FORM 26 Rev 6/99

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109

FOR OGCC USE ONLY

SOURCE OF PRODUCED WATER FOR DISPOSAL

This form must be completed for any new disposal site and for any change in sources of produced water for an existing disposal site.

Complete the Attachment Checklist

	Oper	OGCC
Chemical Analysis of fluid	X	

If more space is required, attach additional sheet.

OGCC Operator Number: 53650
Name of Operator: Marathon Oil Company
Address: 743 Horizon Court, Suite 220
City: Grand Junction State: CO Zip: 81506

Contact Name and Telephone:
Chris Hudson
No: 970-640-4823
Fax: 970-245-6287

OGCC Disposal Facility Number:
Operator's Disposal Facility Name: Operator's Disposal Facility Number:
Location (QtrQtr, Sec, Twp, Rng, Meridian): SW 1/4 Sec 32, T5S, R96W
Address:
City: State: CO Zip: County: Garfield

Add Source: [X] **Delete Source:** [ ]
OGCC Lease No: API No: Well Name & No: 697-1C-12,14,16,18,21,23,25,27,2A-41,2A-43
Operator Name: Marathon Oil Company Operator No: 53650
Location: QtrQtr: SW 1/4 Section: 1 Township: 6S Range: 97W Producing Formation: Williams Fork
Analysis Attached? [X] Yes [ ] No Transported to disposal site via: [X] Pipeline [X] Truck TDS:

Add Source: [X] **Delete Source:** [ ]
OGCC Lease No: API No: Well Name & No: 696-18A-12,14,16,18,21,23,25,27
Operator Name: Marathon Oil Company Operator No: 53650
Location: QtrQtr: NE 1/4 Section: 18 Township: 6S Range: 96W Producing Formation: Williams Fork
Analysis Attached? [X] Yes [ ] No Transported to disposal site via: [X] Pipeline [X] Truck TDS:

Add Source: [X] **Delete Source:** [ ]
OGCC Lease No: API No: Well Name & No: 697-12A-12,14,16,18,21,23,25,27
Operator Name: Marathon Oil Company Operator No: 53650
Location: QtrQtr: NE 1/4 Section: 12 Township: 6S Range: 97W Producing Formation: Williams Fork
Analysis Attached? [X] Yes [ ] No Transported to disposal site via: [X] Pipeline [X] Truck TDS:

Add Source: [X] **Delete Source:** [ ]
OGCC Lease No: API No: Well Name & No: 596-35D-14,27,5a-11
Operator Name: Marathon Oil Company Operator No: 53650
Location: QtrQtr: SE 1/4 Section: 35 Township: 5S Range: 96W Producing Formation: Williams Fork
Analysis Attached? [ ] Yes [X] No Transported to disposal site via: [X] Pipeline [X] Truck TDS:

Add Source: [X] **Delete Source:** [ ]
OGCC Lease No: API No: Well Name & No: 696-18C-12,14,16,18,21,23,25,27
Operator Name: Marathon Oil Company Operator No: 53650
Location: QtrQtr: SW 1/4 Section: 18 Township: 6S Range: 96W Producing Formation: Williams Fork
Analysis Attached? [X] Yes [ ] No Transported to disposal site via: [X] Pipeline [X] Truck TDS:

Add Source: [X] **Delete Source:** [ ]
OGCC Lease No: API No: Well Name & No: 697-13C-12,14,16,21,23,25,27
Operator Name: Marathon Oil Company Operator No: 53650
Location: QtrQtr: SW 1/4 Section: 13 Township: 6S Range: 97W Producing Formation: Williams Fork
Analysis Attached? [X] Yes [ ] No Transported to disposal site via: [X] Pipeline [X] Truck TDS:

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.
Print Name: Chris Hudson Signed:
Title: Facilities Engineer Date:

OGCC Approved: Title: Date:

CONDITIONS OF APPROVAL, IF ANY:

FORM 26 Rev 6/99

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109

FOR OGCC USE ONLY

SOURCE OF PRODUCED WATER FOR DISPOSAL

This form must be completed for any new disposal site and for any change in sources of produced water for an existing disposal site.

Complete the Attachment Checklist

Chemical Analysis of fluid	Oper	OGCC

OGCC Operator Number: 53650
Name of Operator: Marathon Oil Company
Address: 743 Horizon Court, Suite 220
City: Grand Junction State: CO Zip: 81506

Contact Name and Telephone:
Chris Hudson
No: 970-640-4823
Fax: 970-245-6287

OGCC Disposal Facility Number:
Operator's Disposal Facility Name: Operator's Disposal Facility Number:
Location (QtrQtr, Sec, Twp, Rng, Meridian): SW 1/4 Sec 32, T5S, R96W
Address:
City: State: CO Zip: County: Garfield

If more space is required, attach additional sheet.

Add Source: [X]
OGCC Lease No: API No: Well Name & No: 697-11X-23A, 32D
Operator Name: Marathon Oil Company Operator No: 53650
Delete Source: [ ]
Location: QtrQtr: SW 1/4 Section: 11 Township: 6S Range: 97W Producing Formation: Williams Fork
Analysis Attached? [X] Yes [ ] No Transported to disposal site via: [X] Pipeline [X] Truck TDS:

Add Source: [X]
OGCC Lease No: API No: Well Name & No: 697-1X-13A, 42D
Operator Name: Marathon Oil Company Operator No: 53650
Delete Source: [ ]
Location: QtrQtr: Nw 1/4 Section: 1 Township: 6S Range: 96W Producing Formation: Williams Fork
Analysis Attached? [X] Yes [ ] No Transported to disposal site via: [X] Pipeline [X] Truck TDS:

Add Source: [ ]
OGCC Lease No: API No: Well Name & No:
Operator Name: Operator No:
Delete Source: [ ]
Location: QtrQtr: Section: Township: Range: Producing Formation:
Analysis Attached? [ ] Yes [ ] No Transported to disposal site via: [ ] Pipeline [ ] Truck TDS:

Add Source: [ ]
OGCC Lease No: API No: Well Name & No:
Operator Name: Operator No:
Delete Source: [ ]
Location: QtrQtr: Section: Township: Range: Producing Formation:
Analysis Attached? [ ] Yes [ ] No Transported to disposal site via: [ ] Pipeline [ ] Truck TDS:

Add Source: [X]
OGCC Lease No: API No: Well Name & No:
Operator Name: Operator No:
Delete Source: [ ]
Location: QtrQtr: Section: Township: Range: Producing Formation:
Analysis Attached? [ ] Yes [ ] No Transported to disposal site via: [ ] Pipeline [ ] Truck TDS:

Add Source: [X]
OGCC Lease No: API No: Well Name & No:
Operator Name: Operator No:
Delete Source: [ ]
Location: QtrQtr: Section: Township: Range: Producing Formation:
Analysis Attached? [ ] Yes [ ] No Transported to disposal site via: [ ] Pipeline [ ] Truck TDS:

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Chris Hudson Signed:
Title: Facilities Engineer Date:

OGCC Approved: Title: Date:

CONDITIONS OF APPROVAL, IF ANY:

Laboratories, Inc.
2479 River Road, Unit A
Grand Junction, CO 81505
(970) 243-5311
Fax (970) 243-6010

CHAIN OF CUSTODY RECORD

0423080565

Proj. No. 697-11X

Company Name MARATHON OIL

Phone # 245.5233

Fax #

SAMPLERS: *(Signature)*

PRINT NAME: Andrew Attenburg

SAMPLE NO.	DATE	TIME	MATRIX	PROJECT NAME/ SAMPLE LOCATION	SAMPLE ANALYSES	CONTAINER/SIZE/TYPE	PRESERVATIVES	REMARKS	LABORATORY SAMPLE #
4/23/08 697-11XA	4/23/08	1640	W	697-11X	SEE ATTACHED	4	N	1 Glass, 2 VOA 1 Plastic	08-0565
4/23/08 697-11XB	↓	↓	↓	697-11X	↓	4	N	↓	08-0566
				GPS coordinates N-39°32.218' W-108°, 11.255' elevation 8228'					
					TOTAL NO. OF CONTAINERS				

Relinquished by : *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
	4/23/08 1935				
Custody Seal No.		Custody Seal Present n Intact n	Date Required		
Method of Shipment:		Shipped by: *(Signature)*	Date Completed:	Received for Laboratory by: *(Signature)*	Date / Time 4/23/08 1935

Distribution: Original Accompanies Shipment; Copy to Field Files
Form CC-01-6-92 Rev. 7/97

KEY LABORATORIES, INC.
2479 River Road Unit A
Grand Junction, CO 81505
(970)243-5311 FAX (970)243-6010

BTEX Analytical Report

Client : **Marathon Oil**
Client Project Name : **697-11X**

Lab QC Batch Sample : **08-0566, 697--11X B**
Key Lab # : **08-0565**
Work Order # : **0423080565**
Date Recieved : **04/23/08**
Method : EPA SW846 5030/5035/8260
Technician : KEY
Data File Name: 0800008.D
Date Analyzed : 25 Apr 2008 1:25 pm
Data File Path : C:\MSDCHEM\1\DATA\0804apr25\
Lab Sample Information : Water, 100xdil, Marathon Oil
Lab Sample Number : **697-11X A, 08-0565, 0423080565,**

Client Sample Number : **697-11XA**
Sampling Date : **4/23/2008**
Sampling Time : **16:40**
Sample Matrix : **Water**
Sampler : **Andrew**

Sample vol/wt = 5
Reported==>> **x** **DF =** **100**

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL	Spike	%REC
	H1	**Gasoline [TVH]**				150	ug							
1634-04-4	M1	**MTBE**	x	0	0.00	0.25	ug	100.	<	25.		48000		
71-43-2	M1	**Benzene**	x	27396417	154.34	0.4	ug	100.	**15000 ug/L**	40.		48000		
108-88-3	MC1	**Toluene**	x	32753766	294.46	1.6	ug	100.	**29000 ug/L**	160.		48000		
100-41-4	MC2	**Ethylbenzene**	x	1944928	8.26	0.27	ug	100.	**830 ug/L**	27.		48000		
		XYLENES (Total)	x		128.2	1.15	ug	100.	**13000 ug/L**	115.		14400000		
91-20-3	M3	**Napthylene**	x	129382	0.92	2	ug	100.	<	200.		48000		

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL
	M2	**M/P Xylene**	x	20083413	110.30	1.1	ug	100.	**11000 ug/L**	110.		96000
95-47-6	M2	**O-Xylene**	x	3343400	17.89	0.47	ug	100.	**1800 ug/L**	47.		48000
108-67-8	M2	**1,3,5-Trimethylbenzene**	x	1228805	6.79	0.65	ug	100.	**680 ug/L**	65.		48000
95-63-6	M2	**1,2,4-Trimethylbenzene**	x	1390455	7.70	1.18	ug	100.	**770 ug/L**	118.		48000
		Gasoline (TVH) Subtraction Blank =			0							

CAS#	Type	System Monitoring Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	Water Limits	Soil Limits	Spike	%Rec
1868-53-7	S1	**Dibromofluromethane**	8910535	88.05	**77**	ug	11557220	86 - 118	80 - 120	80.96	**108.8**
17060-07-0	S1	**1,2-Dichloroethane-d4**	7193552	87.20	**76**	ug	9435768	80 - 120	80 - 120	80.96	**107.7**
2037-26-5	S1	**Toluene-d8**	15082341	85.82	**76**	ug	19904284	88 - 110	81 - 117	80.96	**106.**
460-00-4	S2	**4-Bromofluorobenzene**	9928203	81.26	**79**	ug	12495467	86 - 115	74 - 121	80.96	**100.4**

CAS#	Type	Internal Stanard Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	ISS Conc
462-06-6	I1	**fluorbenzene**	15729360	80.96	**71**	ug	22063613	81.0
3114-55-4	I2	**Chlorbenzene-d5**	11111940	80.96	**80**	ug	13854603	81.0
3855-82-1	I3	**1,4-Dichlorobenzene-d4**	18742834	80.96	**75**	ug	24897526	81.0

MDL = Method Detection Limit
PQL = Practical Quantition Limit = 4 x MDL
RDL = Reporting Detection Limit = MDL x Dilution Factor
MQL = Maximum Quantitation Limit = 110% x DF x Highest Calibration Standard

Reporting basis is Kg for solids and L for liquids

J qualifier = MDL < Result < PQL
E qualifier = Estimated Result > Highest Calibration Standard

Analyst

Approved

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\0804apr25\
Data File : 0800008.D
Acq On : 25 Apr 2008 1:25 pm
Operator : KEY
Sample : 697-11X A, 08-0565, 0423080565,
Misc : Water, 100xdil, Marathon Oil
ALS Vial : 8 Sample Multiplier: 1

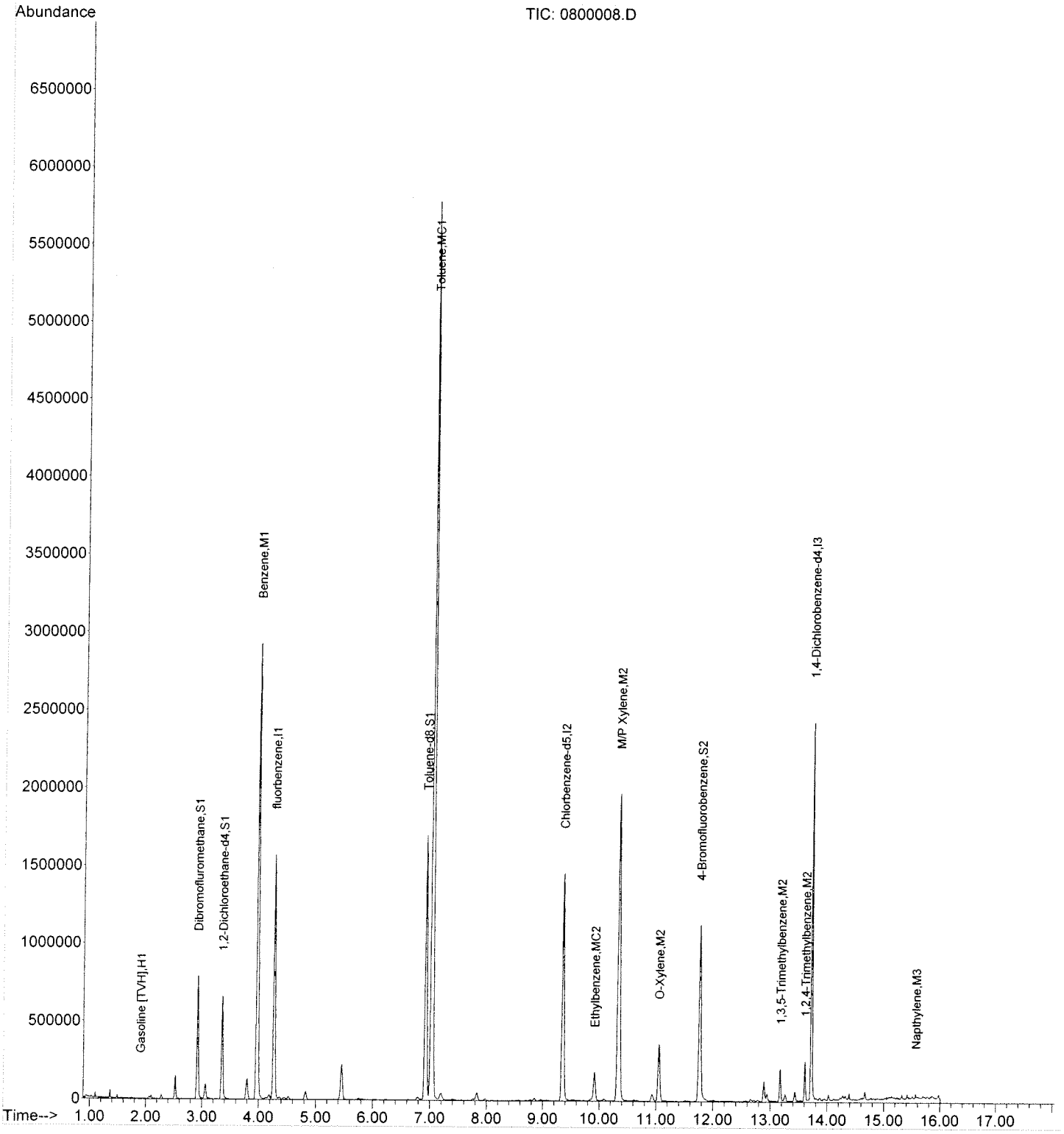
Quant Time: Apr 25 13:43:36 2008
Quant Method : C:\MSDCHEM\1\5973N\4VRXBTEX.M
Quant Title : VRXUTUST 8260/BTEX
QLast Update : Thu Jan 03 15:06:18 2008
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorbenzene	4.27	96	15729360	80.96	ug		0.00
9) Chlorbenzene-d5	9.35	82	11111940+	80.96	ug		0.00
16) 1,4-Dichlorobenzene-d4	13.72	152	18742834+	80.96	ug		0.00
System Monitoring Compounds							
4) Dibromofluromethane	2.92	111	8910535+	88.05	ug		0.00
Spiked Amount 80.956	Range 86 - 118		Recovery = 108.76%				
5) 1,2-Dichloroethane-d4	3.36	65	7193552+	87.20	ug		0.00
Spiked Amount 80.956	Range 80 - 120		Recovery = 107.71%				
7) Toluene-d8	6.92	98	15082341	85.82	ug		0.00
Spiked Amount 80.956	Range 88 - 110		Recovery = 106.01%				
13) 4-Bromofluorobenzene	11.77	174	9928203+	81.26	ug		0.00
Spiked Amount 80.956	Range 86 - 115		Recovery = 100.38%				
Target Compounds							Qvalue
2) Gasoline [TVH]	1.90	TIC	239089601m	1356.69	ug		
3) MTBE	0.00	73	0	N.D.			
6) Benzene	3.98	78	27396417	154.34	ug		100
8) Toluene	7.03	92	32753766	294.46	ug		99
10) Ethylbenzene	9.92	91	1944928	8.26	ug		99
11) M/P Xylene	10.34	91	20083413	110.30	ug		97
12) O-Xylene	11.05	91	3343400	17.89	ug		99
14) 1,3,5-Trimethylbenzene	13.18	105	1228805	6.79	ug		94
15) 1,2,4-Trimethylbenzene	13.61	105	1390455	7.70	ug		96
17) Napthylene	15.57	128	129382	0.92	ug	#	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\MSDChem\1\DATA\0804apr25\
Data File : 0800008.D
Acq On : 25 Apr 2008 1:25 pm
Operator : KEY
Sample : 697-11X A, 08-0565, 0423080565,
Misc : Water, 100xdil, Marathon Oil
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 25 13:43:36 2008
Quant Method : C:\MSDCHEM\1\5973N\4VRXBTEX.M
Quant Title : VRXUTUST 8260/BTEX
QLast Update : Thu Jan 03 15:06:18 2008
Response via : Initial Calibration



KEY LABORATORIES, INC.
2479 River Road Unit A
Grand Junction, CO 81505
(970)243-5311 FAX (970)243-6010

BTEX Analytical Report

Client : **Marathon Oil**
Client Project Name : **697-11X**

Lab QC Batch Sample : **08-0566, 697--11X B**
Key Lab # : **08-0566**
Work Order # : **0423080565**
Date Recieved : **04/23/08**
Method : EPA SW846 5030/5035/8260
Technician : KEY
Data File Name: 0900009.D
Date Analyzed : 25 Apr 2008 1:51 pm
Data File Path : C:\MSDCHEM\1\DATA\0804apr25\
Lab Sample Information : Water, 100xdil, Marathon Oil
Lab Sample Number : **697-11X B, 08-0566, M, 0423080565,**

Client Sample Number : **697-11XB**
Sampling Date : **4/23/2008**
Sampling Time : **16:40**
Sample Matrix : **Water**
Sampler : **Andrew**

Sample vol/wt = 5
Reported==>> x **DF =** **100**

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL	Spike	%REC
	H1	**Gasoline [TVH]**				150	ug							
1634-04-4	M1	**MTBE**	x	0	0.00	0.25	ug	100.	<	25.		48000		
71-43-2	M1	**Benzene**	x	24810084	143.97	0.4	ug	100.	**14000 ug/L**	40.		48000		
108-88-3	MC1	**Toluene**	x	29043673	268.96	1.6	ug	100.	**27000 ug/L**	160.		48000		
100-41-4	MC2	**Ethylbenzene**	x	1672892	7.25	0.27	ug	100.	**720 ug/L**	27.		48000		
		XYLENES (Total)	x		113.6	1.15	ug	100.	**11000 ug/L**	115.		14400000		
91-20-3	M3	**Napthylene**	x	67887	0.51	2	ug	100.	<	200.		48000		

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL
	M2	**M/P Xylene**	x	17395017	97.49	1.1	ug	100.	**9700 ug/L**	110.		96000
95-47-6	M2	**O-Xylene**	x	2952244	16.12	0.47	ug	100.	**1600 ug/L**	47.		48000
108-67-8	M2	**1,3,5-Trimethylbenzene**	x	968036	5.45	0.65	ug	100.	**550 ug/L**	65.		48000
95-63-6	M2	**1,2,4-Trimethylbenzene**	x	1126125	6.36	1.18	ug	100.	**640 ug/L**	118.		48000
		Gasoline (TVH) Subtraction Blank =			0							

CAS#	Type	System Monitoring Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	Water Limits	Soil Limits	Spike	%Rec
1868-53-7	S1	**Dibromofluromethane**	8727533	88.83	**76**	ug	11557220	86 - 118	80 - 120	80.96	**109.7**
17060-07-0	S1	**1,2-Dichloroethane-d4**	7073235	88.32	**75**	ug	9435768	80 - 120	80 - 120	80.96	**109.1**
2037-26-5	S1	**Toluene-d8**	14638053	85.80	**74**	ug	19904284	88 - 110	81 - 117	80.96	**106.**
460-00-4	S2	**4-Bromofluorobenzene**	9423204	78.71	**75**	ug	12495467	86 - 115	74 - 121	80.96	**97.2**

CAS#	Type	Internal Stanard Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	ISS Conc
462-06-6	I1	**fluorbenzene**	15269920	80.96	**69**	ug	22063613	81.0
3114-55-4	I2	**Chlorbenzene-d5**	10889100	80.96	**79**	ug	13854603	81.0
3855-82-1	I3	**1,4-Dichlorobenzene-d4**	17567742	80.96	**71**	ug	24897526	81.0

MDL = Method Detection Limit
PQL = Practical Quantition Limit = 4 x MDL
RDL = Reporting Detection Limit = MDL x Dilution Factor
MQL = Maximum Quantitation Limit = 110% x DF x Highest Calibration Standard

Reporting basis is Kg for solids and L for liquids

J qualifier = MDL < Result < PQL
E qualifier = Estimated Result > Highest Calibration Standard

Analyst

Approved

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\0804apr25\
Data File : 0900009.D
Acq On : 25 Apr 2008 1:51 pm
Operator : KEY
Sample : 697-11X B, 08-0566, M, 0423080565,
Misc : Water, 100xdil, Marathon Oil
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 25 14:09:39 2008
Quant Method : C:\MSDCHEM\1\5973N\4VRXBTEX.M
Quant Title : VRXUTUST 8260/BTEX
QLast Update : Thu Jan 03 15:06:18 2008
Response via : Initial Calibration

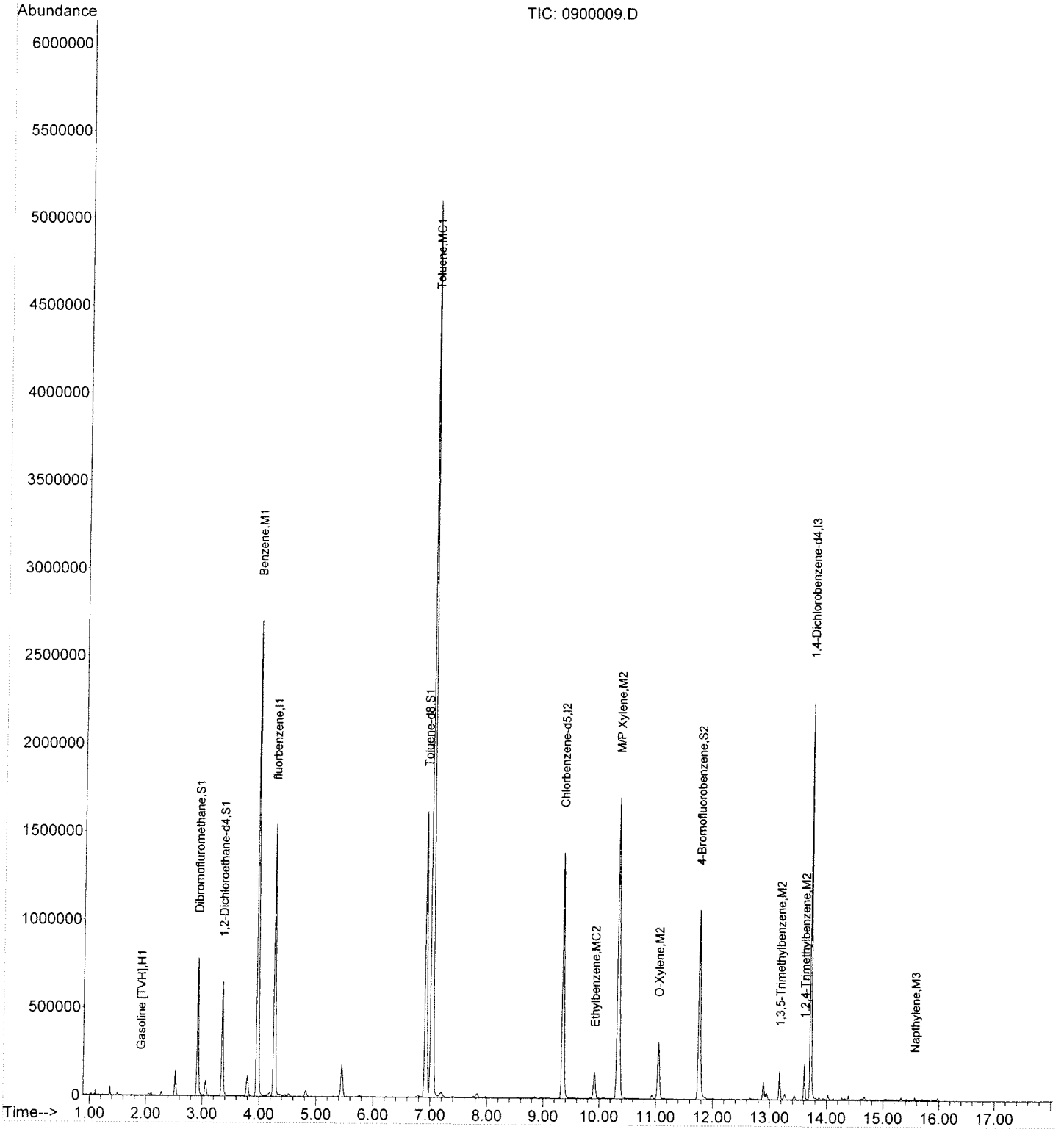
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorbenzene	4.27	96	15269920	80.96	ug	0.00
9) Chlorbenzene-d5	9.35	82	10889100+	80.96	ug	0.00
16) 1,4-Dichlorobenzene-d4	13.72	152	17567742+	80.96	ug	0.00
System Monitoring Compounds						
4) Dibromofluromethane	2.92	111	8727533+	88.83	ug	0.00
Spiked Amount 80.956	Range 86 - 118		Recovery = 109.73%			
5) 1,2-Dichloroethane-d4	3.36	65	7073235+	88.32	ug	0.00
Spiked Amount 80.956	Range 80 - 120		Recovery = 109.10%			
7) Toluene-d8	6.92	98	14638053	85.80	ug	0.00
Spiked Amount 80.956	Range 88 - 110		Recovery = 105.98%			
13) 4-Bromofluorobenzene	11.77	174	9423204+	78.71	ug	0.00
Spiked Amount 80.956	Range 86 - 115		Recovery = 97.23%			
Target Compounds						Qvalue
2) Gasoline [TVH]	1.90	TIC	201355691m	1176.95	ug	
3) MTBE	0.00	73	0	N.D.		
6) Benzene	3.97	78	24810084	143.97	ug	99
8) Toluene	7.03	92	29043673	268.96	ug	99
10) Ethylbenzene	9.92	91	1672892	7.25	ug	98
11) M/P Xylene	10.33	91	17395017	97.49	ug	98
12) O-Xylene	11.05	91	2952244	16.12	ug	98
14) 1,3,5-Trimethylbenzene	13.18	105	968036	5.45	ug	96
15) 1,2,4-Trimethylbenzene	13.61	105	1126125	6.36	ug	97
17) Napthylene	15.57	128	67887	0.51	ug #	70

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\0804apr25\
Data File : 0900009.D
Acq On : 25 Apr 2008 1:51 pm
Operator : KEY
Sample : 697-11X B, 08-0566, M, 0423080565,
Misc : Water, 100xdil, Marathon Oil
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 25 14:09:39 2008
Quant Method : C:\MSDCHEM\1\5973N\4VRXBTEX.M
Quant Title : VRXUTUST 8260/BTEX
QLast Update : Thu Jan 03 15:06:18 2008
Response via : Initial Calibration



KEY LABORATORIES, INC.
2479 River Road Unit A
Grand Junction, CO 81505
(970)243-5311 FAX (970)243-6010

BTEX Analytical Report

Client : **Marathon Oil**
Client Project Name : **697-11X**

Lab QC Batch Sample : **08-0566, 697--11X B**
Key Lab # : **08-0566**
Work Order # : **0423080565**
Date Recieved : **04/23/08**
Method : EPA SW846 5030/5035/8260
Technician : KEY
Data File Name: 1000010.D
Date Analyzed : 25 Apr 2008 2:17 pm
Data File Path : C:\MSDCHEM\1\DATA\0804apr25\
Lab Sample Information : Water, 100xdil, Marathon Oil
Lab Sample Number : **697-11X B, 08-0566, MD, 0423080565,**

Client Sample Number : **697-11XB** **DUP**
Sampling Date : **4/23/2008**
Sampling Time : **16:40**
Sample Matrix : **Water**
Sampler : **Andrew**

Sample vol/wt = 5
Reported==>> x **DF =** **100**

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL	Spike	%REC
	H1	**Gasoline [TVH]**				150	ug							
1634-04-4	M1	**MTBE**	x	0	0.00	0.25	ug	100.	<	25.		48000		
71-43-2	M1	**Benzene**	x	24900795	140.09	0.4	ug	100.	**14000 ug/L**	40.		48000		
108-88-3	MC1	**Toluene**	x	29331956	263.33	1.6	ug	100.	**26000 ug/L**	160.		48000		
100-41-4	MC2	**Ethylbenzene**	x	1696980	7.17	0.27	ug	100.	**720 ug/L**	27.		48000		
		XYLENES (Total)	x		112.7	1.15	ug	100.	**11000 ug/L**	115.		14400000		
91-20-3	M3	**Napthylene**	x	63833	0.47	2	ug	100.	<	200.		48000		

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL
	M2	**M/P Xylene**	x	17656800	96.51	1.1	ug	100.	**9700 ug/L**	110.		96000
95-47-6	M2	**O-Xylene**	x	3045304	16.22	0.47	ug	100.	**1600 ug/L**	47.		48000
108-67-8	M2	**1,3,5-Trimethylbenzene**	x	974407	5.35	0.65	ug	100.	**540 ug/L**	65.		48000
95-63-6	M2	**1,2,4-Trimethylbenzene**	x	1118549	6.16	1.18	ug	100.	**620 ug/L**	118.		48000
		Gasoline (TVH) Subtraction Blank =			0							

CAS#	Type	System Monitoring Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	Water Limits	Soil Limits	Spike	%Rec
1868-53-7	S1	**Dibromofluromethane**	9078752	89.58	**79**	ug	11557220	86 - 118	80 - 120	80.96	**110.7**
17060-07-0	S1	**1,2-Dichloroethane-d4**	7358279	89.07	**78**	ug	9435768	80 - 120	80 - 120	80.96	**110.**
2037-26-5	S1	**Toluene-d8**	14941549	84.90	**75**	ug	19904284	88 - 110	81 - 117	80.96	**104.9**
460-00-4	S2	**4-Bromofluorobenzene**	9775729	79.63	**78**	ug	12495467	86 - 115	74 - 121	80.96	**98.4**

CAS#	Type	Internal Stanard Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	ISS Conc
462-06-6	I1	**fluorbenzene**	15751067	80.96	**71**	ug	22063613	81.0
3114-55-4	I2	**Chlorbenzene-d5**	11165275	80.96	**81**	ug	13854603	81.0
3855-82-1	I3	**1,4-Dichlorobenzene-d4**	18016099	80.96	**72**	ug	24897526	81.0

MDL = Method Detection Limit
PQL = Practical Quantition Limit = 4 x MDL
RDL = Reporting Detection Limit = MDL x Dilution Factor
MQL = Maximum Quantitation Limit = 110% x DF x Highest Calibration Standard

Reporting basis is Kg for solids and L for liquids

J qualifier = MDL < Result < PQL
E qualifier = Estimated Result > Highest Calibration Standard

Analyst

Approved

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\0804apr25\
Data File : 1000010.D
Acq On : 25 Apr 2008 2:17 pm
Operator : KEY
Sample : 697-11X B, 08-0566, MD, 0423080565,
Misc : Water, 100xdil, Marathon Oil
ALS Vial : 10 Sample Multiplier: 1

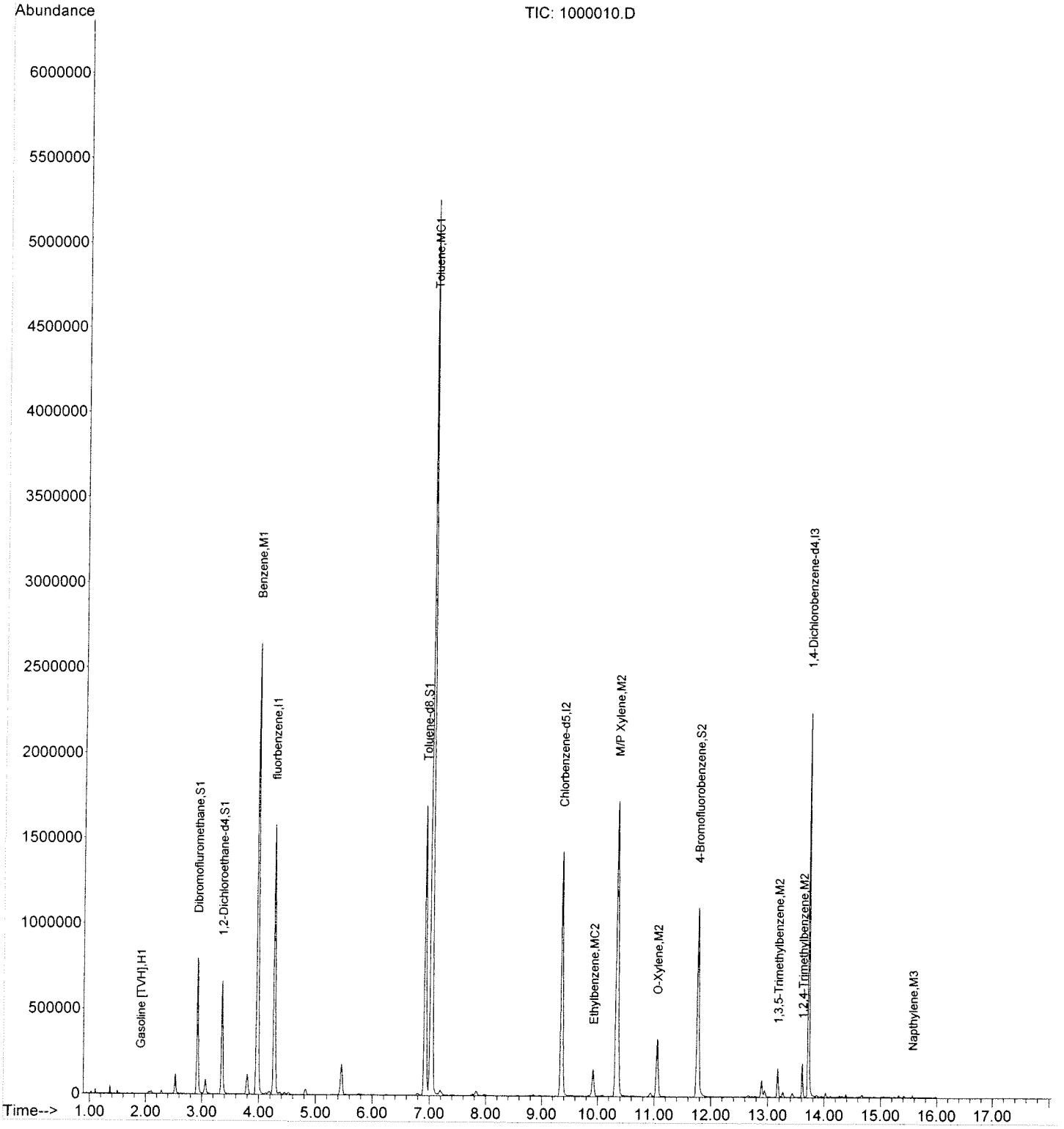
Quant Time: Apr 25 14:35:44 2008
Quant Method : C:\MSDCHEM\1\5973N\4VRXBTEX.M
Quant Title : VRXUTUST 8260/BTEX
QLast Update : Thu Jan 03 15:06:18 2008
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorbenzene	4.27	96	15751067	80.96	ug		0.00
9) Chlorbenzene-d5	9.36	82	11165275+	80.96	ug		0.00
16) 1,4-Dichlorobenzene-d4	13.72	152	18016099+	80.96	ug		0.00
System Monitoring Compounds							
4) Dibromofluromethane	2.92	111	9078752+	89.58	ug		0.00
Spiked Amount 80.956	Range 86 - 118		Recovery = 110.65%				
5) 1,2-Dichloroethane-d4	3.36	65	7358279+	89.07	ug		0.00
Spiked Amount 80.956	Range 80 - 120		Recovery = 110.02%				
7) Toluene-d8	6.92	98	14941549	84.90	ug		0.00
Spiked Amount 80.956	Range 88 - 110		Recovery = 104.87%				
13) 4-Bromofluorobenzene	11.77	174	9775729+	79.63	ug		0.00
Spiked Amount 80.956	Range 86 - 115		Recovery = 98.36%				
Target Compounds							Qvalue
2) Gasoline [TVH]	1.90	TIC	199137436m	1128.43	ug		
3) MTBE	0.00	73	0	N.D.			
6) Benzene	3.98	78	24900795	140.09	ug		100
8) Toluene	7.03	92	29331956	263.33	ug		99
10) Ethylbenzene	9.92	91	1696980	7.17	ug		97
11) M/P Xylene	10.34	91	17656800	96.51	ug		98
12) O-Xylene	11.05	91	3045304	16.22	ug		97
14) 1,3,5-Trimethylbenzene	13.18	105	974407	5.35	ug		94
15) 1,2,4-Trimethylbenzene	13.61	105	1118549	6.16	ug		95
17) Napthylene	15.57	128	63833	0.47	ug	#	70

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\MSDChem\1\DATA\0804apr25\
Data File : 1000010.D
Acq On : 25 Apr 2008 2:17 pm
Operator : KEY
Sample : 697-11X B, 08-0566, MD, 0423080565,
Misc : Water, 100xdil, Marathon Oil
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 25 14:35:44 2008
Quant Method : C:\MSDCHEM\1\5973N\4VRXBTEX.M
Quant Title : VRXUTUST 8260/BTEX
QLast Update : Thu Jan 03 15:06:18 2008
Response via : Initial Calibration



KEY LABORATORIES, INC.
2479 River Road Unit A
Grand Junction, CO 81505
(970)243-5311 FAX (970)243-6010

BTEX Analytical Report

Client : **Marathon Oil**
Client Project Name : **697-11X**

Lab QC Batch Sample : **08-0566, 697-11X B**
Key Lab # : **08-0002**
Work Order # : **0101080000**
Date Recieved : **04/23/08**
Method : EPA SW846 5030/5035/8260
Technician : KEY
Data File Name: 0201002.D
Date Analyzed : 25 Apr 2008 10:49 am
Data File Path : C:\MSDCHEM\1\DATA\0804apr25\
Lab Sample Information : 5uL #363
Lab Sample Number : **Blank, 08-0002, 0101080000,**

Client Sample Number : **Blank**
Sampling Date : **4/23/2008**
Sampling Time :
Sample Matrix : **water**
Sampler : **Andy**

Sample vol/wt = 5
Reported==>> **x** **DF =** **1**

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc		RDL	Qual	MQL	Spike	%REC
	H1	**Gasoline [TVH]**	x	-2147484	-334.61	150	ug	1.		<	.15		40		
1634-04-4	M1	**MTBE**	x	0	0.00	0.25	ug	1.		<	.25		480		
71-43-2	M1	**Benzene**	x	66910	0.39	0.4	ug	1.		<	.4		480		
108-88-3	MC1	**Toluene**	x	171569	1.59	1.6	ug	1.		<	1.6		480		
100-41-4	MC2	**Ethylbenzene**	x	38757	0.17	0.27	ug	1.		<	.27		480		
		XYLENES (Total)	x		1.1	1.15	ug	1.		<	1.15		1440		
91-20-3	M3	**Napthylene**	x	58731	0.45	2	ug	1.		<	2.		480		

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc		RDL	Qual	MQL
	M2	**M/P Xylene**	x	158765	0.91	1.1	ug	1.		<	1.1		960
95-47-6	M2	**O-Xylene**	x	38129	0.21	0.47	ug	1.		<	.47		480
108-67-8	M2	**1,3,5-Trimethylbenzene**	x	33661	0.19	0.65	ug	1.		<	.65		480
95-63-6	M2	**1,2,4-Trimethylbenzene**	x	57592	0.33	1.18	ug	1.		<	1.18		480
		Gasoline (TVH) Subtraction Blank =			0								

CAS#	Type	System Monitoring Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	Water Limits	Soil Limits	Spike	%Rec
1868-53-7	S1	**Dibromofluromethane**	8765327	89.54	**76**	ug	11557220	86 - 118	80 - 120	80.96	**110.6**
17060-07-0	S1	**1,2-Dichloroethane-d4**	6941725	87.00	**74**	ug	9435768	80 - 120	80 - 120	80.96	**107.5**
2037-26-5	S1	**Toluene-d8**	14466491	85.11	**73**	ug	19904284	88 - 110	81 - 117	80.96	**105.1**
460-00-4	S2	**4-Bromofluorobenzene**	9155018	77.99	**73**	ug	12495467	86 - 115	74 - 121	80.96	**96.3**

CAS#	Type	Internal Stanard Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	ISS Conc
462-06-6	I1	**fluorbenzene**	15214081	80.96	**69**	ug	22063613	81.0
3114-55-4	I2	**Chlorbenzene-d5**	10676368	80.96	**77**	ug	13854603	81.0
3855-82-1	I3	**1,4-Dichlorobenzene-d4**	17318379	80.96	**70**	ug	24897526	81.0

MDL = Method Detection Limit
PQL = Practical Quantition Limit = 4 x MDL
RDL = Reporting Detection Limit = MDL x Dilution Factor
MQL = Maximum Quantitation Limit = 110% x DF x Highest Calibration Standard

Reporting basis is Kg for solids and L for liquids

J qualifier = MDL < Result < PQL
E qualifier = Estimated Result > Highest Calibration Standard

Analyst

Approved

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\0804apr25\
Data File : 0201002.D
Acq On : 25 Apr 2008 10:49 am
Operator : KEY
Sample : Blank, 08-0002, 0101080000,
Misc : 5uL #363
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 25 11:07:31 2008
Quant Method : C:\MSDCHEM\1\5973N\4VRXBTEX.M
Quant Title : VRXUTUST 8260/BTEX
QLast Update : Thu Jan 03 15:06:18 2008
Response via : Initial Calibration

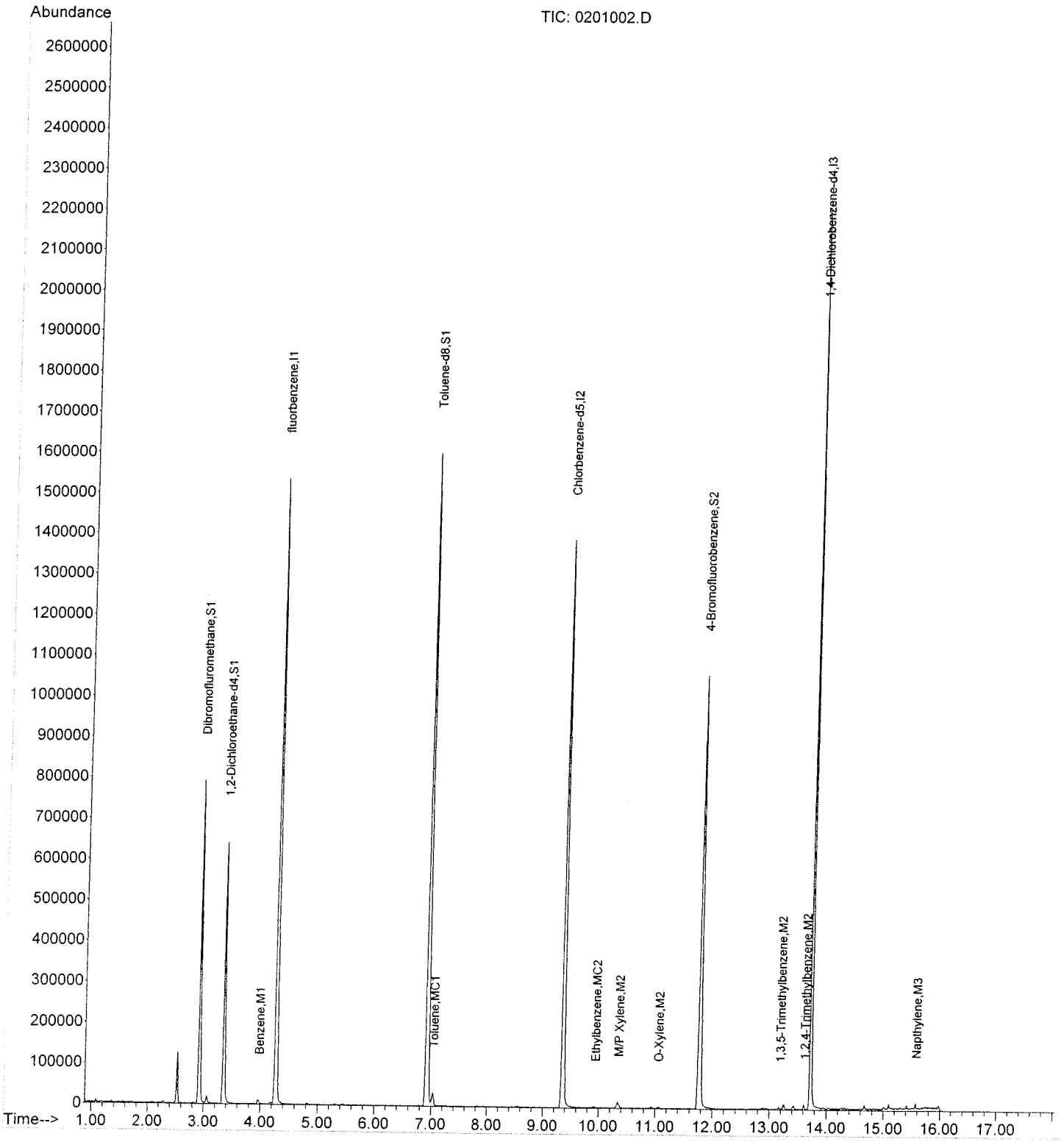
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorbenzene	4.27	96	15214081	80.96	ug		0.00
9) Chlorbenzene-d5	9.35	82	10676368+	80.96	ug		0.00
16) 1,4-Dichlorobenzene-d4	13.72	152	17318379+	80.96	ug		0.00
System Monitoring Compounds							
4) Dibromofluromethane	2.92	111	8765327+	89.54	ug		0.00
Spiked Amount 80.956	Range 86 - 118		Recovery = 110.60%				
5) 1,2-Dichloroethane-d4	3.36	65	6941725+	87.00	ug		0.00
Spiked Amount 80.956	Range 80 - 120		Recovery = 107.47%				
7) Toluene-d8	6.92	98	14466491	85.11	ug		0.00
Spiked Amount 80.956	Range 88 - 110		Recovery = 105.13%				
13) 4-Bromofluorobenzene	11.77	174	9155018+	77.99	ug		0.00
Spiked Amount 80.956	Range 86 - 115		Recovery = 96.34%				
Target Compounds							Qvalue
2) Gasoline [TVH]	1.90	TIC	-57035852m	Below Cal			
3) MTBE	0.00	73	0	N.D.			
6) Benzene	3.98	78	66910	0.39	ug		94
8) Toluene	7.03	92	171569	1.59	ug		95
10) Ethylbenzene	9.93	91	38757	0.17	ug	#	54
11) M/P Xylene	10.34	91	158765	0.91	ug	#	90
12) O-Xylene	11.05	91	38129	0.21	ug	#	78
14) 1,3,5-Trimethylbenzene	13.18	105	33661	0.19	ug	#	77
15) 1,2,4-Trimethylbenzene	13.61	105	57592	0.33	ug	#	89
17) Napthylene	15.57	128	58731	0.45	ug	#	70

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\0804apr25\
Data File : 0201002.D
Acq On : 25 Apr 2008 10:49 am
Operator : KEY
Sample : Blank, 08-0002, 0101080000,
Misc : 5uL #363
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 25 11:07:31 2008
Quant Method : C:\MSDCHEM\1\5973N\4VRXBTEX.M
Quant Title : VRXUTUST 8260/BTEX
QLast Update : Thu Jan 03 15:06:18 2008
Response via : Initial Calibration



KEY LABORATORIES, INC.
2479 River Road Unit A
Grand Junction, CO 81505
(970)243-5311 FAX (970)243-6010

BTEX Analytical Report

Client : **Marathon Oil**
Client Project Name : **697-11X**

Lab QC Batch Sample : **08-0566, 697-11X B**
Key Lab # : **08-0001**
Work Order # : **0101080000**
Date Recieved : **04/23/08**
Method : EPA SW846 5030/5035/8260
Technician : KEY
Data File Name: 0101001.D
Date Analyzed : 25 Apr 2008 9:50 am
Data File Path : C:\MSDCHEM\1\DATA\0804apr25\
Lab Sample Information : 1uL #367 + 5uL #363
Lab Sample Number : **CC 8260 40 ppb, 08-0001, 0101080000,**

Client Sample Number : **Continuing Calibration Check**
Sampling Date : **4/23/2008**
Sampling Time :
Sample Matrix : **water**
Sampler : **Andy**

Sample vol/wt = 5
Reported==>> x **DF =** **1**

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL	Spike	%REC
	H1	**Gasoline [TVH]**	x	108938399	619.75	150	ug	1.	**0.62 mg/L**	.15		40		
1634-04-4	M1	**MTBE**	x	4301121	50.32	0.25	ug	1.	**50 ug/L**	.25		480	40.	**125.8**
71-43-2	M1	**Benzene**	x	7715999	43.58	0.4	ug	1.	**44 ug/L**	.4		480	40.	**109.0**
108-88-3	MC1	**Toluene**	x	5050176	45.52	1.6	ug	1.	**46 ug/L**	1.6		480	40.	**113.8**
100-41-4	MC2	**Ethylbenzene**	x	9431357	40.20	0.27	ug	1.	**40 ug/L**	.27		480	40.	**100.5**
		XYLENES (Total)	x		125.7	1.15	ug	1.	**130 ug/L**	1.15		1440	120.	**104.8**
91-20-3	M3	**Napthylene**	x	5276085	36.49	2	ug	1.	**36 ug/L**	2.		480	40.	**91.2**

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL	Spike	%Rec
	M2	**M/P Xylene**	x	15357803	84.69	1.1	ug	1.	**85 ug/L**	1.1		960	80.	**105.9**
95-47-6	M2	**O-Xylene**	x	7637529	41.03	0.47	ug	1.	**41 ug/L**	.47		480	40.	**102.6**
108-67-8	M2	**1,3,5-Trimethylbenzene**	x	7508390	41.63	0.65	ug	1.	**42 ug/L**	.65		480	40.	**104.1**
95-63-6	M2	**1,2,4-Trimethylbenzene**	x	7494097	41.65	1.18	ug	1.	**42 ug/L**	1.18		480	40.	**104.1**
		Gasoline (TVH) Subtraction Blank =			0									

CAS#	Type	System Monitoring Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	Water Limits	Soil Limits	Spike	%Rec
1868-53-7	S1	**Dibromofluromethane**	9047402	89.63	**78**	ug	11557220	86 - 118	80 - 120	80.96	**110.7**
17060-07-0	S1	**1,2-Dichloroethane-d4**	7275843	88.42	**77**	ug	9435768	80 - 120	80 - 120	80.96	**109.2**
2037-26-5	S1	**Toluene-d8**	14832376	84.62	**75**	ug	19904284	88 - 110	81 - 117	80.96	**104.5**
460-00-4	S2	**4-Bromofluorobenzene**	9893943	81.30	**79**	ug	12495467	86 - 115	74 - 121	80.96	**100.4**

CAS#	Type	Internal Stanard Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	ISS Conc
462-06-6	I1	**fluorbenzene**	15689119	80.96	**71**	ug	22063613	81.0
3114-55-4	I2	**Chlorbenzene-d5**	11067789	80.96	**80**	ug	13854603	81.0
3855-82-1	I3	**1,4-Dichlorobenzene-d4**	19173457	80.96	**77**	ug	24897526	81.0

MDL = Method Detection Limit
PQL = Practical Quantition Limit = 4 x MDL
RDL = Reporting Detection Limit = MDL x Dilution Factor
MQL = Maximum Quantitation Limit = 110% x DF x Highest Calibration Standard

Reporting basis is Kg for solids and L for liquids

J qualifier = MDL < Result < PQL
E qualifier = Estimated Result > Highest Calibration Standard

Analyst

Approved

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\0804apr25\
Data File : 0101001.D
Acq On : 25 Apr 2008 9:50 am
Operator : KEY
Sample : CC 8260 40 ppb, 08-0001, 0101080000,
Misc : 1uL #367 + 5uL #363
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 25 10:08:45 2008
Quant Method : C:\MSDCHEM\1\5973N\4VRXBTEX.M
Quant Title : VRXUTUST 8260/BTEX
QLast Update : Thu Jan 03 15:06:18 2008
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorbenzene	4.27	96	15689119	80.96	ug	0.00
9) Chlorbenzene-d5	9.35	82	11067789+	80.96	ug	0.00
16) 1,4-Dichlorobenzene-d4	13.72	152	19173457+	80.96	ug	0.00
System Monitoring Compounds						
4) Dibromofluromethane	2.92	111	9047402+	89.63	ug	0.00
Spiked Amount 80.956	Range 86 - 118		Recovery = 110.71%			
5) 1,2-Dichloroethane-d4	3.36	65	7275843+	88.42	ug	0.00
Spiked Amount 80.956	Range 80 - 120		Recovery = 109.22%			
7) Toluene-d8	6.92	98	14832376	84.62	ug	0.00
Spiked Amount 80.956	Range 88 - 110		Recovery = 104.53%			
13) 4-Bromofluorobenzene	11.77	174	9893943+	81.30	ug	0.00
Spiked Amount 80.956	Range 86 - 115		Recovery = 100.42%			
Target Compounds						Qvalue
2) Gasoline [TVH]	1.90	TIC	108938399m	619.75	ug	
3) MTBE	2.15	73	4301121	50.32	ug	# 96
6) Benzene	3.98	78	7715999	43.58	ug	100
8) Toluene	7.03	92	5050176	45.52	ug	98
10) Ethylbenzene	9.92	91	9431357	40.20	ug	99
11) M/P Xylene	10.34	91	15357803	84.69	ug	97
12) O-Xylene	11.05	91	7637529	41.03	ug	98
14) 1,3,5-Trimethylbenzene	13.18	105	7508390	41.63	ug	96
15) 1,2,4-Trimethylbenzene	13.61	105	7494097	41.65	ug	98
17) Napthylene	15.57	128	5276085	36.49	ug	# 100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Evaluate Continuing Calibration Report

Data Path : C:\MSDChem\1\DATA\0804apr25\
Data File : 0101001.D
Acq On : 25 Apr 2008 9:50 am
Operator : KEY
Sample : CC 8260 40 ppb, 08-0001, 0101080000,
Misc : 1uL #367 + 5uL #363
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 25 10:08:45 2008
Quant Method : C:\MSDCHEM\1\5973N\4VRXBTEX.M
Quant Title : VRXUTUST 8260/BTEX
QLast Update : Thu Jan 03 15:06:18 2008
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I1	fluorbenzene	1.000	1.000	0.0	75	0.00
2	H1	Gasoline [TVH]	0.907	0.865	4.6	76	0.00
3	M1	MTBE	0.441	0.555	-25.9#	89	0.00
4	S1	Dibromofluromethane	0.521	0.577	-10.7	79	0.00
5	S1	1,2-Dichloroethane-d4	0.425	0.464	-9.2	81	0.00
6	M1	Benzene	0.914	0.995	-8.9	74	0.00
7	S1	Toluene-d8	0.904	0.945	-4.5	78	0.00
8	MC1	Toluene	0.572	0.651	-13.8	77	0.00
9	I2	Chlorbenzene-d5	1.000	1.000	0.0	83	0.00
10	MC2	Ethylbenzene	1.716	1.725	-0.5	78	0.00
11	M2	M/P Xylene	1.327	1.404	-5.8	80	0.00
12	M2	O-Xylene	1.362	1.397	-2.6	80	0.00
13	S2	4-Bromofluorobenzene	0.890	0.894	-0.4	82	0.00
14	M2	1,3,5-Trimethylbenzene	1.319	1.373	-4.1	81	0.00
15	M2	1,2,4-Trimethylbenzene	1.316	1.370	-4.1	80	0.00
16	I3	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	81	0.00
17	M3	Napthylene	0.610	0.557	8.7	70	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Spike Recovery and RPD Summary Report - WATER

Method Path : C:\MSDCHEM\1\5973N\
Method File : 4VRXBTEX.M
Title : VRXUTUST 8260/BTEX
Last Update : Thu Jan 03 15:06:18 2008
Response Via : Initial Calibration

Datafile Path: C:\MSDCHEM\1\DATA\0804APR25\

------Sample-------
File : 1000010.D
Name : 697-11X B, 08-0566, MD, 0423080565, Acq Time: 25 Apr 2008 2:17 pm

------Spike--------
File : 1100011.D
Name : 697-11X B, 08-0566, MS, 0423080565, Acq Time: 25 Apr 2008 2:43 pm

--Spike Duplicate--
File : 1200012.D
Name : 697-11X B, 08-0566, MSD, 0423080565, Acq Time: 25 Apr 2008 3:09 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
MTBE	0.0	40	49	48	123	119	3	21	61-145
Benzene	140.1	40	182	180	104	99	5	15	92-124
Toluene	263.3	40	304	302	102	96	6	15	92-123
Ethylbenzene	7.2	40	46	47	98	99	0	21	80-122
M/P Xylene	96.5	80	178	175	102	99	4	17	86-120
O-Xylene	16.2	40	56	56	100	100	0	16	87-120
1,3,5-Trimethylbenze	5.4	40	45	45	100	100	1	23	78-125
1,2,4-Trimethylbenze	6.2	40	46	46	99	100	1	25	78-130
Napthylene	0.5	40	28	26	68#	65#	6	32	72-139

- Fails Limit Check

4VRXBTEX.M Fri Apr 25 17:20:48 2008

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\0804apr25\
Data File : 1100011.D
Acq On : 25 Apr 2008 2:43 pm
Operator : KEY
Sample : 697-11X B, 08-0566, MS, 0423080565,
Misc : Water, 100xdil, Marathon Oil
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 25 15:01:44 2008
Quant Method : C:\MSDCHEM\1\5973N\4VRXBTEX.M
Quant Title : VRXUTUST 8260/BTEX
QLast Update : Thu Jan 03 15:06:18 2008
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorbenzene	4.27	96	15051321	80.96	ug		0.00
9) Chlorbenzene-d5	9.35	82	10657348+	80.96	ug		0.00
16) 1,4-Dichlorobenzene-d4	13.72	152	18001894+	80.96	ug		0.00
System Monitoring Compounds							
4) Dibromofluromethane	2.92	111	8648262+	89.30	ug		0.00
Spiked Amount 80.956	Range 86 - 118		Recovery = 110.31%				
5) 1,2-Dichloroethane-d4	3.36	65	7021231+	88.94	ug		0.00
Spiked Amount 80.956	Range 80 - 120		Recovery = 109.86%				
7) Toluene-d8	6.92	98	14380046	85.51	ug		0.00
Spiked Amount 80.956	Range 88 - 110		Recovery = 105.62%				
13) 4-Bromofluorobenzene	11.77	174	9419800+	80.39	ug		0.00
Spiked Amount 80.956	Range 86 - 115		Recovery = 99.30%				
Target Compounds							Qvalue
2) Gasoline [TVH]	1.90	TIC	347636914m	2061.49	ug		
3) MTBE	2.15	73	4035816	49.21	ug	#	96
6) Benzene	3.98	78	30842550	181.58	ug		99
8) Toluene	7.03	92	32386841	304.27	ug		99
10) Ethylbenzene	9.92	91	10500816	46.48	ug		99
11) M/P Xylene	10.34	91	31147538	178.37	ug		97
12) O-Xylene	11.05	91	10090577	56.30	ug		98
14) 1,3,5-Trimethylbenzene	13.18	105	7852682	45.21	ug		96
15) 1,2,4-Trimethylbenzene	13.61	105	7895179	45.56	ug		97
17) Napthylene	15.57	128	3775843	27.82	ug	#	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\0804apr25\
Data File : 1200012.D
Acq On : 25 Apr 2008 3:09 pm
Operator : KEY
Sample : 697-11X B, 08-0566, MSD, 0423080565,
Misc : Water, 100xdil, Marathon Oil
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 25 15:27:45 2008
Quant Method : C:\MSDCHEM\1\5973N\4VRXBTEX.M
Quant Title : VRXUTUST 8260/BTEX
QLast Update : Thu Jan 03 15:06:18 2008
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorbenzene	4.27	96	14736033	80.96	ug		0.00
9) Chlorbenzene-d5	9.35	82	10420755+	80.96	ug		0.00
16) 1,4-Dichlorobenzene-d4	13.72	152	17495079+	80.96	ug		0.00
System Monitoring Compounds							
4) Dibromofluromethane	2.92	111	8331207+	87.87	ug		0.00
Spiked Amount 80.956	Range 86 - 118		Recovery = 108.54%				
5) 1,2-Dichloroethane-d4	3.36	65	6779270+	87.72	ug		0.00
Spiked Amount 80.956	Range 80 - 120		Recovery = 108.35%				
7) Toluene-d8	6.92	98	14006309	85.07	ug		0.00
Spiked Amount 80.956	Range 88 - 110		Recovery = 105.08%				
13) 4-Bromofluorobenzene	11.77	174	9160256+	79.95	ug		0.00
Spiked Amount 80.956	Range 86 - 115		Recovery = 98.76%				
Target Compounds							Qvalue
2) Gasoline [TVH]	1.90	TIC	338148791m	2048.13	ug		
3) MTBE	2.15	73	3826527	47.66	ug	#	96
6) Benzene	3.98	78	29864504	179.59	ug		99
8) Toluene	7.03	92	31456548	301.86	ug		100
10) Ethylbenzene	9.92	91	10299429	46.62	ug		97
11) M/P Xylene	10.34	91	29961026	175.47	ug		98
12) O-Xylene	11.05	91	9857572	56.24	ug		97
14) 1,3,5-Trimethylbenzene	13.18	105	7725639	45.49	ug		96
15) 1,2,4-Trimethylbenzene	13.61	105	7801816	46.05	ug		97
17) Napthylene	15.57	128	3466731	26.28	ug	#	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Key Laboratories
2479 River Road, Unit A
Grand Junction, Colorado 81502
Phone (970) 243-5311 Fax (970) 243-6010

Client: **Marathon Oil**
Client Project Name: **697-11X**
Client Sample Number: **697-11XB**

Key Lab #: **08-0566**
Work Order #: **0423080565**
Date Received: **04/23/08**
Method: EPA ICP-MS Methods 6020 / 200.8
Technician: VS 4/28/08

Sampling Date: **4/23/2008**
Sampling Time: **16:40**
Sample Matrix:
Sampler: **Andrew**

Date Analyzed: **Tuesday, April 22, 2008 18:25:51**

	Key Lab Sample ID#	WI-0424-08-0566-14	WI-0424-08-0566-14	WI-0424-08-0000-01_LMB
	Sample Description:	697-11XB	697-11XB	LMB
	Sample Aliquot [mg]:	25000	25000	25000
	DF Corr==>>	1.000	1.000	1.000
	Prep DF==>>	10	5000	10
Pass Audit ==>> x	Total DF==>>	10	5000	10

Analysis Method	Ion Mass	Time [ms]	Symbol	Audit	Analyte	Total Metals	Total Metals	Units		Total DF	MDL ppm	PQL ppm	Max QL ppm
ICP-MS	9	90	Be		Beryllium			mg/Liter		10	0.0004	0.0016	10
ICP-MS	11	90	B	x	Boron	4.2		mg/Liter	<	10	0.05	0.2	10
ICP-MS	23	90	Na	x	Sodium	>>E	4000	mg/Liter	<	10	0.1	0.4	100
ICP-MS	24	90	Mg		Magnesium			mg/Liter		10	0.05	0.2	100
ICP-MS	27	90	Al		Aluminum			mg/Liter		10	0.01	0.04	2
ICP-MS	28	90	Si		Silicon			mg/Liter		10	0.1	0.4	100
ICP-MS	31	90	P		Phosphorous			mg/Liter		10	0.1	0.4	100
ICP-MS	39	90	K		Potassium			mg/Liter		10	0.8	3.2	100
ICP-MS	44	180	Ca	x	Calcium	76		mg/Liter	<	10	0.25	1	100
ICP-MS	48	90	Ti		Titanium			mg/Liter		10	0.03	0.12	10
ICP-MS	51	90	V		Vanandium			mg/Liter		10	0.03	0.12	2
ICP-MS	52	90	Cr	x	Chromium	0.038 J		mg/Liter	<	10	0.03	0.12	10
ICP-MS	55	90	Mn	x	Manganese	0.74		mg/Liter	<	10	0.0015	0.006	20
ICP-MS	54	90	Fe	x	Iron	40		mg/Liter	<	10	0.2	0.8	100
ICP-MS	59	90	Co		Cobalt			mg/Liter		10	0.0004	0.0016	10
ICP-MS	60	90	Ni	x	Nickel	<		mg/Liter	<	10	0.002	0.008	10
ICP-MS	63	90	Cu	x	Copper	0.24		mg/Liter	<	10	0.002	0.008	10
ICP-MS	66	90	Zn	x	Zinc	<		mg/Liter	<	10	0.1	0.4	100
ICP-MS	75	90	As	x	Arsenic	0.11		mg/Liter	0.0042 J	10	0.003	0.012	4
ICP-MS	82	90	Se	x	Selenium	0.52		mg/Liter	<	10	0.006	0.024	20
ICP-MS	88	90	Sr		Strontium			mg/Liter		10	0.002	0.008	4
ICP-MS	98	90	Mo	x	Molybdenum	0.005 J		mg/Liter	0.0022 J	10	0.002	0.008	2
ICP-MS	107	90	Ag	x	Silver	<		mg/Liter	<	10	0.004	0.016	2
ICP-MS	111	90	Cd	x	Cadmium	<		mg/Liter	<	10	0.0004	0.0016	10
ICP-MS	123	90	Sb		Antimony			mg/Liter		10	0.0004	0.0016	10
ICP-MS	137	90	Ba	x	Barium	8.2		mg/Liter	<	10	0.002	0.008	20
ICP-MS	202	360	Hg	x	Mercury	<		mg/Liter	<	10	0.001	0.004	1
ICP-MS	205	90	Tl		Thallium			mg/Liter		10	0.003	0.012	10
ICP-MS	204	90	Pb	x	Lead	<		mg/Liter	<	10	0.006	0.024	10
ICP-MS	232	90	Th		Thorium			mg/Liter		10	0.0005	0.002	10
ICP-MS	238	90	U		Uranium			mg/Liter		10	0.0004	0.0016	10

Notes: LMB = laboratory method blank, M and MD = sample matrix replicates
Notes: LCS = spiked laboratory method blank, MS and MSD = spiked sample matrix replicates
Notes: Rh = Rhodium spiked as sample prep surrogate, DF = Dilution Factor, MDL = Method Detection Limit,
Notes: PQL = Primary Quantitation Limit, MQL = Maximum Quantitation Limit,
Notes: < = less than MDL, E = Estimated Value over MQL, J = Greater than MDL but less than PQL (4 x MDL)
Notes: n.a. = Not Applicable, Blank Space = Not Requested or Not Reported
Notes: **(Total RCRA limits) are 20 times the TCLP extract limits because of sample size (100g) and extract volume (2000mL).

**EPA SW846 Method 1311, Revision 0, July 1992, Sectic "If a total analysis of the waste demonstrates that individual analytes are not present in the waste, or that they are present but at such low concentrations that at such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the TCLP need not be run."

Analyst / Reviewer

4/28/08 VS

Key Laboratories
2479 River Road, Unit A
Grand Junction, Colorado 81502
Phone (970) 243-5311 Fax (970) 243-6010

Client : **Marathon Oil**
Client Project Name : **697-11X**
Client Sample Number : **697-11XA**

Key Lab # : **08-0565**
Work Order # : **0423080565**
Date Received : **04/23/08**
Method : EPA ICP-MS Methods 6020 / 200.8
Technician : VJ 4/28/08

Sampling Date : **4/23/2008**
Sampling Time : **16:40**
Sample Matrix :
Sampler : **Andrew**

Date Analyzed: **Tuesday, April 22, 2008 18:25:51**

Key Lab Sample ID#	**WI-0424-08-0565-13**	**WI-0424-08-0565-13**	**WI-0424-08-0000-01_LMB**
Sample Description:	**697-11XA**	**697-11XA**	**LMB**
Sample Aliquot [mg]:	**25000**	**25000**	**25000**
DF Corr==>>	**1.000**	**1.000**	**1.000**
Prep DF==>>	**10**	**5000**	**10**
Pass Audit ==>> x **Total DF==>>**	**10**	**5000**	**10**

Analysis Method	Ion Mass	Time [ms]	Symbol	Audit	Analyte	Total Metals	Total Metals	Units		Total DF	MDL ppm	PQL ppm	Max QL ppm
ICP-MS	9	90	Be		Beryllium			mg/Liter		10	0.0004	0.0016	10
ICP-MS	11	90	B	x	Boron	4.2		mg/Liter	<	10	0.05	0.2	10
ICP-MS	23	90	Na	x	Sodium	>>E	4000	mg/Liter	<	10	0.1	0.4	100
ICP-MS	24	90	Mg		Magnesium			mg/Liter		10	0.05	0.2	100
ICP-MS	27	90	Al		Aluminum			mg/Liter		10	0.01	0.04	2
ICP-MS	28	90	Si		Silicon			mg/Liter		10	0.1	0.4	100
ICP-MS	31	90	P		Phosphorous			mg/Liter		10	0.1	0.4	100
ICP-MS	39	90	K		Potassium			mg/Liter		10	0.8	3.2	100
ICP-MS	44	180	Ca	x	Calcium	76		mg/Liter	<	10	0.25	1	100
ICP-MS	48	90	Ti		Titanium			mg/Liter		10	0.03	0.12	10
ICP-MS	51	90	V		Vanandium			mg/Liter		10	0.03	0.12	2
ICP-MS	52	90	Cr	x	Chromium	0.038 J		mg/Liter	<	10	0.03	0.12	10
ICP-MS	55	90	Mn	x	Manganese	0.72		mg/Liter	<	10	0.0015	0.006	20
ICP-MS	54	90	Fe	x	Iron	39		mg/Liter	<	10	0.2	0.8	100
ICP-MS	59	90	Co		Cobalt			mg/Liter		10	0.0004	0.0016	10
ICP-MS	60	90	Ni	x	Nickel	<		mg/Liter	<	10	0.002	0.008	10
ICP-MS	63	90	Cu	x	Copper	0.28		mg/Liter	<	10	0.002	0.008	10
ICP-MS	66	90	Zn	x	Zinc	<		mg/Liter	<	10	0.1	0.4	100
ICP-MS	75	90	As	x	Arsenic	0.095		mg/Liter	0.0042 J	10	0.003	0.012	4
ICP-MS	82	90	Se	x	Selenium	0.45		mg/Liter	<	10	0.006	0.024	20
ICP-MS	88	90	Sr		Strontium			mg/Liter		10	0.002	0.008	4
ICP-MS	98	90	Mo	x	Molybdenum	0.0063 J		mg/Liter	0.0022 J	10	0.002	0.008	2
ICP-MS	107	90	Ag	x	Silver	<		mg/Liter	<	10	0.004	0.016	2
ICP-MS	111	90	Cd	x	Cadmium	<		mg/Liter	<	10	0.0004	0.0016	10
ICP-MS	123	90	Sb		Antimony			mg/Liter		10	0.0004	0.0016	10
ICP-MS	137	90	Ba	x	Barium	8.2		mg/Liter	<	10	0.002	0.008	20
ICP-MS	202	360	Hg	x	Mercury	<		mg/Liter	<	10	0.001	0.004	1
ICP-MS	205	90	Tl		Thallium			mg/Liter		10	0.003	0.012	10
ICP-MS	204	90	Pb	x	Lead	<		mg/Liter	<	10	0.006	0.024	10
ICP-MS	232	90	Th		Thorium			mg/Liter		10	0.0005	0.002	10
ICP-MS	238	90	U		Uranium			mg/Liter		10	0.0004	0.0016	10

Notes: LMB = laboratory method blank, M and MD = sample matrix replicates
Notes: LCS = spiked laboratory method blank, MS and MSD = spiked sample matrix replicates
Notes: Rh = Rhodium spiked as sample prep surrogate, DF = Dilution Factor, MDL = Method Detection Limit,
Notes: PQL = Primary Quantitation Limit, MQL = Maximum Quantitation Limit,
Notes: < = less than MDL, E = Estimated Value over MQL, J = Greater than MDL but less than PQL (4 x MDL)
Notes: n.a. = Not Applicable, Blank Space = Not Requested or Not Reported
Notes: **(Total RCRA limits) are 20 times the TCLP extract limits because of sample size (100g) and extract volume (2000mL).

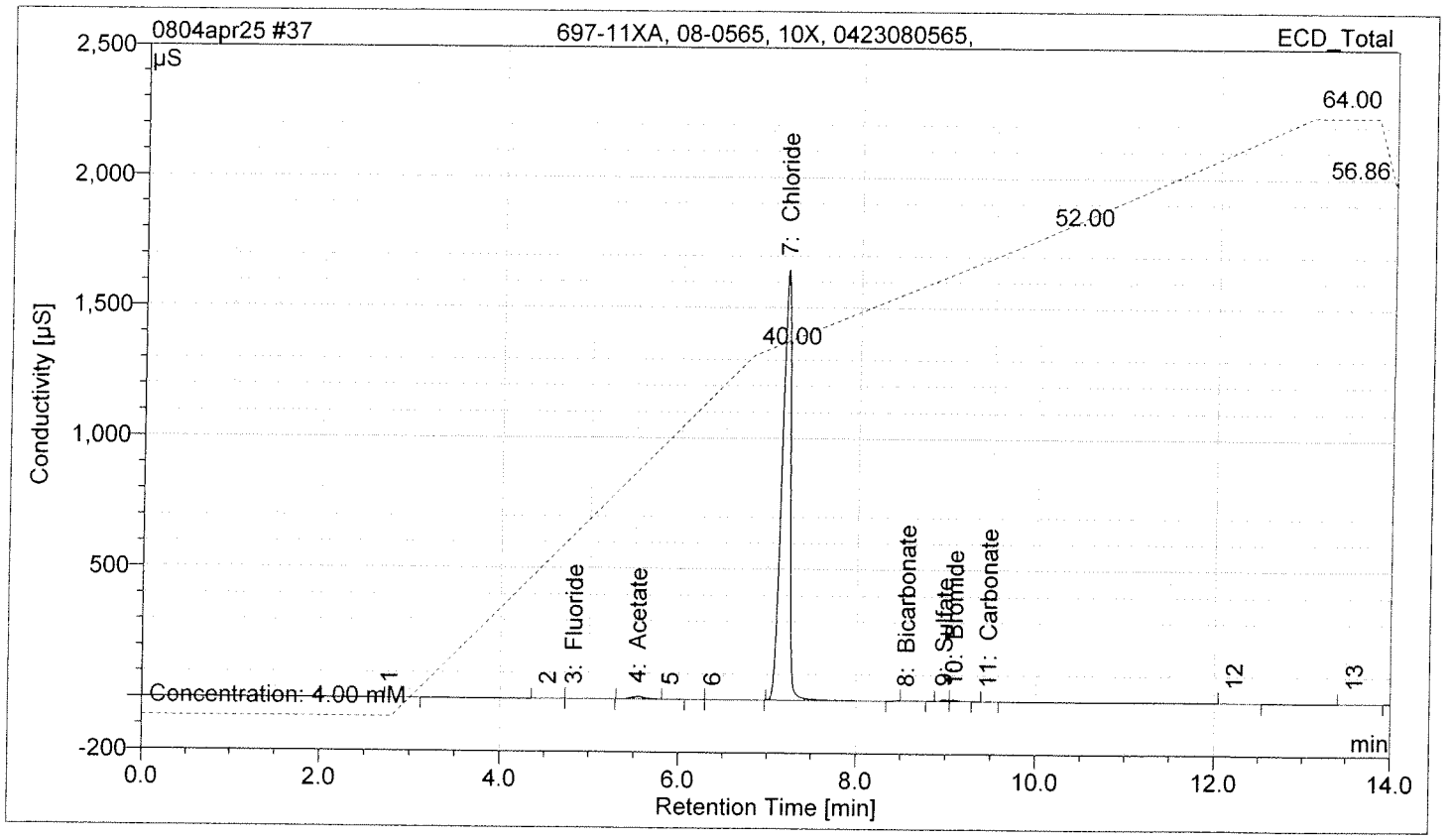
**EPA SW846 Method 1311, Revision 0, July 1992, Sectic "If a total analysis of the waste "If a total analysis of the waste demonstrates that individual analytes are not present in the waste, or that they are present but at such low concentrations that at such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the TCLP need not be run."

Analyst / Reviewer
4/28/08 VJ

Key Laboratories Anion Report

Sample Name:	697-11XA, 08-0565, 10X, 0423080565,		**Sample No.:** 37
Sample ID:	water, 10X, Marathon Oil		**LQL = Lower Quantitation Limit**
Sample Comments:	697-11X		**MQL = Maximum Quantitation Limit**
Sequence Directory:	ICS2000\Sequences\0804apr		**E = Estimated, Value Exceeds MQL**
Sequence Name:	0804apr25		**Raw = Dilution Factor not applied**
Program Method:	grad7AS18	**Date:** 4/28/08	**Injection vol. [uL]:** 25.0
Quantitation Method:	grad7AS18		**Dilution Factor [DF]:** 10.0000
Date Time Collected:	4/26/2008 1:37 AM	**Reviewer:** LP	**Sample Wt.:** 1.0000
System Operator:	KEY LABORATORIES		**Sample Amt.:** 1.0000

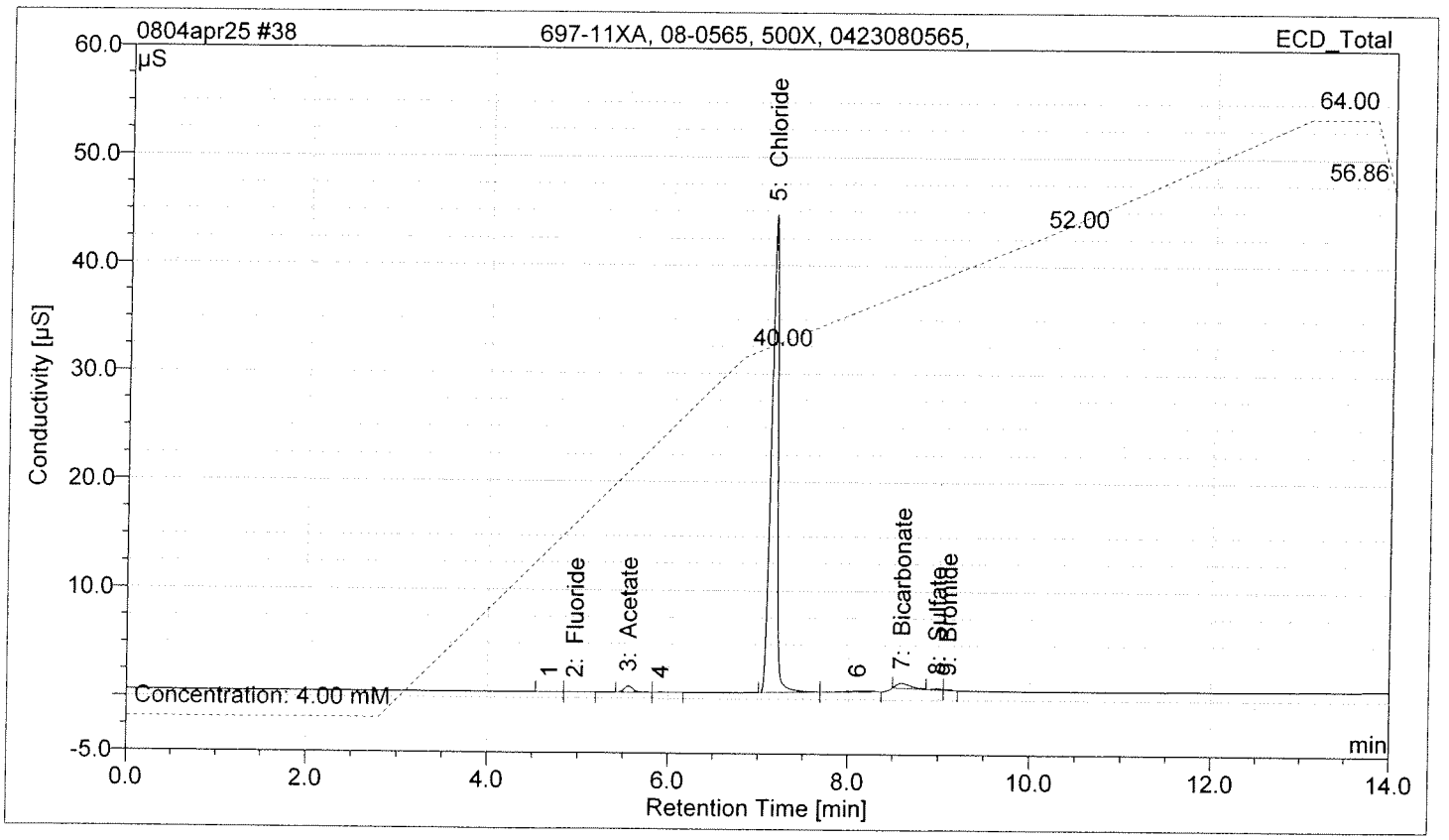
No. ECD_Total	Component ECD_Total Name	Retention ECD_Total Time	Area ECD_Total µS*min	Height ECD_Total µS	Raw LQL ECD_Total ppm	Raw Amt ECD_Total ppm	Pass QC X = Pass	DF x LQL ECD_Total ppm	Amount ECD_Total ppm	DF x MQL ECD_Total ppm
3	**Fluoride**	4.83	0.068	0.276	0.04	0.12	X	0.40	**1.17**	200
7	**Chloride**	7.20	189.348	1646.289	0.16	618.30	seedilution	1.60	**6183.01**	800
n.a.	**Nitrite**	n.a.	n.a.	n.a.	0.16	n.a.		1.60	**n.a.**	800
9	**Sulfate**	8.99	0.478	5.814	0.16	2.23	X	1.60	**22.34**	800
n.a.	**Nitrate**	n.a.	n.a.	n.a.	0.16	n.a.		1.60	**n.a.**	800



Key Laboratories Anion Report

Sample Name:	697-11XA, 08-0565, 500X, 0423080565,	**Sample No.:**	38
Sample ID:	water, 500X, Marathon Oil	**LQL = Lower Quantitation Limit**	
Sample Comments:	697-11X	**MQL = Maximum Quantitation Limit**	
Sequence Directory:	ICS2000\Sequences\0804apr	**E = Estimated, Value Exceeds MQL**	
Sequence Name:	0804apr25	**Raw = Dilution Factor not applied**	
Program Method:	grad7AS18 **Date:** 4/28/08	**Injection vol. [uL]:**	25.0
Quantitation Method:	grad7AS18	**Dilution Factor [DF]:**	500.0000
Date Time Collected:	4/26/2008 1:57 AM **Reviewer:** VP	**Sample Wt.:**	1.0000
System Operator:	KEY LABORATORIES	**Sample Amt.:**	1.0000

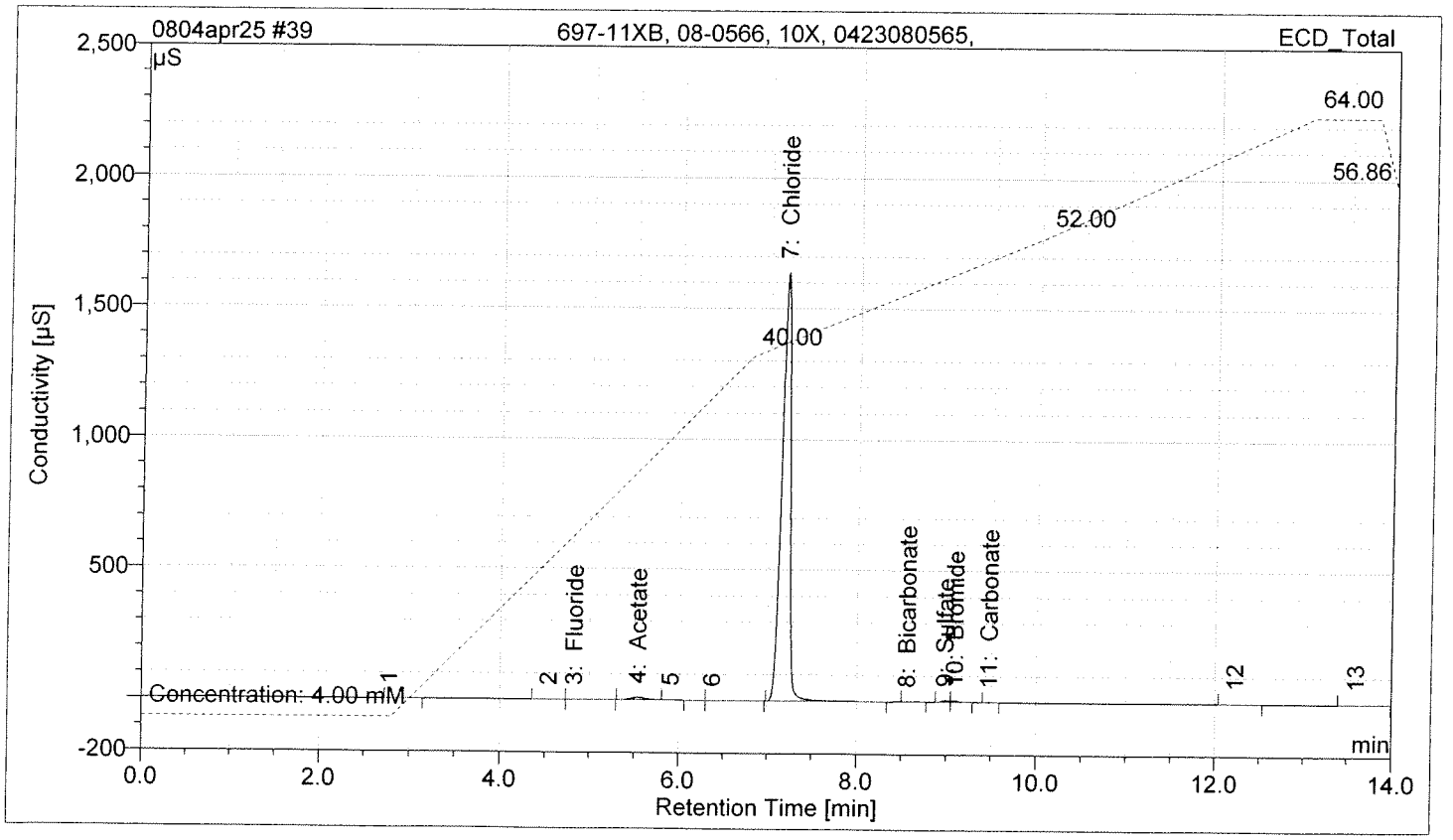
No. ECD_Total	Component ECD_Total Name	Retention ECD_Total Time	Area ECD_Total µS*min	Height ECD_Total µS	Raw LQL ECD_Total ppm	Raw Amt ECD_Total ppm	Pass QC X = Pass	DF x LQL ECD_Total ppm	Amount ECD_Total ppm	DF x MQL ECD_Total ppm
2	**Fluoride**	4.97	0.001	0.010	0.04	-0.02		20.00	**-9.60**	10000
5	**Chloride**	7.15	3.859	44.044	0.16	12.97	X	80.00	**6483.93**	40000
n.a.	**Nitrite**	n.a.	n.a.	n.a.	0.16	n.a.		80.00	**n.a.**	40000
8	**Sulfate**	8.99	0.008	0.089	0.16	0.05		80.00	**25.20**	40000
n.a.	**Nitrate**	n.a.	n.a.	n.a.	0.16	n.a.		80.00	**n.a.**	40000



Key Laboratories Anion Report

Sample Name:	697-11XB, 08-0566, 10X, 0423080565,	**Sample No.:**	39
Sample ID:	water, 10X, Marathon Oil	**LQL = Lower Quantitation Limit**	
Sample Comments:	697-11X	**MQL = Maximum Quantitation Limit**	
Sequence Directory:	ICS2000\Sequences\0804apr	**E = Estimated, Value Exceeds MQL**	
Sequence Name:	0804apr25	**Raw = Dilution Factor not applied**	
Program Method:	grad7AS18 **Date:** 4/28/08	**Injection vol. [uL]:**	25.0
Quantitation Method:	grad7AS18	**Dilution Factor [DF]:**	10.0000
Date Time Collected:	4/26/2008 2:18 AM **Reviewer:** LJ	**Sample Wt.:**	1.0000
System Operator:	KEY LABORATORIES	**Sample Amt.:**	1.0000

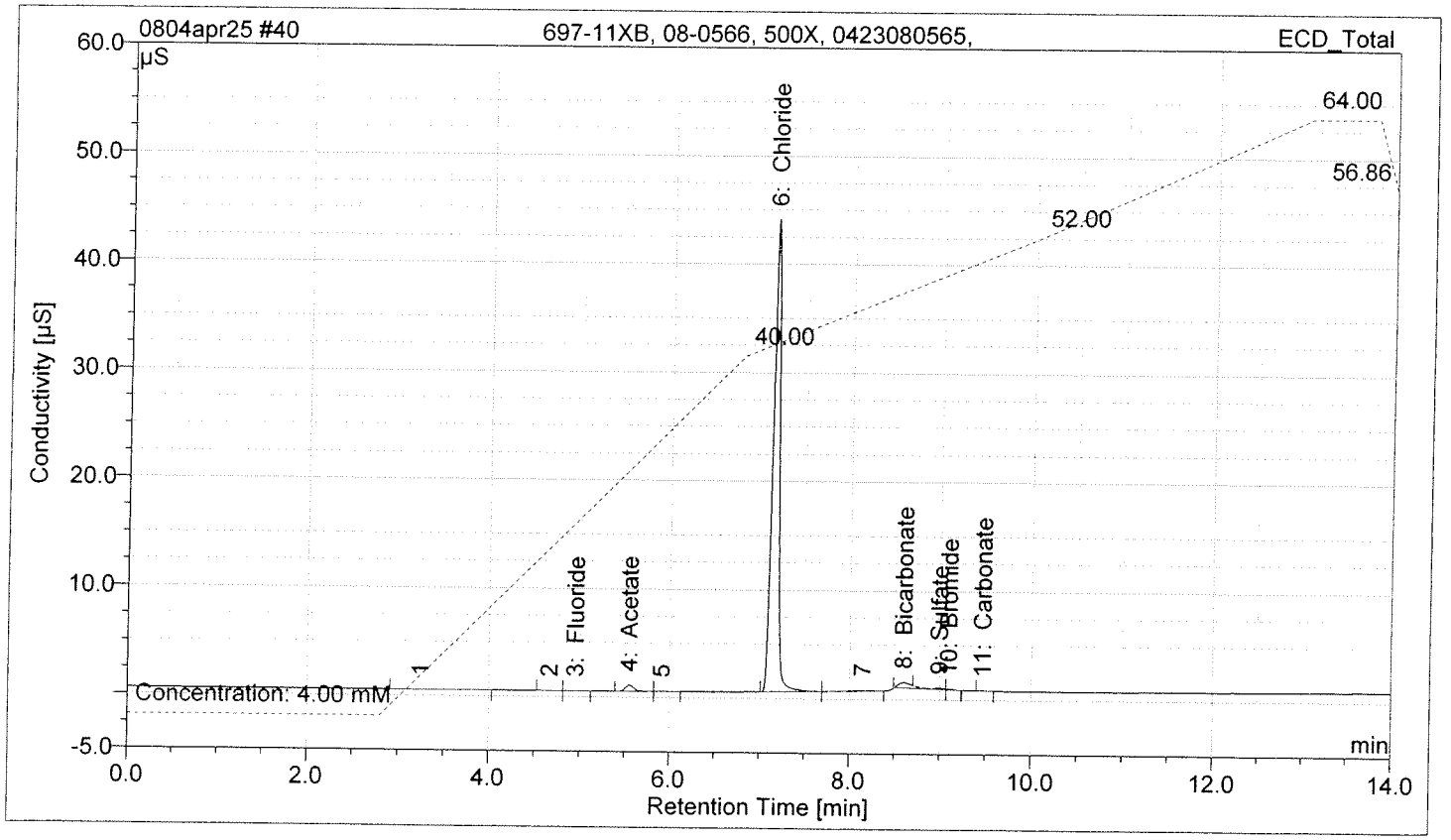
No. ECD_Total	Component ECD_Total Name	Retention ECD_Total Time	Area ECD_Total uS*min	Height ECD_Total uS	Raw LQL ECD_Total ppm	Raw Amt ECD_Total ppm	Pass QC X = Pass	DF x LQL ECD_Total ppm	Amount ECD_Total ppm	DF x MQL ECD_Total ppm
3	**Fluoride**	4.83	0.068	0.276	0.04	0.12	X	0.40	**1.17**	200
7	**Chloride**	7.19	188.055	1637.122	0.16	614.18	see dilution	1.60	**6141.82**	800
n.a.	**Nitrite**	n.a.	n.a.	n.a.	0.16	n.a.		1.60	**n.a.**	800
9	**Sulfate**	8.99	0.482	5.846	0.16	2.25	X	1.60	**22.54**	800
n.a.	**Nitrate**	n.a.	n.a.	n.a.	0.16	n.a.		1.60	**n.a.**	800



Key Laboratories Anion Report

Sample Name:	697-11XB, 08-0566, 500X, 0423080565,	**Sample No.:**	40
Sample ID:	water, 500X, Marathon Oil	**LQL = Lower Quantitation Limit**	
Sample Comments:	697-11X	**MQL = Maximum Quantitation Limit**	
Sequence Directory:	ICS2000\Sequences\0804apr	**E = Estimated, Value Exceeds MQL**	
Sequence Name:	0804apr25	**Raw = Dilution Factor not applied**	
Program Method:	grad7AS18 **Date:** 4/28/08	**Injection vol. [uL]:**	25.0
Quantitation Method:	grad7AS18	**Dilution Factor [DF]:**	500.0000
Date Time Collected:	4/26/2008 2:38 AM **Reviewer:**	**Sample Wt.:**	1.0000
System Operator:	KEY LABORATORIES	**Sample Amt.:**	1.0000

No. ECD_Total	Component ECD_Total Name	Retention ECD_Total Time	Area ECD_Total µS*min	Height ECD_Total µS	Raw LQL ECD_Total ppm	Raw Amt ECD_Total ppm	Pass QC X = Pass	DF x LQL ECD_Total ppm	Amount ECD_Total ppm	DF x MQL ECD_Total ppm
3	**Fluoride**	4.96	0.001	0.010	0.04	-0.02		20.00	**-9.73**	10000
6	**Chloride**	7.16	3.811	43.506	0.16	12.81	X	80.00	**6403.43**	40000
n.a.	**Nitrite**	n.a.	n.a.	n.a.	0.16	n.a.		80.00	**n.a.**	40000
9	**Sulfate**	9.00	0.011	0.106	0.16	0.07		80.00	**33.43**	40000
n.a.	**Nitrate**	n.a.	n.a.	n.a.	0.16	n.a.		80.00	**n.a.**	40000



Key Laboratories, Inc.
2479 River Road Unit A
Grand Junction, CO 81505
(970)243-5311 FAX (970)243-6010

Client : **Marathon Oil**
Client Project Number : **23A/32D**

KEY LAB #: 213080216
Date Recieved : 2/13/2008

Sampling Date : 2/13/2008

Method : Method 8015
Technician : TE

Sample Matrix : **Water**
Sampler : Robert
Custody Seal : NONE
Preservatives : ICED

Date Analyzed : 2/14/2008 0:00

TDS SAMPLE RESULTS

Client Sample Name	Lab Sample #	Instrument Results	% Moisture	Factor	Final Results	Units
23A-11X	08-0216	4756.0	1	1.000	**11,890**	mg/L
32D-11X	08-0217	3488.0	1	1.000	**8,720**	mg/L

CHLORIDES SAMPLE RESULTS

Client Sample Name	Lab Sample #	Instrument Results	% Moisture	Factor	Final Results	Units
23A-11X	08-0216	6250.0	1	1.000	**6,250**	mg/L
32D-11X	08-0217	4620.0	1	1.000	**4,620**	mg/L

QC Reviewer

BTEX Analytical Report

KEY LABORATORIES, INC.

2479A Riverside Parkway
Grand Junction, CO 81505-1319
(970) 243-5311 FAX (970) 243-6010

Client : **Marathon Oil**
Client Project Name : **12A Pad**
Client Project Number :
Client Sample Number : **Blank**

Sampling Date : **3/2/2009**
Sampling Time :
Sample Matrix : **Water**
Sampler : **Kelly**

Lab QC Batch Sample : **09-0407, 12A-Pad**
Key Lab # : **09-0002**
Work Order # : **0101090000**
Date Recieved : **03/03/09**
Method : EPA SW846 5030/5035/8260
Technician : KEY
Data File Name: 0200002.D
Date Analyzed : 3 Mar 2009 11:30
Data File Path : C:\MSDCHEM\1\DATA_0903MAR03\
Lab Sample Information : 5ul #395
Lab Sample Number : **Blank, 09-0002, 010109000,**

Sample vol/wt = 5
Reported==>> **x** **DF =** **1**

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL	Spike	%REC
	H1	**Gasoline [TVH]**	x	-2147484	-110.79	150	ug	1.	<	.15		40		
1634-04-4	M1	**MTBE**	x	6106	0.13	0.25	ug	1.	<	.25		480		
71-43-2	M1	**Benzene**	x	32356	0.47	0.5	ug	1.	<	.5		480		
108-88-3	MC1	**Toluene**	x	76480	1.43	1.45	ug	1.	<	1.45		480		
100-41-4	MC2	**Ethylbenzene**	x	18610	0.16	0.27	ug	1.	<	.27		480		
		XYLENES (Total)	x		.6	0.6	ug	1.	**0.6 ug/L**	.6	J	1440		
91-20-3	M3	**Napthylene**	x	51784	0.57	2	ug	1.	<	2.		480		

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL
	M2	**M/P Xylene**	x	41056	0.45	1.1	ug	1.	<	1.1		960
95-47-6	M2	**O-Xylene**	x	14586	0.15	0.47	ug	1.	<	.47		480
108-67-8	M2	**1,3,5-Trimethylbenzene**	x	8106	0.08	0.65	ug	1.	<	.65		480
95-63-6	M2	**1,2,4-Trimethylbenzene**	x	18397	0.18	1.18	ug	1.	<	1.18		480
		Gasoline (TVH) Subtraction Blank =										

CAS#	Type	System Monitoring Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	Water Limits	Soil Limits	Spike	%Rec
1868-53-7	S1	**Dibromofluromethane**	2951000	71.77	**110**	ug	2685781	81 - 120	73 - 127	69.9	**102.7**
17060-07-0	S1	**1,2-Dichloroethane-d4**	1033734	69.99	**105**	ug	983682	82 - 118	83 - 117	69.9	**100.1**
2037-26-5	S1	**Toluene-d8**	3695392	71.23	**106**	ug	3485030	89 - 111	86 - 114	69.9	**101.9**
460-00-4	S2	**4-Bromofluorobenzene**	3624939	71.96	**108**	ug	3368792	81 - 119	72 - 128	69.9	**102.9**

CAS#	Type	Internal Stanard Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	ISS Conc
462-06-6	I1	**fluorbenzene**	5835586	69.90	**105**	ug	5541365	69.9
3114-55-4	I2	**Chlorbenzene-d5**	3562485	69.90	**104**	ug	3417505	69.9
3855-82-1	I3	**1,4-Dichlorobenzene-d4**	2670322	69.90	**105**	ug	2536238	69.9

MDL = Method Detection Limit
PQL = Practical Quantition Limit = 4 x MDL
RDL = Reporting Detection Limit = MDL x Dilution Factor
MQL = Maximum Quantitation Limit = 110% x DF x Highest Calibration Standard

Reporting basis is Kg for solids and L for liquids

J qualifier = MDL < Result < PQL
E qualifier = Estimated Result > Highest Calibration Standard

Analyst

Approved

Evaluate Continuing Calibration Report

Data Path : C:\MSDChem\1\DATA_0903mar03\
Data File : 0100001.D
Acq On : 3 Mar 2009 11:01
Operator : KEY
Sample : CC 40ppb, 09-0001, 0101090000,
Misc : 1uL #392 + 5uL #395
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 03 11:19:39 2009
Quant Method : C:\MSDCHEM\1\5973N\4VRXBTEX.M
Quant Title : 4VRXBTEX 8260/BTEX
QLast Update : Tue Mar 03 08:38:45 2009
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I1	fluorbenzene	1.000	1.000	0.0	97	0.00
2 H1	Gasoline [TVH]	1.322	1.162	12.1	87	0.00
3 M1	MTBE	0.556	0.539	3.1	87	0.00
4 S1	Dibromofluromethane	0.492	0.537	-9.1	104	0.00
5 S1	1,2-Dichloroethane-d4	0.177	0.173	2.3	93	0.00
6 M1	Benzene	0.817	0.821	-0.5	90	0.00
7 S1	Toluene-d8	0.621	0.619	0.3	96	0.00
8 MC1	Toluene	0.642	0.644	-0.3	92	0.00
9 I2	Chlorbenzene-d5	1.000	1.000	0.0	96	0.00
10 MC2	Ethylbenzene	2.230	2.212	0.8	91	0.00
11 M2	M/P Xylene	1.801	1.810	-0.5	92	0.00
12 M2	O-Xylene	1.865	1.838	1.4	91	0.00
13 S2	4-Bromofluorobenzene	0.988	1.028	-4.0	100	0.00
14 M2	1,3,5-Trimethylbenzene	1.932	1.918	0.7	93	0.00
15 M2	1,2,4-Trimethylbenzene	1.959	1.970	-0.6	94	0.00
16 I3	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	99	0.00
17 M3	Napthylene	2.370	2.306	2.7	90	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA_0903mar03\
Data File : 0100001.D
Acq On : 3 Mar 2009 11:01
Operator : KEY
Sample : CC 40ppb, 09-0001, 0101090000,
Misc : 1uL #392 + 5uL #395
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 03 11:19:39 2009
Quant Method : C:\MSDCHEM\1\5973N\4VRXBTEX.M
Quant Title : 4VRXBTEX 8260/BTEX
QLast Update : Tue Mar 03 08:38:45 2009
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorbenzene	4.27	96	5784695	69.90	ug	0.00
9) Chlorbenzene-d5	9.35	82	3505262+	69.90	ug	0.00
16) 1,4-Dichlorobenzene-d4	13.71	154	2686972+	69.90	ug	0.00
System Monitoring Compounds						
4) Dibromofluromethane	2.93	113	3108619+	76.27	ug	0.00
Spiked Amount 69.900	Range 81 - 120		Recovery = 109.11%			
5) 1,2-Dichloroethane-d4	3.36	67	1000307	68.32	ug	0.00
Spiked Amount 69.900	Range 82 - 118		Recovery = 97.74%			
7) Toluene-d8	6.92	100	3581530	69.65	ug	0.00
Spiked Amount 69.900	Range 89 - 111		Recovery = 99.64%			
13) 4-Bromofluorobenzene	11.76	174	3604923+	72.73	ug	0.00
Spiked Amount 69.900	Range 81 - 119		Recovery = 104.05%			
Target Compounds						Qvalue
2) Gasoline [TVH]	1.90	TIC	62491239m	571.24	ug	
3) MTBE	2.16	73	1783028	38.75	ug	99
6) Benzene	3.98	78	2719014	40.23	ug	99
8) Toluene	7.02	92	2132925	40.12	ug	99
10) Ethylbenzene	9.91	91	4436961	39.68	ug	100
11) M/P Xylene	10.33	91	7262400	80.43	ug	100
12) O-Xylene	11.04	91	3687158	39.42	ug	99
14) 1,3,5-Trimethylbenzene	13.17	105	3846828	39.71	ug	100
15) 1,2,4-Trimethylbenzene	13.60	105	3951051	40.23	ug	100
17) Napthylene	15.56	128	3545327	38.91	ug #	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

EMPACT ANALYTICAL SYSTEMS INC.
365 S. MAIN ST.
BRIGHTON, CO
80601

303-637-0150

EXTENDED NATURAL GAS LIQUID ANALYSIS (*DHA)

MAIN PAGE

PROJECT NO. :	200811079	ANALYSIS NO. :	02
COMPANY NAME :	BUYS & ASSOCIATES	ANALYSIS DATE:	DECEMBER 3, 2008
ACCOUNT NO. :	MARATHON OIL 13C-12	SAMPLE DATE :	NOVEMBER 12, 2008
PRODUCER :		CYLINDER NO. :	27834
LEASE NO. :		SAMPLED BY :	B. MCENDREE - EMPACT
NAME/DESCRIP :	BC-12 WATER @ SEPARATOR		
FIELD DATA		SAMPLE TEMP. :	100
SAMPLE PRES. :	409	AMBIENT TEMP.:	
VAPOR PRES. :		GRAVITY :	
COMMENTS :	SPOT; 1ST SAMPLE WITNESS BY SCOTT TRUCKS		

COMPONENT	MOLE %	MASS %	VOL %
WATER	99.5019	97.7258	96.9184
ALCOHOLS	0.0004	0.0005	0.0008
NITROGEN (AIR)	0.0000	0.0000	0.0000
CARBON DIOXIDE	0.1829	0.4387	0.5316
METHANE	0.1086	0.0948	0.3134
ETHANE	0.0098	0.0158	0.0438
PROPANE	0.0051	0.0120	0.0232
I-BUTANE	0.0032	0.0104	0.0182
N-BUTANE	0.0027	0.0087	0.0149
I-PENTANE	0.0004	0.0016	0.0025
N-PENTANE	0.0012	0.0049	0.0074
HEXANES PLUS	0.1838	1.6868	2.1258
TOTALS	100.0000	100.0000	100.0000

BTEX COMPONENTS	MOLE%	MASS%
BENZENE	0.004	0.016
TOLUENE	0.016	0.082
ETHYLBENZENE	0.001	0.006
XYLENE	0.017	0.097
TOTAL BTEX	0.038	0.201

(CALC: GPA STD 2145-94 & TP-17 @14.696 & 60 F)

Specific Gravity (H2O=1)	=	0.9931	60/60
API Gravity	=	10.98	60/60
Molecular Weight	=	18.35	
Absolute Density	=	1.52	LBS/GAL
Heating Value Liq. Idl Gas	=	8	BTU/GAL
Vapor/Liquid	=	0.49	CUFT/GAL
Vapor Pressure	=	5.53	PSIA & 100 F

**(DETAILED HYDROCARBON ANALYSIS/NJ 1993) ; ASTM D6730*

EMPACT ANALYTICAL SYSTEMS INC.
365 S. MAIN ST.
BRIGHTON, CO
80601

303-637-0150

EXTENDED NATURAL GAS LIQUID ANALYSIS (*DHA)

E & P TANK / GLYCALC INFORMATION

PROJECT NO. :	200811079	ANALYSIS NO. :	02
COMPANY NAME :	BUYS & ASSOCIATES	ANALYSIS DATE:	DECEMBER 3, 2008
ACCOUNT NO. :	MARATHON OIL 13C-12	SAMPLE DATE :	NOVEMBER 12, 2008
PRODUCER :		CYLINDER NO. :	27834
LEASE NO. :		SAMPLED BY :	B. MCENDREE - EMPACT
NAME/DESCRIP :	BC-12 WATER @ SEPARATOR		
FIELD DATA		SAMPLE TEMP. :	100
SAMPLE PRES. :	409	AMBIENT TEMP.:	
VAPOR PRES. :		GRAVITY :	
COMMENTS :	SPOT; 1ST SAMPLE WITNESS BY SCOTT TRUCKS		

COMPONENT	Mole %		Wt %		LV %	
CARBON DIOXIDE	0.1829		0.4387		0.5316	
NITROGEN (AIR)	0.0000		0.0000		0.0000	
METHANE	0.1086		0.0948		0.3134	
ETHANE	0.0098		0.0158		0.0438	
PROPANE	0.0051		0.0120		0.0232	
I-BUTANE	0.0032		0.0104		0.0182	
N-BUTANE	0.0027		0.0087		0.0149	
I-PENTANE	0.0004		0.0016		0.0025	
N-PENTANE	0.0012		0.0049		0.0074	
CYCLOPENTANE (N-C5)	0.0003		0.0011		0.0017	
N-HEXANE	0.0007		0.0033		0.0050	
CYCLOHEXANE (OTHER C6)	0.0017		0.0076		0.0099	
OTHER HEXANES	0.0021		0.0092		0.0132	
OTHER HEPTANES	0.0024		0.0129		0.0199	
METHYLCYCLOHEXANE (OTHER C6)	0.0028		0.0147		0.0190	
2,2,4 TRIMETHYLPENTANE	0.0000		0.0000		0.0000	
BENZENE	0.0039		0.0164		0.0182	
TOLUENE	0.0163		0.0818		0.0926	
ETHYLBENZENE	0.0010		0.0060		0.0066	
XYLENES	0.0168		0.0970		0.1108	
OTHER OCTANES	0.0062		0.0367		0.0513	
OCTANES PLUS	----	0.1536	----	1.5398	----	1.9463
NONANES	0.0135		0.0914		0.1188	
DECANES PLUS	0.1161		1.3087		1.6588	
SUB TOTAL	0.4977		2.2737		3.0808	
WATER	99.5019		97.7258		96.9184	
ALCOHOLS	0.0004		0.0005		0.0008	
GLYCOLS	0.0000		0.0000		0.0000	
TOTAL	100.0000		100.0000		100.0000	

API Gravity =	**10.98**	60/60
Vapor Pressure =	**5.53**	PSIA & 100 F
Average Molecular Weight of Decanes plus =	**207.09**	
Average Specific Gravity of Decanes plus =	**0.7780**	

EMPACT ANALYTICAL SYSTEMS INC.
365 S. MAIN ST.
BRIGHTON, CO
80601

303-637-0150

EXTENDED NATURAL GAS LIQUID ANALYSIS (*DHA)

DHA COMPONENT LIST

PROJECT NO. :	200811079	ANALYSIS NO. :	02
COMPANY NAME :	BUYS & ASSOCIATES	ANALYSIS DATE:	DECEMBER 3, 2008
ACCOUNT NO. :	MARATHON OIL 13C-12	SAMPLE DATE :	NOVEMBER 12, 2008
PRODUCER :		CYLINDER NO. :	27834
LEASE NO. :		SAMPLED BY :	B. MCENDREE - EMPACT
NAME/DESCRIP :	BC-12 WATER @ SEPARATOR		
FIELD DATA		SAMPLE TEMP. :	100
SAMPLE PRES. :	409	AMBIENT TEMP.:	
VAPOR PRES. :		GRAVITY :	
COMMENTS :	SPOT; 1ST SAMPLE WITNESS BY SCOTT TRUCKS		

COMPONENT	PIANO #	MOLE %	MASS %	VOL %
Water		99.5019	97.7258	96.9184
Nitrogen		0.0000	0.0000	0.0000
Carbon Dioxide		0.1829	0.4387	0.5316
Methane	P1	0.1086	0.0948	0.3134
Ethane	P2	0.0098	0.0158	0.0438
Propane	P3	0.0051	0.0120	0.0232
i-Butane	I4	0.0032	0.0104	0.0182
Methanol	X1	0.0001	0.0000	0.0000
n-Butane	P4	0.0027	0.0087	0.0149
Ethanol	X2	0.0001	0.0000	0.0000
i-Pentane	I5	0.0004	0.0016	0.0025
i-Propanol	X3	0.0002	0.0005	0.0008
n-Pentane	P5	0.0012	0.0049	0.0074
2,2-Dimethylbutane	I6	0.0001	0.0005	0.0008
Cyclopentane	N5	0.0003	0.0011	0.0017
2,3-Dimethylbutane	I6	0.0001	0.0005	0.0008
2-Methylpentane	I6	0.0005	0.0022	0.0033
3-Methylpentane	I6	0.0004	0.0016	0.0025
n-Hexane	P6	0.0007	0.0033	0.0050
Methylcyclopentane	N6	0.0010	0.0044	0.0058
Benzene	A6	0.0039	0.0164	0.0182
Cyclohexane	N6	0.0017	0.0076	0.0099
2-Methylhexane	I7	0.0003	0.0016	0.0025
2,3-Dimethylpentane	I7	0.0001	0.0005	0.0008
1,1-Dimethylcyclopentane	N7	0.0001	0.0005	0.0008
3-Methylhexane	I7	0.0003	0.0016	0.0025
1c,3-Dimethylcyclopentane	N7	0.0001	0.0005	0.0008
1t,3-Dimethylcyclopentane	N7	0.0002	0.0011	0.0017
1t,2-Dimethylcyclopentane	N7	0.0002	0.0011	0.0017
n-Heptane	P7	0.0010	0.0055	0.0083
Methylcyclohexane	N7	0.0028	0.0147	0.0190
2,2-Dimethylhexane	I8	0.0001	0.0005	0.0008
Ethylcyclopentane	N7	0.0001	0.0005	0.0008
2,5-Dimethylhexane	I8	0.0001	0.0005	0.0008
2,4-Dimethylhexane	I8	0.0001	0.0005	0.0008

1c,2t,4-Trimethylcyclopentane	N8	0.0001	0.0005	0.0008
Toluene	A7	0.0163	0.0818	0.0926
2,3-Dimethylhexane	I8	0.0001	0.0005	0.0008
2-Methylheptane	I8	0.0007	0.0044	0.0066
4-Methylheptane	I8	0.0002	0.0011	0.0017
3-Methylheptane	I8	0.0005	0.0033	0.0050
1c,2t,3-Trimethylcyclopentane	N8	0.0006	0.0038	0.0050
1t,4-Dimethylcyclohexane	N8	0.0003	0.0016	0.0025
1,1-Dimethylcyclohexane	N8	0.0001	0.0005	0.0008
1t,2-Dimethylcyclohexane	N8	0.0003	0.0016	0.0017
n-Octane	P8	0.0019	0.0120	0.0165
1c,4-Dimethylcyclohexane	N8	0.0002	0.0011	0.0017
1c,2-Dimethylcyclohexane	N8	0.0001	0.0005	0.0008
2,3,5-Trimethylhexane	I9	0.0002	0.0016	0.0025
1,1,4-Trimethylcyclohexane	N9	0.0006	0.0044	0.0058
2,2,3-Trimethylhexane	I9	0.0003	0.0022	0.0033
Ethylcyclohexane	N8	0.0003	0.0016	0.0017
n-Propylcyclopentane	N8	0.0004	0.0022	0.0025
1c,3c,5-Trimethylcyclohexane	N9	0.0001	0.0005	0.0008
Ethylbenzene	A8	0.0010	0.0060	0.0066
1c,2t,4t-Trimethylcyclohexane	N9	0.0002	0.0016	0.0017
1,3-Dimethylbenzene (m-Xylene)	A8	0.0109	0.0632	0.0719
1,4-Dimethylbenzene (p-Xylene)	A8	0.0036	0.0207	0.0240
3,4-Dimethylheptane	I9	0.0001	0.0005	0.0008
3,4-Dimethylheptane (2)	I9	0.0001	0.0005	0.0008
4-Ethylheptane	I9	0.0001	0.0005	0.0008
4-Methyloctane	I9	0.0005	0.0033	0.0041
2-Methyloctane	I9	0.0006	0.0044	0.0058
3-Ethylheptane	I9	0.0001	0.0005	0.0008
3-Methyloctane	I9	0.0007	0.0049	0.0066
1,1,2-Trimethylcyclohexane	N9	0.0001	0.0005	0.0008
1,2-Dimethylbenzene (o-Xylene)	A8	0.0023	0.0131	0.0149
i-Butylcyclopentane	N9	0.0005	0.0033	0.0041
UnknownC8s	U8	0.0001	0.0005	0.0008
n-Nonane	P9	0.0033	0.0229	0.0314
1,1-Methylethylcyclohexane	N9	0.0003	0.0022	0.0033
i-Propylbenzene	A9	0.0001	0.0005	0.0008
i-Propylcyclohexane	N9	0.0001	0.0005	0.0008
2,2-Dimethyloctane	I10	0.0001	0.0005	0.0008
2,4-Dimethyloctane	I10	0.0002	0.0016	0.0025
n-Butylcyclopentane	N9	0.0006	0.0044	0.0058
3,3-Dimethyloctane	I10	0.0001	0.0005	0.0008
n-Propylbenzene	A9	0.0007	0.0044	0.0050
3,6-Dimethyloctane	I10	0.0001	0.0005	0.0008
3-Methyl-5-ethylheptane	I10	0.0002	0.0016	0.0025
1,3-Methylethylbenzene	A9	0.0010	0.0065	0.0074
1,4-Methylethylbenzene	A9	0.0003	0.0022	0.0025
1,3,5-Trimethylbenzene	A9	0.0017	0.0109	0.0124
2,3-Dimethyloctane	I10	0.0003	0.0022	0.0033
5-Methylnonane	I10	0.0007	0.0055	0.0074
2-Methylnonane	I10	0.0009	0.0071	0.0099
3-Ethyloctane	I10	0.0001	0.0005	0.0008
3-Methylnonane	I10	0.0007	0.0055	0.0074
t-Butylbenzene	A10	0.0020	0.0147	0.0165
i-Butylcyclohexane	N10	0.0003	0.0022	0.0025
1t-Methyl-2-n-propylcyclohexane	I10	0.0001	0.0005	0.0008
i-Butylbenzene	A10	0.0002	0.0016	0.0017
sec-Butylbenzene	A10	0.0001	0.0005	0.0008
UnknownC9s	U9	0.0008	0.0055	0.0074
n-Decane	P10	0.0041	0.0316	0.0430
1,2,3-Trimethylbenzene	A9	0.0003	0.0022	0.0025
1,3-Methyl-i-propylbenzene	A10	0.0002	0.0011	0.0008
1,4-Methyl-i-propylbenzene	A10	0.0002	0.0011	0.0008
Sec-Butylcyclohexane	N10	0.0009	0.0071	0.0083
1,3-Diethylbenzene	A10	0.0006	0.0044	0.0050
1,3-Methyl-n-propylbenzene	A10	0.0002	0.0016	0.0017
1,4-Diethylbenzene	A10	0.0002	0.0016	0.0017

1,4-Methyl-n-propylbenzene	A10	0.0003	0.0022	0.0025
n-Butylbenzene	A10	0.0003	0.0022	0.0025
1,3-Dimethyl-5-ethylbenzene	A10	0.0001	0.0005	0.0008
1,2-Diethylbenzene	A10	0.0003	0.0022	0.0025
t-Decahydronapthalene	A9	0.0001	0.0005	0.0008
1,2-Methyl-n-propylbenzene	A10	0.0002	0.0016	0.0017
1,4-Dimethyl-2-ethylbenzene	A10	0.0002	0.0016	0.0017
1,3-Dimethyl-4-ethylbenzene	A10	0.0005	0.0038	0.0041
1,2-Dimethyl-4-ethylbenzene	A10	0.0005	0.0038	0.0041
1,3-Dimethyl-2-ethylbenzene	A10	0.0007	0.0049	0.0058
1t,2c,4-Trimethylcyclopentane	A10	0.0001	0.0005	0.0008
1,2-Dimethyl-3-ethylbenzene	A10	0.0003	0.0022	0.0025
1,2-Ethyl-i-propylbenzene	A10	0.0002	0.0016	0.0017
1,4-Methyl-t-butylbenzene	A11	0.0006	0.0044	0.0050
UnknownC10s	U10	0.0029	0.0223	0.0298
n-Undecane	P11	0.0043	0.0365	0.0488
1,4-Ethyl-i-propylbenzene	A11	0.0001	0.0005	0.0008
1,2,4,5-Tetramethylbenzene	A11	0.0002	0.0016	0.0017
1,2-Methyl-n-butylbenzene	A11	0.0003	0.0022	0.0025
1,2,3,5-Tetramethylbenzene	A11	0.0004	0.0027	0.0033
1,2-Methyl-t-butylbenzene	A11	0.0006	0.0044	0.0050
5-Methylindan	A11	0.0002	0.0016	0.0025
4-Methylindan	A11	0.0001	0.0011	0.0017
1,2-Ethyl-n-propylbenzene	A11	0.0002	0.0016	0.0017
2-Methylindan	A11	0.0001	0.0011	0.0017
1,3-Methyl-n-butylbenzene	A11	0.0001	0.0005	0.0008
sec-Pentylbenzene	A11	0.0004	0.0027	0.0033
n-Pentylbenzene	A11	0.0004	0.0033	0.0041
1t-M-2-(4MP)cyclopentane	P12	0.0001	0.0011	0.0017
1,2-Di-n-propylbenzene	A11	0.0005	0.0038	0.0041
1,4-Di-i-propylbenzene	A11	0.0011	0.0082	0.0091
Tetrahydonaphthalene	A10	0.0001	0.0005	0.0008
Naphthalene	A10	0.0005	0.0033	0.0033
1-t-Butyl-3,5-dimethylbenzene	A12	0.0001	0.0005	0.0008
1,4-Ethyl-t-butylbenzene	A11	0.0003	0.0022	0.0025
UnknownC11s	U11	0.0036	0.0305	0.0405
n-Dodecane	P12	0.0043	0.0398	0.0521
1,3-Di-n-propylbenzene	A12	0.0002	0.0016	0.0017
1,3,5-Triethylbenzene	A12	0.0002	0.0011	0.0017
1,2,4-Triethylbenzene	A12	0.0014	0.0093	0.0107
1,4-Methyl-n-pentylbenzene	A12	0.0005	0.0038	0.0041
n-Hexylbenzene	A12	0.0004	0.0033	0.0041
1,2,3,4,5-Pentamethylbenzene	A13	0.0008	0.0060	0.0066
2-Methylnaphthalene	A11	0.0010	0.0076	0.0083
1-Methylnaphthalene	A11	0.0003	0.0022	0.0025
UnknownC12s	U12	0.0041	0.0382	0.0504
n-Tridecane	P13	0.0039	0.0392	0.0513
UnknownC13s	U13	0.0043	0.0431	0.0562
n-Tetradecane	P14	0.0035	0.0376	0.0488
UnknownC14s	U14	0.0070	0.0758	0.0984
n-Pentadecane	P15	0.0034	0.0392	0.0504
UnknownC15s	U15	0.0051	0.0589	0.0752
n-Hexadecane	P16	0.0029	0.0360	0.0463
UnknownC16s	U16	0.0050	0.0616	0.0785
n-Heptadecane	P17	0.0026	0.0343	0.0438
UnknownC17s	U17	0.0036	0.0474	0.0604
n-Octadecane	P18	0.0022	0.0305	0.0389
UnknownC18s	U18	0.0047	0.0654	0.0827
n-Nonadecane	P19	0.0019	0.0278	0.0347
UnknownC19s	U19	0.0034	0.0496	0.0628
n-Eicosane	P20	0.0015	0.0229	0.0289
UnknownC20s	U20	0.0014	0.0218	0.0273
n-Heneicosane	P21	0.0012	0.0196	0.0248
UnknownC21s	U21	0.0013	0.0213	0.0265
n-Docosane	P22	0.0010	0.0169	0.0207
UnknownC22s	U22	0.0013	0.0218	0.0273
n-Tricosane	P23	0.0008	0.0142	0.0174

UnknownC23s	U23	0.0008	0.0142	0.0174
n-Tetracosane	P24	0.0007	0.0131	0.0165
UnknownC24s	U24	0.0008	0.0147	0.0182
n-Pentacosane	P25	0.0005	0.0098	0.0124
UnknownC25s	U25	0.0003	0.0060	0.0074
n-Hexacosane	P26	0.0005	0.0098	0.0124
UnknownC26s	U26	0.0002	0.0038	0.0050
n-Heptacosane	P27	0.0005	0.0104	0.0124
n-Octacosane	P28	0.0004	0.0087	0.0107
UnknownC28s	U28	0.0005	0.0109	0.0132
n-Nonacosane	P29	0.0004	0.0087	0.0107
UnknownC29s	U29	0.0002	0.0044	0.0050
n-Triacontane Plus	P30	0.0017	0.0392	0.0480
TOTAL		100.0000	100.0000	100.0000

KEY LABORATORIES, INC.
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BTEX Analytical Report

Client : **Marathon Oil**
Client Project Name : **18A**

Lab QC Batch Sample : **09-0147, 18A-21**
Key Lab # : **09-0166**
Work Order # : **0128090166**
Date Recieved : **01/28/09**
Method : EPA SW846 5030/5035/8260
Technician : KEY
Data File Name: 0501005.D
Date Analyzed : 30 Jan 2009 11:58
Data File Path : C:\HPCHEM\1\DATA\09JAN30\
Lab Sample Information : Water, 1xdil, Mararthon Oil, 18A
Lab Sample Number : **09-0166, 18A, 0128090166,**

Client Sample Number : **18A**
Sampling Date : **1/28/2009**
Sampling Time : **14:00**
Sample Matrix : **Water**
Sampler : **Kelly**

Sample vol/wt = 5
Reported==>> x **DF =** **100**

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc		RDL	Qual	MQL	Spike	%REC
	H1	**Gasoline [TVH]**	x	-6655486	-66.05	100	ug	100.		<	10.		4000		
1634-04-4	M1	**MTBE**				0.2	ug								
71-43-2	M1	**Benzene**	x	8994	0.13	0.8	ug	100.		<	80.		48000		
108-88-3	M1C	**Toluene**	x	31822	0.44	3.5	ug	100.		<	350.		48000		
100-41-4	M2C	**Ethylbenzene**	x	7771	0.10	0.4	ug	100.		<	40.		48000		
		XYLENES (Total)	x		.7	2.6	ug	100.		<	260.		14400000		
91-20-3	M3	**Napthylene**	x	16386	0.35	0.82	ug	100.		<	82.		48000		

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc		RDL	Qual	MQL
	M2	**M/P-Xylene**	x	28049	0.45	2	ug	100.		<	200.		96000
95-47-6	M2	**O-Xylene**	x	14871	0.24	0.65	ug	100.		<	65.		48000
108-67-8	M2	**1,3,5-Trimethylbenzene**	x	6466	0.11	0.4	ug	100.		<	40.		48000
95-63-6	M2	**1,2,4-Trimethylbenzene**	x	18858	0.33	0.8	ug	100.		<	80.		48000
		Gasoline (TVH) Subtraction Blank =			0								

CAS#	Type	System Monitoring Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	Water Limits	Soil Limits	Spike	%Rec
1868-53-7	S1	**Dibromofluoromethane**	2342248	69.34	**74**	ug	3156680	70 - 130	65 - 135	69.9	**99.2**
17060-07-0	S1	**1,2-Dichloroethane-d4**	2471499	70.23	**75**	ug	3277121	78 - 122	66 - 134	69.9	**100.5**
2037-26-5	S1	**Toluene-d8**	2483229	66.35	**74**	ug	3345444	89 - 115	77 - 124	69.9	**94.9**
460-00-4	S2	**4-Bromofluorobenzene**	2037519	66.13	**69**	ug	2955695	79 - 122	66 - 134	69.9	**94.6**

CAS#	Type	Internal Stanard Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	ISS Conc
462-06-6	I1	**Fluorobenzene**	4005990	69.90	**80**	ug	5012462	69.9
3114-55-4	I2	**Chlorobenzene-d5**	2811503	69.90	**73**	ug	3843020	69.9
3855-82-1	I3	**1,4-Dichlorobenzene-d4**	3514209	69.90	**65**	ug	5408109	69.9

MDL = Method Detection Limit
PQL = Practical Quantition Limit = 4 x MDL
RDL = Reporting Detection Limit = MDL x Dilution Factor
MQL = Maximum Quantitation Limit = 110% x DF x Highest Calibration Standard

Reporting basis is Kg for solids and L for liquids

J qualifier = MDL < Result < PQL
E qualifier = Estimated Result > Highest Calibration Standard

Analyst

Approved

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\09JAN30\0501005.D Vial: 5
Acq On : 30 Jan 2009 11:58 Operator: KEY
Sample : 09-0166, 18A, 0128090146, Inst : BTEX 5890
Misc : Water, 1xdil, Mararthon Oil, 18A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 2 17:58 19109 Quant Results File: 6244BTEX.RES

Quant Method : C:\HPCHEM\1\METHODS\6244BTEX.M (Chemstation Integrator)
Title : 624UTUST BTEX calibration
Last Update : Mon Dec 08 23:51:47 2008
Response via : Initial Calibration
DataAcq Meth : 6244BTEX

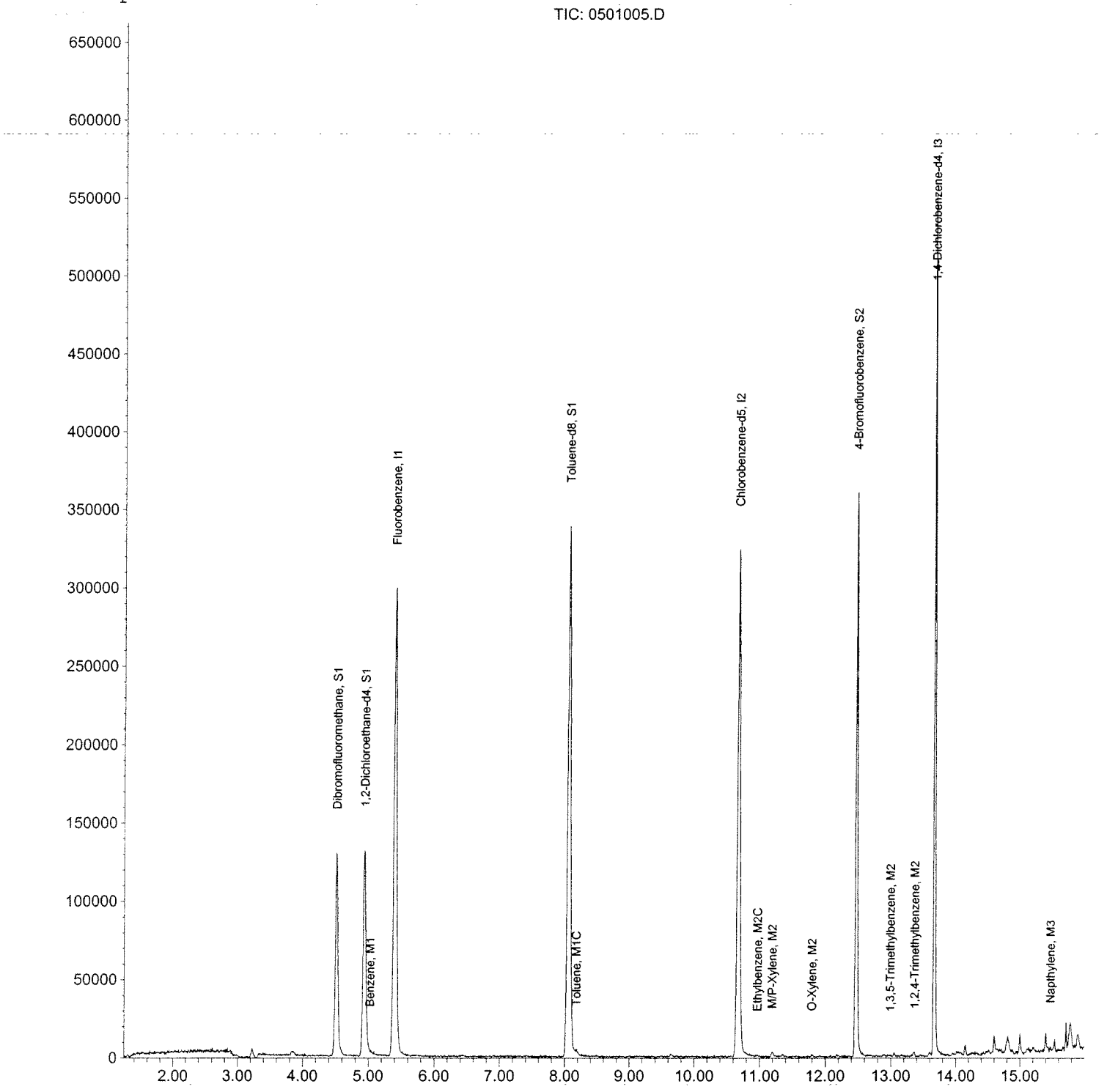
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	5.40	96	4005990	69.90	ug	-0.03
9) Chlorobenzene-d5	10.68	117	2811503	69.90	ug	-0.05
16) 1,4-Dichlorobenzene-d4	13.67	152	3514210	69.90	ug	-0.03
System Monitoring Compounds						
4) Dibromofluoromethane	4.52	113	2342248	69.34	ug	-0.02
Spiked Amount 69.900	Range 70 - 130		Recovery = 99.20%			
5) 1,2-Dichloroethane-d4	4.94	65	2471500	70.23	ug	-0.02
Spiked Amount 69.900	Range 78 - 122		Recovery = 100.47%			
7) Toluene-d8	8.06	100	2483229	66.35	ug	-0.05
Spiked Amount 69.900	Range 89 - 115		Recovery = 94.92%			
13) 4-Bromofluorobenzene	12.47	174	2037520	66.13	ug	-0.03
Spiked Amount 69.900	Range 79 - 122		Recovery = 94.61%			
Target Compounds						Qvalue
2) Gasoline [TVH]	2.96	TIC	-6655485m	-66.05	ug	
3) MTBE	0.00	73	0	N.D.		
6) Benzene	5.02	78	8995	0.13	ug	# 82
8) Toluene	8.18	91	31822	0.44	ug	# 90
10) Ethylbenzene	10.97	91	7771	0.10	ug	# 57
11) M/P-Xylene	11.20	91	28049	0.45	ug	# 80
12) O-Xylene	11.80	91	14872	0.24	ug	# 46
14) 1,3,5-Trimethylbenzene	12.99	105	6466	0.11	ug	# 48
15) 1,2,4-Trimethylbenzene	13.36	105	18858	0.33	ug	# 50
17) Napthylene	15.48	128	16387	0.35	ug	# 80

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\09JAN30\0501005.D Vial: 5
Acq On : 30 Jan 2009 11:58 Operator: KEY
Sample : 09-0166, 18A, 0128090146, Inst : BTEX 5890
Misc : Water, 1xdil, Mararthon Oil, 18A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 2 17:58 19109 Quant Results File: 6244BTEX.RES

Method : C:\HPCHEM\1\METHODS\6244BTEX.M (Chemstation Integrator)
Title : 624UTUST BTEX calibration
Last Update : Mon Dec 08 23:51:47 2008
Response via : Initial Calibration



KEY LABORATORIES, INC.
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BTEX Analytical Report

Client : **Marathon Oil**
Client Project Name : **18A**

Lab QC Batch Sample : **09-0147, 18A-21**
Key Lab # : **09-0146**
Work Order # : **0128090146**
Date Recieved : **01/28/09**
Method : EPA SW846 5030/5035/8260
Technician : KEY
Data File Name: 1101006.d
Date Analyzed : 30 Jan 2009 16:43
Data File Path : c:\hpchem\1\data\09jan30\
Lab Sample Information : Water, 250xdil, Marathon Oil, 18A
Lab Sample Number : **09-0146, 18A-16, 0128090146,**

Client Sample Number : **18A-16**
Sampling Date : **1/28/2009**
Sampling Time : **14:00**
Sample Matrix : **Water**
Sampler : **Kelly**

Sample vol/wt = 5
Reported==>> **x** **DF =** **250**

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL	Spike	%REC
	H1	**Gasoline [TVH]**				100	ug							
1634-04-4	M1	**MTBE**				0.2	ug							
71-43-2	M1	**Benzene**				0.8	ug							
108-88-3	M1C	**Toluene**	x	11893076	303.58	3.5	ug	250.	**76000 ug/L**	875.		120000		
100-41-4	M2C	**Ethylbenzene**				0.4	ug							
		XYLENES (Total)				2.6	ug							
91-20-3	M3	**Napthylene**				0.82	ug							

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL
	M2	**M/P-Xylene**				2	ug					
95-47-6	M2	**O-Xylene**				0.65	ug					
108-67-8	M2	**1,3,5-Trimethylbenzene**				0.4	ug					
95-63-6	M2	**1,2,4-Trimethylbenzene**				0.8	ug					
		Gasoline (TVH) Subtraction Blank =			0							

CAS#	Type	System Monitoring Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	Water Limits	Soil Limits	Spike	%Rec
1868-53-7	S1	**Dibromofluoromethane**	1324508	72.46	**42**	ug	3156680	70 - 130	65 - 135	69.9	**103.7**
17060-07-0	S1	**1,2-Dichloroethane-d4**	1445974	75.92	**44**	ug	3277121	78 - 122	66 - 134	69.9	**108.6**
2037-26-5	S1	**Toluene-d8**	1466981	72.42	**44**	ug	3345444	89 - 115	77 - 124	69.9	**103.6**
460-00-4	S2	**4-Bromofluorobenzene**	1389414	73.97	**47**	ug	2955695	79 - 122	66 - 134	69.9	**105.8**

CAS#	Type	Internal Stanard Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	ISS Conc
462-06-6	I1	**Fluorobenzene**	2168034	69.90	**43**	ug	5012462	69.9
3114-55-4	I2	**Chlorobenzene-d5**	1713881	69.90	**45**	ug	3843020	69.9
3855-82-1	I3	**1,4-Dichlorobenzene-d4**	2574632	69.90	**48**	ug	5408109	69.9

MDL = Method Detection Limit
PQL = Practical Quantition Limit = 4 x MDL
RDL = Reporting Detection Limit = MDL x Dilution Factor
MQL = Maximum Quantitation Limit = 110% x DF x Highest Calibration Standard

Reporting basis is Kg for solids and L for liquids

J qualifier = MDL < Result < PQL
E qualifier = Estimated Result > Highest Calibration Standard

Analyst

Approved

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\09JAN30\1101006.D Vial: 11
Acq On : 30 Jan 2009 16:43 Operator: KEY
Sample : 09-0146, 18A-16, 0128090146, Inst : BTEX 5890
Misc : Water, 250xdil, Marathon Oil, 18A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 2 18:17 19109 Quant Results File: 6244BTEX.RES

Quant Method : C:\HPCHEM\1\METHODS\6244BTEX.M (Chemstation Integrator)
Title : 624UTUST BTEX calibration
Last Update : Mon Dec 08 23:51:47 2008
Response via : Initial Calibration
DataAcq Meth : 6244BTEX

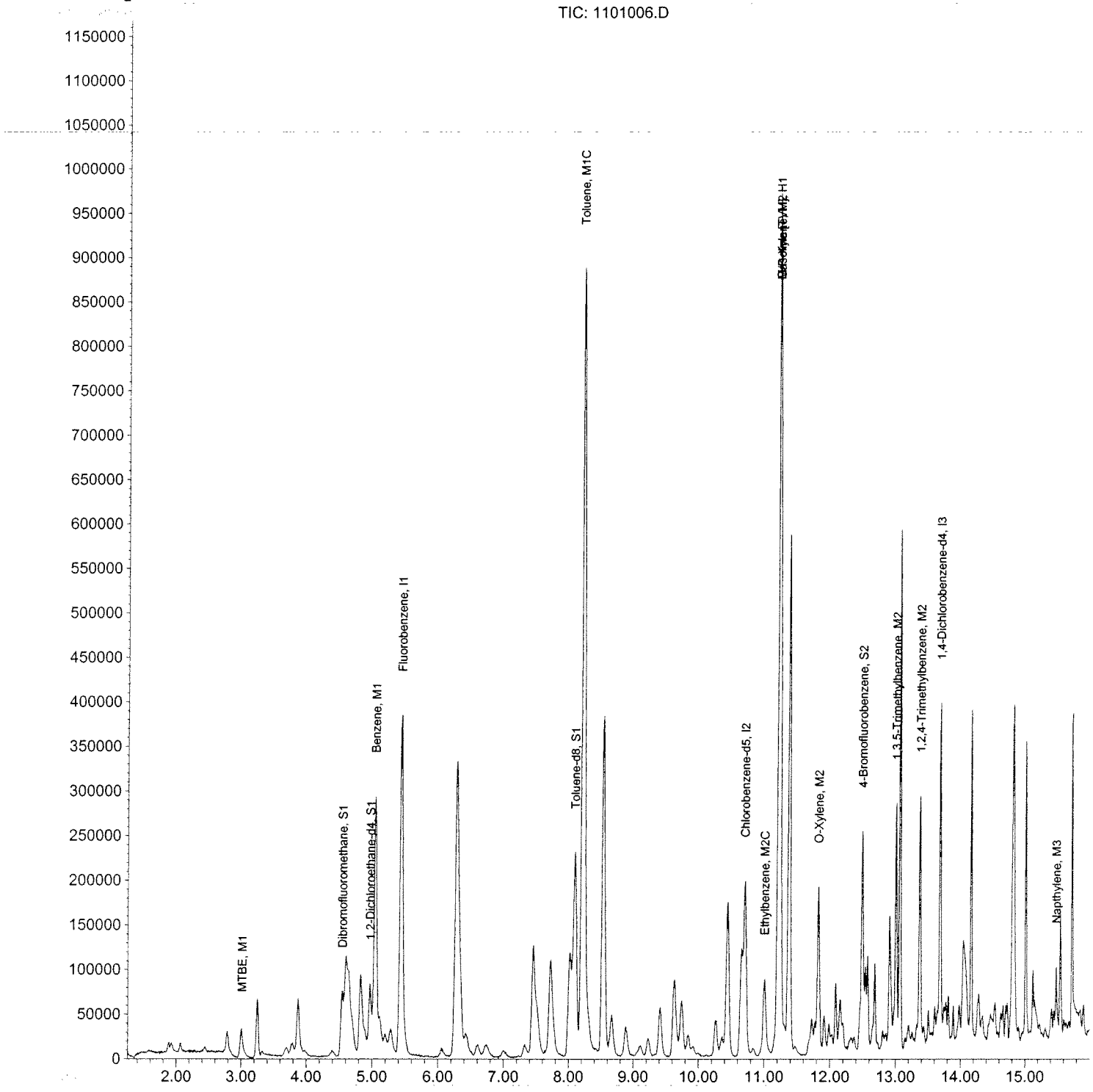
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	5.44	96	2168035	69.90	ug	0.00
9) Chlorobenzene-d5	10.71	117	1713881	69.90	ug	-0.01
16) 1,4-Dichlorobenzene-d4	13.69	152	2574633	69.90	ug	-0.01
System Monitoring Compounds						
4) Dibromofluoromethane	4.55	113	1324508	72.46	ug	0.01
Spiked Amount 69.900	Range 70 - 130		Recovery = 103.66%			
5) 1,2-Dichloroethane-d4	4.97	65	1445975	75.92	ug	0.00
Spiked Amount 69.900	Range 78 - 122		Recovery = 108.61%			
7) Toluene-d8	8.10	100	1466981	72.42	ug	0.00
Spiked Amount 69.900	Range 89 - 115		Recovery = 103.61%			
13) 4-Bromofluorobenzene	12.49	174	1389414	73.97	ug	-0.01
Spiked Amount 69.900	Range 79 - 122		Recovery = 105.82%			
Target Compounds						Qvalue
2) Gasoline [TVH]	11.22	TIC	297330458m	5452.54	ug	
3) MTBE	3.02	73	47537	1.72	ug	# 1
6) Benzene	5.05	78	3811651	105.40	ug	# 71
8) Toluene	8.22	91	11893076	303.58	ug	97
10) Ethylbenzene	11.01	91	1111169	22.46	ug	97
11) M/P-Xylene	11.23	91	9543943	250.26	ug	97
12) O-Xylene	11.83	91	1483384	38.79	ug	97
14) 1,3,5-Trimethylbenzene	13.01	105	1452354	41.98	ug	# 92
15) 1,2,4-Trimethylbenzene	13.38	105	1410651	40.91	ug	94
17) Napthylene	15.49	128	339323	9.94	ug	# 95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\09JAN30\1101006.D Vial: 11
Acq On : 30 Jan 2009 16:43 Operator: KEY
Sample : 09-0146, 18A-16, 0128090146, Inst : BTEX 5890
Misc : Water, 250xdil, Marathon Oil, 18A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 2 18:17 19109 Quant Results File: 6244BTEX.RES

Method : C:\HPCHEM\1\METHODS\6244BTEX.M (Chemstation Integrator)
Title : 624UTUST BTEX calibration
Last Update : Mon Dec 08 23:51:47 2008
Response via : Initial Calibration



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BTEX Analytical Report

Client : **Marathon Oil**
Client Project Name : **18A**

Lab QC Batch Sample : **09-0147, 18A-21**
Key Lab # : **09-0147**
Work Order # : **0128090146**
Date Recieved : **01/28/09**
Method : EPA SW846 5030/5035/8260
Technician : KEY
Data File Name: 0701002.d
Date Analyzed : 30 Jan 2009 15:09
Data File Path : c:\hpchem\1\data\09jan30\
Lab Sample Information : Water, 100xdil, Marathon Oil, 18A
Lab Sample Number : **09-0147, 18A-21, M, 0128090146,**

Client Sample Number : **18A-21**
Sampling Date : **1/28/2009**
Sampling Time : **14:00**
Sample Matrix : **Water**
Sampler : **Kelly**

Sample vol/wt = 5
Reported==>> **x** **DF =** **100**

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL	Spike	%REC
	H1	**Gasoline [TVH]**	x	894475749	5835.93	100	ug	100.	**580 mg/L**	10.		4000		
1634-04-4	M1	**MTBE**				0.2	ug							
71-43-2	M1	**Benzene**	x	13553980	133.34	0.8	ug	100.	**13000 ug/L**	80.		48000		
108-88-3	M1C	**Toluene**	x	42178337	383.05	3.5	ug	100.	**38000 ug/L**	350.		48000		
100-41-4	M2C	**Ethylbenzene**	x	3089190	25.16	0.4	ug	100.	**2500 ug/L**	40.		48000		
		XYLENES (Total)	x		390.5	2.6	ug	100.	**39000 ug/L**	260.		14400000		
91-20-3	M3	**Napthylene**	x	382729	4.84	0.82	ug	100.	**480 ug/L**	82.		48000		

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL
	M2	**M/P-Xylene**	x	32290354	341.14	2	ug	100.	**34000 ug/L**	200.		96000
95-47-6	M2	**O-Xylene**	x	4688959	49.40	0.65	ug	100.	**4900 ug/L**	65.		48000
108-67-8	M2	**1,3,5-Trimethylbenzene**	x	5047146	58.78	0.4	ug	100.	**5900 ug/L**	40.		48000
95-63-6	M2	**1,2,4-Trimethylbenzene**	x	4809286	56.20	0.8	ug	100.	**5600 ug/L**	80.		48000
		Gasoline (TVH) Subtraction Blank =			0							

CAS#	Type	System Monitoring Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	Water Limits	Soil Limits	Spike	%Rec
1868-53-7	S1	**Dibromofluoromethane**	3882896	75.57	**123**	ug	3156680	70 - 130	65 - 135	69.9	**108.1**
17060-07-0	S1	**1,2-Dichloroethane-d4**	4041338	75.49	**123**	ug	3277121	78 - 122	66 - 134	69.9	**108.**
2037-26-5	S1	**Toluene-d8**	3784511	66.47	**113**	ug	3345444	89 - 115	77 - 124	69.9	**95.1**
460-00-4	S2	**4-Bromofluorobenzene**	3326590	71.36	**113**	ug	2955695	79 - 122	66 - 134	69.9	**102.1**

CAS#	Type	Internal Stanard Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	ISS Conc
462-06-6	I1	**Fluorobenzene**	6093747	69.90	**122**	ug	5012462	69.9
3114-55-4	I2	**Chlorobenzene-d5**	4253907	69.90	**111**	ug	3843020	69.9
3855-82-1	I3	**1,4-Dichlorobenzene-d4**	5971120	69.90	**110**	ug	5408109	69.9

MDL = Method Detection Limit
PQL = Practical Quantition Limit = 4 x MDL
RDL = Reporting Detection Limit = MDL x Dilution Factor
MQL = Maximum Quantitation Limit = 110% x DF x Highest Calibration Standard

Reporting basis is Kg for solids and L for liquids

J qualifier = MDL < Result < PQL
E qualifier = Estimated Result > Highest Calibration Standard

Analyst **Approved**

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\09JAN30\0701002.D Vial: 7
Acq On : 30 Jan 2009 15:09 Operator: KEY
Sample : 09-0147, 18A-21, M, 0128090146, Inst : BTEX 5890
Misc : Water, 100xdil, Marathon Oil, 18A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 2 18:10 19109 Quant Results File: 6244BTEX.RES

Quant Method : C:\HPCHEM\1\METHODS\6244BTEX.M (Chemstation Integrator)
Title : 624UTUST BTEX calibration
Last Update : Mon Dec 08 23:51:47 2008
Response via : Initial Calibration
DataAcq Meth : 6244BTEX

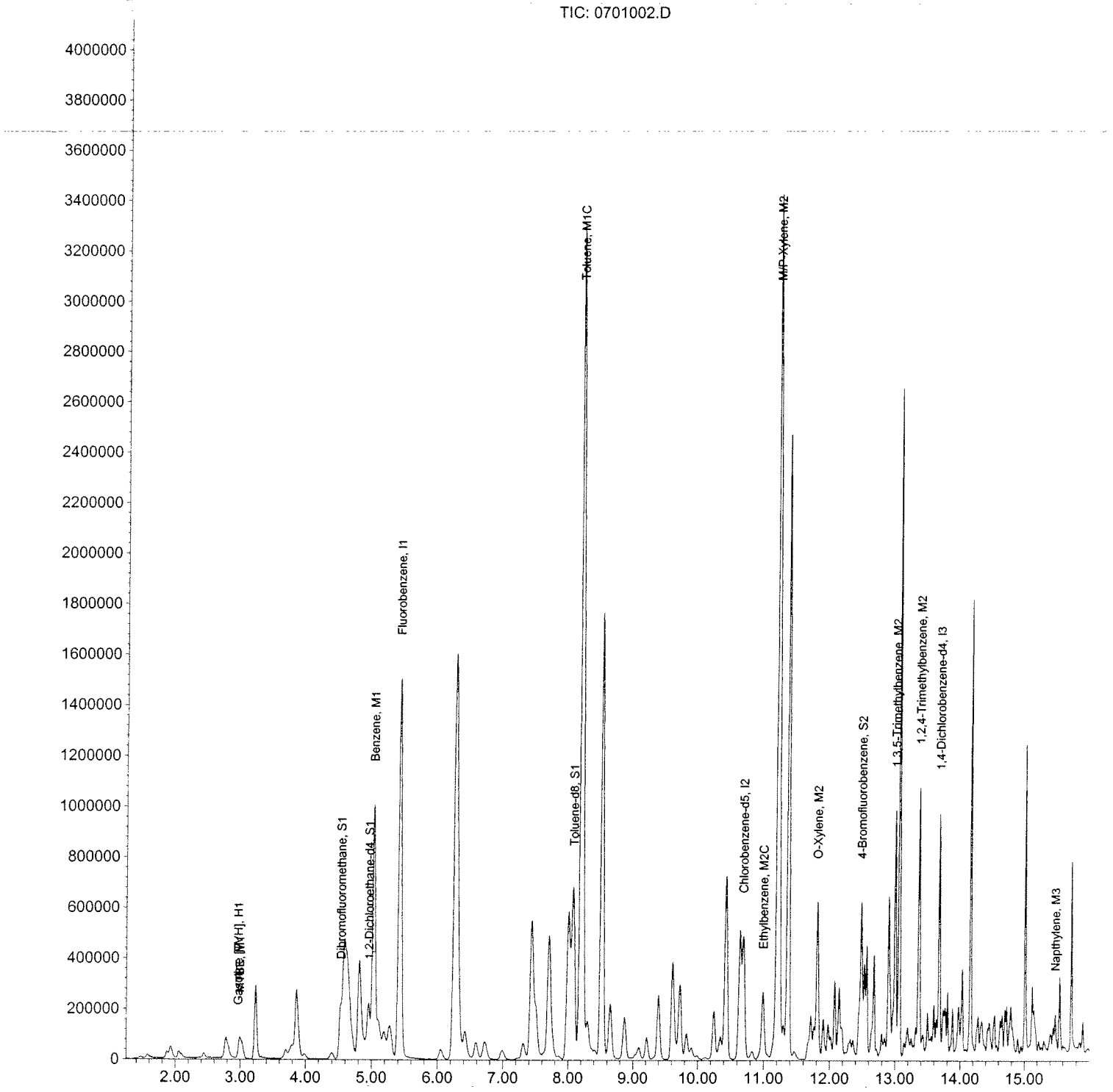
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	5.42	96	6093747	69.90	ug	0.00
9) Chlorobenzene-d5	10.70	117	4253908	69.90	ug	-0.03
16) 1,4-Dichlorobenzene-d4	13.68	152	5971120	69.90	ug	-0.02
System Monitoring Compounds						
4) Dibromofluoromethane	4.53	113	3882897	75.57	ug	0.00
Spiked Amount 69.900	Range 70 - 130		Recovery = 108.11%			
5) 1,2-Dichloroethane-d4	4.96	65	4041338	75.49	ug	0.00
Spiked Amount 69.900	Range 78 - 122		Recovery = 108.00%			
7) Toluene-d8	8.09	100	3784512	66.47	ug	-0.02
Spiked Amount 69.900	Range 89 - 115		Recovery = 95.09%			
13) 4-Bromofluorobenzene	12.48	174	3326591	71.36	ug	-0.02
Spiked Amount 69.900	Range 79 - 122		Recovery = 102.09%			
Target Compounds						Qvalue
2) Gasoline [TVH]	2.96	TIC	894475749m	5835.93	ug	
3) MTBE	2.99	73	1542	0.02	ug	# 1
6) Benzene	5.03	78	13553980	133.34	ug	# 76
8) Toluene	8.20	91	42178337	383.05	ug	96
10) Ethylbenzene	10.99	91	3089191	25.16	ug	98
11) M/P-Xylene	11.21	91	32290355	341.14	ug	97
12) O-Xylene	11.81	91	4688960	49.40	ug	97
14) 1,3,5-Trimethylbenzene	13.00	105	5047146	58.78	ug	94
15) 1,2,4-Trimethylbenzene	13.37	105	4809286	56.20	ug	93
17) Napthylene	15.48	128	382729	4.84	ug	# 90

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\09JAN30\0701002.D Vial: 7
Acq On : 30 Jan 2009 15:09 Operator: KEY
Sample : 09-0147, 18A-21, M, 0128090146, Inst : BTEX 5890
Misc : Water, 100xdil, Marathon Oil, 18A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 2 18:10 19109 Quant Results File: 6244BTEX.RES

Method : C:\HPCHEM\1\METHODS\6244BTEX.M (Chemstation Integrator)
Title : 624UTUST BTEX calibration
Last Update : Mon Dec 08 23:51:47 2008
Response via : Initial Calibration



KEY LABORATORIES, INC.
2479 River Road Unit A
Grand Junction, CO 81505
(970)243-5311 FAX (970)243-6010

BTEX Analytical Report

Client : **Marathon Oil**
Client Project Name : **18A**

Lab QC Batch Sample : **09-0147, 18A-21**
Key Lab # : **09-0166**
Work Order # : **0128090166**
Date Recieved : **01/28/09**
Method : EPA SW846 5030/5035/8260
Technician : KEY
Data File Name: 0501005.D
Date Analyzed : 30 Jan 2009 11:58
Data File Path : C:\HPCHEM\1\DATA\09JAN30\
Lab Sample Information : Water, 1xdil, Mararthon Oil, 18A
Lab Sample Number : **09-0166, 18A, 0128090166,**

Client Sample Number : **18A**
Sampling Date : **1/28/2009**
Sampling Time : **14:00**
Sample Matrix : **Water**
Sampler : **Kelly**

Sample vol/wt = 5
Reported==>> **x** **DF =** **1**

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc		RDL	Qual	MQL	Spike	%REC
	H1	**Gasoline [TVH]**	x	-6655486	-66.05	100	ug	1.		<	.1		40		
1634-04-4	M1	**MTBE**	x	0	0.00	0.2	ug	1.		<	.2		480		
71-43-2	M1	**Benzene**	x	8994	0.13	0.8	ug	1.		<	.8		480		
108-88-3	M1C	**Toluene**	x	31822	0.44	3.5	ug	1.		<	3.5		480		
100-41-4	M2C	**Ethylbenzene**	x	7771	0.10	0.4	ug	1.		<	.4		480		
		XYLENES (Total)	x		.7	2.6	ug	1.		<	2.6		1440		
91-20-3	M3	**Napthylene**	x	16386	0.35	0.82	ug	1.		<	.82		480		

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc		RDL	Qual	MQL
	M2	**M/P-Xylene**	x	28049	0.45	2	ug	1.		<	2.		960
95-47-6	M2	**O-Xylene**	x	14871	0.24	0.65	ug	1.		<	.65		480
108-67-8	M2	**1,3,5-Trimethylbenzene**	x	6466	0.11	0.4	ug	1.		<	.4		480
95-63-6	M2	**1,2,4-Trimethylbenzene**	x	18858	0.33	0.8	ug	1.		<	.8		480
		Gasoline (TVH) Subtraction Blank =			0								

CAS#	Type	System Monitoring Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	Water Limits	Soil Limits	Spike	%Rec
1868-53-7	S1	**Dibromofluoromethane**	2342248	69.34	**74**	ug	3156680	70 - 130	65 - 135	69.9	**99.2**
17060-07-0	S1	**1,2-Dichloroethane-d4**	2471499	70.23	**75**	ug	3277121	78 - 122	66 - 134	69.9	**100.5**
2037-26-5	S1	**Toluene-d8**	2483229	66.35	**74**	ug	3345444	89 - 115	77 - 124	69.9	**94.9**
460-00-4	S2	**4-Bromofluorobenzene**	2037519	66.13	**69**	ug	2955695	79 - 122	66 - 134	69.9	**94.6**

CAS#	Type	Internal Stanard Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	ISS Conc
462-06-6	I1	**Fluorobenzene**	4005990	69.90	**80**	ug	5012462	69.9
3114-55-4	I2	**Chlorobenzene-d5**	2811503	69.90	**73**	ug	3843020	69.9
3855-82-1	I3	**1,4-Dichlorobenzene-d4**	3514209	69.90	**65**	ug	5408109	69.9

MDL = Method Detection Limit
PQL = Practical Quantition Limit = 4 x MDL
RDL = Reporting Detection Limit = MDL x Dilution Factor
MQL = Maximum Quantitation Limit = 110% x DF x Highest Calibration Standard

Reporting basis is Kg for solids and L for liquids

J qualifier = MDL < Result < PQL
E qualifier = Estimated Result > Highest Calibration Standard

Analyst

Approved

KEY LABORATORIES, INC.
2479 River Road Unit A
Grand Junction, CO 81505
(970)243-5311 FAX (970)243-6010

BTEX Analytical Report

Client : **Marathon Oil**
Client Project Name : **18A**

Lab QC Batch Sample : **09-0147, 18A-21**
Key Lab # : **09-0146**
Work Order # : **0128090146**
Date Recieved : **01/28/09**
Method : EPA SW846 5030/5035/8260
Technician : KEY
Data File Name: 0601001.d
Date Analyzed : 30 Jan 2009 14:46
Data File Path : c:\hpchem\1\data\09jan30\
Lab Sample Information : Water, 100xdil, Marathon Oil, 18A
Lab Sample Number : **09-0146, 18A-16, 0128090146,**

Client Sample Number : **18A-16**
Sampling Date : **1/28/2009**
Sampling Time : **14:00**
Sample Matrix : **Water**
Sampler : **Kelly**

Sample vol/wt = 5
Reported==>> **x** **DF =** **100**

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL	Spike	%REC
	H1	**Gasoline [TVH]**	x	1486703237	13076.32	100	ug	100.	**1300 mg/L**	10.		4000		
1634-04-4	M1	**MTBE**	x	1557	0.03	0.2	ug	100.	<	20.		48000		
71-43-2	M1	**Benzene**	x	13750934	182.37	0.8	ug	100.	**18000 ug/L**	80.		48000		
108-88-3	M1C	**Toluene**				3.5	ug							
100-41-4	M2C	**Ethylbenzene**	x	5874062	61.38	0.4	ug	100.	**6100 ug/L**	40.		48000		
		XYLENES (Total)	x		961.6	2.6	ug	100.	**96000 ug/L**	260.		14400000		
91-20-3	M3	**Napthylene**	x	592381	8.99	0.82	ug	100.	**900 ug/L**	82.		48000		

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL
	M2	**M/P-Xylene**	x	61728085	836.77	2	ug	100.	**84000 ug/L**	200.		96000
95-47-6	M2	**O-Xylene**	x	9237184	124.87	0.65	ug	100.	**12000 ug/L**	65.		48000
108-67-8	M2	**1,3,5-Trimethylbenzene**	x	12226858	182.70	0.4	ug	100.	**18000 ug/L**	40.		48000
95-63-6	M2	**1,2,4-Trimethylbenzene**	x	11440773	171.54	0.8	ug	100.	**17000 ug/L**	80.		48000
		Gasoline (TVH) Subtraction Blank =			0							

CAS#	Type	System Monitoring Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	Water Limits	Soil Limits	Spike	%Rec
1868-53-7	S1	**Dibromofluoromethane**	2828469	74.21	**90**	ug	3156680	70 - 130	65 - 135	69.9	**106.2**
17060-07-0	S1	**1,2-Dichloroethane-d4**	2629486	66.21	**80**	ug	3277121	78 - 122	66 - 134	69.9	**94.7**
2037-26-5	S1	**Toluene-d8**	2863029	67.79	**86**	ug	3345444	89 - 115	77 - 124	69.9	**97.**
460-00-4	S2	**4-Bromofluorobenzene**	2657886	73.15	**90**	ug	2955695	79 - 122	66 - 134	69.9	**104.7**

CAS#	Type	Internal Stanard Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	ISS Conc
462-06-6	I1	**Fluorobenzene**	4520271	69.90	**90**	ug	5012462	69.9
3114-55-4	I2	**Chlorobenzene-d5**	3315275	69.90	**86**	ug	3843020	69.9
3855-82-1	I3	**1,4-Dichlorobenzene-d4**	4969662	69.90	**92**	ug	5408109	69.9

MDL = Method Detection Limit
PQL = Practical Quantition Limit = 4 x MDL
RDL = Reporting Detection Limit = MDL x Dilution Factor
MQL = Maximum Quantitation Limit = 110% x DF x Highest Calibration Standard

Reporting basis is Kg for solids and L for liquids

J qualifier = MDL < Result < PQL
E qualifier = Estimated Result > Highest Calibration Standard

Analyst

Approved

KEY LABORATORIES, INC.
2479 River Road Unit A
Grand Junction, CO 81505
(970)243-5311 FAX (970)243-6010

BTEX Analytical Report

Client : **Marathon Oil**
Client Project Name : **18A**

Lab QC Batch Sample : **09-0147, 18A-21**
Key Lab # : **09-0147**
Work Order # : **0128090146**
Date Recieved : **01/28/09**
Method : EPA SW846 5030/5035/8260
Technician : KEY
Data File Name: 0701002.d
Date Analyzed : 30 Jan 2009 15:09
Data File Path : c:\hpchem\1\data\09jan30\
Lab Sample Information : Water, 100xdil, Marathon Oil, 18A
Lab Sample Number : **09-0147, 18A-21, M, 0128090146,**

Client Sample Number : **18A-21**
Sampling Date : **1/28/2009**
Sampling Time : **14:00**
Sample Matrix : **Water**
Sampler : **Kelly**

Sample vol/wt = 5
Reported==>> **x** **DF =** **100**

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL	Spike	%REC
	H1	**Gasoline [TVH]**	x	894475749	5835.93	100	ug	100.	**580 mg/L**	10.		4000		
1634-04-4	M1	**MTBE**	x	1542	0.02	0.2	ug	100.	<	20.		48000		
71-43-2	M1	**Benzene**	x	13553980	133.34	0.8	ug	100.	**13000 ug/L**	80.		48000		
108-88-3	M1C	**Toluene**	x	42178337	383.05	3.5	ug	100.	**38000 ug/L**	350.		48000		
100-41-4	M2C	**Ethylbenzene**	x	3089190	25.16	0.4	ug	100.	**2500 ug/L**	40.		48000		
		XYLENES (Total)	x		390.5	2.6	ug	100.	**39000 ug/L**	260.		14400000		
91-20-3	M3	**Napthylene**	x	382729	4.84	0.82	ug	100.	**480 ug/L**	82.		48000		

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL
	M2	**M/P-Xylene**	x	32290354	341.14	2	ug	100.	**34000 ug/L**	200.		96000
95-47-6	M2	**O-Xylene**	x	4688959	49.40	0.65	ug	100.	**4900 ug/L**	65.		48000
108-67-8	M2	**1,3,5-Trimethylbenzene**	x	5047146	58.78	0.4	ug	100.	**5900 ug/L**	40.		48000
95-63-6	M2	**1,2,4-Trimethylbenzene**	x	4809286	56.20	0.8	ug	100.	**5600 ug/L**	80.		48000
		Gasoline (TVH) Subtraction Blank =			0							

CAS#	Type	System Monitoring Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	Water Limits	Soil Limits	Spike	%Rec
1868-53-7	S1	**Dibromofluoromethane**	3882896	75.57	**123**	ug	3156680	70 - 130	65 - 135	69.9	**108.1**
17060-07-0	S1	**1,2-Dichloroethane-d4**	4041338	75.49	**123**	ug	3277121	78 - 122	66 - 134	69.9	**108.**
2037-26-5	S1	**Toluene-d8**	3784511	66.47	**113**	ug	3345444	89 - 115	77 - 124	69.9	**95.1**
460-00-4	S2	**4-Bromofluorobenzene**	3326590	71.36	**113**	ug	2955695	79 - 122	66 - 134	69.9	**102.1**

CAS#	Type	Internal Stanard Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	ISS Conc
462-06-6	I1	**Fluorobenzene**	6093747	69.90	**122**	ug	5012462	69.9
3114-55-4	I2	**Chlorobenzene-d5**	4253907	69.90	**111**	ug	3843020	69.9
3855-82-1	I3	**1,4-Dichlorobenzene-d4**	5971120	69.90	**110**	ug	5408109	69.9

MDL = Method Detection Limit
PQL = Practical Quantition Limit = 4 x MDL
RDL = Reporting Detection Limit = MDL x Dilution Factor
MQL = Maximum Quantitation Limit = 110% x DF x Highest Calibration Standard

Reporting basis is Kg for solids and L for liquids

J qualifier = MDL < Result < PQL
E qualifier = Estimated Result > Highest Calibration Standard

Analyst

Approved

KEY LABORATORIES, INC.
2479 River Road Unit A
Grand Junction, CO 81505
(970)243-5311 FAX (970)243-6010

BTEX Analytical Report

Client : **Marathon Oil**
Client Project Name : **18A**

Lab QC Batch Sample : **09-0147, 18A-21**
Key Lab # : **09-0147**
Work Order # : **0128090146**
Date Recieved : **01/28/09**
Method : EPA SW846 5030/5035/8260
Technician : KEY
Data File Name: 0801003.d
Date Analyzed : 30 Jan 2009 15:33
Data File Path : c:\hpchem\1\data\09jan30\
Lab Sample Information : Water, 100xdil, Marathon Oil, 18A
Lab Sample Number : **09-0147, 18A-21, MD, 0128090146,**

Client Sample Number : **18A-21** **DUP**
Sampling Date : **1/28/2009**
Sampling Time : **14:00**
Sample Matrix : **Water**
Sampler : **Kelly**

Sample vol/wt = 5
Reported==>> x **DF =** **100**

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL	Spike	%REC
	H1	**Gasoline [TVH]**	x	1089916968	7007.56	100	ug	100.	**700 mg/L**	10.		4000		
1634-04-4	M1	**MTBE**	x	7096	0.09	0.2	ug	100.	<	20.		48000		
71-43-2	M1	**Benzene**	x	14310742	138.73	0.8	ug	100.	**14000 ug/L**	80.		48000		
108-88-3	M1C	**Toluene**	x	43959255	393.41	3.5	ug	100.	**39000 ug/L**	350.		48000		
100-41-4	M2C	**Ethylbenzene**	x	3230562	25.97	0.4	ug	100.	**2600 ug/L**	40.		48000		
		XYLENES (Total)	x		404.6	2.6	ug	100.	**40000 ug/L**	260.		14400000		
91-20-3	M3	**Napthylene**	x	379553	4.72	0.82	ug	100.	**470 ug/L**	82.		48000		

CAS#	Type	Target Compounds	Audit	Resp.	Amt.	MDL	Units	DF	Final Conc	RDL	Qual	MQL
	M2	**M/P-Xylene**	x	33867674	353.22	2	ug	100.	**35000 ug/L**	200.		96000
95-47-6	M2	**O-Xylene**	x	4942048	51.40	0.65	ug	100.	**5100 ug/L**	65.		48000
108-67-8	M2	**1,3,5-Trimethylbenzene**	x	5146329	59.16	0.4	ug	100.	**5900 ug/L**	40.		48000
95-63-6	M2	**1,2,4-Trimethylbenzene**	x	4942957	57.02	0.8	ug	100.	**5700 ug/L**	80.		48000
		Gasoline (TVH) Subtraction Blank =			0							

CAS#	Type	System Monitoring Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	Water Limits	Soil Limits	Spike	%Rec
1868-53-7	S1	**Dibromofluoromethane**	3969710	76.14	**126**	ug	3156680	70 - 130	65 - 135	69.9	**108.9**
17060-07-0	S1	**1,2-Dichloroethane-d4**	4117294	75.79	**126**	ug	3277121	78 - 122	66 - 134	69.9	**108.4**
2037-26-5	S1	**Toluene-d8**	3835082	66.38	**115**	ug	3345444	89 - 115	77 - 124	69.9	**95.**
460-00-4	S2	**4-Bromofluorobenzene**	3350963	70.96	**113**	ug	2955695	79 - 122	66 - 134	69.9	**101.5**

CAS#	Type	Internal Stanard Compounds	Resp.	Amt.	Area%	Units	Init.Resp.	ISS Conc
462-06-6	I1	**Fluorobenzene**	6183756	69.90	**123**	ug	5012462	69.9
3114-55-4	I2	**Chlorobenzene-d5**	4309094	69.90	**112**	ug	3843020	69.9
3855-82-1	I3	**1,4-Dichlorobenzene-d4**	6067398	69.90	**112**	ug	5408109	69.9

MDL = Method Detection Limit
PQL = Practical Quantition Limit = 4 x MDL
RDL = Reporting Detection Limit = MDL x Dilution Factor
MQL = Maximum Quantitation Limit = 110% x DF x Highest Calibration Standard

Reporting basis is Kg for solids and L for liquids

J qualifier = MDL < Result < PQL
E qualifier = Estimated Result > Highest Calibration Standard

Analyst

Approved

Key Laboratories, Inc.
2479A Riverside Parkway
Grand Junction, Colorado 81505-1319
Phone (970) 243-5311 Fax (970) 243-6010

Client: **Marathon Oil**
Client Project Name:
Client Project Number:
Client Sample Number: 696-18C-12

Sampling Date: 3/2/2009
Sampling Time: 18:30
Sample Matrix: Water
Sampler: Kelly

Key Lab #: 09-0408
Work Order #: 0303090407
Date Received: 03/03/09
Analyst: 3/16/09 VP
Sample Prep: Total, Open Vessel

Analysis Method: *ICP-MS, EPA Methods 6020 / 200.8
Prep Method: EPA Method 200.8 Open Vessel Microwave Digestion

						Date Analyzed:	Friday, March 13, 2009 16:41:59	Friday, March 13, 2009 16:49:09	Friday, March 13, 2009 16:56:20	Friday, March 13, 2009 17:03:31	Friday, March 13, 2009 13:55:55					
						Key Lab Prep Batch Sample ID#	WI-0313-09-0408-03_Mdil	WI-0313-09-0408-04_MDdil	WI-0313-09-0408-03_M	WI-0313-09-0408-04_MD	SI-0224-09-0000-01_LMB					
						Sample Comments:	Mdil	MDdil	M	MD	LMB					
						Sample Aliquot [mg]:	10000	10000	10000	10000	1000					
						Prep Spike Recovery:	0.900	0.904	0.908	0.885	0.916					
					Pass Audit ==>>	Prep/Digestion DF==>>	5.00	5.00	5.00	5.00	50					
					x	Total DF==>>	250.00	250.00	50.00	50.00	500.00					
Analysis Method	Ion Mass	Time [ms]*	Symbol	RCRA Limit**	Audit	Analyte	Reported Value	Reported Value	Reported Value	Reported Value	Units		Total DF	MDL ppm	PQL ppm	Max QL ppm
					7	<<== # Analytes										
ICP-MS*	9	20	Be			Beryllium					mg/Liter			<	<	<
ICP-MS*	11	20	B			Boron					mg/Liter			<	<	<
ICP-MS*	23	100	Na		x	Sodium	2500	2500			mg/Liter	<	500	5	20	10000
ICP-MS*	24	100	Mg			Magnesium					mg/Liter		500	2.5	10	10000
ICP-MS*	27	20	Al			Aluminum					mg/Liter			<	<	<
ICP-MS*	28	20	Si			Silicon					mg/Liter			<	<	<
ICP-MS*	31	20	P			Phosphorous					mg/Liter			<	<	<
ICP-MS*	39	100	K		x	Potassium			29	29	mg/Liter	<	500	40	160	10000
ICP-MS*	44	200	Ca		x	Calcium			47	46	mg/Liter	<	500	13	50	10000
ICP-MS*	48	20	Ti			Titanium					mg/Liter			<	<	<
ICP-MS*	51	100	V			Vanandium					mg/Liter		500	2.5	10	1000
ICP-MS*	52	100	Cr	5		Chromium					mg/Liter		500	0.4	1.6	100
ICP-MS*	55	100	Mn		x	Manganese			0.22	0.21	mg/Liter	<	500	0.075	0.3	1000
ICP-MS*	54	100	Fe		x	Iron			7.1	6.7	mg/Liter	<	500	10	40	10000
ICP-MS*	59	20	Co			Cobalt					mg/Liter			<	<	<
ICP-MS*	60	20	Ni			Nickel					mg/Liter			<	<	<
ICP-MS*	63	20	Cu			Copper					mg/Liter			<	<	<
ICP-MS*	66	20	Zn			Zinc					mg/Liter			<	<	<
ICP-MS*	75	100	As	100		Arsenic					mg/Liter		500	0.55	2.2	200
ICP-MS*	82	100	Se	20		Selenium					mg/Liter		500	0.15	0.6	1000
ICP-MS*	88	100	Sr		x	Strontium			3.5	3.5	mg/Liter	<	500	0.1	0.4	200
ICP-MS*	98	20	Mo			Molybdenum					mg/Liter			<	<	<
ICP-MS*	107	100	Ag	100		Silver					mg/Liter		500	0.2	0.8	100
ICP-MS*	111	100	Cd	20		Cadmium					mg/Liter		500	0.02	0.08	500
ICP-MS*	123	20	Sb			Antimony					mg/Liter			<	<	<
ICP-MS*	137	100	Ba	2000	x	Barium			3.1	3	mg/Liter	<	500	0.1	0.4	200
ICP-MS*	202	300	Hg	4		Mercury					mg/Liter		500	0.02	0.08	10
ICP-MS*	205	20	Tl			Thallium					mg/Liter			<	<	<
ICP-MS*	204	100	Pb	100		Lead					mg/Liter		500	0.05	0.2	500
ICP-MS*	232	20	Th			Thorium					mg/Liter			<	<	<
ICP-MS*	238	20	U			Uranium					mg/Liter			<	<	<

*Typically, all metals with >= 90[ms] integration time can be reported. Available at customer's request.

Notes: LMB = laboratory method blank, M and MD = sample matrix replicates

Notes: LCS = spiked laboratory method blank, MS and MSD = spiked sample matrix replicates

Notes: Au is spiked as sample prep surrogate and to facilitate analysis of Mercury, DF = Dilution Factor,

Notes: MDL = Method Detection Limit, PQL = Primary Quantitation Limit, MQL = Maximum Quantitation Limit,

Notes: < = less than MDL, J = Greater than MDL but less than PQL (4 x MDL)

Notes: E = Estimated Value because it exceeds the MQL. Look for the result run at a larger dilution.

Notes: n.a. = Not Applicable, Blank Space = Not Requested or Not Reported

Notes: **(Total RCRA limits) are 20 times the TCLP extract limits because of sample size (100g) and extract volume (2000mL).

**EPA SW846 Method 1311, Revision 0, July 1992, Section 1.2 "If a total analysis of the waste demonstrates that individual analytes are not present in the waste, or that they are present but at such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the TCLP need not be run."

Analyst / Reviewer

VP

KEY Laboratories, Inc.
2479 River Road, Unit A
Grand Junction, CO 81505
(970) 243-5311
Fax (970) 243-6010

0518090825

CHAIN OF CUSTODY RECORD

Proj. No.

Company Name Marathon Oil

Phone # 970-241-5229-craig

Fax # Kelly - cell 970-589-6457

SAMPLERS: *(Signature)* PRINT NAME: Kelly McFadgen

SAMPLE NO.	DATE	TIME	MATRIX	PROJECT NAME/ SAMPLE LOCATION	SAMPLE ANALYSES	CONTAINER/SIZE/TYPE	PRESERVATIVES	REMARKS	LABORATORY SAMPLE #
697-1C-12	5/18/09	1:30 pm					Ice		0825
					TOTAL NO. OF CONTAINERS				

Relinquished by : *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
	5/18 4:40 pm				
Custody Seal No.		Custody Seal Present # Intact #	Date Required		
Method of Shipment:		Shipped by: *(Signature)*	Date Completed:	Received for Laboratory by: *(Signature)*	Date / Time

Distribution: Original Accompanies Shipment; Copy to Field Files
Form CC-01-6-92 Rev. 7/97

Full analysis for produced water

Including;
pH
Conductivity/Rw
TDS

Cations
Sodium
Potassium
Calcium
Manganese
Iron
Barium
Strontium

Anions
Chloride
Sulfide
Bicarbonate
Carbonate

Key Laboratories, Inc.
2479A Riverside Parkway
Grand Junction, Colorado 81505-1319
Phone (970) 243-5311 Fax (970) 243-6010

Final Results
Report Date: 05/20/09

pH Results

Key Lab#	Key COC#	Client Sample Name	Instrument Result	Units
09-0825	0518090825	697-1C-12		
		A	7.00	s.u.
		B	7.00	s.u.
		C	7.00	s.u.

Conductivity Results

Key Lab#	Key COC#	Client Sample Name	Instrument Result	Units
09-0825	0518090825	697-1C-12		
		A	13.78	mS
		B	13.77	mS
		C	13.78	mS

Carbonate Results

Key Lab#	Key COC#	Client Sample Name	Instrument Result	Units
09-0825	0518090825	697-1C-12		
		A	>10	mg/L
		B	>10	mg/L
		C	>10	mg/L

Bicarbonate Results

Key Lab#	Key COC#	Client Sample Name	Instrument Result	Units
09-0825	0518090825	697-1C-12		
		A	2000	mg/L
		B	2000	mg/L
		C	2000	mg/L

Sulfides Results

Key Lab#	Key COC#	Client Sample Name	Instrument Result	Units
09-0825	0518090825	697-1C-12		
		A	13.05	mg/L
		B	13.05	mg/L
		C	12.56	mg/L

Total Dissolved Solids

TDS calculation sheet

Run Date	Matrix	Weighing Dish Serial#	Key Lab #	Empty Tare [g]	Aliquot Volume [mL]	Dried weight [g]
05/19/09	water	564	09-0825	108.1034	20.	108.2909
05/19/09	water	506	09-0825	113.1583	20.	113.3448
05/19/09	water	516	09-0825	99.0845	20.	99.2706

TDS RESULTS

Key COC#	Key Lab#	Sample ID	TDS [mg]	Units
0518090825	09-0825	697-1C-12	9380	mg / Liter
0518090825	09-0825	697-1C-12	9330	mg / Liter
0518090825	09-0825	697-1C-12	9300	mg / Liter

Key Laboratories, Inc.
2479A Riverside Parkway
Grand Junction, Colorado 81505-1319
Phone (970) 243-5311 Fax (970) 243-6010

Client: **Marathon Oil**
Client Project Name: 697-1C-12
Client Project Number:
Client Sample Number: 697-1C-12

Sampling Date: 5/18/2009
Sampling Time: 13:30
Sample Matrix: Water
Sampler: Kelly

Key Lab #: 09-0825
Work Order #: 0518090825
Date Received: 05/18/09
Analyst: 5/20/09 VP
Sample Prep: Total, Closed Vessel

Analysis Method: *ICP-MS, EPA Methods 6020 / 200.8
Prep Method: EPA SW846 Microwave Digestion Methods 3051 / 3015

Date Analyzed:	Tuesday, May 19, 2009 18:19:42	Tuesday, May 19, 2009 18:26:54	Tuesday, May 19, 2009 18:05:19
Key Lab Prep Batch Sample ID#	Wi-0512-09-0825-11 A 10X	Wi-0512-09-0825-11 A 10X10X	Wi-0512-09-0000-01_LMB
Sample Comments:			LMB
Sample Aliquot [mg]:	5000	5000	5000
Prep Spike Recovery:	0.941	0.924	0.999
Prep/Digestion DF==>>	10.00	10.00	10
Pass Audit ==>> x Total DF==>>	100.00	1000.00	100.00

Analysis Method	Ion Mass	Time (ms)*	Symbol	Audit	Analyte	Reported Value	Reported Value	Units		Total DF	MDL ppm	PQL ppm	Max QL ppm
			7		<<== # Analytes								
ICP-MS*	9	20	Be		Beryllium			mg/Liter			<	<	<
ICP-MS*	11	100	B		Boron			mg/Liter		100.00	0.1	0.4	100
ICP-MS*	23	100	Na	x	Sodium		3300	mg/Liter	<	100.00	1	4	2000
ICP-MS*	24	100	Mg	x	Magnesium	5.5		mg/Liter	<	100.00	0.5	2	2000
ICP-MS*	27	20	Al		Aluminum			mg/Liter			<	<	<
ICP-MS*	28	1	Si		Silicon			mg/Liter			<	<	<
ICP-MS*	31	1	P		Phosphorous			mg/Liter			<	<	<
ICP-MS*	39	100	K	x	Potassium	32 J		mg/Liter	<	100.00	8	32	2000
ICP-MS*	44	200	Ca	x	Calcium	51		mg/Liter	<	100.00	2.5	10	400
ICP-MS*	48	1	Ti		Titanium			mg/Liter			<	<	<
ICP-MS*	51	20	V		Vanandium			mg/Liter			<	<	<
ICP-MS*	52	20	Cr		Chromium			mg/Liter			<	<	<
ICP-MS*	55	20	Mn		Manganese			mg/Liter			<	<	<
ICP-MS*	54	200	Fe	x	Iron	120		mg/Liter	<	100.00	2	8	2000
ICP-MS*	59	20	Co		Cobalt			mg/Liter			<	<	<
ICP-MS*	60	20	Ni		Nickel			mg/Liter			<	<	<
ICP-MS*	63	20	Cu		Copper			mg/Liter			<	<	<
ICP-MS*	66	20	Zn		Zinc			mg/Liter			<	<	<
ICP-MS*	75	20	As		Arsenic			mg/Liter			<	<	<
ICP-MS*	82	20	Se		Selenium			mg/Liter			<	<	<
ICP-MS*	88	100	Sr	x	Strontium	7.2		mg/Liter	<	100.00	0.02	0.08	40
ICP-MS*	98	100	Mo		Molybdenum			mg/Liter		100.00	0.01	0.04	20
ICP-MS*	107	20	Ag		Silver			mg/Liter			<	<	<
ICP-MS*	111	20	Cd		Cadmium			mg/Liter			<	<	<
ICP-MS*	123	20	Sb		Antimony			mg/Liter			<	<	<
ICP-MS*	137	100	Ba	x	Barium	11		mg/Liter	<	100.00	0.02	0.08	40
ICP-MS*	202	30	Hg		Mercury			mg/Liter			<	<	<
ICP-MS*	205	20	Tl		Thallium			mg/Liter			<	<	<
ICP-MS*	204	20	Pb		Lead			mg/Liter			<	<	<
ICP-MS*	232	20	Th		Thorium			mg/Liter			<	<	<
ICP-MS*	238	100	U		Uranium			mg/Liter		100.00	0.004	0.016	100

*Typically, all metals with >= 90[ms] integration time can be reported. Available at customer's request.

Notes: LMB = laboratory method blank, M and MD = sample matrix replicates

Notes: LCS = spiked laboratory method blank, MS and MSD = spiked sample matrix replicates

Notes: Au is spiked as sample prep surrogate and to facilitate analysis of Mercury, DF = Dilution Factor,

Notes: MDL = Method Detection Limit, PQL = Primary Quantitation Limit, MQL = Maximum Quantitation Limit,

Notes: < = less than MDL, J = Greater than MDL but less than PQL (4 x MDL)

Notes: E = Estimated Value because it exceeds the MQL. Look for the result run at a larger dilution.

Notes: n.a. = Not Applicable, Blank Space = Not Requested or Not Reported

Notes: **(Total RCRA limits) are 20 times the TCLP extract limits because of sample size (100g) and extract volume (2000mL).

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Analyst / Reviewer

VP

Key Laboratories, Inc.
2479A Riverside Parkway
Grand Junction, Colorado 81505-1319
Phone (970) 243-5311 Fax (970) 243-6010

Client : **Marathon Oil**
Client Project Name : 697-1C-12
Client Project Number :
Client Sample Number : 697-1C-12

Sampling Date : 5/18/2009
Sampling Time : 13:30
Sample Matrix : Water
Sampler : Kelly

Key Lab # : 09-0825
Work Order # : 0518090825
Date Received : 05/18/09
Analyst : 5/20/09
Sample Prep : Total, Closed Vessel

Analysis Method : *ICP-MS, EPA Methods 6020 / 200.8
Prep Method: EPA SW846 Microwave Digestion Methods 3051 / 3015

Date Analyzed:	Tuesday, May 19, 2009 18:34:07	Tuesday, May 19, 2009 18:41:21	Tuesday, May 19, 2009 18:05:19
Key Lab Prep Batch Sample ID#	Wi-0512-09-0825-12 B 10X	Wi-0512-09-0825-12 B 10X10X	Wi-0512-09-0000-01_LMB
Sample Comments:			LMB
Sample Aliquot [mg]:	5000	5000	5000
Prep Spike Recovery:	0.947	0.943	0.999
Prep/Digestion DF==>>	10.00	10.00	10
Pass Audit ==>> x Total DF==>>	100.00	1000.00	100.00

Analysis Method	Ion Mass	Time [ms]*	Symbol	Audit	Analyte	Reported Value	Reported Value	Units		Total DF	MDL ppm	PQL ppm	Max QL ppm
				7	<<== # Analytes								
ICP-MS*	8	20	Be		Beryllium			mg/Liter			<	<	<
ICP-MS*	11	100	B		Boron			mg/Liter		100.00	0.1	0.4	100
ICP-MS*	23	100	Na	x	Sodium		3200	mg/Liter	<	100.00	1	4	2000
ICP-MS*	24	100	Mg	x	Magnesium	5.4		mg/Liter	<	100.00	0.5	2	2000
ICP-MS*	27	20	Al		Aluminum			mg/Liter			<	<	<
ICP-MS*	28	1	Si		Silicon			mg/Liter			<	<	<
ICP-MS*	31	1	P		Phosphorous			mg/Liter			<	<	<
ICP-MS*	39	100	K	x	Potassium	31 J		mg/Liter	<	100.00	8	32	2000
ICP-MS*	44	200	Ca	x	Calcium	49		mg/Liter	<	100.00	2.5	10	400
ICP-MS*	48	1	Ti		Titanium			mg/Liter			<	<	<
ICP-MS*	51	20	V		Vanandium			mg/Liter			<	<	<
ICP-MS*	52	20	Cr		Chromium			mg/Liter			<	<	<
ICP-MS*	55	20	Mn		Manganese			mg/Liter			<	<	<
ICP-MS*	54	200	Fe	x	Iron	110		mg/Liter	<	100.00	2	8	2000
ICP-MS*	59	20	Co		Cobalt			mg/Liter			<	<	<
ICP-MS*	60	20	Ni		Nickel			mg/Liter			<	<	<
ICP-MS*	63	20	Cu		Copper			mg/Liter			<	<	<
ICP-MS*	66	20	Zn		Zinc			mg/Liter			<	<	<
ICP-MS*	75	20	As		Arsenic			mg/Liter			<	<	<
ICP-MS*	82	20	Se		Selenium			mg/Liter			<	<	<
ICP-MS*	88	100	Sr	x	Strontium	7		mg/Liter	<	100.00	0.02	0.08	40
ICP-MS*	98	100	Mo		Molybdenum			mg/Liter		100.00	0.01	0.04	20
ICP-MS*	107	20	Ag		Silver			mg/Liter			<	<	<
ICP-MS*	111	20	Cd		Cadmium			mg/Liter			<	<	<
ICP-MS*	123	20	Sb		Antimony			mg/Liter			<	<	<
ICP-MS*	137	100	Ba	x	Barium	11		mg/Liter	<	100.00	0.02	0.08	40
ICP-MS*	202	30	Hg		Mercury			mg/Liter			<	<	<
ICP-MS*	205	20	Tl		Thallium			mg/Liter			<	<	<
ICP-MS*	204	20	Pb		Lead			mg/Liter			<	<	<
ICP-MS*	232	20	Th		Thorium			mg/Liter			<	<	<
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Analyst / Reviewer

Key Laboratories, Inc.
2479A Riverside Parkway
Grand Junction, Colorado 81505-1319
Phone (970) 243-5311 Fax (970) 243-6010

Client: **Marathon Oil**
Client Project Name: 697-1C-12
Client Project Number:
Client Sample Number: 697-1C-12

Key Lab #: **09-0825**
Work Order #: **0518090825**
Date Received: **05/18/09**
Analyst: 5/20/09
Sample Prep: **Total, Closed Vessel**

Sampling Date: **5/18/2009**
Sampling Time: **13:30**
Sample Matrix: **Water**
Sampler: **Kelly**

Analysis Method: ***ICP-MS, EPA Methods 6020 / 200.8**
Prep Method: **EPA SW846 Microwave Digestion Methods 3051 / 3015**

Date Analyzed:	Tuesday, May 19, 2009 18:48:36	Tuesday, May 19, 2009 18:55:51	Tuesday, May 19, 2009 18:05:19
Key Lab Prep Batch Sample ID#	Wi-0512-09-0825-13 C 10X	Wi-0512-09-0825-13 C 10X10X	Wi-0512-09-0000-01_LMB
Sample Comments:			LMB
Sample Aliquot [mg]:	5000	5000	5000
Prep Spike Recovery:	0.972	0.962	0.999
Prep/Digestion DF==>>	10.00	10.00	10
Pass Audit ==>> x Total DF==>>	100.00	1000.00	100.00

Analysis Method	Ion Mass	Time [ms]*	Symbol	Audit	Analyte	Reported Value	Reported Value	Units		Total DF	MDL ppm	PQL ppm	Max QL ppm
			7		<<== # Analytes								
ICP-MS*	9	20	Be		Beryllium			mg/Liter			<	<	<
ICP-MS*	11	100	B		Boron			mg/Liter		100.00	0.1	0.4	100
ICP-MS*	23	100	Na	x	Sodium		3200	mg/Liter	<	100.00	1	4	2000
ICP-MS*	24	100	Mg	x	Magnesium	5.3		mg/Liter	<	100.00	0.5	2	2000
ICP-MS*	27	20	Al		Aluminum			mg/Liter			<	<	<
ICP-MS*	28	1	Si		Silicon			mg/Liter			<	<	<
ICP-MS*	31	1	P		Phosphorous			mg/Liter			<	<	<
ICP-MS*	39	100	K	x	Potassium	31 J		mg/Liter	<	100.00	8	32	2000
ICP-MS*	44	200	Ca	x	Calcium	50		mg/Liter	<	100.00	2.5	10	400
ICP-MS*	48	1	Ti		Titanium			mg/Liter			<	<	<
ICP-MS*	51	20	V		Vanandium			mg/Liter			<	<	<
ICP-MS*	52	20	Cr		Chromium			mg/Liter			<	<	<
ICP-MS*	55	20	Mn		Manganese			mg/Liter			<	<	<
ICP-MS*	54	200	Fe	x	Iron	110		mg/Liter	<	100.00	2	8	2000
ICP-MS*	59	20	Co		Cobalt			mg/Liter			<	<	<
ICP-MS*	60	20	Ni		Nickel			mg/Liter			<	<	<
ICP-MS*	63	20	Cu		Copper			mg/Liter			<	<	<
ICP-MS*	66	20	Zn		Zinc			mg/Liter			<	<	<
ICP-MS*	75	20	As		Arsenic			mg/Liter			<	<	<
ICP-MS*	82	20	Se		Selenium			mg/Liter			<	<	<
ICP-MS*	88	100	Sr	x	Strontium	7		mg/Liter	<	100.00	0.02	0.08	40
ICP-MS*	98	100	Mo		Molybdenum			mg/Liter		100.00	0.01	0.04	20
ICP-MS*	107	20	Ag		Silver			mg/Liter			<	<	<
ICP-MS*	111	20	Cd		Cadmium			mg/Liter			<	<	<
ICP-MS*	123	20	Sb		Antimony			mg/Liter			<	<	<
ICP-MS*	137	100	Ba	x	Barium	11		mg/Liter	<	100.00	0.02	0.08	40
ICP-MS*	202	30	Hg		Mercury			mg/Liter			<	<	<
ICP-MS*	205	20	Tl		Thallium			mg/Liter			<	<	<
ICP-MS*	204	20	Pb		Lead			mg/Liter			<	<	<
ICP-MS*	232	20	Th		Thorium			mg/Liter			<	<	<
ICP-MS*	238	100	U		Uranium			mg/Liter		100.00	0.004	0.016	100

*Typically, all metals with >= 90[ms] integration time can be reported. Available at customer's request.

Notes: LMB = laboratory method blank, M and MD = sample matrix replicates

Notes: LCS = spiked laboratory method blank, MS and MSD = spiked sample matrix replicates

Notes: Au is spiked as sample prep surrogate and to facilitate analysis of Mercury, DF = Dilution Factor,

Notes: MDL = Method Detection Limit, PQL = Primary Quantitation Limit, MQL = Maximum Quantitation Limit,

Notes: < = less than MDL, J = Greater than MDL but less than PQL (4 x MDL)

Notes: E = Estimated Value because it exceeds the MQL. Look for the result run at a larger dilution.

Notes: n.a. = Not Applicable, Blank Space = Not Requested or Not Reported

Notes: **(Total RCRA limits) are 20 times the TCLP extract limits because of sample size (100g) and extract volume (2000mL).

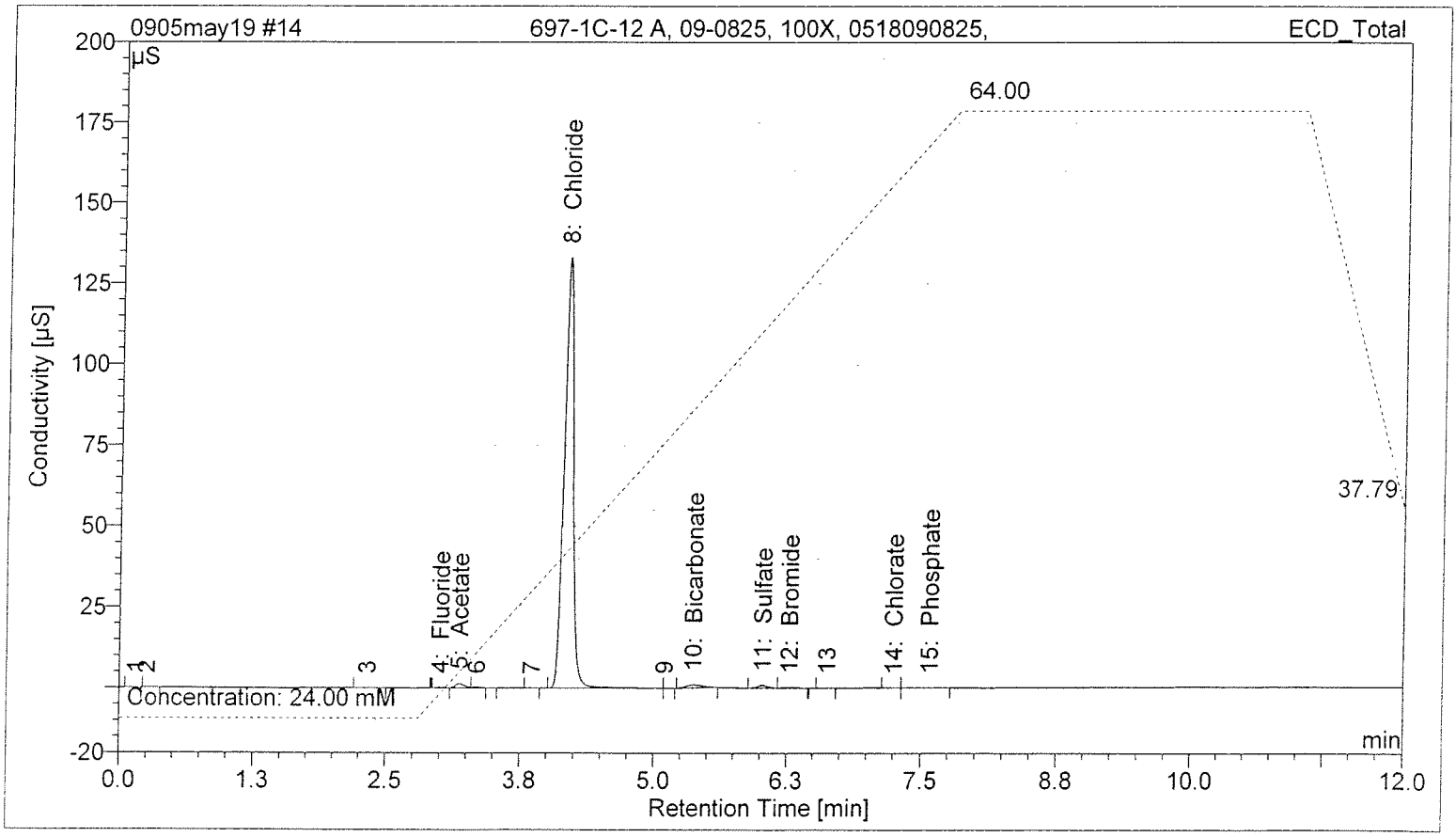
**EPA SW846 Method 1311, Revision 0, July 1992, Section 1.2: "If a total analysis of the waste demonstrates that individual analytes are not present in the waste, or that they are present but at such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the TCLP need not be run."

Analyst / Reviewer

Key Laboratories Anion Report

Sample Name:	697-1C-12 A, 09-0825, 100X, 0518090825,		**Sample No.:** 14
Sample ID:	water, 100Xdil, Marathon Oil		**LQL = Lower Quantitation Limit**
Sample Comments:	Triplicate A		**MQL = Maximum Quantitation Limit**
Sequence Directory:	ICS2000\Sequences\0905may		**E = Estimated, Value Exceeds MQL**
Sequence Name:	0905may19		**Raw = Dilution Factor not applied**
Program Method:	grad8AS18	**Date:** 5/20/09	**Injection vol. [uL]:** 25.0
Quantitation Method:	grad8AS18		**Dilution Factor [DF]:** 100.0000
Date Time Collected:	5/19/2009 2:37 PM	**Reviewer:** VP	**Sample Wt.:** 1.0000
System Operator:	KEY LABORATORIES		**Sample Amt.:** 1.0000

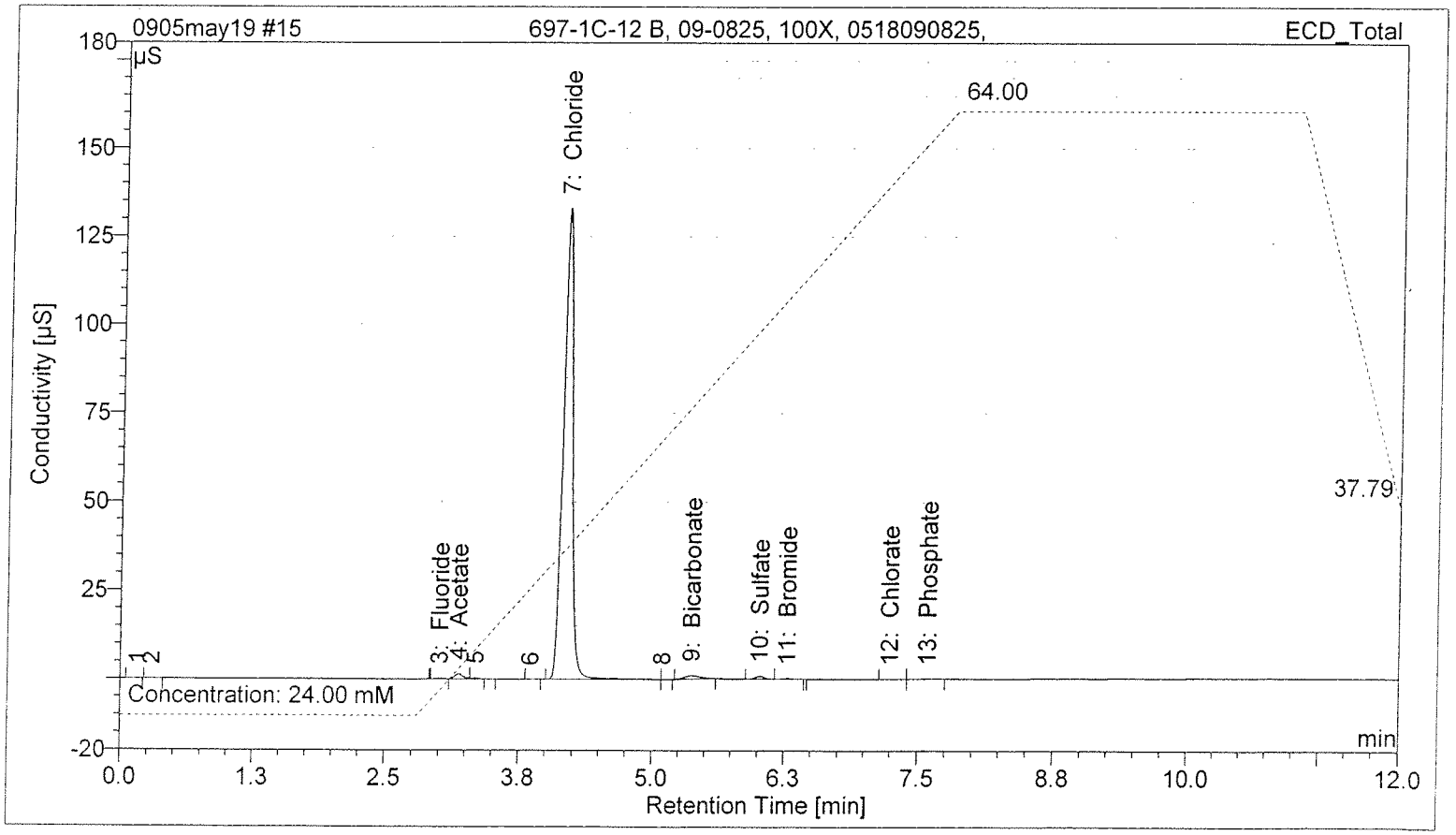
No. ECD_Total	Component ECD_Total Name	Retention ECD_Total Time	Area ECD_Total µS*min	Height ECD_Total µS	Raw LQL ECD_Total ppm	Raw Amt ECD_Total ppm	DF x LQL ECD_Total ppm	Pass QC? X = Pass	Amount ECD_Total ppm	DF x MQL ECD_Total ppm
8	**Chloride**	4.17	13.590	133.040	0.0524	45.3752	5.24	X	**4537.5183**	8000.



Key Laboratories Anion Report

Sample Name:	697-1C-12 B, 09-0825, 100X, 0518090825,		**Sample No.:** 15
Sample ID:	water, 100Xdil, Marathon Oil		**LQL = Lower Quantitation Limit**
Sample Comments:	Triplicate B		**MQL = Maximum Quantitation Limit**
Sequence Directory:	ICS2000\Sequences\0905may		**E = Estimated, Value Exceeds MQL**
Sequence Name:	0905may19		**Raw = Dilution Factor not applied**
Program Method:	grad8AS18	**Date:** 5/20/09	**Injection vol. [uL]:** 25.0
Quantitation Method:	grad8AS18		**Dilution Factor [DF]:** 100.0000
Date Time Collected:	5/19/2009 2:52 PM	**Reviewer:**	**Sample Wt.:** 1.0000
System Operator:	KEY LABORATORIES		**Sample Amt.:** 1.0000

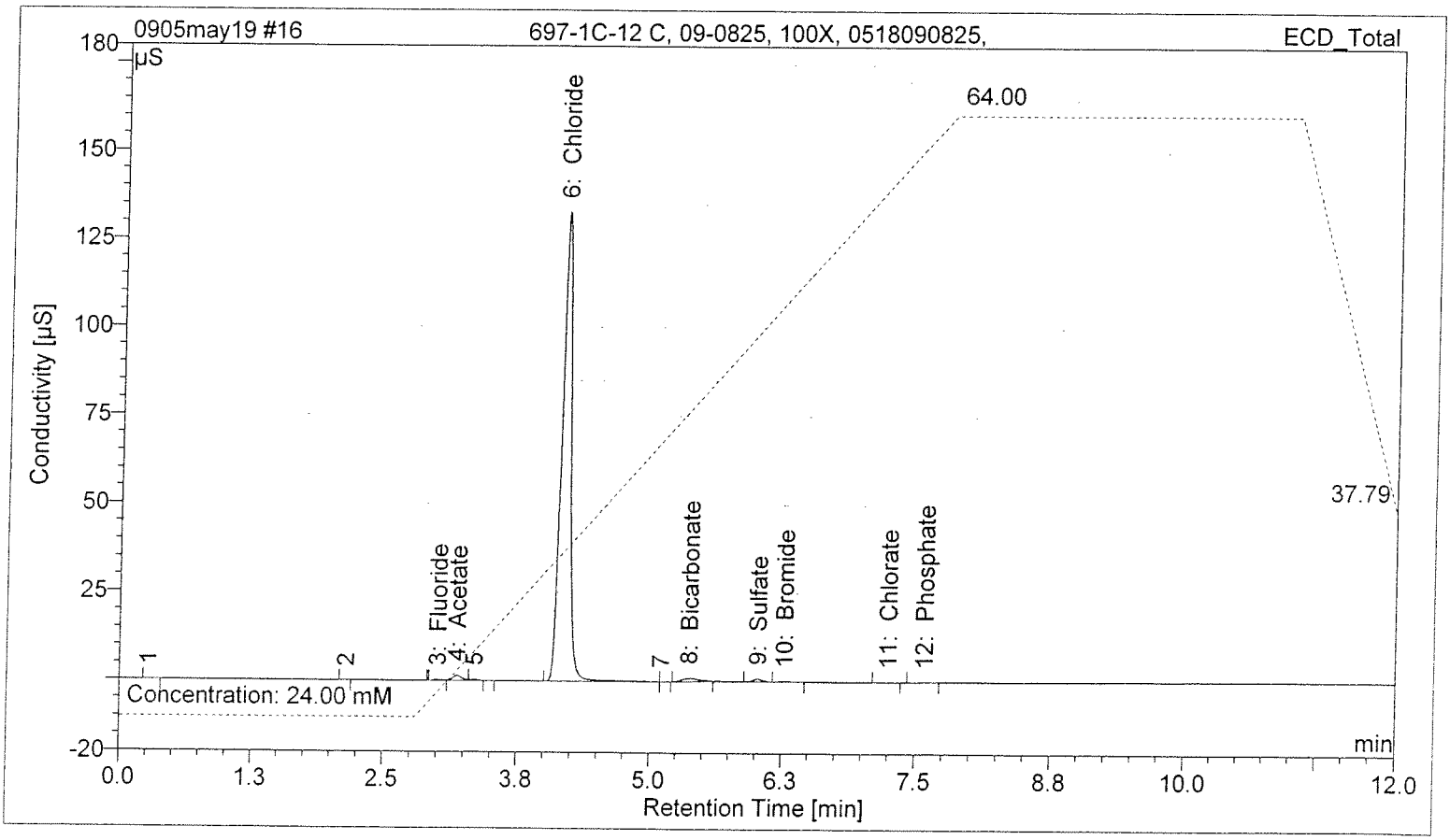
No. ECD_Total	Component ECD_Total Name	Retention ECD_Total Time	Area ECD_Total µS*min	Height ECD_Total µS	Raw LQL ECD_Total ppm	Raw Amt ECD_Total ppm	DF x LQL ECD_Total ppm	Pass QC? X = Pass	Amount ECD_Total ppm	DF x MQL ECD_Total ppm
7	**Chloride**	4.17	13.547	132.995	0.0524	45.2343	5.24		**4523.4339**	8000.



Key Laboratories Anion Report

Sample Name:	697-1C-12 C, 09-0825, 100X, 0518090825,	**Sample No.:**	16
Sample ID:	water, 100Xdil, Marathon Oil	**LQL = Lower Quantitation Limit**	
Sample Comments:	Triplicate C	**MQL = Maximum Quantitation Limit**	
Sequence Directory:	ICS2000\Sequences\0905may	**E = Estimated, Value Exceeds MQL**	
Sequence Name:	0905may19	**Raw = Dilution Factor not applied**	
Program Method:	grad8AS18 **Date:** 5/20/09	**Injection vol. [uL]:**	25.0
Quantitation Method:	grad8AS18	**Dilution Factor [DF]:**	100.0000
Date Time Collected:	5/19/2009 3:07 PM **Reviewer:**	**Sample Wt.:**	1.0000
System Operator:	KEY LABORATORIES	**Sample Amt.:**	1.0000

No. ECD_Total	Component ECD_Total Name	Retention ECD_Total Time	Area ECD_Total µS*min	Height ECD_Total µS	Raw LQL ECD_Total ppm	Raw Amt ECD_Total ppm	DF x LQL ECD_Total ppm	Pass QC? X = Pass	Amount ECD_Total ppm	DF x MQL ECD_Total ppm
6	Chloride	4.17	13.486	132.715	0.0524	45.0372	5.24		**4503.7160**	8000.



Key Laboratories, Inc.
2479 River Road Unit A
Grand Junction, CO 81505
(970)243-5311 FAX (970)243-6010

Client : **Marathon Oil Company**
Client Project Number : **697-1X-13**

KEY LAB #: 129080142
Date Recieved : 1/29/2008

Sampling Date : 1/28/2008

Method : Method 8015
Technician : TE

Sample Matrix : **Water**
Sampler : Craig
Custody Seal : NONE
Preservatives : ICED

Date Analyzed : 1/30/2008 0:00

TDS SAMPLE RESULTS

Client Sample Name	Lab Sample #	Instrument Results	% Moisture	Factor	Final Results	Units
697-1X-13	08-0142				**7900.0**	mg/L

CONDUCTIVITY SAMPLE RESULTS

Client Sample Name	Lab Sample #	Instrument Results	% Moisture	Factor	Final Results	Units
697-1X-13	08-0142				**11.24**	mS

pH SAMPLE RESULTS

Client Sample Name	Lab Sample #	Instrument Results	% Moisture	Factor	Final Results	Units
697-1X-13	08-0142				**7.5**	s.u.

CHLORIDES SAMPLE RESULTS

Client Sample Name	Lab Sample #	Instrument Results	% Moisture	Factor	Final Results	Units
697-1X-13	08-0142				**3250.0**	mg/L

SULFATES SAMPLE RESULTS

Client Sample Name	Lab Sample #	Instrument Results	% Moisture	Factor	Final Results	Units
697-1X-13	08-0142				**N.D.**	mg/L
Sulfides					**N.D.**	

CARBONATES/BICARBONATES SAMPLE RESULTS

Client Sample Name	Lab Sample #	Instrument Results	% Moisture	Factor	Final Results	Units
697-1X-13	08-0142				**2200.0**	mg/L

QC Reviewer

Key Laboratories
2479 River Road, Unit A
Grand Junction, Colorado 81502
Phone (970) 243-5311 Fax (970) 243-6010

Client: Marathon Oil
Client Project Name: Q
Client Sample Number: 697-IX-13

Key Lab #: 08-0142
Work Order #: 0129080142
Date Received: 01/29/08
Method: EPA ICP-MS Methods 6020 / 200.8
Technician: 2/1/08

Sampling Date: 1/28/2008
Sampling Time: 12:00
Sample Matrix: Water
Sampler: Craig

				Key Lab Sample ID#	Wi-0128-08-0142-10	Wi-0128-08-0142-10	Wi-0128-08-0000-01_LMB						
				Sample Description:	0	0	LMB						
				Sample Aliquot:	5000	5000	5000						
				Rh DF Corr:	1.000	1.000	1.000						
				Prep DF==>>	100	500	100						
Pass Audit ==>		Total	x	Total DF==>>	100	500	100						
		RCRA Limit**	Audit	Analyte	Total Metals	Total Metals	Units		Total DF	MDL ppm	PQL ppm	Max QL ppm
ICP-MS	Be			Beryllium			mg/Liter		100	0.004	0.016	20
ICP-MS	B			Boron			mg/Liter		100	0.8	2	20
ICP-MS	Na		x	Sodium	3500 E	3200	mg/Liter	<	100	1	4	1000
ICP-MS	Mg			Magnesium			mg/Liter		100	0.8	2	1000
ICP-MS	Al			Aluminum			mg/Liter		100	0.1	0.4	100
ICP-MS	Si			Silicon			mg/Liter		100	1	4	1000
ICP-MS	P			Phosphorous			mg/Liter		100	1	4	1000
ICP-MS	K		x	Potassium	190		mg/Liter	<	100	2.5	10	1000
ICP-MS	Ca		x	Calcium	41		mg/Liter	<	100	2.5	10	1000
ICP-MS	Ti			Titanium			mg/Liter		100	0.02	0.08	100
ICP-MS	V			Vanandium			mg/Liter		100	0.02	0.08	20
ICP-MS	Cr	100		Chromium			mg/Liter		100	0.03	0.12	20
ICP-MS	Mn		x	Manganese	0.73		mg/Liter	<	100	0.015	0.06	200
ICP-MS	Fe		x	Iron	45		mg/Liter	<	100	2	8	1000
ICP-MS	Co			Cobalt			mg/Liter		100	0.004	0.016	20
ICP-MS	Ni			Nickel			mg/Liter		100	0.02	0.08	100
ICP-MS	Cu			Copper			mg/Liter		100	0.02	0.08	20
ICP-MS	Zn			Zinc			mg/Liter		100	1	4	1000
ICP-MS	As	100		Arsenic			mg/Liter		100	0.03	0.12	200
ICP-MS	Se	20		Selenium			mg/Liter		100	0.06	0.24	200
ICP-MS	Sr		x	Strontium	4.8		mg/Liter	<	100	0.02	0.08	200
ICP-MS	Mo			Molybdenum			mg/Liter		100	0.02	0.08	100
ICP-MS	Ag	100		Silver			mg/Liter		100	0.04	0.16	20
ICP-MS	Cd	20		Cadmium			mg/Liter		100	0.004	0.016	100
ICP-MS	Sb			Antimony			mg/Liter		100	0.004	0.016	20
ICP-MS	Ba	2000	x	Barium	7.2		mg/Liter	<	100	0.02	0.08	200
ICP-MS	Hg	4		Mercury			mg/Liter		100	0.01	0.04	10
ICP-MS	Tl			Thallium			mg/Liter		100	0.03	0.12	20
ICP-MS	Pb	100		Lead			mg/Liter		100	0.06	0.24	100
ICP-MS	Th			Thorium			mg/Liter		100	0.005	0.02	20
ICP-MS	U			Uranium			mg/Liter		100	0.004	0.016	20

Notes: LMB = laboratory method blank, M and MD = sample matrix replicates
Notes: LCS = spiked laboratory method blank, MS and MSD = spiked sample matrix replicates
Notes: Rh = Rhodium spiked as sample prep surrogate, DF = Dilution Factor, MDL = Method Detection Limit,
Notes: PQL = Primary Quantitation Limit, MQL = Maximum Quantitation Limit,
Notes: < = less than MDL, E = Estimated Value over MQL, J = Greater than MDL but less than PQL (4 x MDL)
Notes: n.a. = Not Applicable, Blank Space = Not Requested or Not Reported
Notes: **(Total RCRA limits) are 20 times the TCLP extract limits because of sample size (100g) and extract volume (2000mL).

**EPA SW846 Method 1311, Revision 0, July 1992, Section 1.2: "If a total analysis of the w "If a total analysis of the waste demonstrates that individual analytes are not present in the waste, or that they are present but at such low concentrations at such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the TCLP need not be run."

Analyst/Reviewer
2/1/08