FORM 25 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

WATER ANALYSIS REPORT FORM

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

Complete the Attachment Checklist

	Oper	OGCC
Analysis	X	
Sample Location Map		

Form Submitted for: ☐ UIC ☒ PIT ☐ SPILL ☐ OTHER (describe): _____

SAMPLE POINT INFORMATION

Date Sample(s) Taken: 1/28/2009
Sample Point Description: Representative sample. See Site description for additional planned separation
Sample Point Identification Number (if water well, enter permit number): _____
If Well, API Number: _____ Well Name: 696-18A-21 Well Number: 21
QtrQtr: NE 1/4 Section: 18 Township: T6S Range: R96W Meridian: 6th P.M.
Footage From Exterior Section Lines: 2234' FNL, 1853' FEL Latitude: 39.52408 Longitude: 108.14796 County: Garfield
Field Name: Grand Valley Field Number: _____
Name of Laboratory: Key Labarotories, Inc. Phone: 970-243-5311
Water Source (choose one): ☐ Oil Well ☒ Gas Well ☐ UIC ☐ Monitor Well ☐ Stream ☐ Pond
☐ Tank ☐ Stock Well ☐ Domestic Well ☐ Pit ☐ Irrigation Well ☐ Other: _____
If Wellsite, Where was Sample Collected? (choose one): ☐ Drill Stem ☒ Tank ☐ Separator ☐ Flow Line ☐ Bailer ☐ Pit ☐ Other: _____

Check one: ☐ FIELD MEASUREMENTS ☒ LABORATORY MEASUREMENTS

Resistivity: _____ ohm-meters _____ deg . F ..and/or... Conductivity: _____ umhos/cm Temperature: _____ deg. F
pH: _____ pH units Dissolved Oxygen: _____ mg/l

MAJOR ANIONS/CATIONS and Other Laboratory Parameters

Ca, Dissolved	mg/l	Chlorides	mg/l	Alkalinity, Total as CaCO3	mg/l
Mg, Dissolved	mg/l	Sulfates	mg/l	HCO3	mg/l
Na, Dissolved	mg/l	Fe, Dissolved	mg/l	Sulfide, as H2S	mg/l
Ba, Dissolved	mg/l				
Total Dissolved Solids	mg/l	☐ Measured	☐ Calculated (check one)		

BTEX

NOTE: For results below the detection limit, enter code and detection limit.

Benzene 0.8 ug/l	Limit:	Code:	Ethylbenzene 0.4 ug/l	Limit:	Code:	Toluene 3.5 ug/l	Limit:	Code:	Xylenes 2.6 ug/l	Limit:	Code:

OTHER ANALYSES

GAS

Free Gas
Methane _____ mole %
Ethane _____ mole %
Propane _____ mole %
N. Butane _____ mole %
N. Pentane _____ mole %
N. Hexane _____ mole %
O2/N2/Air _____ mole %
CO2 _____ mole %

Dissolved Gas
Dissolved Methane _____ mg/l

ISOTOPES

Carbon 13 _____ o/oo
Deuterium _____ o/oo

BACTERIA

	Present	Absent
Sulfate Reducing	☐	☐
Iron Bacteria	☐	☐
Slime Forming	☐	☐
Coliform	☐	☐

NORM

Alpha Emitters _____ pCi/l
Beta Photon Emitters _____ pCi/l

DISSOLVED METALS

Arsenic _____ mg/l
Cadmium _____ mg/l
Chromium _____ mg/l
Cyanide _____ mg/l
Fluoride _____ mg/l
Lead _____ mg/l
Mercury _____ mg/l
Selenium _____ mg/l
Silver _____ mg/l

Print Name: Chris Hudson

Signed: _____ Title: Facilities Engineer Date: _____

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WATER ANALYSIS REPORT FORM

FOR OGCC USE ONLY

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

PAGE 2 Optional Analyses

Date Sampled: 1/28/2009 Sample Point ID Number: _____ If well, API No.: _____
Laboratory Sample ID Number: 09-0147, 18a-21,M, 0128090146

Analyte No.	CASNo	Analyte Name	Result (ug/l)	Lab MDL
UNREGULATED VOCS (TRIHALOMETHANES)				
1.	67-66-3	Chloroform		
2.	75-27-4	Dichlorobromomethane		
3.	124-48-1	Chlorodibromomethane		
4.	75-25-2	Bromoform		
REGULATED ORGANIC CHEMICALS--VOLATILES				
5.	75-35-4	1,1-Dichloroethylene		
6.	71-55-6	1,1,1-Trichloroethane		
7.	79-00-5	1,1,2-Trichloroethane		
8.	107-06-2	1,2-Dichloroethane		123 ug
9.	78-87-5	1,2-Dichloropropane		
10.	120-82-1	1,2,4-Trichlorobenzene		
11.	71-43-2	Benzene		0.8 ug
12.	56-53-5	Carbon tetrachloride		
13.	156-59-2	cis-1,2-Dichloroethylene		
14.	75-09-2	Dichloromethane		
15.	100-41-4	Ethylbenzene		0.4 ug
16.	108-90-7	Monochlorobenzene		
17.	95-50-1	o-Dichlorobenzene		
18.	106-46-7	para-Dichlorobenzene		
19.	100-42-5	Styrene		
20.	127-18-4	Tetrachloroethylene		
21.	108-88-3	Toluene		3.5 ug
22.	156-60-5	trans-1,2-Dichloroethylene		
23.	79-01-6	Trichloroethylene		
24.	75-01-4	Vinyl Chloride		
25.	1330-20-7	Xylenes (total)		2.6 ug
UNREGULATED ORGANIC CHEMICALS--SEMIVOLATILES				
26.		3-Hydroxycarbofuran		
27.	116-06-3	Aldicarb		
28.	1646-87-4	Aldicarb sulfone		
29.	1646-87-3	Aldicarb sulfoxide		
30.	309-00-2	Aldrin		
31.	23814-66-	Butachlor		
32.	63-25-2	Carbaryl		
33.	1989-00-9	Dicamba		
34.	60-57-1	Dieldrin		
35.	16752-77-	Methomyl		
36.	51218-45-	Metolachlor		
37.	21087-64-	Metribuzin		
38.	1918-16-7	Propachlor		
REGULATED ORGANIC CHEMICALS--SEMIVOLATILES				
39.	1746-01-6	Dioxin		
40.	94-75-7	2,4-D		
41.	93-72-1	2,4,5-TP		
42.	15972-60-	Alachlor		
44.	1912-24-9	Atrizine		
45.	50-32-8	Benzo(a)pyrene		
46.	57-74-9	Chlordane		
47.	75-99-0	Dalapon		
48.	96-12-8	Dibromochloropropane		

Analyte No.	CASNo	Analyte Name	Result (ug/l)	Lab MDL
49.	85-85-7	Dinoseb		
50.	85-00-7	Diquat		
51.	103-23-1	Di(2-ethylhexyl)adipate		
52.	117-81-7	Di(2-ethylhexyl)phthalate		
53.	145-73-3	Endothall		
54.	72-20-8	Endrin		
55.	106-93-4	Ethylene Dibromide		
56.	1071-53-6	Glyphosate		
57.	76-44-8	Heptachlor		
58.	1024-57-3	Heptachlor epoxide		
59.	118-74-1	Hexachlorobenzene		
60.	77-47-1	Hexachlorocyclopentadiene		
61.	58-89-9	Lindane		
62.	72-43-5	Methoxychlor		
63.	23135-22-	Oxamyl		
64.	87-86-5	Pentachlorophenol		
65.	1918-02-1	Picloram		
66.	1336-36-3	Polychlorinated biphenyls		
67.	122-34-9	Simazine		
68.	8001-35-2	Toxaphene		
UNREGULATED ORGANIC CHEMICALS--VOLATILES				
69.	75-34-3	1,1 Dichloroethane		
70.	563-58-6	1,1 Dichloropropene		
71.	630-20-6	1,1,1,2 Tetrachloroethane		
72.	79-34-5	1,1,2,2 Tetrachloroethane		
73.	87-61-6	1,2,3 Trichlorobenzene		
74.	96-18-4	1,2,3 Trichloropropane		
75.	95-63-6	1,2,4 Trimethylbenzene		0.8 ug
76.	142-28-9	1,3 Dichloropropane		
77.	542-75-6	1,3 Dichloropropene		
78.	108-67-8	1,3,5 Trimethylbenzene		0.4 ug
79.	590-20-7	1,2 Dichloropropane		
80.	108-86-11	Bromobenzene		
81.	74-97-5	Bromochloromethane		
82.	74-96-4	Bromomethane		
83.	75-00-3	Chloroethane		
84.	74-87-3	Chloromethane		
85.	74-95-3	Dibromomethane		
86.	75-71-8	Dichlorodifluoromethane		
87.	75-69-4	Fluorotrichloromethane		
88.	87-68-3	Hexachlorobutadiene		
89.	98-82-2	Isopropylbenzene		
90.	541-73-1	m-Dichlorobenzene		
91.	91-20-3	Naphthalene		
92.	104-51-8	n-Butylbenzene		
93.	103-65-1	n-Propylbenzene		
94.	95-49-8	o-Chlorotoluene		
95.	106-43-4	p-Chlorotoluene		
96.	25155-15-	p-Isopropyltoluene		
97.	135-98-8	Sec-butylbenzene		
98.	98-06-6	Tert-butylbenzene		

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

Evergreen Analytical, Inc.

4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862
(303) 425-6021

Client Sample ID:	18A-21	**Lab Work Order:**	09-0591
Client Project ID:	Marathon Oil	**Lab Sample ID:**	09-0591-02A
Date Collected:	1/28/2009	**Sample Matrix:**	Water
Date Received:	1/30/2009	**Lab File ID:**	ALC0211\016R0
Date Prepared:	2/11/2009	**Method Blank:**	MB-02/11/09
Date Analyzed:	2/11/2009	**Prep Factor:**	1.000
Percent Moisture:	NA	**Dilution Factor:**	5.00

Method: SW8015B **NONHALOGENATED-ALCOHOLS**
Prep Method: SW8015B

Units: mg/L

Analytes	CAS Number	Result	LQL
Ethanol	64-17-5	11	5.0
Methanol	67-56-1	160	5.0
Surr: n-Butanol (Surrogate)	71-36-3	117	**QC Limits:** 70-130 %REC

Analyst **Approved**

Qualifiers: **See the case narrative for a discussion**
B - Analyte detected in the Method Blank, value not subtracted from result
E - Extrapolated value.Value exceeds calibration range
H - Prep or Analytical holding time exceeded
S - Spike Recovery outside acceptance limits
X - See case narrative
* -Value exceeded the Maximum Contamination Level (MCL), TCLP limit, or if compound is undetected, LQL exceeds MCL.

Qualifiers: U - Analyte not detected at or above the reporting limit
J - Estimated value below the LQL

Definitions: NA - Not Applicable
LQL - Lower Quantitation Limit
MDL - Method Detection Limit
Surr - Surrogate Standard

Print Date: 2/11/2009

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**				0.2	ug							
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

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