			
			MM	30.7			
			kkk	34.0			
			NNN	35.7			
			F		0.037		
			~~ZZZ~~ YYY		0.010		

CONCAL.1S

LDC #: 15944C4

SDG #: 06K097

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 12-20-06

Page: 1 of 1

Reviewer: MG

2nd Reviewer: W

METHOD: Metals (EPA CLP SOW ILMO4.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 11-8-06
II.	Calibration	A	
III.	Blanks	SW	
IV.	ICP Interference Check Sample (ICS) Analysis	N	
V.	Matrix Spike Analysis	A	MS (SDG: 06K056)
VI.	Duplicate Sample Analysis	N	
VII.	Laboratory Control Samples (LCS)	N	
VIII.	Internal Standard (ICP-MS)	N	
IX.	Furnace Atomic Absorption QC	N	
X.	ICP Serial Dilution	N	
XI.	Sample Result Verification	N	
XII.	Overall Assessment of Data	N	
XIII.	Field Duplicates	N	
XIV.	Field Blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

all water

1	~~16_MW01-124~~	11		21		31	
2	16_MW17-124	12		22		32	
3	~~16_MW01-124MS~~	13		23		33	
4	PBW	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 15944C4
SDG #: 06K097

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: MG
2nd reviewer: ✓

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1	W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
Analysis Method		
ICP	W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
ICP Trace	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
ICP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-,

Comments: Mercury by CVAA if performed

LDC #: 15944C4
SDG #: 06K097

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: all

					Sample Identification									
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Blank Action Limit	2									
Al														
Sb														
As														
Ba														
Be														
Cd														
Ca														
Cr														
Co														
Cu														
Fe														
Pb														
Mg														
Mn														
Hg														
Mo														
Ni														
K														
Se														
Ag														
Na														
Tl			5.89	0.029	0.00596									
V														
Zn														
Sn														
B														

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

BLNKSMP.4SW

Quality Control Outlier Reports

SDG 06K110

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 06K110 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
17_DGMW82-124	K110-03	CLP-METAL	AQ	BARIUM	J	0.0522	0.200	MG/L
				NICKEL	J	0.0377	0.0400	MG/L
				POTASSIUM	J	4.60	5.00	MG/L
17_NEW1-124	K110-01			ARSENIC	J	0.00570	0.0100	MG/L
				BARIUM	J	0.151	0.200	MG/L
				POTASSIUM	J	2.76	5.00	MG/L
				VANADIUM	J	0.0106	0.0500	MG/L
				ZINC	J	0.0128	0.0200	MG/L

LDC #: 15944D1

SDG #: 06K110

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 12/19/06

Page: 1 of 1

Reviewer: JVG

2nd Reviewer: ✓

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 11/09/06
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	% RSD r²
IV.	Continuing calibration	SW	ICV ≤ 25%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentitatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	TB = r²

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	17_NEW1-124	11		21		31	
2	BT07-924	12		22		32	
3	17_DGMW82-124	13		23		33	
4	MBLKIW	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 15[illegible]4 D1
SDG #: 06k110

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: NG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? r² ≥ 0.99
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	8/29/06	ICAL	F		0.040	All + Blk	J/UJ/A
			4-4 ~~ZZZ~~		0.012	↓	↓

INICAL.1S

LDC #: 15944 D1
SDG #: 06K110

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: <25.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	11/13/06	RKC344	KK	28.3		All + Blk	J / UJ / A
			JJ	26.9			
			F		0.044		
			YY, ~~ZZZ~~		0.011		

CONCAL.1S

Quality Control Outlier Reports

SDG 06K034

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 06K034 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
02-DGMW59-124	K034-01	CLP-METAL	AQ	ARSENIC	J	0.00566	0.0100	MG/L
				BARIUM	J	0.151	0.200	MG/L
				MANGANESE	J	0.00456	0.0150	MG/L
				POTASSIUM	J	1.70	5.00	MG/L
				THALLIUM	J	0.00539	0.0100	MG/L
				VANADIUM	J	0.00911	0.0500	MG/L
				ZINC	J	0.00985	0.0200	MG/L
02NEW11-124	K034-06			ANTIMONY	J	0.0450	0.0600	MG/L
				ARSENIC	J	0.00428	0.0100	MG/L
				BARIUM	J	0.0948	0.200	MG/L
				POTASSIUM	J	3.46	5.00	MG/L
				VANADIUM	J	0.00904	0.0500	MG/L
02NEW15-124	K034-09			BARIUM	J	0.0626	0.200	MG/L
				POTASSIUM	J	1.93	5.00	MG/L
				VANADIUM	J	0.0123	0.0500	MG/L
03-DGMW64A-124	K034-05			ARSENIC	J	0.00678	0.0100	MG/L
				BARIUM	J	0.0289	0.200	MG/L
				IRON	J	0.0512	0.100	MG/L
				POTASSIUM	J	4.17	5.00	MG/L
				VANADIUM	J	0.0196	0.0500	MG/L
04-DGMW66A-124	K034-02	8260B		SEC-BUTYLBENZENE	J	0.23	0.50	UG/L
				TERT-BUTYLBENZENE	J	0.23	0.50	UG/L
		CLP-METAL		BARIUM	J	0.0692	0.200	MG/L
				POTASSIUM	J	4.88	5.00	MG/L
				VANADIUM	J	0.0185	0.0500	MG/L
04-DGMW66A-324	K034-03	8260B		SEC-BUTYLBENZENE	J	0.22	0.50	UG/L
				TERT-BUTYLBENZENE	J	0.22	0.50	UG/L
		CLP-METAL		ARSENIC	J	0.00574	0.0100	MG/L
				BARIUM	J	0.0693	0.200	MG/L
				POTASSIUM	J	4.48	5.00	MG/L
				VANADIUM	J	0.0190	0.0500	MG/L
05-DBMW41A-124	K034-04			BARIUM	J	0.0590	0.200	MG/L
				MANGANESE	J	0.00608	0.0150	MG/L
				POTASSIUM	J	1.88	5.00	MG/L
				VANADIUM	J	0.0101	0.0500	MG/L

QC Outlier Report: Field Duplicates (Non-qualified Outliers)

Lab Report Batch: 06K034 **Lab ID:** EMXT

			Field Sample				Field Sample Duplicate						
Analysis Method	Matrix	Analyte Name	Client Sample ID	Ana Type	Result	Lab Qualifier	Client Sample Duplicate ID	Ana Type	Result	Lab Qualifier	RPD Dup* (%)	RPD Criteria (%)	Result Units
CLP-META	AQ	ARSENIC	04-DGMW66A-12	RES/TC	0.0100	U	04-DGMW66A-32	RES/TC	0.00574	J	200.0	20	MG/L

*Note: Outlier report also includes analytes detected in one sample but not in the related sample, i.e., analyte was detected in the field sample but not in the field duplicate sample, or vice versa. In this case, RPD value assigned to the field duplicate sample is 200.

Project Number and Name: ***6228-003 - GWM EL TORO***

LDC #: 15944E1

VALIDATION COMPLETENESS WORKSHEET

Date: 12/19/06

SDG #: 06K034

Level ~~III~~ ADR

Page: 1 of 1

Laboratory: EMAX Laboratories, Inc.

Reviewer: NG

2nd Reviewer: ✓

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 11/02/06
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	% RSD r²
IV.	Continuing calibration	SW	ICV ≤ 25%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentitatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 10 R = 05-DBMW41A-524 (from 06K049)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	02-DGMW59-124	11	MBLK1W	21		31	
2	04-DGMW66A-124	12	MBLK2W	22		32	
3	04-DGMW66A-324	13		23		33	
4	05-DBMW41A-124	14		24		34	
5	03-DGMW64A-124	15		25		35	
6	02NEW11-124	16		26		36	
7	01MW201-124	17		27		37	
8	01MW201-324	18		28		38	
9	02NEW15-124	19		29		39	
10	BT02-924	20		30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 15944 E1
SDG #: 06k034

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: JK
2nd Reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? r² ≥ 0.99
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: <30.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	10/18/06	ICAL	~~ZZZ~~ YYY		0.009	9, MBLK1W	J/UJ/A
			M		0.041	↓	↓
	11/06/06	ICAL	~~ZZZ~~ YYY		0.008	1-8, 10, MBLK2W	J/UJ/A
			M		0.046	↓	↓

LDC #: 15944 E1
SDG #: 06K034

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: <25.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	11/04/06	RKD097	PP	26.3		9, MB2K1W	J/UJ/A
			SS	26.1			
			~~ZZZ~~ YYY		0.008		
			M		0.032		
	11/08/06	RKD220	AAAA	31.9		1-8, 10, MB2K2W	J/UJ/A
			BBBB	36.0			
			L	26.2			
			P	25.4			
			Y	26.0			
			TT	28.5			
			X	43.3			
			CCC	26.8			
			~~EEE~~	35.6			
			III	41.2			
			LLL	45.8			
			YYY ~~ZZZ~~		0.009		

CONCAL.1SB

LDC #: 15944A1
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: NG
2nd Reviewer: ~

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? r² ≥ 0.99
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	10/05/06	ICAL	ZZZ YYY		0.018	All + BLKS	J/UJ/A

INICAL.1SB

LDC #: 15944 A1
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤25.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	11/08/06	RKQ 235	kk	30.7		1-5, MBLK1W	J/UJ/A
			F	27.8			
			~~ZZZ~~ YYY	38.9	0.025		
			TT	35.9			
	11/08/06	RKQ255	kk	25.3		6-8, MBLK2W	J/UJ/A
			~~ZZZ~~ YYY	27.8	0.023		
			AAAA	34.9			
			BBBB	37.6			
			MM	36.6			

LDC #: 15944A4
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Page: 1 of 1
Reviewer: MG
2nd Reviewer: ✓

METHOD: Trace Metals (EPA SW 846 Method 6010/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: all

					Sample Identification									
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Blank Action Limit	1	3	6	7						
Al														
Sb														
As														
Ba														
Be														
Cd														
Ca														
Cr														
Co														
Cu														
Fe														
Pb														
Mg														
Mn														
Hg														
Mo														
Ni														
K			1411.	7.055	1.97	2.70	3.27	3.22						
Se														
Ag														
Na														
Tl														
V														
Zn														
Sn														
B														

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

BLNKSMP.4SW

LDC #: 15944A4
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Matrix Spike Analysis

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

(Y) N N/A Was a post digestion spike analyzed for ICP elements that did not meet the required criteria for matrix spike recovery?

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	Matrix Spike ID	Matrix	Analyte	%R	Associated Samples	Qualifications
1	8	Water	Cd	128 (75-125)	all	J dets / A

Comments:

MS.4S2

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 19944 B1
SDG #: 06 K056

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? $r^2 \geq 0.99$
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: <30.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	8/29/06	ICAL	F		0.040	All + BLK	J/UJ/A
			YYY ~~ZZZ~~		0.012	↓	↓

INICAL.1S

LDC #: 15944 B1
SDG #: 06K056

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: <25.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	11/08/06	RKC 259	A	35.7	-	1-3, 5, 6, MBLK1W	J/UJ/A
			kk	27.5			
			YYY ~~ZZZ~~	33.3	0.008		
			LL	26.8			
			AAAA	25.5			
			MM	31.8			
			KKK	29.9			
			NNN	32.9			
			F		0.036		
	11/09/06	RKC 280	A	35.7		4, MBLK2W	J/UJ/A
			kk	27.2			
			G	25.4			
			kkk	34.4			
			MMM	25.8			
			NNN	36.6			
			F		0.038		
			YYY ~~ZZZ~~		0.009		

LDC #: 594484
SDG #: 06K056

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reviewer: MG
2nd Reviewer: L

METHOD: Trace Metals (EPA SW 846 Method 6010/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: all

					Sample Identification									
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Blank Action Limit	1									
Al														
Sb														
As														
Ba														
Be														
Cd														
Ca														
Cr														
Co														
Cu														
Fe														
Pb														
Mg														
Mn														
Hg														
Mo														
Ni														
K														
Se														
Ag														
Na														
Tl			5.89	0.029	0.00523									
V														
Zn														
Sn														
B														

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

BLNKSMP.4SW

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 15944C1
SDG #: 06K097

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? $r^2 \geq 0.99$
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	8/29/06	ICAL	F		0.040	All + Blks	J/UJ/A
			~~4-4 ZZZ~~		0.012	↓	↓

INICAL.1S

LDC #: 15944C1
SDG #: 06K097

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
(Y) N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y (N) N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: <25.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	11/10/06	RKC322	A	27.1		1, 3-6, MB 4IW	J/UJ A
			TT	27.4			
			MM	30.7			
			kkk	34.0			
			NNN	35.7			
			F		0.037		
			YY ~~ZZZ~~		0.010		

CONCAL.1S

LDC #: 15944C4
SDG #: 06K097

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: all

					Sample Identification									
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Blank Action Limit	2									
Al														
Sb														
As														
Ba														
Be														
Cd														
Ca														
Cr														
Co														
Cu														
Fe														
Pb														
Mg														
Mn														
Hg														
Mo														
Ni														
K														
Se														
Ag														
Na														
Tl			5.89	0.029	0.00596									
V														
Zn														
Sn														
B														

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

BLNKSMP.4SW

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 04 D1
SDG #: 06 K110

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: NG
2nd Reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? r² ≥ 0.99
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	8/29/06	ICAL	F		0.040	All + Blk	J/UJ/A
			4-4 ~~ZZZ~~		0.012	↓	↓

INICAL.1S

LDC #: 15944 D1
SDG #: 06K110

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: NG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: <25.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	11/13/06	RKC344	KK	28.3		All + Blk	J / UJ / A
			TT	26.9			
			F		0.044		
			YY/ ~~ZZ~~		0.011		

CONCAL.1S

QC Outlier Report: Field Duplicates (Non-qualified Outliers)

Lab Report Batch: 06K034 **Lab ID:** EMXT

			Field Sample				Field Sample Duplicate						
Analysis Method	Matrix	Analyte Name	Client Sample ID	Ana Type	Result	Lab Qualifier	Client Sample Duplicate ID	Ana Type	Result	Lab Qualifier	RPD Dup* (%)	RPD Criteria (%)	Result Units
CLP-META	AQ	ARSENIC	04-DGMW66A-12	RES/TC	0.0100	U	04-DGMW66A-32	RES/TC	0.00574	J	200.0	20	MG/L

*Note: Outlier report also includes analytes detected in one sample but not in the related sample, i.e., analyte was detected in the field sample but not in the field duplicate sample, or vice versa. In this case, RPD value assigned to the field duplicate sample is 200.

Project Number and Name: ***6228-003 - GWM EL TORO***

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 15144 E1
SDG #: 06k034

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: JV
2nd Reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? r² ≥ 0.99
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	10/18/06	ICAL	~~ZZZ~~ YYY		0.009	9, MBLK1W	J/UJ/A
			M		0.041	↓	↓
	11/06/06	ICAL	~~ZZZ~~ YYY		0.008	1-8, 10, MBLK2W	J/UJ/A
			M		0.046	↓	↓

INICAL.1S

LDC #: 15944 E1
SDG #: 06K034

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤25.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	11/04/06	RKD097	PP	26.3		9, MBLK1W	J/UJ/A
			SS	26.1			
			~~ZZZ~~ YYY		0.008		
			M		0.032		
	11/08/06	RKD220	AAAA	31.9		1-8, 10, MBLK2W	J/UJ/A
			BBBB	36.0			
			L	26.2			
			P	25.4			
			Y	26.0			
			TT	28.5			
			X	43.3			
			CCC	26.8			
			~~EEE~~	35.6			
			III	41.2			
			LLL	45.8			
			YYY ~~ZZZ~~		0.009		

CONCAL.1SB

LDC #: 15944E
SDG #: 06K034

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: JVC
2nd Reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
Y N /N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L **Associated sample units:** ug/L
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: _____ Associated Samples: 4

Compound	05-DBMW41A-524 Blank ID	Blank ID	Sample Identification							
Sampling Date	11/02/06		4							
Methylene chloride										
Acetone										
Chloroform										
EE	0.25									
CC	0.85		0.8 / U							
GG	1.4									
CRQL										

Blank units: _____ **Associated sample units:** _____
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: _____ Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
Sampling Date										
Methylene chloride										
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 15944E4

SDG #: 06K034

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III / IV

Date: 12-20-06

Page: 1 of 1

Reviewer: MG

2nd Reviewer: ✓

METHOD: Metals (EPA CLP SOW ILMO4.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 11-2-06
II.	Calibration	A	
III.	Blanks gnd	ASW	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Matrix Spike Analysis	N	Client specified
VI.	Duplicate Sample Analysis	N	" "
VII.	Laboratory Control Samples (LCS)	A	LCS/LCSD
VIII.	Internal Standard (ICP-MS)	N	Not utilized
IX.	Furnace Atomic Absorption QC	N	
X.	ICP Serial Dilution	A	
XI.	Sample Result Verification	N	
XII.	Overall Assessment of Data	A	
XIII.	Field Duplicates	N	D = 2+3
XIV.	Field Blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** = level IV validation

all water

1	02-DGMW59-124	11		21		31	
2	04-DGMW66A-124	12		22		32	
3	04-DGMW66A-324	13		23		33	
4	05-DBMW41A-124	14		24		34	
5	03-DGMW64A-124 **	15		25		35	
6	02NEW11-124	16		26		36	
7	02NEW15-124	17		27		37	
8	PBW	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: ADR Copy

LDC #: 15944E4
SDG #: 06K034

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: MG
2nd reviewer: ✓

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1→7	W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___

Analysis Method		
ICP	W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
ICP Trace	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
ICP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻,

Comments: Mercury by CVAA if performed

LDC #: 15944E4
SDG #: 06K034

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Page: 1 of 1
Reviewer: MG
2nd Reviewer: ✓

METHOD: Trace Metals (EPA SW 846 Method 6010/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 1→3 (ADR only)

					Sample Identification									
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Blank Action Limit	1	2	3							
Al														
Sb														
As														
Ba														
Be														
Cd														
Ca														
Cr														
Co														
Cu														
Fe														
Pb														
Mg														
Mn														
Hg														
Mo														
Ni														
K			1411.	7.055	1.70	4.88	4.48							
Se														
Ag														
Na														
Tl														
V														
Zn														
Sn														
B														

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

BLNKSMP.4SW

Quality Control Outlier Reports

SDG 06K011

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 06K011 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
02NEW16-124	K011-03	8260B	AQ	STYRENE	J	0.43	0.50	UG/L
		CLP-METAL		ARSENIC	J	0.00767	0.0100	MG/L
				BARIUM	J	0.114	0.200	MG/L
				POTASSIUM	J	1.33	5.00	MG/L
				VANADIUM	J	0.0206	0.0500	MG/L
02NEW2-124	K011-02	314.0		PERCHLORATE	J	1.89	2.00	UG/L
		CLP-METAL		ARSENIC	J	0.00553	0.0100	MG/L
				BARIUM	J	0.0796	0.200	MG/L
				POTASSIUM	J	1.73	5.00	MG/L
				VANADIUM	J	0.0178	0.0500	MG/L
02NEW7-124	K011-04			ANTIMONY	J	0.0449	0.0600	MG/L
				ARSENIC	J	0.00792	0.0100	MG/L
				BARIUM	J	0.0714	0.200	MG/L
				MANGANESE	J	0.0138	0.0150	MG/L
				POTASSIUM	J	2.11	5.00	MG/L
				VANADIUM	J	0.0173	0.0500	MG/L
02NEW7-524	K011-05	8260B		TOLUENE	J	0.36	0.50	UG/L
02NEW8A-124	K011-01	CLP-METAL		ARSENIC	J	0.00993	0.0100	MG/L
				BARIUM	J	0.0409	0.200	MG/L
				POTASSIUM	J	2.01	5.00	MG/L
				VANADIUM	J	0.00587	0.0500	MG/L
				ZINC	J	0.00515	0.0200	MG/L

LDC #: 15944F1

SDG #: 06K011

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III ADR

Date: 12/18/06

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 11/01/06
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	% RSD r²
IV.	Continuing calibration	SW	ICV ≤ 25%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentitatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	TB = 6, FB

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	02NEW8-124	11	MBLKIW	21		31	
2	02NEW2-124	12		22		32	
3	02NEW16-124	13		23		33	
4	02NEW7-124	14		24		34	
5	02NEW7-524	15		25		35	
6	TB01-924	16		26		36	
7		17		27		37	
8		18		28		38	
9	~~02NEW15-124~~	19		29		39	
10	~~BT02-924~~	20		30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	S. Trichloroethene	KK. Trichlorofluoromethane	CCC. tert-Butylbenzene	UUU. 1,2-Dichlorotetrafluoroethane
B. Bromomethane	T. Dibromochloromethane	LL. Methyl-tert-butyl ether	DDD. 1,2,4-Trimethylbenzene	VVV. 4-Ethyltoluene
C. Vinyl choride**	U. 1,1,2-Trichloroethane	MM. 1,2-Dibromo-3-chloropropane	EEE. sec-Butylbenzene	WWW. Ethanol
D. Chloroethane	V. Benzene	NN. Methyl ethyl ketone	FFF. 1,3-Dichlorobenzene	XXX. Di-Isopropyl ether
E. Methylene chloride	W. trans-1,3-Dichloropropene	OO. 2,2-Dichloropropane	GGG. p-Isopropyltoluene	YYY. tert-Butanol
F. Acetone	X. Bromoform*	PP. Bromochloromethane	HHH. 1,4-Dichlorobenzene	ZZZ. tert-Butyl alcohol
G. Carbon disulfide	Y. 4-Methyl-2-pentanone	QQ. 1,1-Dichloropropene	III. n-Butylbenzene	AAAA. Ethyl tert-butyl ether
H. 1,1-Dichloroethene**	Z. 2-Hexanone	RR. Dibromomethane	JJJ. 1,2-Dichlorobenzene	BBBB. tert-Amyl methyl ether
I. 1,1-Dichloroethane*	AA. Tetrachloroethene	SS. 1,3-Dichloropropane	KKK. 1,2,4-Trichlorobenzene	CCCC.1-Chlorohexane
J. 1,2-Dichloroethene, total	BB. 1,1,2,2-Tetrachloroethane*	TT. 1,2-Dibromoethane	LLL. Hexachlorobutadiene	DDDD. Isopropyl alcohol
K. Chloroform**	CC. Toluene**	UU. 1,1,1,2-Tetrachloroethane	MMM. Naphthalene	EEEE. Acetonitrile
L. 1,2-Dichloroethane	DD. Chlorobenzene*	VV. Isopropylbenzene	NNN. 1,2,3-Trichlorobenzene	FFFF. Acrolein
M. 2-Butanone	EE. Ethylbenzene**	WW. Bromobenzene	OOO. 1,3,5-Trichlorobenzene	GGGG. Acrylonitrile
N. 1,1,1-Trichloroethane	FF. Styrene	XX. 1,2,3-Trichloropropane	PPP. trans-1,2-Dichloroethene	HHHH. 1,4-Dioxane
O. Carbon tetrachloride	GG. Xylenes, total	YY. n-Propylbenzene	QQQ. cis-1,2-Dichloroethene	IIII. Isobutyl alcohol
P. Bromodichloromethane	HH. Vinyl acetate	ZZ. 2-Chlorotoluene	RRR. m,p-Xylenes	JJJJ. Methacrylonitrile
Q. 1,2-Dichloropropane**	II. 2-Chloroethylvinyl ether	AAA. 1,3,5-Trimethylbenzene	SSS. o-Xylene	KKKK. Propionitrile
R. cis-1,3-Dichloropropene	JJ. Dichlorodifluoromethane	BBB. 4-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	LLLL.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 1 F4 F1
SDG #: 06k011

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page 1 of 1
Reviewer: NC
2nd Reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? r² ≥ 0.99
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	8/29/06	ICAL	F		0.040	All + Blk	J/UJ/A
			~~ZZZ~~ YYY		0.012	↓	↓

INICAL.1S

LDC #: 15944 F1
SDG #: 06k011

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: NG
2nd Reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: <25.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	4/02/06	RKC039	F		0.038	All + Blk	J/UJ/A
			222		0.011	↓	↓

Quality Control Outlier Reports

SDG 06K076

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 06K076 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
16_MPE1-124	K076-07R	8260B	AQ	CIS-1,2-DICHLOROETHENE	J	0.31	0.50	UG/L
16_MPE1-324	K076-08R			BENZENE	J	0.20	0.50	UG/L
				CIS-1,2-DICHLOROETHENE	J	0.31	0.50	UG/L
16_MW04-124	K076-06	8015B GRO		GASOLINE	J	0.044	0.050	MG/L
16_MW05-124	K076-04			GASOLINE	J	0.030	0.050	MG/L
16_MW11-124	K076-05	8260B		1,1-DICHLOROETHANE	J	0.35	0.50	UG/L
				BENZENE	J	0.34	0.50	UG/L
	K076-05T			CHLOROFORM	J	3.1	5.0	UG/L

QC Outlier Report: Field Duplicates (Non-qualified Outliers)

Lab Report Batch: 06K076 **Lab ID:** EMXT

			Field Sample				Field Sample Duplicate						
Analysis Method	Matrix	Analyte Name	Client Sample ID	Ana Type	Result	Lab Qualifier	Client Sample Duplicate ID	Ana Type	Result	Lab Qualifier	RPD Dup* (%)	RPD Criteria (%)	Result Units
8260B	AQ	BENZENE	16_MPE1-124	RES	0.50	U	16_MPE1-324	RES	0.20	J	200.0	20	UG/L
	AQ	CHLOROFORM		RES	1.7			RES	1.7		0.0	20	UG/L
	AQ	CIS-1,2-DICHLOROETHENE		RES	0.31	J		RES	0.31	J	0.0	20	UG/L

**Note: Outlier report also includes analytes detected in one sample but not in the related sample, i.e., analyte was detected in the field sample but not in the field duplicate sample, or vice versa. In this case, RPD value assigned to the field duplicate sample is 200.*

Project Number and Name: ***6228-003 - GWM EL TORO***

LDC #: 15944G1

SDG #: 06K076

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level ~~III/IV~~ ADR

Date: 12/19/16

Page: 1 of 1

Reviewer: JVG

2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 11/07/06
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	% RSD r2
IV.	Continuing calibration	SW	ICV ≤ 25 %
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	None/r
VIII.	Laboratory control samples	N	
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	Not reviewed for Level III validation.
XII.	Compound quantitation/CRQLs	N	Not reviewed for Level III validation.
XIII.	Tentitatively identified compounds (TICs)	N	Not reviewed for Level III validation.
XIV.	System performance	N	Not reviewed for Level III validation.
XV.	Overall assessment of data	N	
XVI.	Field duplicates	N	D = 7, 8
XVII.	Field blanks	N	TB = 3

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

1	16_MW08-124**	11	16_MW04-124DL	21		31	
2	16_MW09-124**	12	16_MPE1-124DL	22		32	
3	BT05-924	13	16_MPE1-324DL	23		33	
4	16_MW05-124	14	MB2K1W	24		34	
5	16_MW11-124	15	MB2K2W	25		35	
6	16_MW04-124	16		26		36	
7	16_MPE1-124	17		27		37	
8	16_MPE1-324	18		28		38	
9	16_MW05-124DL	19		29		39	
10	16_MW11-124DL	20		30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	S. Trichloroethene	KK. Trichlorofluoromethane	CCC. tert-Butylbenzene	UUU. 1,2-Dichlorotetrafluoroethane
B. Bromomethane	T. Dibromochloromethane	LL. Methyl-tert-butyl ether	DDD. 1,2,4-Trimethylbenzene	VVV. 4-Ethyltoluene
C. Vinyl chloride**	U. 1,1,2-Trichloroethane	MM. 1,2-Dibromo-3-chloropropane	EEE. sec-Butylbenzene	WWW. Ethanol
D. Chloroethane	V. Benzene	NN. Methyl ethyl ketone	FFF. 1,3-Dichlorobenzene	XXX. Di-isopropyl ether
E. Methylene chloride	W. trans-1,3-Dichloropropene	OO. 2,2-Dichloropropane	GGG. p-Isopropyltoluene	YYY. tert-Butanol
F. Acetone	X. Bromoform*	PP. Bromochloromethane	HHH. 1,4-Dichlorobenzene	ZZZ. tert-Butyl alcohol
G. Carbon disulfide	Y. 4-Methyl-2-pentanone	QQ. 1,1-Dichloropropene	III. n-Butylbenzene	AAAA. Ethyl tert-butyl ether
H. 1,1-Dichloroethene**	Z. 2-Hexanone	RR. Dibromomethane	JJJ. 1,2-Dichlorobenzene	BBBB. tert-Amyl methyl ether
I. 1,1-Dichloroethane*	AA. Tetrachloroethene	SS. 1,3-Dichloropropane	KKK. 1,2,4-Trichlorobenzene	CCCC.1-Chlorohexane
J. 1,2-Dichloroethene, total	BB. 1,1,2,2-Tetrachloroethane*	TT. 1,2-Dibromoethane	LLL. Hexachlorobutadiene	DDDD. Isopropyl alcohol
K. Chloroform**	CC. Toluene**	UU. 1,1,1,2-Tetrachloroethane	MMM. Naphthalene	EEEE. Acetonitrile
L. 1,2-Dichloroethane	DD. Chlorobenzene*	VV. Isopropylbenzene	NNN. 1,2,3-Trichlorobenzene	FFFF. Acrolein
M. 2-Butanone	EE. Ethylbenzene**	WW. Bromobenzene	OOO. 1,3,5-Trichlorobenzene	GGGG. Acrylonitrile
N. 1,1,1-Trichloroethane	FF. Styrene	XX. 1,2,3-Trichloropropane	PPP. trans-1,2-Dichloroethene	HHHH. 1,4-Dioxane
O. Carbon tetrachloride	GG. Xylenes, total	YY. n-Propylbenzene	QQQ. cis-1,2-Dichloroethene	IIII. Isobutyl alcohol
P. Bromodichloromethane	HH. Vinyl acetate	ZZ. 2-Chlorotoluene	RRR. m,p-Xylenes	JJJJ. Methacrylonitrile
Q. 1,2-Dichloropropane**	II. 2-Chloroethylvinyl ether	AAA. 1,3,5-Trimethylbenzene	SSS. o-Xylene	KKKK. Propionitrile
R. cis-1,3-Dichloropropene	JJ. Dichlorodifluoromethane	BBB. 4-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	LLLL.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 15749 G1
SDG #: 06K076

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: NG
2nd Reviewer: —

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?_____
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: <30.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	8/29/06	ICAL	F		0.040	All + Blks	J/UJ/A
			~~ZZZ~~ 4-14		0.012	↓	↓

INICAL.1S

LDC #: 15449 G1
SDG #: 06E076

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: JG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤25.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	11/09/06	RKC280	A	35.7		1-6, MBLK1W	J/UJ/A
			KK	27.2			
			G	25.4			
			KKK	34.4			
			MMM	25.8			
			NNN	36.6			
			F		0.038		
			~~ZZZ~~ 4-1-1		0.009		
	11/10/09	RKC301	A	29.5		7-13, MBLK2W	J/UJ/A
			G	29.9			
			TT	26.9			
			KKK	28.5			
			NNN	28.7			
			F		0.041		
			~~ZZZ~~ 4-1-1		0.009		

CONCAL.1S

Enclosure II

EPA Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: November 1 through November 3, 2006

LDC Report Date: January 4, 2007

Matrix: Water

Parameters: Volatiles

Validation Level: NFESC Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 06K049

Sample Identification

04-DBMW40-124
05-DBMW41A-524
05-DGMW68A-124
05-DGMW68A-524
05-DGMW68A-724
03-DGMW65XA-124
04-UGMW63-124

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B 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 qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a 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.

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 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

In the case where %RSD was greater than 15.0%, the laboratory used a calibration curve to evaluate the compound. All coefficients of determination (r^2) were greater than or equal to 0.990 .

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

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
10/5/06	tert-Butanol	0.018 (≥0.05)	All samples in SDG 06K049	J (all detects) UJ (all non-detects)	A

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
11/8/06 (RKQ235)	Trichlorofluoromethane Acetone tert-Butanol 1,2-Dibromoethane	30.7 27.8 38.9 35.9	04-DBMW40-124 05-DBMW41A-524 05-DGMW68A-124 05-DGMW68A-524 05-DGMW68A-724 MBLK1W	J (all detects) UJ (all non-detects)	A
11/8/06 (RKQ255)	Trichlorofluoromethane tert-Butanol Ethyl-tert-butyl ether tert-Amyl-methyl ether 1,2-Dibromo-3-chloropropane	25.3 27.8 34.9 37.6 26.6	03-DGMW65XA-124 04-UGMW63-124 MBLK2W	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
11/8/06 (RKQ235)	tert-Butanol	0.025 (≥0.05)	04-DBMW40-124 05-DBMW41A-524 05-DGMW68A-124 05-DGMW68A-524 05-DGMW68A-724 MBLK1W	J (all detects) UJ (all non-detects)	A
11/8/06 (RKQ255)	tert-Butanol	0.023 (≥0.05)	03-DGMW65XA-124 04-UGMW63-124 MBLK2W	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.

Sample BT03-924 was identified as a trip blank. No volatile contaminants were found in this blank.

Sample 05-DGMW68A-724 was identified as a source blank. No volatile contaminants were found in this blank.

Samples 05-DBMW41A-524 and 05-DGMW68A-524 were identified as rinsates. No volatile contaminants were found in these blanks with the following exceptions:

Rinsate ID	Sampling Date	Compound	Concentration	Associated Samples
05-DBMW41A-524	11/2/06	Ethylbenzene Toluene Xylenes, total	0.25 ug/L 0.85 ug/L 1.4 ug/L	No associated samples in this SDG
05-DGMW68A-524	11/3/06	Ethylbenzene Toluene Xylenes, total	0.22 ug/L 0.60 ug/L 1.2 ug/L	05-DGMW68A-124

Sample concentrations were compared to concentrations detected in the field 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 field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
05-DGMW68A-124	Toluene	0.46 ug/L	0.50U 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

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG 06K049	All TCL compounds	No MS/MSD associated with these samples.	MS/MSD required.	None	P

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.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

MCAS El Toro
Volatiles - Data Qualification Summary - SDG 06K049

SDG	Sample	Compound	Flag	A or P	Reason
06K049	04-DBMW40-124 05-DBMW41A-524 05-DGMW68A-124 05-DGMW68A-524 05-DGMW68A-724 03-DGMW65XA-124 04-UGMW63-124	tert-Butanol	J (all detects) UJ (all non-detects)	A	Initial calibration (RRF)
06K049	04-DBMW40-124 05-DBMW41A-524 05-DGMW68A-124 05-DGMW68A-524 05-DGMW68A-724	Trichlorofluoromethane Acetone tert-Butanol 1,2-Dibromoethane	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
06K049	03-DGMW65XA-124 04-UGMW63-124	Trichlorofluoromethane tert-Butanol Ethyl-tert-butyl ether tert-Amyl-methyl ether 1,2-Dibromo-3-chloropropane	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
06K049	04-DBMW40-124 05-DBMW41A-524 05-DGMW68A-124 05-DGMW68A-524 05-DGMW68A-724 03-DGMW65XA-124 04-UGMW63-124	tert-Butanol	J (all detects) UJ (all non-detects)	A	Continuing calibration (RRF)
06K049	04-DBMW40-124 05-DBMW41A-524 05-DGMW68A-124 05-DGMW68A-524 05-DGMW68A-724 03-DGMW65XA-124 04-UGMW63-124	All TCL compounds	None	P	Matrix spike/Matrix spike duplicates

MCAS El Toro
Volatiles - Laboratory Blank Data Qualification Summary - SDG 06K049

No Sample Data Qualified in this SDG

MCAS El Toro
Volatiles - Field Blank Data Qualification Summary - SDG 06K049

SDG	Sample	Compound	Modified Final Concentration	A or P
06K049	05-DGMW68A-124	Toluene	0.50U ug/L	A

LDC #: 15944A1
SDG #: 06K049
Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level ~~III~~/IV

Date: 12/19/06
Page: 1 of 1
Reviewer: JVC
2nd Reviewer: a

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 11/01 - 03/06
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	% RSD r^2
IV.	Continuing calibration	SW	ICV ≤ 25 %
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	None /P
VIII.	Laboratory control samples	A	LCS /D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	Not reviewed for Level III validation.
XII.	Compound quantitation/CRQLs	A	Not reviewed for Level III validation.
XIII.	Tentitatively identified compounds (TICs)	N	Not reviewed for Level III validation.
XIV.	System performance	A	Not reviewed for Level III validation.
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	*TB = 7 R = 2, 4 *SB = 5

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; *ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB = Source blk

Validated Samples: ** Indicates sample underwent Level IV validation

Water

1	04-DBMW40-124**	11	MBLK1W	21		31	
2	05-DBMW41A-524** R	12	MBLK2W	22		32	
3	05-DGMW68A-124**	13		23		33	
4	05-DGMW68A-524** R	14		24		34	
5	05-DGMW68A-724** SB	15		25		35	
6	03-DGMW65XA-124**	16		26		36	
7	~~BT03-024~~	17		27		37	
8	04-UGMW63-124**	18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 15944A1
SDG #: 06K049

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: JVG
2nd Reviewer: 9

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?	✓			
Did the initial calibration meet the curve fit acceptance criteria of > 0.990?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?		✓		
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?		✓		
V. Blank				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

LDC #: 15944 A1
SDG #: 06K049

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer: JVG
2nd Reviewer: CL

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		✓		
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

QC Outlier Report: Field Duplicates (Non-qualified Outliers)

Lab Report Batch: 06K034 **Lab ID:** EMXT

			Field Sample				Field Sample Duplicate						
Analysis Method	Matrix	Analyte Name	Client Sample ID	Ana Type	Result	Lab Qualifier	Client Sample Duplicate ID	Ana Type	Result	Lab Qualifier	RPD Dup* (%)	RPD Criteria (%)	Result Units
CLP-META	AQ	ARSENIC	04-DGMW66A-12	RES/TC	0.0100	U	04-DGMW66A-32	RES/TC	0.00574	J	200.0	20	MG/L

**Note: Outlier report also includes analytes detected in one sample but not in the related sample, i.e., analyte was detected in the field sample but not in the field duplicate sample, or vice versa. In this case, RPD value assigned to the field duplicate sample is 200.*

Project Number and Name: ***6228-003 - GWM EL TORO***

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 15944 E1
SDG #: 06k034

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: JK
2nd Reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? r² ≥ 0.99
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: <30.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	10/18/06	ICAL	~~ZZZ~~ YYY		0.009	9, MBLK1W	J/UJ/A
			M		0.041	↓	↓
	11/06/06	ICAL	~~ZZZ~~ YYY		0.008	1-8, 10, MBLK2W	J/UJ/A
			M		0.046	↓	↓

INICAL.1S

LDC #: 15944 E1
SDG #: 06K034

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: JG
2nd Reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤25.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	11/04/06	RKD097	PP	26.3		9, MBLK1W	J/UJ/A
			SS	26.1			
			~~ZZZ~~ YYY		0.008		
			M		0.032		
	11/08/06	RKD220	AAAA	31.9		1-8, 10, MBLK2W	J/UJ/A
			BBBB	36.0			
			L	26.2			
			P	25.4			
			Y	26.0			
			TT	28.5			
			X	43.3			
			CCC	26.8			
			~~EEE~~	35.6			
			III	41.2			
			LLL	45.8			
			YYY ~~ZZZ~~		0.009		

CONCAL.1SB

LDC #: 15944E
SDG #: 06K034

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: JVC
2nd Reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
Y N /N/A Were field blanks identified in this SDG?
Y/N N/A Were target compounds detected in the field blanks?
Blank units: ug/L **Associated sample units:** ug/L
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 4

Compound	Blank ID 05-DBMW41A-524	Blank ID	Sample Identification							
Sampling Date	11/02/06		4							
Methylene chloride										
Acetone										
Chloroform										
EE	0.25									
CC	0.85		0.81/U							
GG	1.4									
CRQL										

Blank units: _____ **Associated sample units:** _____
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples:

Compound	Blank ID	Blank ID	Sample Identification							
Sampling Date										
Methylene chloride										
Acetone										
Chloroform										
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 5944E4
SDG #: 06K034

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Page: 1 of 1
Reviewer: MG
2nd Reviewer: ✓

METHOD: Trace Metals (EPA SW 846 Method 6010/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 1→3 (ADR only)

					Sample Identification									
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/l)	Maximum ICB/CCB[a] (ug/l)	Blank Action Limit	1	2	3							
Al														
Sb														
As														
Ba														
Be														
Cd														
Ca														
Cr														
Co														
Cu														
Fe														
Pb														
Mg														
Mn														
Hg														
Mo														
Ni														
K			1411.	7.055	1.70	4.88	4.48							
Se														
Ag														
Na														
Tl														
V														
Zn														
Sn														
B														

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

BLNKSMP.4SW

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	S. Trichloroethene	KK. Trichlorofluoromethane	CCC. tert-Butylbenzene	UUU. 1,2-Dichlorotetrafluoroethane
B. Bromomethane	T. Dibromochloromethane	LL. Methyl-tert-butyl ether	DDD. 1,2,4-Trimethylbenzene	VVV. 4-Ethyltoluene
C. Vinyl choride**	U. 1,1,2-Trichloroethane	MM. 1,2-Dibromo-3-chloropropane	EEE. sec-Butylbenzene	WWW. Ethanol
D. Chloroethane	V. Benzene	NN. Methyl ethyl ketone	FFF. 1,3-Dichlorobenzene	XXX. Di-isopropyl ether
E. Methylene chloride	W. trans-1,3-Dichloropropene	OO. 2,2-Dichloropropane	GGG. p-Isopropyltoluene	YYY. tert-Butanol
F. Acetone	X. Bromoform*	PP. Bromochloromethane	HHH. 1,4-Dichlorobenzene	ZZZ. tert-Butyl alcohol
G. Carbon disulfide	Y. 4-Methyl-2-pentanone	QQ. 1,1-Dichloropropene	III. n-Butylbenzene	AAAA. Ethyl tert-butyl ether
H. 1,1-Dichloroethene**	Z. 2-Hexanone	RR. Dibromomethane	JJJ. 1,2-Dichlorobenzene	BBBB. tert-Amyl methyl ether
I. 1,1-Dichloroethane*	AA. Tetrachloroethene	SS. 1,3-Dichloropropane	KKK. 1,2,4-Trichlorobenzene	CCCC.1-Chlorohexane
J. 1,2-Dichloroethene, total	BB. 1,1,2,2-Tetrachloroethane*	TT. 1,2-Dibromoethane	LLL. Hexachlorobutadiene	DDDD. Isopropyl alcohol
K. Chloroform**	CC. Toluene**	UU. 1,1,1,2-Tetrachloroethane	MMM. Naphthalene	EEEE. Acetonitrile
L. 1,2-Dichloroethane	DD. Chlorobenzene*	VV. Isopropylbenzene	NNN. 1,2,3-Trichlorobenzene	FFFF. Acrolein
M. 2-Butanone	EE. Ethylbenzene**	WW. Bromobenzene	OOO. 1,3,5-Trichlorobenzene	GGGG. Acrylonitrile
N. 1,1,1-Trichloroethane	FF. Styrene	XX. 1,2,3-Trichloropropane	PPP. trans-1,2-Dichloroethene	HHHH. 1,4-Dioxane
O. Carbon tetrachloride	GG. Xylenes, total	YY. n-Propylbenzene	QQQ. cis-1,2-Dichloroethene	IIII. Isobutyl alcohol
P. Bromodichloromethane	HH. Vinyl acetate	ZZ. 2-Chlorotoluene	RRR. m,p-Xylenes	JJJJ. Methacrylonitrile
Q. 1,2-Dichloropropane**	II. 2-Chloroethylvinyl ether	AAA. 1,3,5-Trimethylbenzene	SSS. o-Xylene	KKKK. Propionitrile
R. cis-1,3-Dichloropropene	JJ. Dichlorodifluoromethane	BBB. 4-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	LLLL.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 1[illegible]F4F1
SDG #: 06K011

VALIDATION FIN[illegible]GS WORKSHEET
Initial Calibration

Pag[illegible] 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? r² ≥ 0.99
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	8/29/06	ICAL	F		0.040	All + Blk	J/UJ/A
			ZZZ YYY		0.012	↓	↓

INICAL.1S

LDC #: 15944 F1
SDG #: 06k011

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: NG
2nd Reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: <25.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	4/02/06	RKC039	F		0.038	All + Blk	J/UJ/A
			ZZZ		0.011	↓	↓

CONCAL.1S

QC Outlier Report: Field Duplicates (Non-qualified Outliers)

Lab Report Batch: 06K076 **Lab ID:** EMXT

			Field Sample				Field Sample Duplicate						
Analysis Method	Matrix	Analyte Name	Client Sample ID	Ana Type	Result	Lab Qualifier	Client Sample Duplicate ID	Ana Type	Result	Lab Qualifier	RPD Dup* (%)	RPD Criteria (%)	Result Units
8260B	AQ	BENZENE	16_MPE1-124	RES	0.50	U	16_MPE1-324	RES	0.20	J	200.0	20	UG/L
	AQ	CHLOROFORM		RES	1.7			RES	1.7		0.0	20	UG/L
	AQ	CIS-1,2-DICHLOROETHENE		RES	0.31	J		RES	0.31	J	0.0	20	UG/L

**Note: Outlier report also includes analytes detected in one sample but not in the related sample, i.e., analyte was detected in the field sample but not in the field duplicate sample, or vice versa. In this case, RPD value assigned to the field duplicate sample is 200.*

Project Number and Name: ***6228-003 - GWM EL TORO***

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	S. Trichloroethene	KK. Trichlorofluoromethane	CCC. tert-Butylbenzene	UUU. 1,2-Dichlorotetrafluoroethane
B. Bromomethane	T. Dibromochloromethane	LL. Methyl-tert-butyl ether	DDD. 1,2,4-Trimethylbenzene	VVV. 4-Ethyltoluene
C. Vinyl choride**	U. 1,1,2-Trichloroethane	MM. 1,2-Dibromo-3-chloropropane	EEE. sec-Butylbenzene	WWW. Ethanol
D. Chloroethane	V. Benzene	NN. Methyl ethyl ketone	FFF. 1,3-Dichlorobenzene	XXX. Di-isopropyl ether
E. Methylene chloride	W. trans-1,3-Dichloropropene	OO. 2,2-Dichloropropane	GGG. p-Isopropyltoluene	YYY. tert-Butanol
F. Acetone	X. Bromoform*	PP. Bromochloromethane	HHH. 1,4-Dichlorobenzene	ZZZ. tert-Butyl alcohol
G. Carbon disulfide	Y. 4-Methyl-2-pentanone	QQ. 1,1-Dichloropropene	III. n-Butylbenzene	AAAA. Ethyl tert-butyl ether
H. 1,1-Dichloroethene**	Z. 2-Hexanone	RR. Dibromomethane	JJJ. 1,2-Dichlorobenzene	BBBB. tert-Amyl methyl ether
I. 1,1-Dichloroethane*	AA. Tetrachloroethene	SS. 1,3-Dichloropropane	KKK. 1,2,4-Trichlorobenzene	CCCC.1-Chlorohexane
J. 1,2-Dichloroethene, total	BB. 1,1,2,2-Tetrachloroethane*	TT. 1,2-Dibromoethane	LLL. Hexachlorobutadiene	DDDD. Isopropyl alcohol
K. Chloroform**	CC. Toluene**	UU. 1,1,1,2-Tetrachloroethane	MMM. Naphthalene	EEEE. Acetonitrile
L. 1,2-Dichloroethane	DD. Chlorobenzene*	VV. Isopropylbenzene	NNN. 1,2,3-Trichlorobenzene	FFFF. Acrolein
M. 2-Butanone	EE. Ethylbenzene**	WW. Bromobenzene	OOO. 1,3,5-Trichlorobenzene	GGGG. Acrylonitrile
N. 1,1,1-Trichloroethane	FF. Styrene	XX. 1,2,3-Trichloropropane	PPP. trans-1,2-Dichloroethene	HHHH. 1,4-Dioxane
O. Carbon tetrachloride	GG. Xylenes, total	YY. n-Propylbenzene	QQQ. cis-1,2-Dichloroethene	IIII. Isobutyl alcohol
P. Bromodichloromethane	HH. Vinyl acetate	ZZ. 2-Chlorotoluene	RRR. m,p-Xylenes	JJJJ. Methacrylonitrile
Q. 1,2-Dichloropropane**	II. 2-Chloroethylvinyl ether	AAA. 1,3,5-Trimethylbenzene	SSS. o-Xylene	KKKK. Propionitrile
R. cis-1,3-Dichloropropene	JJ. Dichlorodifluoromethane	BBB. 4-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	LLLL.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: [illegible] 91
SDG #: 06k076

VALIDATION FIN[illegible]GS WORKSHEET
Initial Calibration

Pag[illegible] 1 of 1
Reviewer: NG
2nd Reviewer: —

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?_____
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: <30.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	8/29/06	ICAL	F		0.040	All + Blks	J/UJ/A
			~~ZZZ~~ 4-4		0.012	↓	↓

INICAL.1S

LDC #: 15944 G1
SDG #: 06F076

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: JG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: <25.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	11/09/06	RKC280	A	35.7		1-6, MBLK1W	J/UJ/A
			KK	27.2			
			G	25.4			
			KKK	34.4			
			MMM	25.8			
			NNN	36.6			
			F		0.038		
			ZZZ Y-N		0.009		
	11/10/09	RKC301	A	29.5		7-13, MBLK2W	J/UJ/A
			G	29.9			
			TT	26.9			
			KKK	28.5			
			NNN	28.7			
			F		0.041		
			ZZZ Y-N		0.009		

CONCAL.1S

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 15944A1
SDG #: 061049

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: DVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? $r^2 \geq 0.99$
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: <30.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	10/05/06	ICAL	4/4/ ZZZ		0.018	All + Blks	J/UJ/A

LDC #: 15144A1
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: G

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤25.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	11/08/06	RKQ235	KK	30.7		1-5, MBLK1W	J/UJ/A
			F	27.8			
			YYY ~~ZZZ~~	38.9	0.025		
			TT	35.9			
	11/08/06	RKQ255	KK	25.3		6,8, MBLK2W	J/UJ/A
			YYY ~~ZZZ~~	27.8	0.023		
			AAAA	34.9			
			BBBB	37.6			
			MM	26.6			

CONCAL.1S

LDC #: 15944A1
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
Y N /N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L **Associated sample units:** ug/L
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: None

Compound	Blank ID 2	Blank ID	Sample Identification							
Sampling Date	11/02/06									
Methylene chloride										
Acetone										
Chloroform										
EE	0.25									
CC	0.85									
GG	1.4									
CRQL										

Blank units: ug/L **Associated sample units:** ug/L
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: 3

Compound	Blank ID 4	Blank ID	Sample Identification							
Sampling Date	11/03/06		3							
Methylene chloride										
Acetone										
Chloroform										
EE	0.22									
CC	0.60		0.46/0.504							
GG	1.2									
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 15944 K1
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 2
Reviewer: JVG
2nd Reviewer: Q

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

RRF = $(A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (10 std)	Recalculated RRF (10 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	10/05/06	Methylene chloride (1st internal standard)	see	r calculations				
			Trichlorethene (2nd internal standard)	0.449	0.449	0.450	0.450	6.09	6.09
			Toluene (3rd internal standard)	0.625	0.625	0.629	0.629	8.92	8.92
2			Methylene chloride (1st internal standard)						
			Trichlorethene (2nd internal standard)						
			Toluene (3rd internal standard)						
3			Methylene chloride (1st internal standard)						
			Trichlorethene (2nd internal standard)						
			Toluene (3rd internal standard)						
4			Methylene chloride (1st internal standard)						
			Trichlorethene (2nd internal standard)						
			Toluene (3rd internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 15944 k1
SDG# 06 K049

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: NG
2nd Reviewer: C

METHOD: GC EPA SW 846 Method 8260B

Parameter: Methylene chloride

Date	Column	Compound	X Conc. Ratio	Y Area Ratio		RF
10/05/2006	RTX 502.2	Methylene chloride	0.050	0.04059		0.812
	TO05		0.100	0.06228		0.623
			0.200	0.11443		0.572
			0.500	0.23060		0.461
			1.000	0.46266		0.463
			2.000	0.87711		0.439
			3.000	1.52740		0.509
			4.000	1.72639		0.432
			5.000	2.19285		0.439
						0.528

Regression Output:		Reported	
Constant	2.7E-002	k=	1.87E-002
Std Err of Y Est	0.07431		
R Squared	0.99279	r2 =	0.99500
No. of Observations	9.00000		
Degrees of Freedom	7.00000		
X Coefficient(s)	4.409E-001	m =	4.46E-001
Std Err of Coef.	0.014200		

Response ratio = m * Amount + k

LDC #: 15944 K1
SDG #: 66K049

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: d

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	RKQ235	11/08/05	Methylene chloride (1st internal standard)	10.0	11.856	11.851	18.6	18.5
			Trichlorethene (2nd internal standard)	0.450	0.423	0.423	6.0	6.0
			~~Toluene~~ BB (3rd internal standard)	0.629	0.667	0.667	6.0	6.0
2	RKQ255	11/08/05	Methylene chloride (1st internal standard)	10.0	9.901	9.90	1.0	1.0
			Trichlorethene (2nd internal standard)	0.450	0.407	0.407	9.6	9.7
			~~Toluene~~ BB (3rd internal standard)	0.629	0.615	0.615	2.2	2.2
3			Methylene chloride (1st internal standard)					
			Trichlorethene (2nd internal standard)					
			Toluene (3rd internal standard)					
4			Methylene chloride (1st internal standard)					
			Trichlorethene (2nd internal standard)					
			Toluene (3rd internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 15944 k1
SDG #: 06k049

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: NG
2nd reviewer: L

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8	10	8.92	89	89	0
Bromofluorobenzene	↓	9.49	95	95	↓
1,2-Dichloroethane-d4	↓	11.21	112	112	↓
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

LDC #: 944A
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Page: 1 of 1
Reviewer: NG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA

Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCS - LCSD I * 2/(LCS + LCSD)

LCS = Laboratory control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

LCS ID: V005K22L/C

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	10	10	11.2	10.6	112	112	106	106	5	6
Trichloroethene			10.3	9.96	103	103	106	100	3	3
Benzene			10.2	9.98	102	102	100	100	2	2
Toluene			10.4	10.0	104	104	100	100	3	4
Chlorobenzene			10.3	9.99	103	103	100	100	3	3

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LCSCLC.1SB

LDC #: 15944A1
SDG #: 06k049

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. #3 , K :

Conc. = $\frac{(223557)(10)(\quad)}{(1627907)(0.643)(\quad)(\quad)}$

= 2.14 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: November 7, 2006

LDC Report Date: January 4, 2007

Matrix: Water

Parameters: Volatiles

Validation Level: NFESC Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 06K076

Sample Identification

16_MW08-124
16_MW09-124

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 8260B 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 qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a 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.

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 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

In the case where %RSD was greater than 15.0%, the laboratory used a calibration curve to evaluate the compound. All coefficients of determination (r^2) were greater than or equal to 0.990 .

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

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
8/29/06	Acetone tert-Butanol	0.040 (≥0.05) 0.012 (≥0.05)	All samples in SDG 06K076	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
11/9/06 (RKC280)	Chloromethane Trichlorofluoromethane Carbon disulfide 1,2,4-Trichlorobenzene Naphthalene 1,2,3-Trichlorobenzene	35.7 27.2 25.4 34.4 25.8 36.6	All samples in SDG 06K076	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
11/9/06 (RKC280)	Acetone tert-Butanol	0.038 (≥0.05) 0.009 (≥0.05)	All samples in SDG 06K076	J (all detects) UJ (all non-detects) 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.

Sample BT05-924 was identified as a trip blank. No volatile contaminants were found in this blank.

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 with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG 06K076	All TCL compounds	No MS/MSD associated with these samples.	MS/MSD required.	None	P

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.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

MCAS El Toro
Volatiles - Data Qualification Summary - SDG 06K076

SDG	Sample	Compound	Flag	A or P	Reason
06K076	16_MW08-124 16_MW09-124	Acetone tert-Butanol	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Initial calibration (RRF)
06K076	16_MW08-124 16_MW09-124	Chloromethane Trichlorofluoromethane Carbon disulfide 1,2,4-Trichlorobenzene Naphthalene 1,2,3-Trichlorobenzene	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
06K076	16_MW08-124 16_MW09-124	Acetone tert-Butanol	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Continuing calibration (RRF)
06K076	16_MW08-124* 16_MW09-124	All TCL compounds	None	P	Matrix spike/Matrix spike duplicates

MCAS El Toro
Volatiles - Laboratory Blank Data Qualification Summary - SDG 06K076

No Sample Data Qualified in this SDG

MCAS El Toro
Volatiles - Field Blank Data Qualification Summary - SDG 06K076

No Sample Data Qualified in this SDG

LDC #: 15944G1

SDG #: 06K076

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level ~~III~~/IV

Date: 12/19/06

Page: 1 of 1

Reviewer: JVG

2nd Reviewer: CL

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 11/07/06
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	% RSD r^2
IV.	Continuing calibration	SW	ICV ≤ 25%
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	None /P
VIII.	Laboratory control samples	A	LCS /D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	Not reviewed for Level III validation.
XII.	Compound quantitation/CRQLs	A	Not reviewed for Level III validation.
XIII.	Tentitatively identified compounds (TICs)	N	Not reviewed for Level III validation.
XIV.	System performance	A	Not reviewed for Level III validation.
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 3

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

Water

+ 1	16_MW08-124**	11	~~16_MW04-124DL~~	21		31	
+ 2	16_MW09-124**	12	16_MPE1-124DL	22		32	
- 3	~~BT05-924~~	13	~~16_MPE1-324DL~~	23		33	
4	16_MW05-124	14	MBLKIW	24		34	
5	16_MW11-124	15		25		35	
6	16_MW04-124	16		26		36	
7	16_MPE1-124	17		27		37	
8	16_MPE1-324	18		28		38	
9	16_MW05-124DL	19		29		39	
10	~~16_MW11-124DL~~	20		30		40	

LDC #: 15944G1
SDG #: 06K076

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: ON
2nd Reviewer: [illegible]

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?	✓			
Did the initial calibration meet the curve fit acceptance criteria of > 0.990?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) > 0.05?		✓		
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?		✓		
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogates - soil				
Were all surrogate %R within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

LDC #: 15944G1
SDG #: 06K076

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer: JV
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XI. Tentatively Identified Compounds (TICs)				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively Identified Compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		✓		
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 1[illegible]4G1
SDG #: 06K076

VALIDATION FIN[illegible]GS WORKSHEET
Initial Calibration

Pag[illegible] 1 of 1
Reviewer: JVB
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? $r^2 \geq 0.99$
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	8/29/06	ICAL	F		0.040	All + Blk	J/UJ/A
			~~ZZZ~~		0.012	↓	↓

INICAL.1S

LDC #: 15944G1
SDG #: 06K076

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: DG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: <25.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	11/09/06	RKC280	A	35.7		All + Blk	J/UJ/A
			kk	27.2			
			G	25.4			
			kkk	34.4			
			MMM	25.8			
			NNN	36.6			
			F		0.038		
			YYY ~~ZZZ~~		0.009		

CONCAL.1S

LDC #: 15944 G1
SDG #: 06 K076

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (10 std)	Recalculated RRF (10 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	8/29/06	Methylene chloride (1st internal standard)	0.418	0.418	0.458	0.458	11.54	11.54
			Trichlorethene (2nd internal standard)	0.397	0.397	0.420	0.420	6.19	6.17
			~~Toluene~~ BB (3rd internal standard)	0.805	0.805	0.863	0.863	9.95	9.94
2			Methylene chloride (1st internal standard)						
			Trichlorethene (2nd internal standard)						
			Toluene (3rd internal standard)						
3			Methylene chloride (1st internal standard)						
			Trichlorethene (2nd internal standard)						
			Toluene (3rd internal standard)						
4			Methylene chloride (1st internal standard)						
			Trichlorethene (2nd internal standard)						
			Toluene (3rd internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 15944 G1
SDG #: 06K076

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	RKC 280	11/09/06	Methylene chloride (1st internal standard)	0.458	0.412	0.412	10.0	10.0
			Trichlorethene (2nd internal standard)	0.420	0.443	0.443	5.5	5.5
			~~Toluene~~ BB (3rd internal standard)	0.863	0.944	0.944	9.4	9.4
2			Methylene chloride (1st internal standard)					
			Trichlorethene (2nd internal standard)					
			Toluene (3rd internal standard)					
3			Methylene chloride (1st internal standard)					
			Trichlorethene (2nd internal standard)					
			Toluene (3rd internal standard)					
4			Methylene chloride (1st internal standard)					
			Trichlorethene (2nd internal standard)					
			Toluene (3rd internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 15944G1
SDG #: 06 K076

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: NG
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8	10	11.37	114	114	0
Bromofluorobenzene	↓	11.88	119	118	↓
1,2-Dichloroethane-d4	↓	10.70	107	107	↓
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

LDC #: 15944G1
SDG #: 06K076

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCS - LCSD I * 2/(LCS + LCSD) LCS = Laboraotry control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: V067K23L/C

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	10	10	9.88	10.1	99	99	101	101	2	2
Trichloroethene			10.3	10.4	103	103	104	104	1	1
Benzene			10.5	10.7	105	105	107	107	2	2
Toluene			10.7	10.9	107	107	109	109	2	2
Chlorobenzene			10.5	10.6	105	105	106	106	1	1

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 159446I
SDG #: 06K076

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JVL
2nd reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to solts and solid matrices only.

Example:

Sample I.D. # 2 , S :

Conc. = $\frac{(1350859)(10)(\quad)}{(2408570)(0.420)(\quad)(\quad)}$

= 13.35 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: November 1 through November 3, 2006

LDC Report Date: January 2, 2007

Matrix: Water

Parameters: Metals

Validation Level: NFESC Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 06K049

Sample Identification

04-DBMW40-124
05-DGMW68A-124
03-DGMW65XA-124
04-UGMW63-124
04-DBMW40-124MS
04-DBMW40-124DUP

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Contract Laboratory Program Statement of Work (SOW) for Inorganic Analysis, Multi-media, Multi-concentration, D.N. ILM04.0 for TAL Metals.

This review follows USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) and incorporates updates per EPA SOW (D.N. ILM04.0); the following subsections correlate to the guidelines.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a 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.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

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

All criteria for the initial calibration were met.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

CRDL standards for ICP and AA were analyzed and reported as required.

Instrument detection limits, interelement corrections and linear range analysis were performed at the required frequency.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Potassium	1411 ug/L	All samples in SDG 06K049

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample ID	Analyte	Reported Concentration	Modified Final Concentration
04-DBMW40-124	Potassium	1.97 mg/L	1.97U mg/L
05-DGMW68A-124	Potassium	2.70 mg/L	2.70U mg/L
03-DGMW65XA-124	Potassium	3.27 mg/L	3.27U mg/L
04-UGMW63-124	Potassium	3.22 mg/L	3.22U mg/L

Samples 05-DBMW41A-524 and 05-DGMW68A-524 were identified as rinsates. No volatile contaminants were found in these blanks with the following exceptions:

Rinsate ID	Sampling Date	Compound	Concentration	Associated Samples
05-DGMW68A-524	11/3/06	Calcium Zinc	0.106 mg/L 0.00750 mg/L	05-DGMW68A-124

Sample concentrations were compared to concentrations detected in the field 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 field blanks.

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits of 75-125% with the following exceptions:

Spike ID (Associated Samples)	Analyte	%R	Flag	A or P
04-DBMW40-124MS (All samples in SDG 06K049)	Cadmium	128	J (all detects)	A

VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. 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.

VIII. Internal Standards (ICP-MS)

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met.

XI. Sample Result Verification

All sample result verifications were acceptable for samples on which a NFESC Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report if data has been qualified.

XIII. Field Duplicates

No field duplicates were identified in this SDG.

MCAS El Toro
Metals - Data Qualification Summary - SDG 06K049

SDG	Sample	Analyte	Flag	A or P	Reason
06K049	04-DBMW40-124 05-DGMW68A-124 03-DGMW65XA-124 04-UGMW63-124	Cadmium	J (all detects)	A	Matrix spike analysis (%R)

MCAS El Toro
Metals - Laboratory Blank Data Qualification Summary - SDG 06K049

SDG	Sample ID	Analyte	Modified Final Concentration	A or P
06K049	04-DBMW40-124	Potassium	1.97U mg/L	A
06K049	05-DGMW68A-124	Potassium	2.70U mg/L	A
06K049	03-DGMW65XA-124	Potassium	3.27U mg/L	A
06K049	04-UGMW63-124	Potassium	3.22U mg/L	A

MCAS El Toro
Metals - Field Blank Data Qualification Summary - SDG 06K049

No Sample Data Qualified in this SDG

LDC #: 15944A4 **VALIDATION COMPLETENESS WORKSHEET** Date: 12-19-06
SDG #: 06K049 Level III/IV Page: 1 of 1
Laboratory: EMAX Laboratories, Inc. Reviewer: MG
2nd Reviewer: ✓

METHOD: Metals (EPA CLP SOW ILMO4.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 11-1-06 through 11-3-06
II.	Calibration	A	
III.	Blanks	SW	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Matrix Spike Analysis	SW	MS
VI.	Duplicate Sample Analysis	A	DUP
VII.	Laboratory Control Samples (LCS)	A	LCS/LCSD
VIII.	Internal Standard (ICP-MS)	N	Not utilized
IX.	Furnace Atomic Absorption QC	N	" "
X.	ICP Serial Dilution	A	
XI.	Sample Result Verification	A	Not reviewed for Level III validation.
XII.	Overall Assessment of Data	A	
XIII.	Field Duplicates	N	
XIV.	Field Blanks	SW	R=2, 4 SB=5*

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; * = ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

all water

1	04-DBMW40-124**	11		21		31	
2	~~05-DBMW41A-524**~~	12		22		32	
3	05-DGMW68A-124**	13		23		33	
4	~~05-DGMW68A-524**~~	14		24		34	
5	~~05-DGMW68A-724**~~	15		25		35	
6	03-DGMW65XA-124**	16		26		36	
7	04-UGMW63-124**	17		27		37	
8	04-DBMW40-124MS	18		28		38	
9	04-DBMW40-124DUP	19		29		39	
10	PBW	20		30		40	

Notes:

LDC #: 15944A4
SDG #: 06K049

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: ✓

Method: Metals (EPA SW 846 Method 6010/7000/6020)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury and 85-115% for cyanide) QC limits?	✓			
Were all initial calibration correlation coefficients > 0.995? (Level IV only)	✓			
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
IV. ICP Interference Check Sample				
Were ICP interference check samples performed daily?	✓			
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	✓			
IV. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.		✓		
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of +/- RL(+/-2X RL for soil) was used for samples that were ≤ 5X the RL, including when only one of the duplicate sample values were < 5X the RL.	✓			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	✓			
VI. Furnace Atomic Absorption QC				
If MSA was performed, was the correlation coefficients > 0.995?			✓	
Do all applicable analysies have duplicate injections? (Level IV only)			✓	
For sample concentrations > RL, are applicable duplicate injection RSD values < 20%? (Level IV only)			✓	
Were analytical spike recoveries within the 85-115% QC limits?			✓	

LDC #: 15944A4
SDG #: 06K049

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VII. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the IDL?	✓			
Were all percent differences (%Ds) < 10%?	✓			
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		✓		
VIII. Internal Standards (EPA SW 846 Method 6020)				
Were all the percent recoveries (%R) within the 30-120% of the intensity of the internal standard in the associated initial calibration?			✓	
If the %Rs were outside the criteria, was a reanalysis performed?			✓	
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XII. Field duplicates				
Field dupticate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
XIII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.	✓			

LDC #: 15944A4
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Page: 1 of 1
Reviewer: MG
2nd reviewer: ✓

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1→7	W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
QC 8,9	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
Analysis Method		
ICP	W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
ICP Trace	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
ICP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-, ___ ___
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN-,

Comments: Mercury by CVAA if performed

LDC #: 15944A4
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/7000) Soil preparation factor applied: NA
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: all

					Sample Identification									
Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Blank Action Limit	1	3	6	7						
Al														
Sb														
As														
Ba														
Be														
Cd														
Ca														
Cr														
Co														
Cu														
Fe														
Pb														
Mg														
Mn														
Hg														
Mo														
Ni														
K			1411.	7.055	1.97	2.70	3.27	3.22						
Se														
Ag														
Na														
Tl														
V														
Zn														
Sn														
B														

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

BLNKSMP.4SW

LDC #: 15944A4
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Y N N/A Field blanks were identified in this SDG.
Y N N/A Were target analytes detected in the field blanks?

Blank units: mg/L Associated sample units: mg/L
Sampling date: 11-2-06 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: ~~1, 3, 6, 7~~ 05-DBMW41A-124

Analyte	Blank ID	Blank Action Level	Sample Identification									
	2				No	sample	was	qualified				
Cr	0.00515	0.026										

Blank units: mg/L Associated sample units: mg/L
Sampling date: 11-3-06 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: ~~1, 3, 6, 7~~ mg

Analyte	Blank ID	Blank Action Level	Sample Identification									
	4		~~6~~	~~7~~								
Ca	0.106	0.530										
Zn	0.00750	0.038	~~0.0339~~	~~0.00688~~								

ALL RESULTS WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 15944A4
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Matrix Spike Analysis

Page: 1 of 1
Reviewer: MG
2nd Reviewer: ✓

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

(Y) N N/A Was a post digestion spike analyzed for ICP elements that did not meet the required criteria for matrix spike recovery?

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	Matrix Spike ID	Matrix	Analyte	%R	Associated Samples	Qualifications
1	8	water	Cd	128 (75-125)	all	J dets / A

Comments:

MS.4S2

LDC #: 15944A4
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: MG
2nd Reviewer: ✓

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated %R	Reported %R	Acceptable (Y/N)
1200 ICV	ICP (Initial calibration)	V	971.3	1000	97	97	Y
	GFAA (Initial calibration)						
1556 ICV	CVAA (Initial calibration)	Hg	2.08	2.00	104	not reported	
1209 CCV1	ICP (Continuing calibration)	Be	965.1	1000	97	97	
	GFAA (Continuing calibration)						
1608 CCV2	CVAA (Continuing calibration)	Hg	5.12	5.00	102	not reported	
	ICP/MS (Initial calibration)						
	ICP/MS (Continuing calibation)						

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 15944A4
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: MG
2nd Reviewer: ✓

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result). True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration, D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$\%D = \frac{|I-SDR|}{I} \times 100$ Where, I = Initial Sample Result (mg/L), SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable (Y/N)
1218 ICSAB	ICP interference check	Sb	.5432 (mg/L)	.600 (mg/L)	91	91	Y
1243 LCS	Laboratory control sample	Co	1.089 (mg/L)	1.00 (mg/L)	109	109	↓
1632 8	Matrix spike	Cd	(SSR-SR) 0.006424 (mg/L)	0.00500 (mg/L)	128	128	↓
1301/1305 9	Duplicate	Mg	41.93 (mg/L)	41.86 (mg/L)	0	0	↓
1301/1310 1	ICP serial dilution	Ca	92.44 (mg/L)	91.95 (mg/L)	1	1	↓

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

TOTCLC.4SW

LDC #: 15944A4
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: MG
2nd reviewer: ✓

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Have results been reported and calculated correctly?
(Y) N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
(Y) N N/A Are all detection limits below the CRDL?

Detected analyte results for #1, Ba were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In.\ Vol.)(\%S)}$

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor
%S = Decimal percent solids

Recalculation:

$$\frac{(0.0483\ mg/L)(0.050\ L)}{0.050\ L} = 0.0483\ mg/L$$

Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
1	Ba	0.0483	0.0483	Y
	Ca	92.4	92.4	↓
	Mg	41.9	41.9	↓
	Mn	0.00799	0.0080	↓
	Ni	0.157	0.157	↓
	K	1.97	1.97	↓
	Na	185	185	↓
	V	0.0234	0.0234	↓
	As	0.00600	0.00600	↓
	Se	0.0133	0.0133	↓

RECALC.4S2

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: November 2, 2006

LDC Report Date: January 2, 2007

Matrix: Water

Parameters: Metals

Validation Level: NFESC Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 06K034

Sample Identification

03-DGMW64A-124

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Contract Laboratory Program Statement of Work (SOW) for Inorganic Analysis, Multi-media, Multi-concentration, D.N. ILM04.0 for TAL Metals.

This review follows USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) and incorporates updates per EPA SOW (D.N. ILM04.0); the following subsections correlate to the guidelines.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a 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.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

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

All criteria for the initial calibration were met.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

CRDL standards for ICP and AA were analyzed and reported as required.

Instrument detection limits, interelement corrections and linear range analysis were performed at the required frequency.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks.

No field blanks were identified in this SDG.

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

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

VI. Duplicate Sample Analysis

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

VII. 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.

VIII. Internal Standards (ICP-MS)

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met.

XI. Sample Result Verification

All sample result verifications were acceptable.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report if data has been qualified.

XIII. Field Duplicates

No field duplicates were identified in this SDG.

MCAS El Toro
Metals - Data Qualification Summary - SDG 06K034

No Sample Data Qualified in this SDG

MCAS El Toro
Metals - Laboratory Blank Data Qualification Summary - SDG 06K034

No Sample Data Qualified in this SDG

MCAS El Toro
Metals - Field Blank Data Qualification Summary - SDG 06K034

No Sample Data Qualified in this SDG

LDC #: 15944E4

VALIDATION COMPLETENESS WORKSHEET

Level III / IV

Date: 12-20-06

SDG #: 06K034

Page: 1 of 1

Laboratory: EMAX Laboratories, Inc.

Reviewer: MG

2nd Reviewer: ✓

METHOD: Metals (EPA CLP SOW ILMO4.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 11-2-06
II.	Calibration	A	
III.	Blanks	A	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Matrix Spike Analysis	N	Client specified
VI.	Duplicate Sample Analysis	N	" "
VII.	Laboratory Control Samples (LCS)	A	LCS/LCSD
VIII.	Internal Standard (ICP-MS)	N	Not utilized
IX.	Furnace Atomic Absorption QC	N	
X.	ICP Serial Dilution	A	
XI.	Sample Result Verification	N	
XII.	Overall Assessment of Data	A	
XIII.	Field Duplicates	N	D = 2+3
XIV.	Field Blanks	~~ND~~	~~SB-05-DGMW68A-724~~

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** = level IV validation

all water

1	~~02-DGMW59-124~~	11		21		31	
2	~~04-DGMW66A-124~~	12		22		32	
3	~~04-DGMW66A-324~~	13		23		33	
4	~~05-DBMW41A-124~~	14		24		34	
5	03-DGMW64A-124 **	15		25		35	
6	~~02NEW11-124~~	16		26		36	
7	~~02NEW15-124~~	17		27		37	
8	PBW	18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 15944E4
SDG #: 06K034

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: ✓

Method: Metals (EPA SW 846 Method 6010/7000/6020)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury and 85-115% for cyanide) QC limits?	✓			
Were all initial calibration correlation coefficients > 0.995? (Level IV only)	✓			
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
IV. ICP Interference Check Sample				
Were ICP interference check samples performed daily?	✓			
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	✓			
V. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil/ Water		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			✓	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of +/- RL(+/-2X RL for soil) was used for samples that were ≤ 5X the RL, including when only one of the duplicate sample values were < 5X the RL.			✓	
VI. Laboratory control samples				
Was an LCS anaytzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	✓			
VII. Furnace Atomic Absorption QC				
If MSA was performed, was the correlation coefficients > 0.995?			✓	
Do all applicable analysies have duplicate injections? (Level IV only)			✓	
For sample concentrations > RL, are applicable duplicate injection RSD values < 20%? (Level IV only)			✓	
Were analytical spike recoveries within the 85-115% QC limits?			✓	

LDC #: 15944E4
SDG #: 06K034

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: ✓

Validation Area	Yes	No	NA	Findings/Comments
VII. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the IDL?	✓			
Were all percent differences (%Ds) < 10%?	✓			
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		✓		
VIII. Internal Standards (EPA-SW-846 Method 6020)				
Were all the percent recoveries (%R) within the 30-120% of the intensity of the internal standard in the associated initial calibration?			✓	
If the %Rs were outside the criteria, was a reanalysis performed?			✓	
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XII. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
XIII. Field blanks				
Field blanks were identified in this SDG.	~~✓~~	~~✓~~ ✓		
Target analytes were detected in the field blanks.		~~✓~~	~~✓~~ ✓	

MG

LDC #: 15944E4
SDG #: 06K034

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Page: 1 of 1
Reviewer: MG
2nd reviewer: ✓

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1→7	W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___

Analysis Method		
ICP	W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
ICP Trace	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
ICP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___ ___
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ___

Comments: Mercury by CVAA if performed

LDC #: 15944E4
SDG #: 06K034

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: MG
2nd Reviewer: ✓

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated %R	Reported %R	Acceptable (Y/N)
0053 ICV	ICP (Initial calibration)	Zn	1002	1000	100	100	Y
	GFAA (Initial calibration)						
1556 ICV	CVAA (Initial calibration)	Hg	2.08	2.00	104	not reported	
0117 CCV1	ICP (Continuing calibration)	Ag	991.9	1000	99	99	
	GFAA (Continuing calibration)						
1718 CCV4	CVAA (Continuing calibration)	Hg	5.08	5.00	102	not reported	
	ICP/MS (Initial calibration)						
	ICP/MS (Continuing calibation)						

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 15944E4
SDG #: 06K034

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$

Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$

Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$\%D = \frac{|I-SDR|}{I} \times 100$

Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable (Y/N)
0111 ICSAB	ICP Interference check	Cr	0.4598 (mg/L)	0.500 (mg/L)	92	92	Y
1243 LCS	Laboratory control sample	Al	11.15 (mg/L)	10.0 (mg/L)	112	112	↓
—	Matrix spike	—	(SSR-SR) —	—	—	—	—
—	Duplicate	—	—	—	—	—	—
1361/1310 04-DBMW40-124	ICP serial dilution	Na	185.2 (mg/L)	181.8 (mg/L)	2	2	Y

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

TOTCLC.4SW

LDC #: 15944E4
SDG #: 06K034

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: MG
2nd reviewer: ✓

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
Y N N/A Are all detection limits below the CRDL?

Detected analyte results for #5, As were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In.\ Vol.)(\%S)}$

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor
%S = Decimal percent solids

Recalculation:

$$\frac{(6.781\ \mu g/L)(0.050\ L)(1\ mg/1000\ \mu g)}{0.050\ L} = 0.006781\ mg/L$$

Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
5	Ba	0.0289	0.0289	Y
	Ca	63.3	63.3	
	Fe	0.0512	0.0512	
	Mg	43.6	43.6	
	Mn	0.0154	0.0154	
	Ni	0.318	0.318	
	K	4.17	4.17	
	Na	213	213	
	V	0.0196	0.0196	
	Zn	0.0348	0.0348	
	As	0.00678	0.00678	
	Se	0.0112	0.0112	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: November 1, 2006

LDC Report Date: January 2, 2007

Matrix: Water

Parameters: Wet Chemistry

Validation Level: NFESC Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 06K049

Sample Identification

03-DGMW65XA-124
03-DGMW65XA-124DUP

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 160.1 for Total Dissolved Solids, EPA Method 300.0 for Chloride, Nitrate as Nitrogen, and Sulfate, EPA Method 310.1 for Alkalinity, and EPA Method 314.0 for Perchlorate.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a 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 IX.

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 with the following exceptions:

Sample	Analyte	Total Hours From Sample Collection Until Analysis	Required Holding Time (in Hours) From Sample Collection Until Analysis	Flag	A or P
03-DGMW65XA-124	Nitrate as N	60.50	48	J (all detects) UJ (all non-detects)	P

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.

No field blanks were identified in this SDG.

IV. 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.

V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

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

VII. Sample Result Verification

All sample result verifications were acceptable for samples.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

MCAS El Toro
Wet Chemistry - Data Qualification Summary - SDG 06K049

SDG	Sample	Analyte	Flag	A or P	Reason
06K049	03-DGMW65XA-124	Nitrate as N	J (all detects) UJ (all non-detects)	P	Technical holding times

MCAS El Toro
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 06K049

No Sample Data Qualified in this SDG

MCAS El Toro
Wet Chemistry - Field Blank Data Qualification Summary - SDG 06K049

No Sample Data Qualified in this SDG

LDC #: 15944A6

SDG #: 06K049

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III/IV

Date: 12-20-06

Page: 1 of 1

Reviewer: MG

2nd Reviewer: [illegible]

METHOD: (Analyte) Total Dissolved Solids (EPA Method 160.1), Chloride, Nitrate as N, and Sulfate (EPA Method 300.0), Alkalinity (EPA Method 310.1), and Perchlorate (EPA Method 314.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	SW	Sampling dates: 11-1-06
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	N	Client specified
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	A	Not reviewed for Level III validation.
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	~~SWN~~	~~R=1, SB=2~~

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

1	~~05-DBMW41A-524~~	11		21		31	
2	~~05-DGMW68A-724~~	12		22		32	
3	03-DGMW65XA-124**	13		23		33	
4	03-DGMW65XA-124DUP	14		24		34	
5	PBW	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 15944A6
SDG #: 06K049

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: [illegible]

Method: Inorganics (EPA Method see cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.		✓		
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)	✓			
Were balance checks performed as required? (Level IV only)	✓			
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			Dup only
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			✓	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were < 5X the CRDL.	✓			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 15944A6
SDG #: 06K049

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: ✓

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
X. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.	✓			

LDC #: 15944A6
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: MG
2nd reviewer: ✓

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1	W	pH (TDS) (Cl) F (NO3) NO2 (SO4) PO4 (ALK) CN- NH3 TKN TOC CR6+ (ClO4) Br
2, 3	↓	pH (TDS) (Cl) F (NO3) NO2 (SO4) PO4 (ALK) CN- NH3 TKN TOC CR6+ ClO4 Br
QC 4	↓	pH (TDS) Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br

Comments:

LDC #: 15944A6
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Page: 1 of 1
Reviewer: MG
2nd reviewer: ✓

All circled dates have exceeded the technical holding time.
(Y) N N/A Were all samples preserved as applicable to each method ?
(Y) N N/A Were all cooler temperatures within validation criteria?

Method:		300.0					
Parameters:		NO_3 - N					
Technical holding time:		48 hr.					
Sample ID	Sampling date	Analysis date	Analysis date	Analysis date	Analysis date	Analysis date	Qualifier
3	1430 11-1-06	0344 11-4-06	(60.50	hr)			J/UJ/P

HT.6

LDC #: 15944A6
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: MG
2nd Reviewer: ✓

METHOD: Inorganics, Method see cover

The correlation coefficient (r) for the calibration of Cl was recalculated. Calibration date: 10-12-06

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
True = concentration of each analyte in the ICV or CCV source

Type of Analysis	Analyte		~~mg/L Conc~~ Area (units)	Conc (units)	Recalculated r or %R	Reported r or %R	Acceptable (Y/N)
Initial calibration	Cl	Blank	—	—	r=0.999981	r=0.999981	Y
Calibration verification		Standard 1	16.4	0.1 (mg/L)			
		Standard 2	35.5	0.2 ( )			
		Standard 3	92.95	0.5 ( )			
		Standard 4	505.2	2.5 ( )			
		Standard 5	1027.	5. ( )			
		Standard 6	2088.	10. ( )			
		Standard 7	4215.	20. ( )			
Calibration verification	SO_4	CCV 296	4.840 (mg/L)	5.0 (mg/L)	96.8	96.8	
Calibration verification	NO_3-N	CCV 296	1.930 (mg/L)	2.0 (mg/L)	96.5	96.5	
Calibration verification	Cl	CCV 296	1.970 (mg/L)	2.0 (mg/L)	98.5	98.5	

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

CALCLC.6

LDC #: 15944A6
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: MG
2nd Reviewer: ✓

METHOD: Inorganics, Method see cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	Alk	114 (mg/L)	117 (mg/L)	97	97	Y
—	Matrix spike sample	—	(SSR-SR) —	—	—	—	—
4	Duplicate sample	TDS	840. (mg/L)	835. (mg/L)	1	1	Y

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

TOTCLC.6

LDC #: 15944A6
SDG #: 06K049

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: MG
2nd reviewer: [illegible]

METHOD: Inorganics, Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for # 3, SO_4 reported with a positive detect were recalculated and verified using the following equation:

Concentration =

$y = mx + b$

where $m = 0.00635664$

$b = 0.0893058$

dil = 20 x

Recalculation:

SO_4 mg/L = $20\left[0.00635664(718.256) + 0.0893058\right]$

= 93.099 mg/L

#	Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
1	3	TDS	840	840	Y
		Cl	90.9	90.9	↓
		NO_3-N	7.25	7.25	↓
		SO_4	93.1	93.1	↓
		Alk	451	451	↓

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: November 8, 2006

LDC Report Date: January 2, 2007

Matrix: Water

Parameters: Wet Chemistry

Validation Level: NFESC Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 06K097

Sample Identification

16_MW17-124
16_MW17-124MS
16_MW17-124DUP

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 354.1 for Nitrite as Nitrogen, EPA Method 376.2 for Sulfide, EPA Method 415.1 for Total Organic carbon, and Standard Method 3500 for Ferrous and Ferric Iron.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a 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 IX.

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.

No field blanks were identified in this SDG.

IV. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

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

VII. Sample Result Verification

All sample result verifications were acceptable for samples.

The QAPP reporting limits were met with the following exceptions:

Sample	Analyte	Finding	Criteria
All samples in SDG 06K097	Ferrous Iron	Laboratory reporting limit reported at 2500 ug/L	Reporting limit should be reported at 100 ug/L per the QAPP.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

MCAS El Toro
Wet Chemistry - Data Qualification Summary - SDG 06K097

No Sample Data Qualified in this SDG

MCAS El Toro
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 06K097

No Sample Data Qualified in this SDG

MCAS El Toro
Wet Chemistry - Field Blank Data Qualification Summary - SDG 06K097

No Sample Data Qualified in this SDG

LDC #: 15944C6

SDG #: 06K097

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level ~~III/IV~~ OK

amd ~~III~~/IV

Date: 12-20-06

Page: 1 of 1

Reviewer: MG

2nd Reviewer: [illegible]

METHOD: (Analyte) ~~Total Dissolved Solids (EPA Method 160.1), Chloride, Nitrate as N, and Sulfate (EPA Method 300.0), Alkalinity (EPA Method 310.1),~~ Nitrite as N (EPA Method 354.1), Sulfide (EPA Method 376.2), Total Organic Carbon (EPA Method 415.1), and Ferrous and Ferric Iron (Standard Method 3500)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 11-8-06
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	SW	Not reviewed for Level III validation.
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	~~SW~~ N	~~SB= 05 DGMW68A=724~~

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation for Nitrite, Sulfide, TOC, FE2, and FE3

water

1	16_MW17-124**	11		21		31	
2	16_MW17-124MS	12		22		32	
3	16_MW17-124DUP	13		23		33	
4	PBW	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 15944C6
SDG #: 06K097

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: [illegible]

Method: Inorganics (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)			✓	
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL.	✓			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 15944C6
SDG #: 06K097

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: L

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
X. Field blanks				
Field blanks were identified in this SDG.	~~✓~~	~~✓~~ ✓		
Target analytes were detected in the field blanks.	~~✓~~		~~✓~~ ✓	

MG

LDC #: 15944C6
SDG #: 06K097

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: MG
2nd reviewer: [illegible]

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1	W	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br Ferrous Fe Ferric Fe S
QC 2,3	↓	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br Ferrous Fe
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br

Comments:

LDC #: 15944C6
SDG #: 06K097

VALIDATION FINDINGS WORKSHEET
Sample Result Verification

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See cover

#	Sample ID	Analyte	LAB MDL Lab Reporting Limit (units)	QAPP RDL (units)	Finding	Qualifications
1	all	Ferrous Fe	2500 (µg/L)	100 (µg/L)	Lab MDL > QAPP	text

Comments:

ABVCRDL.6

LDC #: 15944C6
SDG #: 06K097

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: MG
2nd Reviewer: 1

METHOD: Inorganics, Method see cover

The correlation coefficient (r) for the calibration of NO_2-N was recalculated. Calibration date: 11-9-06

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found / True x 100 Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
True = concentration of each analyte in the ICV or CCV source

Type of Analysis	Analyte		Conc (units)	Abs (units)	Recalculated r or %R	Reported r or %R	Acceptable (Y/N)
Initial calibration	NO_2-N	Blank	0 (mg/L)	0	r=0.99983	r=0.99993	Y
Calibration verification		Standard 1	0.01 ( )	0.031			
		Standard 2	0.02 ( )	0.063			
		Standard 3	0.03 ( )	0.096			
		Standard 4	0.04 ( )	0.126			
		Standard 5	0.06 ( )	0.193			
		Standard 6	0.08 ( )	0.258			
		Standard 7	0.1 ( )	0.329			
Calibration verification	$S^=$	CCV2	0.993 (mg/L)	1.0 (mg/L)	99	not reported	
Calibration verification	TOC	CCV3	25.01 (mg/L)	25. (mg/L)	100		
Calibration verification	Fe^{++}	ICV	15.41 (mg/L)	15 (mg/L)	103		

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

CALCLC.6

LDC #: 15944C6
SDG #: 06K097

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Inorganics, Method see cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	$S^{=}$	0.915 (mg/L)	1.00 (mg/L)	92	92	Y
2	Matrix spike sample	Fe^{++}	(SSR-SR) 11.44 (mg/L)	15.0 (mg/L)	76	76	↓
3	Duplicate sample	Fe^{++}	ND (mg/L)	ND (mg/L)	0	0	↓

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

TOTCLC.6

LDC #: 15944C6
SDG #: 06K097

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: MG
2nd reviewer: ✓

METHOD: Inorganics, Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for #1, NO_2-N reported with a positive detect were recalculated and verified using the following equation:

Concentration =

Recalculation:

$$NO_2\text{-}N = [(0.032)(0.30957) + 0.00037]$$

$$= 0.01028 \text{ mg/L}$$

#	Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
1	1	NO_2-N	0.0103	0.0103	Y
		TOC	6.52	6.52	↓

Note:

RECALC.6

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: November 2, 2006

LDC Report Date: January 2, 2007

Matrix: Water

Parameters: Wet Chemistry

Validation Level: NFESC Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 06K034

Sample Identification

03-DGMW64A-124
01MW201-124*

*Indicates sample underwent NFESC Level IV review for perchlorate only.

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 160.1 for Total Dissolved Solids, EPA Method 300.0 for Chloride, Nitrate as Nitrogen, and Sulfate, EPA Method 310.1 for Alkalinity, and EPA Method 314.0 for Perchlorate.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a 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 IX.

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.

No field blanks were identified in this SDG.

IV. 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.

V. Duplicates

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

VI. Laboratory Control Samples

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

VII. Sample Result Verification

All sample result verifications were acceptable for samples.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

Samples 01MW201-124* and 01MW201-324 were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration (ug/L)		RPD (Limits)
	01MW201-124*	01MW201-324	
Perchlorate	320	320	0 (≤50)

MCAS El Toro
Wet Chemistry - Data Qualification Summary - SDG 06K034

No Sample Data Qualified in this SDG

MCAS El Toro
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 06K034

No Sample Data Qualified in this SDG

MCAS El Toro
Wet Chemistry - Field Blank Data Qualification Summary - SDG 06K034

No Sample Data Qualified in this SDG

LDC #: 15944E6

SDG #: 06K034

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III/ IV

gmg

Date: 12-20-06

Page: 1 of 1

Reviewer: MG

2nd Reviewer: ✓

METHOD: (Analyte) Total Dissolved Solids (EPA Method 160.1), Chloride, Nitrate as N, and Sulfate (EPA Method 300.0), Alkalinity (EPA Method 310.1), and Perchlorate (EPA Method 314.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 11-2-06
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	N	Client specified
V	Duplicates	N	
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	D=2+3
X	Field blanks	~~SW~~ N	~~SB=05-DGMW68A-124~~

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** = level IV validation *** = level IV on Perchlorate only

all water

1	03-DGMW64A-124 **	11		21		31	
2	01MW201-124 ***	12		22		32	
3	~~01MW201-324~~	13		23		33	
4	~~02NEW15-124~~	14		24		34	
5	PBW	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 15944E6
SDG #: 06K034

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: ✓

Method: Inorganics (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)	✓			
Were balance checks performed as required? (Level IV only)	✓			
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
IV. Matrix Spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			✓	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were < 5X the CRDL.			✓	
V. Laboratory control samples				
Was an LCS anayized for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 15944E6
SDG #: 06K034

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: ✓

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target analytes were detected in the field duplicates.	✓			
X. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 15944E6
SDG #: 06K034

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: MG
2nd reviewer: ✓

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1	W	pH (TDS) (Cl) F (NO3) NO2 (SO4) PO4 (ALK) CN- NH3 TKN TOC CR6+ ClO4 Br
2-4	↓	pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ (ClO4) Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 Br

Comments:

LDC #: 15944E6
SDG #: 06K034

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: MG
2nd reviewer: ✓

METHOD: Inorganics, Method See cover

(Y) N N/A Were field duplicate pairs identified in this SDG?
(Y) N N/A Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (µg/L)		RPD (Limit)	Difference (Limit)	Qualifier
	2	3			
ClO4	320	320	0 ~~(≤20)~~ (≤50)	omg	

Analyte	Concentration ( )		RPD (Limit)	Difference (Limit)	Qualifier

Analyte	Concentration ( )		RPD (Limit)	Difference (Limit)	Qualifier

Analyte	Concentration ( )		RPD (Limit)	Difference (Limit)	Qualifier

LDC #: 15944E6
SDG #: 06K034

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See cover

The correlation coefficient (r) for the calibration of Perchlorate was recalculated. Calibration date: 9-5-06

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found / True x 100 Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
True = concentration of each analyte in the ICV or CCV source

Type of Analysis	Analyte		Conc (units)	Height (units)	Recalculated r or %R	Reported r or %R	Acceptable (Y/N)
Initial calibration	ClO_4	Blank	–	–	r^2=0.999817	r^2=0.999817	Y
Calibration verification		Standard 1	2 (µg/L)	28493			
		Standard 2	4 (	54379			
		Standard 3	10 (	141602			
		Standard 4	25 (	340820			
		Standard 5	30 (	407471			
		Standard 6	–	–			
		Standard 7	–	–			
Calibration verification	Cl	CCV23	1.979 (mg/L)	2.0 (mg/L)	99.0	99	
Calibration verification	NO_3-N	CCV17	1.978 (mg/L)	2.0 (mg/L)	98.9	98.9	
Calibration verification	SO_4	CCV23	4.805 (mg/L)	5.0 (mg/L)	96.1	96.1	

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

CALCLO.6

LDC #: 15944E6
SDG #: 06K034

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	TDS	530 (mg/L)	497 (mg/L)	107	107	Y
—	Matrix spike sample	—	(SSR-SR) —	—	—	—	—
—	Duplicate sample	—	—	—	—	—	—

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

TOTCLC.6

LDC #: 15944E6
SDG #: 06K034

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: MG
2nd reviewer: ✓

METHOD: Inorganics, Method see cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for #1, NO_3-N reported with a positive detect were recalculated and verified using the following equation:

Concentration =

$Y = mx + b$
where $m = 0.0195885$
$b = 0.0477521$
dil = 5 x

Recalculation:

$NO_3\text{-}N = 5[0.0195885(66.977) + 0.0477521]$
$= 6.799$ mg/L

#	Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
1	1	TDS	920	920	Y
		Cl	163	163	↓
		NO_3-N	6.80	6.80	↓
		SO_4	167	167	↓
		Alk	300	300	↓
2	2	ClO_4	320 (µg/L)	320 (µg/L)	↓

Note:

RECALC.6

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: November 6, 2006

LDC Report Date: December 21, 2006

Matrix: Water

Parameters: Total Petroleum Hydrocarbons as Gasoline

Validation Level: NFESC Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 06K056

Sample Identification

16_MW13-124

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015 for Total Petroleum Hydrocarbons (TPH) as Gasoline.

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 qualification summary table is provided at the end of this report if data has been qualified. 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 or advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

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

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

The percent difference (%D) of the second source calibration standard were less than or equal to 15.0% for all compounds.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as gasoline contaminants were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

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

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG 06K056	TPH as gasoline	No MS/MSD associated with these samples.	MS/MSD required.	None	P

c. Laboratory Control Samples

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

V. Target Compound Identification

All target compound identifications were within validation criteria.

VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

VII. System Performance

The system performance was acceptable.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

MCAS El Toro
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG 06K056

SDG	Sample	Compound	Flag	A or P	Reason
06K056	16_MW13-124	TPH as gasoline	None	P	Matrix spike/Matrix spike duplicates

MCAS El Toro
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification Summary - SDG 06K056

No Sample Data Qualified in this SDG

MCAS El Toro
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification Summary - SDG 06K056

No Sample Data Qualified in this SDG

LDC #: 15944B7

VALIDATION COMPLETENESS WORKSHEET

Date: 12/18/06

SDG #: 06K056

Level ~~IV~~ IV

Page: 1 of 1

Laboratory: EMAX Laboratories, Inc.

Reviewer: JG

2nd Reviewer: [illegible]

METHOD: GC TPH as Gasoline (EPA SW 846 Method 8015)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 11/06/06
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	10% ≤ 15%
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	None /r
IVc.	Laboratory control samples	A	LCS /D
V.	Target compound identification	A	
VI.	Compound Quantitation and CRQLs	A	
VII.	System Performance	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

Water

1	16_MW13-124	11		21		31	
2	MBLKW	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 15949B7
SDG #: 06K056

VALIDATION FINDINGS CHECKLIST

Reviewer: NG
2nd Reviewer: [illegible]

Method: ✓ GC ____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or %R	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) < 15%.0 or percent recoveries 85-115%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spike				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory controls sample				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			

LDC #: 15944B7
SDG #: 06K056

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer: JTG
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQL				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XV. Field blank				
Were field blanks identified in this SDG?		✓		
Were target compounds detected in the field blanks?			✓	

LDC #: 15944 B7
SDG #: 06K056

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC ____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (1000 std)	Recalculated CF (1000 std)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	9/02/06	Gasoline	13308	13308	12063.4	12063.5	13.0	13.0
2									
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 15944 B7
SDG #: 06K056

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC_____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(Ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	EK 130/3A	11/13/06	GRO (C_6-C_{10})	500	486.77	486.77	3	3
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

CONCLC.1S

LDC #: 15749B7
SDG #: 06K056

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: SVG
2nd reviewer: [illegible]

METHOD: ✓ GC __ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
BFB	DB-5	40	35.86	90	90	0

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 15944B7

SDG #: 06K09

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: SVG

2nd Reviewer: [illegible]

METHOD: ✓ GC __HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

RPD =(((SSCLCS - SSCLCSD) * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration; SA = Spike added; LCS = Laboratory Control Sample; SC = Sample concentration; LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: VA39K08L/C

Compound	Spike Added (mg/L)		Sample Conc. (mg/L)	Spike Sample Concentration (mg/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	---	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)	0.500	0.500	0	0.524	0.518	105	105	104	104	1	1
Diesel (8015)											
Benzene (8021B)											
Methane (RSK-175)											
2,4-D (8151)											
Dinoseb (8151)											
Naphthalene (8310)											
Anthracene (8310)											
HMX (8330)											
2,4,6-Trinitrotoluene (8330)											

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 15944B7
SDG #: 06K056

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JR
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID._____ Compound Name ND

Concentration =_____

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

SAMPCALew.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: November 7, 2006

LDC Report Date: December 21, 2006

Matrix: Water

Parameters: Total Petroleum Hydrocarbons as Gasoline

Validation Level: NFESC Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 06K076

Sample Identification

16_MW08-124

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015 for Total Petroleum Hydrocarbons (TPH) as Gasoline.

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 qualification summary table is provided at the end of this report if data has been qualified. 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 or advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

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

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

The percent difference (%D) of the second source calibration standard were less than or equal to 15.0% for all compounds.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as gasoline contaminants were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

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

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG 06K076	TPH as gasoline	No MS/MSD associated with these samples.	MS/MSD required.	None	P

c. Laboratory Control Samples

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

V. Target Compound Identification

All target compound identifications were within validation criteria.

VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

VII. System Performance

The system performance was acceptable.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

MCAS El Toro
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG 06K076

SDG	Sample	Compound	Flag	A or P	Reason
06K076	16_MW08-124	TPH as gasoline	None	P	Matrix spike/Matrix spike duplicates

MCAS El Toro
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification Summary - SDG 06K076

No Sample Data Qualified in this SDG

MCAS El Toro
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification Summary - SDG 06K076

No Sample Data Qualified in this SDG

LDC #: 15944G7

VALIDATION COMPLETENESS WORKSHEET

Date: 12/18/06

SDG #: 06K076

Level ~~III~~/IV

Page: 1 of 1

Laboratory: EMAX Laboratories, Inc.

Reviewer: NG

2nd Reviewer: CL

METHOD: GC TPH as Gasoline (EPA SW 846 Method 8015)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 11/07/06
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	ICV ≤ 15 %
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	None /P
IVc.	Laboratory control samples	A	LCS /D
V.	Target compound identification	A	Not reviewed for Level III validation.
VI.	Compound Quantitation and CRQLs	A	Not reviewed for Level III validation.
VII.	System Performance	A	Not reviewed for Level III validation.
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

Water

1	16_MW08-124**	11		21		31	
2	~~16_MW09-124~~	12		22		32	
3	16_MW05-124	13		23		33	
4	16_MW11-124	14		24		34	
5	16_MW04-124	15		25		35	
6	16_MPE1-124	16		26		36	
7	~~16_MPE1-324~~	17		27		37	
8	MBLK(W)	18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 15944 G1
SDG #: 06K076

VALIDATION FINDINGS CHECKLIST

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: Q

Method: ✓ GC _____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or %R	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 15%.0 or percent recoveries 85-115%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			

LDC #: 159467
SDG #: 06K076

VALIDATION FINDINGS CHECKLIST

Reviewer: SM
2nd Reviewer: Q

Validation Area	Yes	No	NA	Findings/Comments
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XV. Field blanks				
Were field blanks identified in this SDG?		✓		
Were target compounds detected in the field blanks?			✓	

LDC #: 15944G7
SDG #: 06K076

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC ____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (100 std)	Recalculated CF (100 std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	9/02/06	GRO (C_6-C_{10})	13308	13308	12063.4	12063.5	13.0	13.0
2									
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 15944G7
SDG #: 06K076

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC_____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	EK13002A	11/13/06	GRO (C6-C10)	500	502.87	502.87	1	1
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 15944G7
SDG #: 06K076

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: OVC
2nd reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
BFB	DB-5	40	35.61	89	89	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 159467
SDG #: 06K076

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

_____METHOD: ✓ GC __HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

RPD =(((SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration; SA = Spike added; LCS = Laboratory Control Sample; SC = Sample concentration; LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: VA39K086/C

Compound	Spike Added (mg/L)		Sample Conc. (mg/L)	Spike Sample Concentration (mg/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	—	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)	0.500	0.500	0	0.524	0.518	105	105	104	104	1	1
Diesel (8015)											
Benzene (8021B)											
Methane (RSK-175)											
2,4-D (8151)											
Dinoseb (8151)											
Naphthalene (8310)											
Anthracene (8310)											
HMX (8330)											
2,4,6-Trinitrotoluene (8330)											

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 1594467
SDG #: 06K076

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: OVE
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID._____ Compound Name ND

Concentration =

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: November 6, 2006

LDC Report Date: December 21, 2006

Matrix: Water

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: NFESC Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 06K056

Sample Identification

16_MW13-124

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015 for Total Petroleum Hydrocarbons (TPH) as Extractables.

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 qualification summary table is provided at the end of this report if data has been qualified. 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 or advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

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

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

The percent difference (%D) of the second source calibration standard were less than or equal to 15.0% for all compounds.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractable contaminants were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

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

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG 06K056	TPH as extractables	No MS/MSD associated with these samples.	MS/MSD required.	None	P

c. Laboratory Control Samples

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

V. Target Compound Identification

All target compound identifications were within validation criteria.

VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

VII. System Performance

The system performance was acceptable.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

MCAS El Toro
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 06K056

SDG	Sample	Compound	Flag	A or P	Reason
06K056	16_MW13-124	TPH as extractables	None	P	Matrix spike/Matrix spike duplicates

MCAS El Toro
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 06K056

No Sample Data Qualified in this SDG

MCAS El Toro
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG 06K056

No Sample Data Qualified in this SDG

LDC #: 15944B8

SDG #: 06K056

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level ~~IV~~ ~~III~~ IV

Date: 12/18/06

Page: 1 of 1

Reviewer: JVG

2nd Reviewer: [illegible]

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 11/06/06
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	ICV ≤ 15 %
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	None /P
IVc.	Laboratory control samples	A	LCS /D
V.	Target compound identification	A	
VI.	Compound Quantitation and CRQLs	A	
VII.	System Performance	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	16_MW13-124	11		21		31	
2	MBLKIW	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 15944 B8
SDG #: 06K056

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: JVG
2nd Reviewer: CK

Method: ✓ GC ____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or ___ %R	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) < 15%.0 or percent recoveries 85-115%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			

LDC #: 15944B8
SDG #: 06K056

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer: JVG
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XV. Field blanks				
Were field blanks identified in this SDG?		✓		
Were target compounds detected in the field blanks?			✓	

LDC #: 15944 B8
SDG #: 06K056

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC ____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (500 std)	Recalculated CF (500 std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	6/28/06	Diesel (C_{10}-C_{24})	26982	26982	29230.8	29231	7.9	7.9
2									
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 159448
SDG #: 04K056

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: NG
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC_____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	LK08053A	11/04/06	Diesel (C_{10}-C_{24})	500	484.07	484.07	3	3
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 15944 B8
SDG #: 06K056

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer: CL

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Bromobenzene	~~HP~~ 5	100	84.023	84	84	0
Hexacosane	↓	25	20.107	80	80	↓

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 15944 B8
SDG #: DGK056

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: NG
2nd Reviewer: [illegible]

_____METHOD: ✓ GC ___HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

RPD =(({SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration; SA = Spike added; LCS = Laboratory Control Sample; SC = Sample concentration; LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: DSK014WL/C

Compound	Spike Added (mg/L)		Sample Conc. (mg/L)	Spike Sample Concentration (mg/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	—	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)											
Diesel (8015)	5.00	5.00	0	3.81	3.89	76	76	78	78	2	2
Benzene (8021B)											
Methane (RSK-175)											
2,4-D (8151)											
Dinoseb (8151)											
Naphthalene (8310)											
Anthracene (8310)											
HMX (8330)											
2,4,6-Trinitrotoluene (8330)											

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 15944 B8
SDG #: 06K056

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: NG
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10% of the reported results?

Concentration= $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. #1 Compound Name JP-5

Concentration = $\frac{(818686)\ (10\ ml)}{(28157.6)\ (1000\ ml)}$ = 0.274

≈ 0.27 mg/L

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: November 7, 2006

LDC Report Date: December 21, 2006

Matrix: Water

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: NFESC Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 06K076

Sample Identification

16_MW08-124

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015 for Total Petroleum Hydrocarbons (TPH) as Extractables.

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 qualification summary table is provided at the end of this report if data has been qualified. 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 or advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

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

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

The percent difference (%D) of the second source calibration standard were less than or equal to 15.0% for all compounds.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractable contaminants were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

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

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG 06K076	TPH as extractables	No MS/MSD associated with these samples.	MS/MSD required.	None	P

c. Laboratory Control Samples

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

V. Target Compound Identification

All target compound identifications were within validation criteria.

VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

VII. System Performance

The system performance was acceptable.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

MCAS El Toro
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 06K076

SDG	Sample	Compound	Flag	A or P	Reason
06K076	16_MW08-124	TPH as extractables	None	P	Matrix spike/Matrix spike duplicates

MCAS El Toro
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 06K076

No Sample Data Qualified in this SDG

MCAS El Toro
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG 06K076

No Sample Data Qualified in this SDG

LDC #: 15944G8

VALIDATION COMPLETENESS WORKSHEET

Date: 12/18/06

SDG #: 06K076

Level ~~III~~/IV

Page: 1 of 1

Laboratory: EMAX Laboratories, Inc.

Reviewer: JVC

2nd Reviewer: [illegible]

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 11/07/06
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	ICV ≤ 15 %
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	None /A
IVc.	Laboratory control samples	A	LCS /D
V.	Target compound identification	A	Not reviewed for Level III validation.
VI.	Compound Quantitation and CRQLs	A	Not reviewed for Level III validation.
VII.	System Performance	A	Not reviewed for Level III validation.
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

water

1	16_MW08-124**	11		21		31	
2	~~16_MW09-124~~	12		22		32	
3	16_MW05-124	13		23		33	
4	16_MW11-124	14		24		34	
5	16_MW04-124	15		25		35	
6	16_MPE1-124	16		26		36	
7	~~16_MPE1-324~~	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 15944 G8
SDG #: 06 K076

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: NG
2nd Reviewer: 9

Method: ✓ GC ____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or %R	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 15%.0 or percent recoveries 85-115%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			

LDC #: 159446 G8
SDG #: 06K076

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer: CJ

Validation Area	Yes	No	NA	Findings/Comments
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XV. Field blanks				
Were field blanks identified in this SDG?		✓		
Were target compounds detected in the field blanks?			✓	

LDC #: 15944 G8
SDG #: 06K076

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: JJG
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC ____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (500 std)	Recalculated CF (500 std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	6/28/06	Diesel (C10-C28)	26982	26982	29230.8	29231	7.9	7.9
2									
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 15944 G8
SDG #: 06k076

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: CL

METHOD: GC ✓ HPLC ____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(Ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	LK09002A	11/09/06	Diesel (C_{10}-C_{24})	500	469.03	469.58	6	6
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 1594468
SDG #: 06K076

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: JVG
2nd reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Bromobenzene	AP5	100	82.065	82	82	0
Hexacosane	↓	25	20.016	80	80	↓

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference

LDC #: 1594468
SDG #: 06K076

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

____METHOD: ✓GC __HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

RPD =(((SSCLCS - SSCLCSD) * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration; SA = Spike added; LCS = Laboratory Control Sample; SC = Sample concentration; LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: DSK018WL/c

Compound	Spike Added (mg/L)		Sample Conc. (mg/L)	Spike Sample Concentration (mg/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	—	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)											
Diesel (8015)	5.00	5.00	0	3.80	3.60	76	76	72	72	3	5
Benzene (8021B)											
Methane (RSK-175)											
2,4-D (8151)											
Dinoseb (8151)											
Naphthalene (8310)											
Anthracene (8310)											
HMX (8330)											
2,4,6-Trinitrotoluene (8330)											

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 15944 G8
SDG #: 06K076

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID._____ Compound Name ND

Concentration =_____

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments:

SAMPCALew.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: November 8, 2006

LDC Report Date: December 21, 2006

Matrix: Water

Parameters: Methane, Ethane, & Ethene

Validation Level: NFESC Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 06K097

Sample Identification

16_MW17-124

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method RSK-175 for Methane, Ethane, and Ethene.

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 qualification summary table is provided at the end of this report if data has been qualified. 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 or advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

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

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

The percent difference (%D) of the second source calibration standard were less than or equal to 15.0% for all compounds.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No methane, ethane, or ethene contaminants were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG 06K097	Methane Ethane Ethene	No MS/MSD associated with these samples.	MS/MSD required.	None None None	P

c. Laboratory Control Samples

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

V. Target Compound Identification

All target compound identifications were within validation criteria.

VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

VII. System Performance

The system performance was within validation criteria.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

MCAS El Toro
Methane, Ethane, & Ethene - Data Qualification Summary - SDG 06K097

SDG	Sample	Compound	Flag	A or P	Reason
06K097	16_MW17-124	Methane Ethane Ethene	None None None	P	Matrix spike/Matrix spike duplicates

MCAS El Toro
Methane, Ethane, & Ethene - Laboratory Blank Data Qualification Summary - SDG 06K097

No Sample Data Qualified in this SDG

MCAS El Toro
Methane, Ethane, & Ethene - Field Blank Data Qualification Summary - SDG 06K097

No Sample Data Qualified in this SDG

LDC #: 15944C51

SDG #: 06K097

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level IV

Date: 12/18/06

Page: 1 of 1

Reviewer: JG

2nd Reviewer: [illegible]

METHOD: GC Methane-Ethane-Ethene (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 11/08/06
IIa.	Initial calibration	A	% RSD ≤ 20%
IIb.	Calibration verification	A	CCV/ICV ≤ 15%
III.	Blanks	A	
IVa.	Surrogate recovery	N	
IVb.	Matrix spike/Matrix spike duplicates	N	None /p
IVc.	Laboratory control samples	A	LCS /D
V.	Target compound identification	A	
VI.	Compound Quantitation and CRQLs	A	
VII.	System Performance	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	16_MW17-124	11		21		31	
2	MBLK1W	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 15944C51
SDG #: 06K097

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer: A

Method: ✓ GC ____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or %R	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 15%.0 or percent recoveries 85-115%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?			✓	
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			

LDC #: 15944C51
SDG #: OC K097

VALIDATION FINDINGS CHECKLIST

Reviewer: JVC
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XV. Field blanks				
Were field blanks identified in this SDG?		✓		
Were target compounds detected in the field blanks?			✓	

LDC #: 15944 C51
SDG #: 06K097

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: NG
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC ____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (8.5 std)	Recalculated CF (8.5 std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	6/29/06	Methane	30229	30136	30690.2	30690.2	4.3	4.3
2									
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 15944 C51
SDG #: 06K097

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: NG
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC ____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	FK 10018A	1/10/06	Methane	13.6	13.76	13.76	1	1
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 15944 C51
SDG #: 06K097

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: VG
2nd Reviewer: [illegible]

____METHOD: ✓ GC __HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

RPD =(((SSCLCS - SSCLCSD) * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration; SA = Spike added; LCS = Laboratory Control Sample; SC = Sample concentration; LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: DG10K07L/C

Compound	Spike Added (ug/L)		Sample Conc. (ug/L)	Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	—	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)											
Diesel (8015)											
Benzene (8021B)											
Methane (RSK-175)	13.6	13.6	0	11.5	11.8	85	85	87	87	3	3
2,4-D (8151)											
Dinoseb (8151)											
Naphthalene (8310)											
Anthracene (8310)											
HMX (8330)											
2,4,6-Trinitrotoluene (8330)											

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 15944C51
SDG #: 06K097

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: NG
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID._____ Compound Name ND

Concentration = _____

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

CDM Federal
9444 Farnham Street, Suite 210
San Diego, CA 92123
ATTN: Mr. Michael Higman

January 2, 2007

SUBJECT: MCAS El Toro, Data Validation

Dear Mr. Higman,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. This SDG was received on December 15th, 2006.

LDC project# 15968:

SDG #	Fraction
06K011A/06-11-079 06K056A/06-11-135	Gross alpha and beta (USEPA Method 900.0)

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Sample Qualification Report
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Manual Validation Report

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits

- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Erlinda T. Rauto
Operations Manager/Senior Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
01-Nov-2006	02NEW16-124	0611079-10	N	Gen Prep	E900	3
01-Nov-2006	02NEW7-124	0611079-11	N	Gen Prep	E900	3
01-Nov-2006	02NEW7-524	0611079-12	EB	Gen Prep	E900	3
01-Nov-2006	03-DGMW65XA-124	0611079-18	N	Gen Prep	E900	3
01-Nov-2006	02NEW8A-124	0611079-8	N	Gen Prep	E900	3
01-Nov-2006	02NEW8A-124MS	0611079-8MS	MS	Gen Prep	E900	3
01-Nov-2006	02NEW8A-124MSD	0611079-8MSD	MSD	Gen Prep	E900	3
01-Nov-2006	02NEW2-124	0611079-9	N	Gen Prep	E900	3
02-Nov-2006	02-DGMW59-124	0611079-1	N	Gen Prep	E900	3
02-Nov-2006	05-DBMW41A-524	0611079-14	EB	Gen Prep	E900	3
02-Nov-2006	04-DGMW66A-124	0611079-2	N	Gen Prep	E900	3
02-Nov-2006	04-DGMW66A-124DUP	0611079-2DUP	DUP	Gen Prep	E900	3
02-Nov-2006	04-DGMW66A-324	0611079-3	FD	Gen Prep	E900	3
02-Nov-2006	05-DBMW41A-124	0611079-4	N	Gen Prep	E900	3
02-Nov-2006	03-DGMW64A-124	0611079-5	N	Gen Prep	E900	3
02-Nov-2006	02NEW11-124	0611079-6	N	Gen Prep	E900	3
02-Nov-2006	02NEW15-124	0611079-7	N	Gen Prep	E900	3
03-Nov-2006	04-DBMW40-124	0611079-13	N	Gen Prep	E900	3
03-Nov-2006	05-DGMW68A-124	0611079-15	N	Gen Prep	E900	3
03-Nov-2006	05-DGMW68A-524	0611079-16	EB	Gen Prep	E900	3
03-Nov-2006	05-DGMW68A-524DUP	0611079-16DUP	DUP	Gen Prep	E900	3
03-Nov-2006	05-DGMW68A-724	0611079-17	FB	Gen Prep	E900	3
03-Nov-2006	04-UGMW63-124	0611079-19	N	Gen Prep	E900	3
06-Nov-2006	05NEW1-124	0611135-1	N	Gen Prep	E900	4
06-Nov-2006	05NEW1-124DUP	0611135-1DUP	DUP	Gen Prep	E900	4
06-Nov-2006	05NEW1-124MS	0611135-1MS	MS	Gen Prep	E900	4

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
06-Nov-2006	05NEW1-124MSD	0611135-1MSD	MSD	Gen Prep	E900	4
06-Nov-2006	05-DGMW67A-124	0611135-2	N	Gen Prep	E900	4

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 0611079										
E900	04-DGMW66A-124	AQ	N							
				GROSS ALPHA	2.2	23.1	4.4	J	pCi/L	
				GROSS BETA	3	11.9	2.7	J	pCi/L	
E900	04-DGMW66A-324	AQ	N							
				GROSS ALPHA	2	35.3	6.3	J	pCi/L	
				GROSS BETA	3.1	15	3.2	J	pCi/L	
SDG: 0611135										
E900	05-DGMW67A-124	AQ	N							
				GROSS ALPHA	2.1	8.6	2.2	J	pCi/L	
E900	05NEW1-124	AQ	N							
				GROSS ALPHA	2.1	8.7	2.2	J	pCi/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Sample Qualification Report

Sample Qualification Report (All Qualified Results)

Client Sample ID : 04-DGMW66A-124 **Lab Report Batch :** 0611079 **Lab ID :** Paragon

Sample Date : 11/02/2006 **Analysis Type: RES** **Sample Matrix :** AQ

Lab Sample ID: 0611079-2

Reviewed By / Date : ..... **Approved By / Date :** .....

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : E900					**Dilution: 1**															
GROSS ALPHA	23.1	4.4	pCi/L		YES	J														
GROSS BETA	11.9	2.7	pCi/L		YES	J														

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 04-DGMW66A-324
Sample Date : 11/02/2006
Lab Sample ID: 0611079-3

Lab Report Batch : 0611079
Analysis Type: RES

Lab ID : Paragon
Sample Matrix : AQ

Reviewed By / Date : .....

Approved By / Date : .....

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : E900					**Dilution: 1**															
GROSS ALPHA	35.3	6.3	pCi/L		YES	J														
GROSS BETA	15	3.2	pCi/L		YES	J														

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 05-DGMW67A-124 **Lab Report Batch :** 0611135 **Lab ID :** Paragon

Sample Date : 11/06/2006 **Analysis Type: RES** **Sample Matrix :** AQ

Lab Sample ID: 0611135-2

Reviewed By / Date : **Approved By / Date :**

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : E900					**Dilution: 1**															
GROSS ALPHA	8.6	2.2	pCi/L		YES	J					J									

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 05NEW1-124
Sample Date : 11/06/2006
Lab Sample ID: 0611135-1

Lab Report Batch : 0611135
Analysis Type: RES

Lab ID : Paragon
Sample Matrix : AQ

Reviewed By / Date : .....

Approved By / Date : .....

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : E900					**Dilution: 1**															
GROSS ALPHA	8.7	2.2	pCi/L		YES	J					J									

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

SDG 06K011A/0611079

QC Outlier Report: Field Duplicates (Non-qualified Outliers)

Lab Report Batch: 0611079 **Lab ID:** Paragon

			Field Sample				Field Sample Duplicate						
Analysis Method	Matrix	Analyte Name	Client Sample ID	Ana Type	Result	Lab Qualifier	Client Sample Duplicate ID	Ana Type	Result	Lab Qualifier	RPD Dup* (%)	RPD Criteria (%)	Result Units
E900	AQ	GROSS ALPHA	04-DGMW66A-12	RES	23.1		04-DGMW66A-32	RES	35.3		41.8	20	pCi/L
	AQ	GROSS BETA		RES	11.9			RES	15		23.0	20	pCi/L

*Note: Outlier report also includes analytes detected in one sample but not in the related sample, i.e., analyte was detected in the field sample but not in the field duplicate sample, or vice versa. In this case, RPD value assigned to the field duplicate sample is 200.

Project Number and Name: ***6228-003 - Former MCAS EL Toro GWM Rd 24***

LDC #: 15968A22 **VALIDATION COMPLETENESS WORKSHEET** Date: 12-29-06

SDG #: 06K011A/06-11-079 ADR Page: 1 of 1

Laboratory: EMAX Laboratories, Inc./Paragon Analytics Reviewer: MG

2nd Reviewer:

METHOD: Gross Alpha & Beta (PAI 724 Rev 9)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 11-1-06 through 11-3-06
IIa.	Initial calibration	A N	
IIb.	Calibration verification	A N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	MS/MSD/DUP
IVb.	Laboratory control samples	A	LCS
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	N	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	SW	D = 7 + 8
IX	Field blanks	ND	EB = 5, 14, 16 SB = 17

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: all water

gmH

1	02NEW~~0~~8A-124	11	02NEW11-124	21	02NEW~~0~~8A-124MSD	31	
2	02NEW2-124	12	02NEW15-124	22	04DGMW66A-124DUP	32	
3	02NEW16-124	13	04DBMW40-124	23	05DGMW68A-524DUP	33	
4	02NEW7-124	14	05DBMW41A-524	24	PBW	34	
5	02NEW7-524	15	05DGMW68A-124	25		35	
6	02DGMW59-124	16	05DGMW68A-524	26		36	
7	04DGMW66A-124	17	05DGMW68A-724	27		37	
8	04-DGMW66A-324	18	03DGMW65XA-124	28		38	
9	05DGMW41A-124	19	04UGMW63-124	29		39	
10	03DGMW64A-124	20	02NEW~~0~~8A-124MS	30		40	

Notes: gmH

LDC #: 15968A22
SDG #: 06K011A / 06-11-079

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: MG
2nd reviewer:

METHOD: Radiochemistry (Method: PAI 724 Rev 9)

Y N N/A Were field duplicate pairs identified in this SDG?
Y N N/A Were target isotopes detected in the field duplicate pairs?

Isotopes	Activity (pCi/L) 7	8	Qual parent only RPD
Gross Alpha	23.1	35.3	42 (≤ 20) J dets/A
Gross Beta	11.9	15.0	23 (↓) ↓

Isotopes	Activity ( )		RPD

Isotopes	Activity ( )		RPD

Isotopes	Activity ( )		RPD

Quality Control Outlier Reports

SDG 06K056/0611135

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : AB061120-1-1 **Analysis Method :** E900 **Analysis Date :** 11/29/2006

Preparation Batch : AB061120-1 **Preparation Type :** Gen Prep **Preparation Date :**

Lab Reporting Batch : 0611135 **Lab ID:** Paragon

				Reported *		Project Limits (Percent)			
Client Sample ID	**Lab Sample ID**	**Matrix**	**Analyte Name**	**Percent Recovery**	**RPD**	**Rejection Point****	**Lower Limit**	**Upper Limit**	**RPD**
05NEW1-124MS	0611135-1MS	AQ	GROSS ALPHA	64.1		30.00	70.00	130.00	2.13
05NEW1-124MSD	0611135-1MSD		GROSS ALPHA	63.4		30.00	70.00	130.00	2.13

Associated Samples: All samples in Method Batch

Client Sample ID	Lab Sample ID
05-DGMW67A-124	0611135-2
05NEW1-124	0611135-1

* Only those Percent Recovery and/or RPD values outside project limits are listed in this report.
** Metal are also assessed against an upper rejection point of 150 percent for waters and 200 percent for soils and sediments

Project Number and Name: 6228-003 - Former MCAS EL Toro GWM Rd 24

Enclosure II

EPA Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: November 6, 2006

LDC Report Date: January 2, 2007

Matrix: Water

Parameters: Gross Alpha and Beta

Validation Level: NFESC Level IV

Laboratory: EMAX Laboratories, Inc./Paragon Analytics, Inc.

Sample Delivery Group (SDG): 06K056A/06-11-135

Sample Identification

05NEW1-124
05-DGMW67A-124
05NEW1-124MS
05NEW1-124MSD
05NEW1-124DUP

Introduction

This data review covers 5 water samples listed on the cover sheet. The analyses were per Paragon Analytics, Inc. Method 724 Revision 9 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 (October 2004) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a 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.

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.

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).

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Matrix Spike/(Matrix Spike) Duplicate

Although matrix spike (MS) and matrix spike duplicate (MSD) samples were not required by the method, MS and MSD samples were reported by the laboratory. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
05NEW1-124MS/MSD (All samples in SDG 06K056A/06-11-135)	Gross alpha	64.1 (70-130)	63.4 (70-130)	-	J (all detects) UJ (all non-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.

V. Minimum Detectable Activity (MDA)

All minimum detectable activities met required detection limits.

VI. Sample Result Verification

All sample result verifications were acceptable.

VII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

VIII. Field Duplicates

No field duplicates were identified in this SDG.

MCAS El Toro
Gross Alpha and Beta - Data Qualification Summary - SDG 06K056A/06-11-135

SDG	Sample	Analyte	Flag	A or P	Reason
06K056A/ 06-11-135	05NEW1-124 05-DGMW67A-124	Gross alpha	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)

MCAS El Toro
Gross Alpha and Beta - Laboratory Blank Data Qualification Summary - SDG 06K056A/06-11-135

No Sample Data Qualified in this SDG

MCAS El Toro
Gross Alpha and Beta - Field Blank Data Qualification Summary - SDG 06K056A/06-11-135

No Sample Data Qualified in this SDG

LDC #: 15968B22 **VALIDATION COMPLETENESS WORKSHEET** Date: 12-29-06

SDG #: 06K056A/06-11-135 Level IV Page: 1 of 1

Laboratory: EMAX Laboratories, Inc./Paragon Analytics Reviewer: MG

2nd Reviewer: ✓

SDG 06K056A/06-11-135

METHOD: Gross Alpha & Beta (PAI 724 Rev 9)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 11-6-06
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	SW	MS/MSD/DUP
IVb.	Laboratory control samples	A	LCS
V.	Minimum dectectable activity (MDA)	A	
VI.	Sample result verification	A	
VII.	Overall assessment of data	A	
VIII.	Field duplicates	N	
IX	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

all water

1	05NEW1-124	11		21		31	
2	05-DGMW67A-124	12		22		32	
3	05NEW1-124MS	13		23		33	
4	05NEW1-124MSD	14		24		34	
5	05NEW1-124DUP	15		25		35	
6	PBW	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 15968B22
SDG #: 06K056A/06-11-135

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: MG
2nd Reviewer: ✓

Method: Radiochemistry (EPA Method PAI 724 Rev 9)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
II. Calibration				
Were all instruments and detectors calibration as required?	✓			
Were NIST traceable standards used for all calibrations?	✓			
Was the check source identified by activity and radionuclide?	✓			
Were check sources including background counts analyzed at the required frequency and within laboratory control limits?	✓			
III. Blanks				
Were blank analyses performed as required?	✓			
Were any activities detected in the blanks greater than the minimum detectable activity (MDA)? If yes, please see the Blanks validation completeness worksheet.		✓		
IV. Matrix spikes and Duplicates				
Were a matrix spike (MS) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS percent recoveries (%R) within the QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.		✓		
Was a duplicate sample anaylzed at the required frequency of 5% in this SDG?	✓			
Were all duplicate sample duplicate error rations (DER) ≤1.42?.	✓			
V. Laboratory control samples				
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 75-125%	✓			
VI. Sample Chemical/Carrier Recovery				
Was a tracer/carrier added to each sample?		✓		
Were tracer/carrier recoveries within the QC limits?			✓	
VII. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
VIII. Sample Result Verification				
Were activities adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were the Minimum Detectable Activities (MDA) < RL?	✓			

LDC #: 15968B22
SDG #: 06K056A/06-11-135

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
IX. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
X. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
XI. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 15968B22
SDG #: 06K056A/06-11-135

VALIDATION FINDINGS WORKSHEET
Matrix Spike Analysis

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Radiochemistry (Method: PAI 724 Rev 9)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a matrix spike analyzed at the required frequency in this SDG?

Y N N/A Were matrix spike percent recoveries (%R) within the control limits of 70-130 ? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	Matrix Spike ID	Matrix	Analyte	MS %R	MSD	Associated Samples	Qualifications
1	3/4	water	Gross Alpha	64.1	63.4	all	J/UJ/A

Comments:

LDC #: 15968B22
SDG #: 06K056A/06-11-135

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: MG
2nd Reviewer: ✓

METHOD: Radiochemistry (Method: PAI 724 Rev 9)

Percent recoveries (%R) for a laboratory control sample, a matrix spike and a matrix spike duplicate sample were recaluculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = activity of each analyte measured in the analysis of the sample. True = activity of each analyte in the source.

A matrix spike and matrix spike duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample activity D = Duplicate sample activity

Sample ID	Type of Analysis	Analyte	Found/S (units)	True/D (units)	Recalculated %R or RPD	Reported %R or RPD	Acceptable (Y/N)
LCS	Laboratory control sample	Gross Alpha	590 (pCi/L)	581 (pCi/L)	102	101	Y
3	Matrix spike sample	Gross Beta	499.7 (pCi/L)	501 (pCi/L)	99.7	99.8	↓
5	Duplicate RPD	Gross Alpha	8.7 (pCi/L)	7.2 (pCi/L)	DER 0.49	DER 0.49	↓
—	Chemical recovery	—	—	—	—	—	—

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 15968B22

SDG #: 06K056A / 06-11-135

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: MG
2nd reviewer: ✓

METHOD: Radiochemistry (Method: PAI 724 Rev. 9)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?

Y N N/A Are results within the calibrated range of the instruments?

Analyte results for #1, Gross α reported with a positive detect were recalculated and verified using the following equation:

Activity =

$$\frac{(\text{cpm} - \text{bckgrd cpm})}{(2.22)(E)(\text{Vol})(CF)}$$

E = Efficiency
Vol = Volume
CF = %R, Self-absorbance, abundance, ect.

Recalculation:

$$\frac{(0.304 - 0.097) - (.003 \times 2.473)}{(2.22)(0.1805)(0.731)(0.080\ L)} = 8.52\ pCi/g$$

#	Sample ID	Analyte	Reported Concentration (pCi/L)	Calculated Concentration (pCi/L)	Acceptable (Y/N)
1	1	Gross Alpha	8.7	8.5	Y
		Gross Beta	5.3	5.7	↓

Note:

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

CDM Federal
9444 Farnham Street, Suite 210
San Diego, CA 92123
ATTN: Mr. Michael Higman

February 12, 2007

SUBJECT: MCAS El Toro CTO 084, Data Validation

Dear Mr. Higman,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. This SDG were received on January 29th, 2007.

LDC project# 16206:

SDG #	**Fraction**
07A066, 07A86	Volatiles (SW 846 Method 8260B) Perchlorate (EPA Method 314.0)

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Sample Qualification Report
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level III Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples

- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Erlinda T. Rauto
Operations Manager/Senior Chemist

Attachment 1

ADR/IV 80/20

LDC #16206 (CDM Federal Programs Corp.-San Diego / MCAS El Toro, CTO 084)

Project #6218-084

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		CLO_4 (314.0)																																	
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	07A066	01/29/07	02/20/07	11	0	8	0																																
B	07A086	01/29/07	02/20/07	3	0	2	0																																
Total	B/LR			14	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24

Shaded cells indicate Level IV validation (all other cells are Level III validation). These sample counts do not include MS/MSD, and DUPs

16206ST.wpd

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
09-Jan-2007	02NEW26-1	A066-01	N	5030B	8260B	3
09-Jan-2007	02NEW26-1	A066-01	N	GEN PREP	314.0	3
09-Jan-2007	02NEW27-1	A066-02	N	GEN PREP	314.0	3
09-Jan-2007	02NEW27-1	A066-02R	N	5030B	8260B	3
09-Jan-2007	02PZ04-1	A066-03	N	5030B	8260B	3
09-Jan-2007	02PZ04-1	A066-03	N	GEN PREP	314.0	3
10-Jan-2007	02NEW28-1	A066-05	N	GEN PREP	314.0	3
10-Jan-2007	02NEW28-1	A066-05R	N	5030B	8260B	3
10-Jan-2007	02NEW28-3	A066-06	FD	5030B	8260B	3
10-Jan-2007	02NEW28-3	A066-06	FD	GEN PREP	314.0	3
10-Jan-2007	02NEW29-1	A066-04	N	5030B	8260B	3
10-Jan-2007	02NEW29-1	A066-04	N	GEN PREP	314.0	3
10-Jan-2007	02NEW29-1	A066-04T	N	5030B	8260B	3
10-Jan-2007	TB01-9	A066-07	TB	5030B	8260B	3
10-Jan-2007	TB02-9	A066-08	TB	5030B	8260B	3
10-Jan-2007	02NEW30-7	A066-10	FB	5030B	8260B	3
10-Jan-2007	02NEW30-7	A066-10	FB	GEN PREP	314.0	3
10-Jan-2007	02NEW30-1	A066-09	N	5030B	8260B	3
10-Jan-2007	02NEW30-1	A066-09	N	GEN PREP	314.0	3
11-Jan-2007	02NEW19-1	A086-01	N	5030B	8260B	4
11-Jan-2007	02NEW19-1	A086-01	N	GEN PREP	314.0	4
11-Jan-2007	TB03-9	A086-03	TB	5030B	8260B	4
11-Jan-2007	02NEW18-1	A086-02	N	5030B	8260B	4
11-Jan-2007	02NEW18-1	A086-02	N	GEN PREP	314.0	4

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 07A066										
314.0	02NEW30-1	AQ	N							
				PERCHLORATE	2.00	1.43J		J	UG/L	
8260B	02NEW26-1	AQ	N							
				1,1,2-TRICHLOROETHANE	1.0	0.41J		J	UG/L	
				2-BUTANONE	5.0	5.0U		UJ	UG/L	
				2-HEXANONE	5.0	5.0U		UJ	UG/L	
				ACETONE	5.0	5.0U		UJ	UG/L	
				CIS-1,2-DICHLOROETHENE	1.0	0.46J		J	UG/L	
				METHYLENE CHLORIDE	1.0	1.0U		UJ	UG/L	
				TETRACHLOROETHENE(PCE)	1.0	0.64J		J	UG/L	
8260B	02NEW28-1	AQ	N							
				1,1,2-TRICHLOROETHANE	1.0	0.30J		J	UG/L	
				TETRACHLOROETHENE(PCE)	1.0	0.25J		J	UG/L	
8260B	02NEW28-3	AQ	FD							
				1,1,2-TRICHLOROETHANE	1.0	0.25J		J	UG/L	
				TETRACHLOROETHENE(PCE)	1.0	0.20J		J	UG/L	
8260B	02NEW29-1	AQ	N							
				1,2-DICHLOROPROPANE	1.0	0.23J		J	UG/L	
8260B	02NEW30-1	AQ	N							
				1,1,2-TRICHLOROETHANE	1.0	0.29J		J	UG/L	
				TRANS-1,2-DICHLOROETHENE	1.0	0.46J		J	UG/L	
8260B	02NEW30-7	AQ	FB							
				TOLUENE	1.0	0.47J		J	UG/L	
8260B	02PZ04-1	AQ	N							
				1,2-DICHLOROETHANE	1.0	0.53J		J	UG/L	
				TETRACHLOROETHENE(PCE)	1.0	0.81J		J	UG/L	
				TRANS-1,2-DICHLOROETHENE	1.0	0.26J		J	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 07A066										
8260B	TB01-9	AQ	TB							
				2-BUTANONE	5.0	5.0U		UJ	UG/L	
				2-HEXANONE	5.0	5.0U		UJ	UG/L	
				ACETONE	5.0	5.0U		UJ	UG/L	
				METHYLENE CHLORIDE	1.0	1.0U		UJ	UG/L	
8260B	TB02-9	AQ	TB							
				2-BUTANONE	5.0	5.0U		UJ	UG/L	
				2-HEXANONE	5.0	5.0U		UJ	UG/L	
				ACETONE	5.0	5.0U		UJ	UG/L	
				METHYLENE CHLORIDE	1.0	1.0U		UJ	UG/L	
SDG: 07A086										
8260B	02NEW18-1	AQ	N							
				TRANS-1,3-DICHLOROPROPENE	1.0	1.0U		UJ	UG/L	
8260B	02NEW19-1	AQ	N							
				TRANS-1,3-DICHLOROPROPENE	1.0	1.0U		UJ	UG/L	
8260B	TB03-9	AQ	TB							
				TRANS-1,3-DICHLOROPROPENE	1.0	1.0U		UJ	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Sample Qualification Report

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW26-1 **Lab Report Batch :** 07A066 **Lab ID :** EMXT

Sample Date : 01/09/2007 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: A066-01

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,1,2-TRICHLOROETHANE	0.41		UG/L	J	YES	J								J						
2-BUTANONE	5.0		UG/L	U	YES	UJ														UJ
2-HEXANONE	5.0		UG/L	U	YES	UJ														UJ
ACETONE	5.0		UG/L	U	YES	UJ														UJ
CIS-1,2-DICHLOROETHENE	0.46		UG/L	J	YES	J								J						
METHYLENE CHLORIDE	1.0		UG/L	U	YES	UJ														UJ
TETRACHLOROETHENE(PCE)	0.64		UG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW28-1 **Lab Report Batch :** 07A066 **Lab ID :** EMXT

Sample Date : 01/10/2007 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: A066-05R

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,1,2-TRICHLOROETHANE	0.30		UG/L	J	YES	J								J						
TETRACHLOROETHENE(PCE)	0.25		UG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW28-3 **Lab Report Batch :** 07A066 **Lab ID :** EMXT

Sample Date : 01/10/2007 **Analysis Type: RES** **Sample Matrix :** AQ

Lab Sample ID: A066-06

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV/ CCV
Analysis Method : 8260B					**Dilution: 1**															
1,1,2-TRICHLOROETHANE	0.25		UG/L	J	YES	J								J						
TETRACHLOROETHENE(PCE)	0.20		UG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW29-1 **Lab Report Batch :** 07A066 **Lab ID :** EMXT

Sample Date : 01/10/2007 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: A066-04

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DICHLOROPROPANE	0.23		UG/L	J	YES	J								J						
TRICHLOROETHENE (TCE)	150		UG/L	E	NO	J														

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW29-1 **Lab Report Batch :** 07A066 **Lab ID :** EMXT

Sample Date : 01/10/2007 **Analysis Type: DL** **Sample Matrix :** AQ

Lab Sample ID: A066-04T

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 10**															
1,1,2-TRICHLOROETHANE	5.4		UG/L	J	NO	J								J						
1,2-DICHLOROETHANE	2.2		UG/L	J	NO	J								J						
TETRACHLOROETHENE(PCE)	3.6		UG/L	J	NO	J								J						
TRANS-1,2-DICHLOROETHENE	2.7		UG/L	J	NO	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW30-1 **Lab Report Batch :** 07A066 **Lab ID :** EMXT

Sample Date : 01/10/2007 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: A066-09

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 314.0					**Dilution: 1**															
PERCHLORATE	1.43		UG/L	J	YES	J								J						
Analysis Method : 8260B					**Dilution: 1**															
1,1,2-TRICHLOROETHANE	0.29		UG/L	J	YES	J								J						
TRANS-1,2-DICHLOROETHENE	0.46		UG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW30-7
Sample Date : 01/10/2007
Lab Sample ID: A066-10

Lab Report Batch : 07A066
Analysis Type: RES

Lab ID : EMXT
Sample Matrix : AQ

Reviewed By / Date : _____

Approved By / Date : _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
TOLUENE	0.47		UG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02PZ04-1
Sample Date : 01/09/2007
Lab Sample ID: A066-03

Lab Report Batch : 07A066
Analysis Type: RES

Lab ID : EMXT
Sample Matrix : AQ

Reviewed By / Date : _____

Approved By / Date : _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
1,2-DICHLOROETHANE	0.53		UG/L	J	YES	J								J						
TETRACHLOROETHENE(PCE)	0.81		UG/L	J	YES	J								J						
TRANS-1,2-DICHLOROETHENE	0.26		UG/L	J	YES	J								J						

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : TB01-9 **Lab Report Batch :** 07A066 **Lab ID :** EMXT

Sample Date : 01/10/2007 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: A066-07

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
2-BUTANONE	5.0		UG/L	U	YES	UJ														UJ
2-HEXANONE	5.0		UG/L	U	YES	UJ														UJ
ACETONE	5.0		UG/L	U	YES	UJ														UJ
METHYLENE CHLORIDE	1.0		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : TB02-9 **Lab Report Batch :** 07A066 **Lab ID :** EMXT

Sample Date : 01/10/2007 **Analysis Type:** RES **Sample Matrix :** AQ

Lab Sample ID: A066-08

Reviewed By / Date : _____ **Approved By / Date :** _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
2-BUTANONE	5.0		UG/L	U	YES	UJ														UJ
2-HEXANONE	5.0		UG/L	U	YES	UJ														UJ
ACETONE	5.0		UG/L	U	YES	UJ														UJ
METHYLENE CHLORIDE	1.0		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW18-1
Sample Date : 01/11/2007
Lab Sample ID: A086-02

Lab Report Batch : 07A086
Analysis Type: RES

Lab ID : EMXT
Sample Matrix : AQ

Reviewed By / Date : .....

Approved By / Date : .....

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
TRANS-1,3-DICHLOROPROPENE	1.0		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : 02NEW19-1
Sample Date : 01/11/2007
Lab Sample ID: A086-01

Lab Report Batch : 07A086
Analysis Type: RES

Lab ID : EMXT
Sample Matrix : AQ

Reviewed By / Date : .....

Approved By / Date : .....

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
TRANS-1,3-DICHLOROPROPENE	1.0		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Sample Qualification Report (All Qualified Results)

Client Sample ID : TB03-9
Sample Date : 01/11/2007
Lab Sample ID: A086-03

Lab Report Batch : 07A086
Analysis Type: RES

Lab ID : EMXT
Sample Matrix : AQ

Reviewed By / Date : _____

Approved By / Date : _____

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
TRANS-1,3-DICHLOROPROPENE	1.0		UG/L	U	YES	UJ														UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Enclosure I

EPA Level III ADR Outliers (including Manual Review Outliers)

Quality Control Outlier Reports

SDG 07A066

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 07A066 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
02NEW26-1	A066-01	8260B	AQ	1,1,2-TRICHLOROETHANE	J	0.41	1.0	UG/L
				CIS-1,2-DICHLOROETHENE	J	0.46	1.0	UG/L
				TETRACHLOROETHENE(PCE)	J	0.64	1.0	UG/L
02NEW28-1	A066-05R			1,1,2-TRICHLOROETHANE	J	0.30	1.0	UG/L
				TETRACHLOROETHENE(PCE)	J	0.25	1.0	UG/L
02NEW28-3	A066-06			1,1,2-TRICHLOROETHANE	J	0.25	1.0	UG/L
				TETRACHLOROETHENE(PCE)	J	0.20	1.0	UG/L
02NEW29-1	A066-04T			1,1,2-TRICHLOROETHANE	J	5.4	10	UG/L
				1,2-DICHLOROETHANE	J	2.2	10	UG/L
	A066-04			1,2-DICHLOROPROPANE	J	0.23	1.0	UG/L
	A066-04T			TETRACHLOROETHENE(PCE)	J	3.6	10	UG/L
				TRANS-1,2-DICHLOROETHENE	J	2.7	10	UG/L
02NEW30-1	A066-09	314.0		PERCHLORATE	J	1.43	2.00	UG/L
		8260B		1,1,2-TRICHLOROETHANE	J	0.29	1.0	UG/L
				TRANS-1,2-DICHLOROETHENE	J	0.46	1.0	UG/L
02NEW30-7	A066-10			TOLUENE	J	0.47	1.0	UG/L
02PZ04-1	A066-03			1,2-DICHLOROETHANE	J	0.53	1.0	UG/L
				TETRACHLOROETHENE(PCE)	J	0.81	1.0	UG/L
				TRANS-1,2-DICHLOROETHENE	J	0.26	1.0	UG/L

QC Outlier Report: Field Duplicates (Non-qualified Outliers)

Lab Report Batch: 07A066 **Lab ID:** EMXT

			Field Sample				Field Sample Duplicate						
Analysis Method	Matrix	Analyte Name	Client Sample ID	Ana Type	Result	Lab Qualifier	Client Sample Duplicate ID	Ana Type	Result	Lab Qualifier	RPD Dup* (%)	RPD Criteria (%)	Result Units
8260B	AQ	TETRACHLOROETHENE(PCE)	02NEW28-1	RES	0.25	J	02NEW28-3	RES	0.20	J	22.2	20	UG/L

**Note: Outlier report also includes analytes detected in one sample but not in the related sample, i.e., analyte was detected in the field sample but not in the field duplicate sample, or vice versa. In this case, RPD value assigned to the field duplicate sample is 200.*

Project Number and Name: ***6218-084 - MCAS EL TORO SITE 2 GWM***

Quality Control Outlier Reports

SDG 07A086

(Note: the following were based on manual validation findings)

LDC #: 16206A1

SDG #: 07A066

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 2/02/07

Page: 1 of 1

Reviewer: NG

2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 1/09 - 10/07
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	% RSD r2
IV.	Continuing calibration /ICV	SW	
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	SW	
XIII.	Tentitatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	SW	
XVI.	Field duplicates	N	D = 6, 7
XVII.	Field blanks	N	TB = 8, 9 SB = 11

Note: A = Acceptable ND = No compounds detected D = Duplicate
N = Not provided/applicable R = Rinsate TB = Trip blank
SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

Water

1 1	02NEW26-1	11 r	02NEW30-7	21 1	MBLK1W	31	
2 r	02NEW27-1	12		22 r	MBLK2W	32	
3 r	02PZ04-1	13		23		33	
4 r	02NEW29-1	14		24		34	
5 r	02NEW29-1DL	15		25		35	
6 r	02NEW28-1	16		26		36	
7 r	02NEW28-3	17		27		37	
8 1	TB01-9	18		28		38	
9 1	TB02-9	19		29		39	
10 r	02NEW30-1	20		30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 16-06A1
SDG #: 07A066

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤25.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	1/11/07	RAV119	F	32.8		1, 8, 9, MBLKIW	J/UJ/A
			E	29.6			
			M	29.7	0.045		
			Z	25.4			

CONCAL.1SB

LDC #: 16206A1
SDG #: 07A066

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and CRQLs

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?

Y N N/A Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?

#	Date	Sample ID	Finding	Associated Samples	Qualifications
		4	S > cal range		J Acts /A

Comments: See sample calculation verification worksheet for recalculations

COMQUA.1SB

LDC #: 16[illegible]6 A1
SDG #: 07A066

VALIDATION FIND[illegible]S WORKSHEET
Overall Assessment of Data

Page: [illegible] of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

Y N N/A Was the overall quality and usability of the data acceptable?

#	Date	Sample ID	Finding	Associated Samples	Qualifications
		4	S > cal range		R/A
					↓
		5	All except S diluted		↓

Comments: _____

OVR.1SB

Enclosure II

EPA Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro, CTO 084

Collection Date: January 11, 2007

LDC Report Date: February 12, 2007

Matrix: Water

Parameters: Volatiles

Validation Level: NFESC Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 07A086

Sample Identification

02NEW19-1
02NEW18-1
TB03-9

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 8260B 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 qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a 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.

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 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

In the case where %RSD was greater than 15.0%, the laboratory used a calibration curve to evaluate the compound. All coefficients of determination (r^2) were greater than or equal to 0.990 .

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

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.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
1/13/07	trans-1,3-Dichloropropene	25.3	All samples in SDG 07A086	J (all detects) UJ (all non-detects)	A

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 25.0% for all 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.

Sample TB03-9 was identified as a rinsate. No volatile contaminants were found in this blank.

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

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation 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.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

MCAS El Toro, CTO 084
Volatiles - Data Qualification Summary - SDG 07A086

SDG	Sample	Compound	Flag	A or P	Reason
07A086	02NEW19-1 02NEW18-1 TB03-9	trans-1,3-Dichloropropene	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)

MCAS El Toro, CTO 084
Volatiles - Laboratory Blank Data Qualification Summary - SDG 07A086

No Sample Data Qualified in this SDG

MCAS El Toro, CTO 084
Volatiles - Field Blank Data Qualification Summary - SDG 07A086

No Sample Data Qualified in this SDG

LDC #: 16206B1

SDG #: 07A086

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level IV

Date: 2/02/07

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/11/07
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	% RSD r²
IV.	Continuing calibration /ICV	SW	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	None /P
VIII.	Laboratory control samples	A	LCS /D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 3

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	02NEW19-1	11		21		31	
2	02NEW18-1	12		22		32	
3	TB03-9	13		23		33	
4	MBLKIW	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 16206 B1
SDG #: 07A086

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: JG
2nd Reviewer: [illegible]

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?	✓			
Did the initial calibration meet the curve fit acceptance criteria of > 0.990?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) > 0.05?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?		✓		
V. Blank				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spike				
Were all surrogate %R within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicate				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

LDC #: 16206 B1
SDG #: 07A086

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer: NG
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Performance Evaluation Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal Standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XI. Tentatively Identified Compounds (TICs)				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?		✓		
XII. Compound Quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively Identified Compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?		✓		
XIV. System Performance				
System performance was found to be acceptable.	✓			
XV. Overall Assessment of Data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field Duplicates				
Field duplicate pairs were identified in this SDG.			✓	
Target compounds were detected in the field duplicates.			✓	
XVII. Field Blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	S. Trichloroethene	KK. Trichlorofluoromethane	CCC. tert-Butylbenzene	UUU. 1,2-Dichlorotetrafluoroethane
B. Bromomethane	T. Dibromochloromethane	LL. Methyl-tert-butyl ether	DDD. 1,2,4-Trimethylbenzene	VVV. 4-Ethyltoluene
C. Vinyl choride**	U. 1,1,2-Trichloroethane	MM. 1,2-Dibromo-3-chloropropane	EEE. sec-Butylbenzene	WWW. Ethanol
D. Chloroethane	V. Benzene	NN. Methyl ethyl ketone	FFF. 1,3-Dichlorobenzene	XXX. Di-isopropyl ether
E. Methylene chloride	W. trans-1,3-Dichloropropene	OO. 2,2-Dichloropropane	GGG. p-Isopropyltoluene	YYY. tert-Butanol
F. Acetone	X. Bromoform*	PP. Bromochloromethane	HHH. 1,4-Dichlorobenzene	ZZZ. tert-Butyl alcohol
G. Carbon disulfide	Y. 4-Methyl-2-pentanone	QQ. 1,1-Dichloropropene	III. n-Butylbenzene	AAAA. Ethyl tert-butyl ether
H. 1,1-Dichloroethene**	Z. 2-Hexanone	RR. Dibromomethane	JJJ. 1,2-Dichlorobenzene	BBBB. tert-Amyl methyl ether
I. 1,1-Dichloroethane*	AA. Tetrachloroethene	SS. 1,3-Dichloropropane	KKK. 1,2,4-Trichlorobenzene	CCCC.1-Chlorohexane
J. 1,2-Dichloroethene, total	BB. 1,1,2,2-Tetrachloroethane*	TT. 1,2-Dibromoethane	LLL. Hexachlorobutadiene	DDDD. Isopropyl alcohol
K. Chloroform**	CC. Toluene**	UU. 1,1,1,2-Tetrachloroethane	MMM. Naphthalene	EEEE. Acetonitrile
L. 1,2-Dichloroethane	DD. Chlorobenzene*	VV. Isopropylbenzene	NNN. 1,2,3-Trichlorobenzene	FFFF. Acrolein
M. 2-Butanone	EE. Ethylbenzene**	WW. Bromobenzene	OOO. 1,3,5-Trichlorobenzene	GGGG. Acrylonitrile
N. 1,1,1-Trichloroethane	FF. Styrene	XX. 1,2,3-Trichloropropane	PPP. trans-1,2-Dichloroethene	HHHH. 1,4-Dioxane
O. Carbon tetrachloride	GG. Xylenes, total	YY. n-Propylbenzene	QQQ. cis-1,2-Dichloroethene	IIII. Isobutyl alcohol
P. Bromodichloromethane	HH. Vinyl acetate	ZZ. 2-Chlorotoluene	RRR. m,p-Xylenes	JJJJ. Methacrylonitrile
Q. 1,2-Dichloropropane**	II. 2-Chloroethylvinyl ether	AAA. 1,3,5-Trimethylbenzene	SSS. o-Xylene	KKKK. Propionitrile
R. cis-1,3-Dichloropropene	JJ. Dichlorodifluoromethane	BBB. 4-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	LLLL.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 16206B1
SDG #: 07A086

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: <25.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	1/13/07	RAW 157	W	25.3		All + Blk	J/UJ/A

CONCAL.1SB

LDC #: 16206 B1
SDG #: 07A086

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: JVC
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (std)	Recalculated RRF (std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	LCAL	1/09/06	Methylene chloride (1st internal standard)	0.617	0.617	0.654	0.654	9.33	9.33
			Trichlorethene (2nd internal standard)	0.388	0.388	0.384	0.384	9.19	9.21
			~~Toluene~~ BB (3rd internal standard)	0.609	0.609	0.586	0.586	8.21	8.26
2			Methylene chloride (1st internal standard)						
			Trichlorethene (2nd internal standard)						
			Toluene (3rd internal standard)						
3			Methylene chloride (1st internal standard)						
			Trichlorethene (2nd internal standard)						
			Toluene (3rd internal standard)						
4			Methylene chloride (1st internal standard)						
			Trichlorethene (2nd internal standard)						
			Toluene (3rd internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 16206 B1
SDG #: 07A086

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	RAW 157	1/13/07	Methylene chloride (1st internal standard)	0.654	0.702	0.702	7.3	7.3
			Trichlorethene (2nd internal standard)	0.384	0.436	0.436	13.5	13.5
			~~Toluene~~ BB (3rd internal standard)	0.586	0.601	0.601	2.4	2.5
2			Methylene chloride (1st internal standard)					
			Trichlorethene (2nd internal standard)					
			Toluene (3rd internal standard)					
3			Methylene chloride (1st internal standard)					
			Trichlorethene (2nd internal standard)					
			Toluene (3rd internal standard)					
4			Methylene chloride (1st internal standard)					
			Trichlorethene (2nd internal standard)					
			Toluene (3rd internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 16 206 B1
SDG #: 07 A 086

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8	10	11.66	117	117	0
Bromofluorobenzene	↓	11.36	114	114	↓
1,2-Dichloroethane-d4	↓	10.98	110	110	↓
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

LDC #: 20681
SDG #: 07A086

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration; SA = Spike added

RPD = | LCS - LCSD | * 2/(LCS + LCSD) LCS = Laboraotry control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: RAW 158/9

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	10	10	10.3	10.1	103	103	101	101	2	2
Trichloroethene	↓	↓	10.6	9.76	106	106	98	98	8	8
Benzene			11.1	9.90	111	111	99	99	11	11
Toluene			10.8	10.2	108	108	102	102	6	6
Chlorobenzene			10.5	10.4	105	105	104	104	1	1

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 16206 B1
SDG #: 07A086

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: DVG
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. _____, ND:

Conc. = $\frac{(____)(____)(____)}{(____)(____)(____)(____)}$

=

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro, CTO 084

Collection Date: January 11, 2007

LDC Report Date: February 12, 2007

Matrix: Water

Parameters: Perchlorate

Validation Level: NFESC Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 07A086

Sample Identification

02NEW19-1
02NEW18-1

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 314.0 for Perchlorate.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. 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 IX.

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.

No field blanks were identified in this SDG.

IV. Matrix Spike/Matrix Spike Duplicates

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

V. Duplicates

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

VI. Laboratory Control Samples

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

VII. Sample Result Verification

All sample result verifications were within validation criteria.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

MCAS El Toro, CTO 084
Perchlorate - Data Qualification Summary - SDG 07A086

No Sample Data Qualified in this SDG

MCAS El Toro, CTO 084
Perchlorate - Laboratory Blank Data Qualification Summary - SDG 07A086

No Sample Data Qualified in this SDG

MCAS El Toro, CTO 084
Perchlorate - Field Blank Data Qualification Summary - SDG 07A086

No Sample Data Qualified in this SDG

LDC #: 16206B6

SDG #: 07A086

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level IV

Date: 2/5/07

Page: 1 of 1

Reviewer:

2nd Reviewer:

METHOD: Perchlorate (EPA Method 314.0)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 1/11/07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	N	Client Specified MS/MSD
V	Duplicates	N	
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

1	02NEW19-1 W	11		21		31	
2	02NEW18-1	12		22		32	
3	MB	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 162036
SDG #: 07A086

VALIDATION FINDINGS CHECKLIST

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: Inorganics (EPA Method 3140)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)			✓	
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
IV. Matrix Spike/Matrix Spike Duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			✓	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were < 5X the CRDL.			✓	
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 162063b
SDG #: 07A07L

VALIDATION FINDINGS CHECKLIST

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓		✗	
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
X. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 16206B6
SDG #: 07A086

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: Inorganics, Method see cover

The correlation coefficient (r) for the calibration of ClO4 was recalculated. Calibration date: 1/10/07

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found / True x 100 Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
True = concentration of each analyte in the ICV or CCV source

Type of Analysis	Analyte		~~mg/L~~ (units)	Area ~~(units)~~	Recalculated r or %R	Reported r or %R	Acceptable (Y/N)
Initial calibration	ClO4	Blank	0.0	0.0	0.9999	not reported	Y
Calibration verification		Standard 1	2.0	506310			
		Standard 2	4.0	1096895			
		Standard 3	10.0	2573363			
		Standard 4	25.0	6494206			
		Standard 5	30.0	7725371			
		Standard 6					
		Standard 7					
Calibration verification	ClO4	CCV5430	30 ~~24.182~~	30.431 ~~24.179~~	101	101	Y
Calibration verification							
Calibration verification							

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 162D686
SDG #: 07A086

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: Inorganics, Method See Cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
PLA004WL	Laboratory control sample	Cl/Br	10.1	10.0	101	101	Y
LW	Matrix spike sample		(SSR-SR)				
X	Duplicate sample						

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

TOTCLC.6

LDC #: 16206B6
SDG #: 07A076

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer:
2nd reviewer:

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for All Samples ND reported with a positive detect were recalculated and verified using the following equation:

Concentration = Recalculation:

#	Sample ID	Analyte	Reported Concentration ( )	Calculated Concentration ( )	Acceptable (Y/N)

Note:

RECALC.6

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

CDM Federal
9444 Farnham Street, Suite 210
San Diego, CA 92123
ATTN: Mr. Michael Higman

February 12, 2007

SUBJECT: MCAS El Toro CTO 084, Data Validation

Dear Mr. Higman,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. This SDG were received on January 30th, 2007.

LDC project# 16213:

SDG #	Fraction
07A087	Volatiles (SW 846 Method 8260B) TPH-Gas (SW 846 Method 8015B) TPH-Extractables (SW 848 Method 8015B)

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Sample Qualification Report
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits

- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Erlinda T. Rauto
Operations Manager/Senior Chemist

Attachment 1

ADR/IV 80/20

LDC #16213 (CDM Federal Programs Corp.-San Diego / MCAS El Toro, CTO 084)

Project #6218-084

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		TPH-G (8015)		TPH-E (8015)																															
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	07A087	01/30/07	02/21/07	1	0	1	0	1	0																														
Total	B/LR			1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3

Shaded cells indicate Level IV validation (all other cells are Level III validation). These sample counts do not include MS/MSD, and DUPs

16213ST.wpd

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
11-Jan-2007	16_MW03-124	A087-01	N	3520C	8015B DRO	3
11-Jan-2007	16_MW03-124	A087-01	N	5030B	8015B GRO	3
11-Jan-2007	16_MW03-124	A087-01	N	5030B	8260B	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 07A087										
8260B	16_MW03-124	AQ	N							
				ACETONE	50	50U		UJ	UG/L	
				CHLOROMETHANE	1.0	1.0U		UJ	UG/L	
				TERT-BUTANOL	20	20U		UJ	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Sample Qualification Report

Sample Qualification Report (All Qualified Results)

Client Sample ID : 16_MW03-124
Sample Date : 01/11/2007
Lab Sample ID: A087-01

Lab Report Batch : 07A087
Analysis Type: RES

Lab ID : EMXT
Sample Matrix : AQ

Reviewed By / Date : .....

Approved By / Date : .....

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV
Analysis Method : 8260B					**Dilution: 1**															
ACETONE	50		UG/L	U	YES	UJ												UJ		
CHLOROMETHANE	1.0		UG/L	U	YES	UJ														UJ
TERT-BUTANOL	20		UG/L	U	YES	UJ												UJ		UJ

* Overall result qualifier reflects summation of qualifiers added during automated data review and any qualifiers added manually for categories not assessed by automated data review

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

SDG 07A087

(Note: the following were based on manual validation findings)

LDC #: 16213A1

SDG #: 07A087

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 2/08/07

Page: 1 of 1

Reviewer: NG

2nd Reviewer: 9

METHOD: GC/MS Volatiles (EPA SW846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 1/11/07
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	% RSD r
IV.	Continuing calibration /ICV	SW	
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentitatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable; ND = No compounds detected; D = Duplicate; N = Not provided/applicable; R = Rinsate; TB = Trip blank; SW = See worksheet; FB = Field blank; EB = Equipment blank

Validated Samples:

Water

1	16_MW03-124	11		21		31	
2	MBLK1W	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 16213A1
SDG #: 07A087

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: WC
2nd Reviewer: R

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? r² ≥ 0.99
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: <30.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	12/21/06	ICAL	F		0.045	All + Blk	J / UJ / A
			YYY		0.014	↓	↓

INICAL.1S

LDC #: 16213A1
SDG #: 07A087

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: NG
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤25.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	1/16/07	RAE276	A	32.1		All + Blk	J/UJ/A
			YYY		0.013	↓	↓

CONCAL.1SB