



Kerr-McGee Oil & Gas Onshore LP
1099 18th Street, Suite 1800
Denver, Colorado 80202
720-929-6000 Fax 720-929-7000

July 31, 2017

Mr. Alex Fischer
Colorado Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, Colorado 80203

**Re: 2016 Annual Report
Drilling Fluid Management Facility 2
COGCC Facility ID# 437129
SW ¼ -Sec. 23-T2N-R67W**

Dear Mr. Fischer:

Kerr-McGee Oil and Gas Onshore LP (Kerr-McGee) is submitting this annual report to provide the Colorado Oil & Gas Conservation Commission (COGCC) with the operational details of the Drilling Fluid Management Facility 2 (DFMF #2) for 2016. Per the operating plan provided to the COGCC in the DFMF permit, pods will remain fallow for at least one year after its final application.

Between March 5, 2016, and December 31, 2016, Kerr-McGee spread and incorporated approximately 15,414 cubic yards of water-based bentonitic drilling fluids and associated drill cuttings (fluids/cuttings). The date the fluids/cuttings were spread, the well name and number where they were generated, the volume spread, the waste transporter, and the pod location where they were land applied is presented in Table 1. Fluids/cuttings were spread and incorporated in pods 1A, 2A, 3A, 3B, 4B, 3C, 4C, and 4D in 2016. A map of the approximately 10 acre pods is attached as Figure 1.

On April 6, 2017, one discrete confirmation soil sample was collected from an interval of 0 to 6 inches below ground surface (bgs) from pods 1A, 2A, 3A, 3B, 4B, 3C, 4C, and 4D. An additional confirmation soil sample was collected on June 2, 2017 which included samples from the aforementioned pods. Samples were submitted and analyzed for: total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene and xylenes (BTEX), pH, specific conductance (EC), sodium adsorption ratio (SAR), toxicity characteristic leaching procedure (TCLP) arsenic, and Table 910-1 metals (excluding boron). The analytical results and methods are presented in Table 2.

The analytical results confirmed that all sample concentrations were below COGCC allowable levels except for TPH, SAR and arsenic concentrations in pods described as follows. The COGCC SAR standard of <12 was exceeded in samples 1A, 2A, 3A, 3B, 4B, 3C, 4C, and 4D in the April sampling event, and in samples 2A, 3B, 4B, 3C, 4C, and 4D in the June sampling

event. Based on these results, Kerr-McGee will continue to monitor SAR levels in pods 2A, 3B, 4B, 3C, 4C, and 4D.

The total arsenic concentrations in all pods were above the COGCC allowable level of 0.39 mg/kg in all pods. However, samples in pods 1A, 2A, 3C, and 4D in the June sampling event were below the United States Geological Survey (USGS) total arsenic background concentration of 7.72 mg/kg for the Valent-Julesberg soil association presented to the COGCC in Kerr-McGee's "Request for Arsenic Sampling Determination Pursuant to Table 910-1, Footnote 1". Based on these results Kerr-McGee will continue monitoring pods 1A, 2A, 3A, 3B, 4B, 3C, 4C, and 4D. Kerr-McGee will not apply any additional material until they are within COGCC Standards.

TCLP arsenic sample concentrations were below their reported method detection limits in all pods. TPH concentrations were below COGCC allowable levels in all pods except in pod 3B in the April sampling event. All pods were below COGCC allowable levels for TPH in the June sampling event.

The laboratory analytical results are attached.

Feel free to contact me at 720-929-6368 or Mike.Dinkel@anadarko.com if you have any questions regarding this report or require additional information.

Sincerely,

Kerr-McGee Oil & Gas Onshore LP



Mike Dinkel
Staff HSE Representative

Attachments

cc: John Axelson
Ben Frissell

Table 1.

Date	Well Name & Number	Drilling Rig	Loads	Yards	Transporter	Pod
3/5/2016	Docheff 33N-15HZ	PD 461	12	84	GT	3A
3/5/2016	Docheff 33N-15HZ	PD 461	18	126	GT	3A
3/6/2016	Docheff 12C-15HZ	PD 461	19	133	GT	3A
3/7/2016	Docheff 12N-15HZ	PD 461	12	84	GT	3A
3/8/2016	Docheff 32N-15HZ	PD 461	23	161	GT	3A
3/9/2016	Docheff 32N-13HZ	PD 461	22	154	GT	3A
3/10/2016	Docheff 32N-15HZ	PD 461	2	14	GT	3A
4/11/2016	Docheff 33C-13HZ	PD 461	15	105	GT	3A
4/12/2016	Docheff 13N-13HZ	PD 461	19	133	GT	3A
4/13/2016	Docheff 13C-15HZ	PD 461	21	147	GT	3A
4/15/2016	Docheff 34N-13HZ	PD 461	20	140	GT	3A
4/16/2016	Docheff 34N-15HZ	PD 461	21	147	GT	3A
5/6/2016	Land 18-32HZ	Pete Martin	6	42	GT	3A
5/7/2016	Land 18-32HZ	Pete Martin	3	21	GT	3A
5/14/2016	Land 30C-29HZ	PD 461	10	70	GT	3A
5/15/2016	Land 30C-29HZ	PD 461	12	84	GT	3A
5/15/2016	Land 34C-32HZ	PD 461	9	63	GT	3A
5/16/2016	Land Fed 29N-29HZ	PD 461	18	126	GT	3A
5/16/2016	Land Fed 34C-32HZ	PD 461	6	42	GT	3A
5/17/2016	Land Fed 13N-32HZ	PD 461	15	105	GT	3A
5/18/2016	Land Fed 35C-35HZ	PD 461	15	105	GT	3A
5/18/2016	Land Fed 35N-29HZ	PD 461	14	98	GT	3A
5/19/2016	Land Fed 35N-29HZ	PD 461	14	98	GT	3A
5/19/2016	Land Fed 28N-29HZ	PD 461	10	70	GT	3A
5/20/2016	Land Fed 14N-32HZ	PD 461	13	91	GT	3A
5/20/2016	Land Fed 3N-32HZ	PD 461	9	63	GT	3A
5/21/2016	Land Fed 3N-32HZ	PD 461	7	49	GT	3A
5/21/2016	Land Fed 29C-29HZ	PD 461	10	70	GT	3A
5/21/2016	Land 13S-32HZ	PD 461	8	56	GT	3A
5/22/2016	Land 13S-32HZ	PD 461	5	35	GT	3A
5/22/2016	Land Fed 30N-32HZ	PD 461	6	42	GT	3A
5/23/2016	Land Fed 30N-32HZ	PD 461	11	77	GT	3A
5/23/2016	Land Fed 34N-32HZ	PD 461	9	63	GT	3A
6/9/2016	Land 17-32HZ	Pete Martin	7	49	GT	2A
6/10/2016	Land 17-32HZ	Pete Martin	3	21	GT	2A
6/15/2016	Land 17-32HZ	Pete Martin	2	14	GT	2A
6/20/2016	Hunziker 37-28HZ	PD 460	30	210	GT	2A
6/21/2016	Hunziker 37-28HZ	PD 460	39	273	GT	2A
6/22/2016	Hunziker 37-28HZ	PD 460	30	210	GT	2A
6/23/2016	Hunziker 37-28HZ	PD 460	42	294	GT	2A
6/24/2016	Hunziker 37-28HZ	PD 460	45	315	GT	2A
6/25/2016	Hunziker 37-28HZ	PD 460	29	203	GT	2A
6/27/2016	Hunziker 37-28HZ	PD 460	48	336	GT	2A
6/28/2016	Hunziker 37-28HZ	PD 460	48	336	GT	2A
6/29/2016	Hunziker 37-28HZ	PD 460	48	336	GT	2A
6/30/2016	Hunziker 37-28HZ	PD 460	46	322	GT	2A

7/2/2016	Hunziker 37-28HZ	PD 460	40	280	GT	2A
7/5/2016	Hunziker 37-28HZ	PD 460	64	448	GT	2A
7/6/2016	Hunziker 37-28HZ	PD 460	64	448	GT	2A
7/7/2016	Hunziker 37-28HZ	PD 460	53	371	GT	3B
7/8/2016	Hunziker 37-28HZ	PD 460	80	560	GT	3B
7/9/2016	Hunziker 37-28HZ	PD 460	63	441	GT	3B
7/10/2016	Hunziker 37-28HZ	PD 460	27	189	GT	3B
10/1/2016	JZM 26C-3HZ	Xtreme 22	10	70	GT	3B
10/2/2016	JZM 26C-3HZ	Xtreme 22	15	105	GT	3B
10/3/2016	Highlands 2C-33HZ	PD 564	6	42	GT	3B
10/4/2016	Highlands 15N-16HZ	PD 564	9	63	GT	3B
10/5/2016	JZM 27N-E3HZ	Xtreme 22	21	147	GT	3B
10/5/2016	Highlands 27N-33HZ	PD 564	15	105	GT	3B
10/6/2016	JZM 1N-33HZ	Xtreme 22	4	28	GT	3B
10/7/2016	Highlands 15N-16HZ	PD 564	12	84	GT	3B
10/7/2016	Highlands 2N-33HZ	PD 564	15	105	GT	3B
10/8/2016	Highlands 36N-E16HZ	PD 564	21	147	GT	3B
10/9/2016	Highlands 36C-33HZ	PD 564	15	105	GT	3B
10/13/2016	JZM 27N-W3HZ	PD 461	10	70	GT	3B
10/14/2016	JZM 2C-3HZ	PD 461	10	70	GT	3B
10/14/2016	JZM 27N-W3HZ	PD 461	6	42	GT	3B
10/15/2016	JZM 2N-3HZ	PD 461	17	119	GT	3B
10/16/2016	JZM 28N-3HZ	PD 461	16	112	GT	3B
10/17/2016	JZM 28C-3HZ	PD 461	15	105	GT	3B
11/16/2016	Jaguar Fed 6S-35HZ	Xtreme 24	10	70	GT	4B
11/18/2016	Jaguar Fed 35C-35HZ	Xtreme 24	22	154	GT	4B
11/19/2016	Jaguar 35C-35HZ	Xtreme 24	12	84	GT	4B
11/20/2016	JZM 29N-W3HZ	Xtreme 22	13	91	GT	4B
11/20/2016	Jaguar Fed 35N-35HZ	Xtreme 24	21	147	GT	4B
11/21/2016	Jaguar Fed 14N-35HZ	Xtreme 24	23	161	GT	4B
11/21/2016	JZM 4C-3HZ	Xtreme 22	20	140	GT	4B
11/22/2016	Jaguar 14N-35HZ	Xtreme 24	21	147	GT	4B
11/22/2016	JZM 36C-35HZ	Xtreme 22	18	126	GT	4B
11/23/2016	Jaguar Fed 28C-14HZ	Xtreme 24	34	238	GT	4B
11/23/2016	JZM 30N-3HZ	Xtreme 22	18	126	GT	4B
11/24/2016	Jaguar 28C-14HZ	Xtreme 24	35	245	GT	4B
11/24/2016	JZM 30N-3HZ	Xtreme 22	16	112	GT	4B
11/25/2016	Jaguar 29N-14HZ	Xtreme 24	22	154	GT	4B
11/27/2016	Jaguar Fed 3C-14HZ	Xtreme 24	23	161	GT	4B
12/2/2016	MEESE STATE 38N-35HZ	NABORS X22	16	112	GT	4B
12/3/2016	MESSE 26N-14HZ	NABORS X22	8	56	GT	4B
12/4/2016	MESSE 26N-14HZ	NABORS X22	10	70	GT	4B
12/5/2016	MEESE STATE 38N-35HZ	NABORS X22	16	112	GT	4B
12/6/2016	MEESE 1N-14HZ	NABORS X22	19	133	GT	4C
12/7/2016	MESSE 16N-3HZ	NABORS X22	17	119	GT	4C
12/7/2016	MESSE 1N-14HZ	NABORS X22	4	28	GT	4C
12/9/2016	MEESE 1C-14HZ	NABORS X22	24	168	GT	4C

12/10/2016	MEESE 37C-35HZ	NABORS X22	20	140	GT	4C
12/10/2016	HIGHLAND 26V-33HZ	PD 564	11	77	GT	4C
12/11/2016	MEESE 27N-14HZ	NABORS X22	20	140	GT	4C
12/11/2016	HIGHLAND 26N-33HZ	PD 564	12	84	GT	4C
12/12/2016	HIGHLAND 1N-33HZ	PD 564	15	105	GT	4C
12/13/2016	HIGHLAND 27C-33HZ	PD 564	12	84	GT	4C
12/15/2016	HIGHLAND 16C-16HZ	PD 564	16	112	GT	4C
12/16/2016	HIGHLAND 37N-W16HZ	PD 564	18	126	GT	4C
12/17/2016	HIGHLAND 37N-E16HZ	PD 564	18	126	GT	4C
12/18/2016	HIGHLAND 37N-E16HZ	PD 564	4	28	GT	4C
12/18/2016	JZM 3N-E3HZ	Sidewinder 105	21	147	GT	4C
12/20/2016	JZM 3N-W3HZ	Sidewinder 105	20	140	GT	4C
12/22/2016	JZM 29C-3HZ	Sidewinder 105	18	126	GT	1A
12/24/2016	JZM 29C-3HZ	Sidewinder 105	4	28	GT	1A
12/25/2016	BBKB 36C-35HZ	Xtreme 22	14	98	GT	1A
12/25/2016	JZM 29N-E3HZ	Sidewinder 105	18	126	GT	1A
12/26/2016	JZM 29N-E3HZ	Sidewinder 105	6	42	GT	1A
12/26/2016	BBKB 36N-35HZ	Xtreme 22	10	70	GT	1A
12/27/2016	BBKB 25E-3HZ	Xtreme 22	9	63	GT	1A
12/28/2017	BBKB 25N-35HZ	Xtreme 22	12	84	GT	1A
12/29/2016	BBKB 37N-35HZ	Xtreme 22	12	84	GT	1A
12/30/2016	BBKB 16N-35HZ	Xtreme 22	12	84	GT	1A
12/30/2016	GARFIELD 36N-35HZ	WM 252	12	84	GT	1A
12/31/2016	BBKB 16N-35HZ	Xtreme 22	10	70	GT	1A
12/31/2016	GARFIELD 28N-14HZ	WM 252	14	98	GT	1A
12/31/2016	GARFIELD 36N-35HZ	WM 252	3	21	GT	1A

Table 2.

Pod Number	Date Sampled	Sample ID	BTEX					TPH (mg/kg)	Metals										Zinc (mg/kg)			
			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	pH		EC (mmhos/cm)	SAR	Arsenic TCLP (mg/L)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium III (mg/kg)	Chromium VI (mg/kg)	Copper (mg/kg)	Lead (mg/kg)		Mercury (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)
		Analytical Method	8260C	8260C	8260C	8260C	8045D	8050A	3050B / 8010C	3311 / 3010A / 8010C	3050B / 6020A / 8010C	3050B / 8010C	3050B / 6010C	3050B / 6010C	7196A	3050B / 6010C	3050B / 6010C	7471	3050B / 6010C	3050B / 6010C	3050B / 6010C	3050B / 6010C
1A	04/06/2017	DFMF-Area 1A-Annual-04/06/17	59.23	<0.050	<0.050	<0.050	7.58	2.11	16.25	<0.300	5.77	1.010	<0.580	12.4	0.317	14.2	13.3	0.0382	15.6	1.05	<0.580	59.7
1A	06/02/2017	DFMF-Area 1A-Annual-R	-	-	-	-	-	-	8.38	-	6.57	-	-	-	-	-	-	-	-	-	-	-
2A	04/06/2017	DFMF-Area 2A-Annual-04/06/17	86.35	<0.050	<0.050	<0.050	7.61	1.39	11.17	<0.300	4.97	1.210	0.153	12.8	0.170	17.1	13.6	0.0381	14.6	1.32	<0.562	59.8
2A	06/02/2017	DFMF-Area 2A-Annual-R	-	-	-	-	-	-	13.00	-	7.70	-	-	-	-	-	-	-	-	-	-	-
3A	04/06/2017	DFMF-Area 3A-Annual-04/06/17	104	<0.002	<0.002	<0.002	7.88	1.44	26.76	<0.300	7.98	2.070	0.153	8.44	0.187	9.54	7.16	0.0394	10.4	1.99	<2.83	40.9
3A	06/02/2017	DFMF-Area 3A-Annual-R	-	-	-	-	-	-	10.88	-	7.74	-	-	-	-	-	-	-	-	-	-	-
3B	04/06/2017	DFMF-Area 3B-Annual-04/06/17	1470.46	<0.002	<0.002	<0.002	7.96	0.878	16.70	0.0673	5.27	1.700	0.159	14.9	0.287	15.7	12.5	0.036	15.9	1.30	<0.592	58.6
3B	06/02/2017	DFMF-Area 3B-Annual-R	< 100	-	-	-	-	-	16.15	-	7.99	-	-	-	-	-	-	-	-	-	-	-
4B	04/06/2017	DFMF-Area 4B-Annual-04/06/17	92.4	<0.002	<0.002	<0.002	8.12	0.660	21.89	<0.300	4.86	248	<0.587	14.3	0.360	19.7	12.9	0.0359	17.7	1.17	<0.587	65.1
4B	06/02/2017	DFMF-Area 4B-Annual-R	-	-	-	-	-	-	19.58	-	8.30	-	-	-	-	-	-	-	-	-	-	-
3C	04/06/2017	DFMF-Area 3C-Annual-04/06/17	<100	<0.002	<0.002	<0.002	7.73	1.50	13.60	<0.300	5.97	854	<0.577	12.0	0.219	14.2	13.2	0.0387	14.3	1.19	<0.577	58.0
3C	06/02/2017	DFMF-Area 3C-Annual-R	-	-	-	-	-	-	15.25	-	4.26	-	-	-	-	-	-	-	-	-	-	-
4C	04/06/2017	DFMF-Area 4C-Annual-04/06/17	124	<0.002	<0.002	<0.002	7.61	1.15	27.51	0.0789	6.14	828	<0.565	12.0	0.242	15.1	13.7	0.0384	14.7	1.47	<0.565	59.3
4C	06/02/2017	DFMF-Area 4C-Annual-R	-	-	-	-	-	-	13.82	-	7.80	-	-	-	-	-	-	-	-	-	-	-
4D	04/06/2017	DFMF-Area 4D-Annual-04/06/17	<100	<0.002	<0.002	<0.002	8.07	1.34	19.58	<0.300	6.68	922	0.138	17.0	0.235	23.2	15.9	0.0532	21.7	1.41	<0.568	86.2
4D	06/02/2017	DFMF-Area 4D-Annual-R	-	-	-	-	-	-	12.84	-	7.18	-	-	-	-	-	-	-	-	-	-	-
Table 910-1 Allowable Level			500	0.17	85	100	8-9	<4	<12	-	0.39	15,000	70	120,000	23	3,100	400	23	1,600	390	390	23,000

mg/kg = milligram per kilogram
 mg/L = milligrams per liter
 TPH = total petroleum hydrocarbons
 EC = electrical conductivity
 mmhos/cm = millimhos per centimeter
 SAR = sodium adsorption ratio
 < = Analytical result is less than the indicated reporting limit
 - = Constituent not analyzed
 Results in bold exceed COGCC Table 910-1 allowable levels.

Figure 1.

LOVELAND OFFICE
1635 Foxtrail Drive, Suite 204
Loveland, Colorado 80538
Phone 970-776-4311

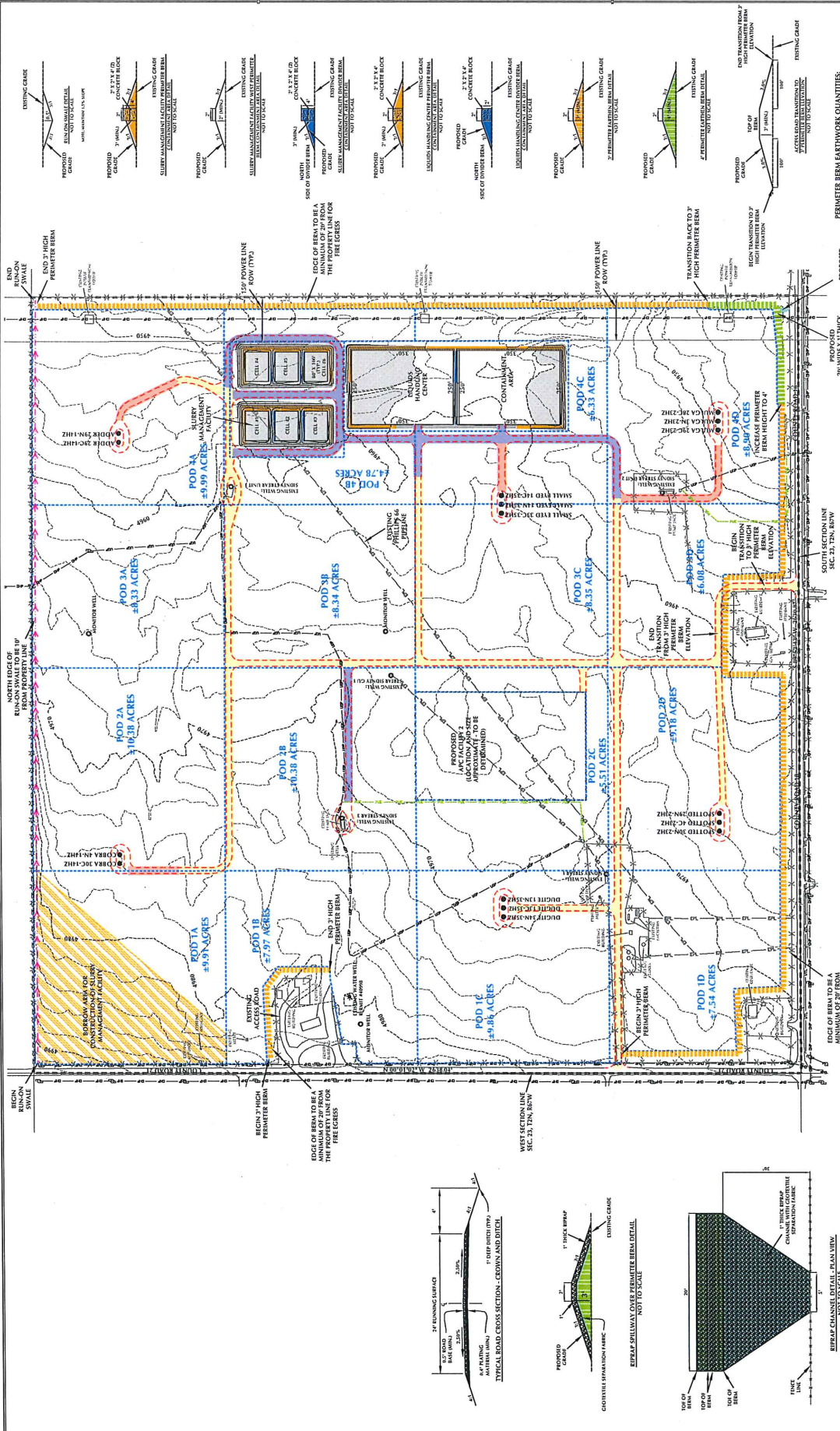
SHERIDAN OFFICE
2155 North Main Street
Sheridan, Wyoming 82801
Phone 307-674-6009



SITE PLAN
DFMF #2
LOCATED IN SW1/4, SECTION 23
T2N, R67W, 6TH P.M.
WELD COUNTY, COLORADO

Kerr-McGee Oil &
Gas Onshore L.P.
1099 18th Street
Denver, Colorado 80202

2' CONTOURS
SCALE: 1"=50' DATE: 2/15/14 SHEET NO: 1 OF 1
REVISED: 1/28/15



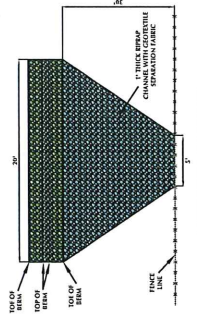
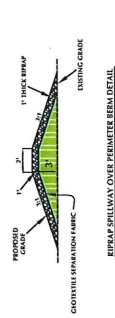
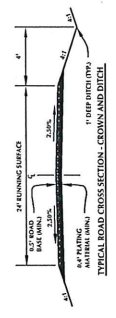
PERIMETER BEAM EARTHWORK QUANTITIES:
1' PERIMETER BEAM = 2.38 C.Y.
4' PERIMETER BEAM = 2.07 C.Y. @ 500 FT = 1,034 C.Y.
TOTAL = 8,327 C.Y.

NOTE:
ELEVATION BASED ON NAVD83 (GEOID99)
BASIS OF BEARING DERIVED FROM COLORADO
COORDINATE SYSTEM 1983 NORTH ZONE.

LEGEND

EXISTING WELL LOCATION
PROPOSED WELL LOCATION
EXISTING CONTOURS (2' INTERVAL)
PROPOSED CONTOURS (2' INTERVAL)
PROPERTY BOUNDARY
EXISTING ACCESS ROAD
PROPOSED ACCESS ROAD
PROPOSED ACCESS ROAD (TO BE CONSTRUCTED)
PROPOSED ACCESS ROAD (TO BE CONSTRUCTED AT LATER DATE)

EXISTING PIPELINE
EXISTING OVERHEAD POWER LINE
EXISTING BURIED TELEPHONE LINE
EXISTING BURIED FIBER OPTIC LINE
PROPOSED UNDERGROUND ELECTRIC
PROPOSED RUN-ON SWALE
PROPOSED 3' PERIMETER BEAM
PROPOSED 4' PERIMETER BEAM
PROPOSED CONCRETE BLOCK AND EARTH BEAM
PROPOSED CONCRETE BLOCK DIVIDER BEAM



Analytical



May 05, 2017

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver

CO 80211

Project Name - KMG - DFMF #2

Project Number - AFE.2107112.CON

Attached are your analytical results for KMG - DFMF #2 received by Origins Laboratory, Inc. April 27, 2017. This project is associated with Origins project number Y704355-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW01R - 04/27/17	Y704355-01	Water	April 27, 2017 12:42	04/27/2017 17:10
MW02 - 04/27/17	Y704355-02	Water	April 27, 2017 12:17	04/27/2017 17:10
MW03 - 04/27/17	Y704355-03	Water	April 27, 2017 13:15	04/27/2017 17:10
MW04 - 04/27/17	Y704355-04	Water	April 27, 2017 13:48	04/27/2017 17:10
MW05 - 04/27/17	Y704355-05	Water	April 27, 2017 14:20	04/27/2017 17:10
Trip Blank	Y704355-06	Water	April 27, 2017 12:00	04/27/2017 17:10

Per the phone call from Matt on 05/01/17, GRO will be run by 8260.

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

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page 1 of 1

Y704355

ORIGINS
LABORATORY, INC

Client: Tasman Geosciences for APC
Address: _____
Telephone Number: (352) 262-9910
Email Address: bcornez@tasmangeo.com

Project Manager: Bob Cornez
Project Name: DFMF #2
Project Number: AFE 2107112.CON
Samples Collected By: Kate E. Mathis

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air/Surface & Contaminant		
MW01R- 04/27/17	4/27/17	1242	6	X				X			TPH 8015 VOCs	1
MW02- 04/27/17	4/27/17	1217	6	X				X				2
MW03- 04/27/17	4/27/17	1315	6	X				X				3
MW04- 04/27/17	4/27/17	1348	6	X				X				4
MW05- 04/27/17	4/27/17	1420	6	X				X				5
Trip Blank	4/27/17	1200	4	X				X				6
												7
												8
												9
												10

Relinquished By: *[Signature]*
Date: 4/27/17
Time: 1535

Relinquished By: *[Signature]*
Date: 4/27/17
Time: 1710

Turnaround Time:
Same Day ☐ 24 Hr ☐
48 Hr ☐ 72 Hr ☐
Standard ☒

Date Results Needed: _____

Origins Laboratory, Inc.

Jefe Pellegrini

Jen Pellegrini For Noelle Doyle Mathis, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

Origins Laboratory

F-012207-01-R1
Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: Y704355

Client: Tasman

Client Project ID: KMG - DFMF #2

Checklist Completed by: De Lu

Shipped Via: HT Pick-up

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 4-26-17 11:02

Airbill #: NA

Matrix(s) Received: (Check all that apply): Soil/Solid ☒ Water ☐ Other: ☐

Cooler Number/Temperature: 1 12.4 °C 1 °C 1 °C (Describe) 1 °C

Thermometer ID: 1003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	/			
Is there ice present (document if blue ice is used)	/			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		/		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		/		
Were all samples received intact ⁽¹⁾ ?	/			
Was adequate sample volume provided ⁽¹⁾ ?	/			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		/		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	/			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	/			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	/			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	/			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		/		
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄ / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)		/		
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by (Project Manager) De Lu

Date/Time Reviewed 4-26-17 11:02

Origins Laboratory, Inc.

Jefe Pellegrini

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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW01R - 04/27/17

4/27/2017 12:42:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-01 (Water)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	2.50	mg/L	1	B7D2804	04/28/2017	05/03/2017	U
Residual Range Organics (C28-C40)	ND	5.00	"	"	"	"	"	U

Surrogate: o-Terphenyl 105 % 54-117 " " "

GRO/TVPH by EPA 8260C

Gasoline Range Hydrocarbons	ND	100	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
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Surrogate: 1,2-Dichloroethane-d4 103 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 105 % 70-130 " " "
Surrogate: Toluene-d8 102 % 70-130 " " "

VOC by EPA 8260C

1,1,1,2-Tetrachloroethane	ND	1.00	ug/L	1	B7D2803	"	04/28/2017	U
1,1,1-Trichloroethane	ND	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	ND	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	ND	1.00	"	"	"	"	"	U
1,1-Dichloroethane	ND	1.00	"	"	"	"	"	U
1,1-Dichloroethene	ND	1.00	"	"	"	"	"	U
1,1-Dichloropropene	ND	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	ND	5.00	"	"	"	"	"	U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW01R - 04/27/17

4/27/2017 12:42:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.
Y704355-01 (Water)

VOC by EPA 8260C

1,2,3-Trichloropropane	ND	5.00	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
1,2,4-Trichlorobenzene	ND	5.00	"	"	"	"	"	U
1,2,4-Trimethylbenzene	ND	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	ND	5.00	"	"	"	"	"	U
1,2-Dibromoethane (EDB)	ND	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	ND	1.00	"	"	"	"	"	U
1,2-Dichloroethane	ND	1.00	"	"	"	"	"	U
1,2-Dichloropropane	ND	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	ND	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	ND	1.00	"	"	"	"	"	U
1,3-Dichloropropane	ND	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	ND	1.00	"	"	"	"	"	U
2,2-Dichloropropane	ND	1.00	"	"	"	"	"	U
2-Butanone	ND	5.00	"	"	"	"	"	U
2-Chlorotoluene	ND	1.00	"	"	"	"	"	U
2-Hexanone	ND	5.00	"	"	"	"	"	U
4-Chlorotoluene	ND	1.00	"	"	"	"	"	U
4-Isopropyltoluene	ND	1.00	"	"	"	"	"	U
4-Methyl-2-pentanone	ND	5.00	"	"	"	"	"	U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW01R - 04/27/17
4/27/2017 12:42:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-01 (Water)

VOC by EPA 8260C

Acetone	ND	8.00	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
Benzene	51.0	1.00	"	"	"	"	"	
Bromobenzene	ND	1.00	"	"	"	"	"	U
Bromochloromethane	ND	1.00	"	"	"	"	"	U
Bromodichloromethane	ND	1.00	"	"	"	"	"	U
Bromoform	ND	1.00	"	"	"	"	"	U
Bromomethane	ND	1.00	"	"	"	"	"	U
Carbon disulfide	ND	5.00	"	"	"	"	"	U
Carbon tetrachloride	ND	1.00	"	"	"	"	"	U
Chlorobenzene	ND	1.00	"	"	"	"	"	U
Chloroethane	ND	1.00	"	"	"	"	"	U
Chloroform	ND	1.00	"	"	"	"	"	U
Chloromethane	ND	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	U
cis-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	U
Dibromochloromethane	ND	1.00	"	"	"	"	"	U
Dibromomethane	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Hexachlorobutadiene	ND	5.00	"	"	"	"	"	U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFME #2

MW01R - 04/27/17

4/27/2017 12:42:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-01 (Water)

VOC by EPA 8260C

Iodomethane	ND	10.0	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
Isopropylbenzene	ND	1.00	"	"	"	"	"	U
m,p-Xylene	ND	2.00	"	"	"	"	"	U
Methylene Chloride	ND	5.00	"	"	"	"	"	U
Methyl tert-Butyl Ether	ND	1.00	"	"	"	"	"	U
Naphthalene	ND	4.00	"	"	"	"	"	U
n-Butylbenzene	ND	1.00	"	"	"	"	"	U
n-Propylbenzene	ND	1.00	"	"	"	"	"	U
o-Xylene	ND	1.00	"	"	"	"	"	U
sec-Butylbenzene	ND	1.00	"	"	"	"	"	U
Styrene	ND	1.00	"	"	"	"	"	U
tert-Butylbenzene	ND	1.00	"	"	"	"	"	U
Tetrachloroethene	ND	1.00	"	"	"	"	"	U
Toluene	ND	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	U
trans-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	U
Trichloroethene	ND	1.00	"	"	"	"	"	U
Trichlorofluoromethane	ND	1.00	"	"	"	"	"	U
Vinyl chloride	ND	1.00	"	"	"	"	"	U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW01R - 04/27/17

4/27/2017 12:42:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.
Y704355-01 (Water)

VOC by EPA 8260C

Surrogate: 1,2-Dichloroethane-d4	87.1 %	84-121	B7D28 03	04/28/2017	04/28/2017
Surrogate: Toluene-d8	101 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	105 %	84-114	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW02 - 04/27/17
4/27/2017 12:17:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-02 (Water)

DRO/RRO by EPA8015C

Diesel (C10-C28)	4.29	2.50	mg/L	1	B7D2804	04/28/2017	05/03/2017	
Residual Range Organics (C28-C40)	ND	5.00	"	"	"	"	"	U

Surrogate: o-Terphenyl 70.2 % 54-117 " " "

GRO/TVPH by EPA 8260C

Gasoline Range Hydrocarbons	ND	100	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
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Surrogate: 1,2-Dichloroethane-d4 108 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 105 % 70-130 " " "
Surrogate: Toluene-d8 100 % 70-130 " " "

VOC by EPA 8260C

1,1,1,2-Tetrachloroethane	ND	1.00	ug/L	1	B7D2803	"	04/28/2017	U
1,1,1-Trichloroethane	ND	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	ND	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	ND	1.00	"	"	"	"	"	U
1,1-Dichloroethane	ND	1.00	"	"	"	"	"	U
1,1-Dichloroethene	ND	1.00	"	"	"	"	"	U
1,1-Dichloropropene	ND	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	ND	5.00	"	"	"	"	"	U
1,2,3-Trichloropropane	ND	5.00	"	"	"	"	"	U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW02 - 04/27/17

4/27/2017 12:17:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-02 (Water)

VOC by EPA 8260C

1,2,4-Trichlorobenzene	ND	5.00	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
1,2,4-Trimethylbenzene	ND	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	ND	5.00	"	"	"	"	"	U
1,2-Dibromoethane (EDB)	ND	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	ND	1.00	"	"	"	"	"	U
1,2-Dichloroethane	ND	1.00	"	"	"	"	"	U
1,2-Dichloropropane	ND	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	ND	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	ND	1.00	"	"	"	"	"	U
1,3-Dichloropropane	ND	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	ND	1.00	"	"	"	"	"	U
2,2-Dichloropropane	ND	1.00	"	"	"	"	"	U
2-Butanone	ND	5.00	"	"	"	"	"	U
2-Chlorotoluene	ND	1.00	"	"	"	"	"	U
2-Hexanone	ND	5.00	"	"	"	"	"	U
4-Chlorotoluene	ND	1.00	"	"	"	"	"	U
4-Isopropyltoluene	ND	1.00	"	"	"	"	"	U
4-Methyl-2-pentanone	ND	5.00	"	"	"	"	"	U
Acetone	ND	8.00	"	"	"	"	"	U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW02 - 04/27/17

4/27/2017 12:17:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.
Y704355-02 (Water)

VOC by EPA 8260C

Benzene	ND	1.00	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
Bromobenzene	ND	1.00	"	"	"	"	"	U
Bromochloromethane	ND	1.00	"	"	"	"	"	U
Bromodichloromethane	ND	1.00	"	"	"	"	"	U
Bromoform	ND	1.00	"	"	"	"	"	U
Bromomethane	ND	1.00	"	"	"	"	"	U
Carbon disulfide	ND	5.00	"	"	"	"	"	U
Carbon tetrachloride	ND	1.00	"	"	"	"	"	U
Chlorobenzene	ND	1.00	"	"	"	"	"	U
Chloroethane	ND	1.00	"	"	"	"	"	U
Chloroform	ND	1.00	"	"	"	"	"	U
Chloromethane	ND	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	U
cis-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	U
Dibromochloromethane	ND	1.00	"	"	"	"	"	U
Dibromomethane	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Hexachlorobutadiene	ND	5.00	"	"	"	"	"	U
Iodomethane	ND	10.0	"	"	"	"	"	U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW02 - 04/27/17

4/27/2017 12:17:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-02 (Water)

VOC by EPA 8260C

Isopropylbenzene	ND	1.00	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
m,p-Xylene	ND	2.00	"	"	"	"	"	U
Methylene Chloride	ND	5.00	"	"	"	"	"	U
Methyl tert-Butyl Ether	ND	1.00	"	"	"	"	"	U
Naphthalene	ND	4.00	"	"	"	"	"	U
n-Butylbenzene	ND	1.00	"	"	"	"	"	U
n-Propylbenzene	ND	1.00	"	"	"	"	"	U
o-Xylene	ND	1.00	"	"	"	"	"	U
sec-Butylbenzene	ND	1.00	"	"	"	"	"	U
Styrene	ND	1.00	"	"	"	"	"	U
tert-Butylbenzene	ND	1.00	"	"	"	"	"	U
Tetrachloroethene	ND	1.00	"	"	"	"	"	U
Toluene	ND	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	U
trans-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	U
Trichloroethene	ND	1.00	"	"	"	"	"	U
Trichlorofluoromethane	ND	1.00	"	"	"	"	"	U
Vinyl chloride	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 95.3 % 84-121 " " "

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW02 - 04/27/17

4/27/2017 12:17:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.
Y704355-02 (Water)

VOC by EPA 8260C

Surrogate: Toluene-d8	99.6 %	85-115	B7D28 03	04/28/2017	04/28/2017
Surrogate: 4-Bromofluorobenzene	105 %	84-114	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW03 - 04/27/17
4/27/2017 1:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-03 (Water)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	2.50	mg/L	1	B7D2804	04/28/2017	05/03/2017	U
Residual Range Organics (C28-C40)	ND	5.00	"	"	"	"	"	U

Surrogate: o-Terphenyl 68.5 % 54-117 " " "

GRO/TVPH by EPA 8260C

Gasoline Range Hydrocarbons	ND	100	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
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Surrogate: 1,2-Dichloroethane-d4 108 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 104 % 70-130 " " "
Surrogate: Toluene-d8 101 % 70-130 " " "

VOC by EPA 8260C

1,1,1,2-Tetrachloroethane	ND	1.00	ug/L	1	B7D2803	"	04/28/2017	U
1,1,1-Trichloroethane	ND	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	ND	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	ND	1.00	"	"	"	"	"	U
1,1-Dichloroethane	ND	1.00	"	"	"	"	"	U
1,1-Dichloroethene	ND	1.00	"	"	"	"	"	U
1,1-Dichloropropene	ND	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	ND	5.00	"	"	"	"	"	U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW03 - 04/27/17
4/27/2017 1:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-03 (Water)

VOC by EPA 8260C

1,2,3-Trichloropropane	ND	5.00	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
1,2,4-Trichlorobenzene	ND	5.00	"	"	"	"	"	U
1,2,4-Trimethylbenzene	ND	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	ND	5.00	"	"	"	"	"	U
1,2-Dibromoethane (EDB)	ND	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	ND	1.00	"	"	"	"	"	U
1,2-Dichloroethane	ND	1.00	"	"	"	"	"	U
1,2-Dichloropropane	ND	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	ND	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	ND	1.00	"	"	"	"	"	U
1,3-Dichloropropane	ND	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	ND	1.00	"	"	"	"	"	U
2,2-Dichloropropane	ND	1.00	"	"	"	"	"	U
2-Butanone	ND	5.00	"	"	"	"	"	U
2-Chlorotoluene	ND	1.00	"	"	"	"	"	U
2-Hexanone	ND	5.00	"	"	"	"	"	U
4-Chlorotoluene	ND	1.00	"	"	"	"	"	U
4-Isopropyltoluene	ND	1.00	"	"	"	"	"	U
4-Methyl-2-pentanone	ND	5.00	"	"	"	"	"	U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW03 - 04/27/17
4/27/2017 1:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-03 (Water)

VOC by EPA 8260C

Acetone	ND	8.00	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
Benzene	ND	1.00	"	"	"	"	"	U
Bromobenzene	ND	1.00	"	"	"	"	"	U
Bromochloromethane	ND	1.00	"	"	"	"	"	U
Bromodichloromethane	ND	1.00	"	"	"	"	"	U
Bromoform	ND	1.00	"	"	"	"	"	U
Bromomethane	ND	1.00	"	"	"	"	"	U
Carbon disulfide	ND	5.00	"	"	"	"	"	U
Carbon tetrachloride	ND	1.00	"	"	"	"	"	U
Chlorobenzene	ND	1.00	"	"	"	"	"	U
Chloroethane	ND	1.00	"	"	"	"	"	U
Chloroform	ND	1.00	"	"	"	"	"	U
Chloromethane	ND	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	U
cis-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	U
Dibromochloromethane	ND	1.00	"	"	"	"	"	U
Dibromomethane	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Hexachlorobutadiene	ND	5.00	"	"	"	"	"	U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW03 - 04/27/17
4/27/2017 1:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-03 (Water)

VOC by EPA 8260C

Iodomethane	ND	10.0	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
Isopropylbenzene	ND	1.00	"	"	"	"	"	U
m,p-Xylene	ND	2.00	"	"	"	"	"	U
Methylene Chloride	ND	5.00	"	"	"	"	"	U
Methyl tert-Butyl Ether	ND	1.00	"	"	"	"	"	U
Naphthalene	ND	4.00	"	"	"	"	"	U
n-Butylbenzene	ND	1.00	"	"	"	"	"	U
n-Propylbenzene	ND	1.00	"	"	"	"	"	U
o-Xylene	ND	1.00	"	"	"	"	"	U
sec-Butylbenzene	ND	1.00	"	"	"	"	"	U
Styrene	ND	1.00	"	"	"	"	"	U
tert-Butylbenzene	ND	1.00	"	"	"	"	"	U
Tetrachloroethene	ND	1.00	"	"	"	"	"	U
Toluene	ND	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	U
trans-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	U
Trichloroethene	ND	1.00	"	"	"	"	"	U
Trichlorofluoromethane	ND	1.00	"	"	"	"	"	U
Vinyl chloride	ND	1.00	"	"	"	"	"	U

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW03 - 04/27/17

4/27/2017 1:15:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.
Y704355-03 (Water)

VOC by EPA 8260C

Surrogate: 1,2-Dichloroethane-d4	96.3 %	84-121	B7D28 03	04/28/2017	04/28/2017
Surrogate: Toluene-d8	99.6 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	84-114	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW04 - 04/27/17
4/27/2017 1:48:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-04 (Water)

DRO/RRO by EPA8015C

Diesel (C10-C28)	4.85	2.50	mg/L	1	B7D2804	04/28/2017	05/03/2017	
Residual Range Organics (C28-C40)	ND	5.00	"	"	"	"	"	U

Surrogate: o-Terphenyl 75.8 % 54-117 " " "

GRO/TVPH by EPA 8260C

Gasoline Range Hydrocarbons	ND	100	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
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Surrogate: 1,2-Dichloroethane-d4 109 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 105 % 70-130 " " "
Surrogate: Toluene-d8 99.4 % 70-130 " " "

VOC by EPA 8260C

1,1,1,2-Tetrachloroethane	ND	1.00	ug/L	1	B7D2803	"	04/28/2017	U
1,1,1-Trichloroethane	ND	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	ND	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	ND	1.00	"	"	"	"	"	U
1,1-Dichloroethane	ND	1.00	"	"	"	"	"	U
1,1-Dichloroethene	ND	1.00	"	"	"	"	"	U
1,1-Dichloropropene	ND	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	ND	5.00	"	"	"	"	"	U
1,2,3-Trichloropropane	ND	5.00	"	"	"	"	"	U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW04 - 04/27/17

4/27/2017 1:48:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.
Y704355-04 (Water)

VOC by EPA 8260C

1,2,4-Trichlorobenzene	ND	5.00	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
1,2,4-Trimethylbenzene	ND	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	ND	5.00	"	"	"	"	"	U
1,2-Dibromoethane (EDB)	ND	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	ND	1.00	"	"	"	"	"	U
1,2-Dichloroethane	ND	1.00	"	"	"	"	"	U
1,2-Dichloropropane	ND	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	ND	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	ND	1.00	"	"	"	"	"	U
1,3-Dichloropropane	ND	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	ND	1.00	"	"	"	"	"	U
2,2-Dichloropropane	ND	1.00	"	"	"	"	"	U
2-Butanone	ND	5.00	"	"	"	"	"	U
2-Chlorotoluene	ND	1.00	"	"	"	"	"	U
2-Hexanone	ND	5.00	"	"	"	"	"	U
4-Chlorotoluene	ND	1.00	"	"	"	"	"	U
4-Isopropyltoluene	ND	1.00	"	"	"	"	"	U
4-Methyl-2-pentanone	ND	5.00	"	"	"	"	"	U
Acetone	ND	8.00	"	"	"	"	"	U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW04 - 04/27/17

4/27/2017 1:48:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-04 (Water)

VOC by EPA 8260C

Benzene	ND	1.00	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
Bromobenzene	ND	1.00	"	"	"	"	"	U
Bromochloromethane	ND	1.00	"	"	"	"	"	U
Bromodichloromethane	ND	1.00	"	"	"	"	"	U
Bromoform	ND	1.00	"	"	"	"	"	U
Bromomethane	ND	1.00	"	"	"	"	"	U
Carbon disulfide	ND	5.00	"	"	"	"	"	U
Carbon tetrachloride	ND	1.00	"	"	"	"	"	U
Chlorobenzene	ND	1.00	"	"	"	"	"	U
Chloroethane	ND	1.00	"	"	"	"	"	U
Chloroform	ND	1.00	"	"	"	"	"	U
Chloromethane	ND	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	U
cis-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	U
Dibromochloromethane	ND	1.00	"	"	"	"	"	U
Dibromomethane	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Hexachlorobutadiene	ND	5.00	"	"	"	"	"	U
Iodomethane	ND	10.0	"	"	"	"	"	U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW04 - 04/27/17
4/27/2017 1:48:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-04 (Water)

VOC by EPA 8260C

Isopropylbenzene	ND	1.00	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
m,p-Xylene	ND	2.00	"	"	"	"	"	U
Methylene Chloride	ND	5.00	"	"	"	"	"	U
Methyl tert-Butyl Ether	ND	1.00	"	"	"	"	"	U
Naphthalene	ND	4.00	"	"	"	"	"	U
n-Butylbenzene	ND	1.00	"	"	"	"	"	U
n-Propylbenzene	ND	1.00	"	"	"	"	"	U
o-Xylene	ND	1.00	"	"	"	"	"	U
sec-Butylbenzene	ND	1.00	"	"	"	"	"	U
Styrene	ND	1.00	"	"	"	"	"	U
tert-Butylbenzene	ND	1.00	"	"	"	"	"	U
Tetrachloroethene	ND	1.00	"	"	"	"	"	U
Toluene	ND	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	U
trans-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	U
Trichloroethene	ND	1.00	"	"	"	"	"	U
Trichlorofluoromethane	ND	1.00	"	"	"	"	"	U
Vinyl chloride	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 95.3 % 84-121 " " "

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW04 - 04/27/17

4/27/2017 1:48:00PM

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit						

Origins Laboratory, Inc.
Y704355-04 (Water)

VOC by EPA 8260C

Surrogate: Toluene-d8	99.1 %	85-115	B7D28 03	04/28/2017	04/28/2017
Surrogate: 4-Bromofluorobenzene	106 %	84-114	"	"	"

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW05 - 04/27/17
4/27/2017 2:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-05 (Water)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	2.50	mg/L	1	B7D2804	04/28/2017	05/03/2017	U
Residual Range Organics (C28-C40)	ND	5.00	"	"	"	"	"	U

Surrogate: o-Terphenyl 89.4 % 54-117 " " "

GRO/TVPH by EPA 8260C

Gasoline Range Hydrocarbons	ND	100	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
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Surrogate: 1,2-Dichloroethane-d4 108 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 104 % 70-130 " " "
Surrogate: Toluene-d8 101 % 70-130 " " "

VOC by EPA 8260C

1,1,1,2-Tetrachloroethane	ND	1.00	ug/L	1	B7D2803	"	04/28/2017	U
1,1,1-Trichloroethane	ND	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	ND	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	ND	1.00	"	"	"	"	"	U
1,1-Dichloroethane	ND	1.00	"	"	"	"	"	U
1,1-Dichloroethene	ND	1.00	"	"	"	"	"	U
1,1-Dichloropropene	ND	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	ND	5.00	"	"	"	"	"	U

Origins Laboratory, Inc.

Jen Pellegrini

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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFME #2

MW05 - 04/27/17
4/27/2017 2:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-05 (Water)

VOC by EPA 8260C

1,2,3-Trichloropropane	ND	5.00	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
1,2,4-Trichlorobenzene	ND	5.00	"	"	"	"	"	U
1,2,4-Trimethylbenzene	ND	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	ND	5.00	"	"	"	"	"	U
1,2-Dibromoethane (EDB)	ND	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	ND	1.00	"	"	"	"	"	U
1,2-Dichloroethane	ND	1.00	"	"	"	"	"	U
1,2-Dichloropropane	ND	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	ND	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	ND	1.00	"	"	"	"	"	U
1,3-Dichloropropane	ND	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	ND	1.00	"	"	"	"	"	U
2,2-Dichloropropane	ND	1.00	"	"	"	"	"	U
2-Butanone	ND	5.00	"	"	"	"	"	U
2-Chlorotoluene	ND	1.00	"	"	"	"	"	U
2-Hexanone	ND	5.00	"	"	"	"	"	U
4-Chlorotoluene	ND	1.00	"	"	"	"	"	U
4-Isopropyltoluene	ND	1.00	"	"	"	"	"	U
4-Methyl-2-pentanone	ND	5.00	"	"	"	"	"	U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW05 - 04/27/17
4/27/2017 2:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-05 (Water)

VOC by EPA 8260C

Acetone	ND	8.00	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
Benzene	ND	1.00	"	"	"	"	"	U
Bromobenzene	ND	1.00	"	"	"	"	"	U
Bromochloromethane	ND	1.00	"	"	"	"	"	U
Bromodichloromethane	ND	1.00	"	"	"	"	"	U
Bromoform	ND	1.00	"	"	"	"	"	U
Bromomethane	ND	1.00	"	"	"	"	"	U
Carbon disulfide	ND	5.00	"	"	"	"	"	U
Carbon tetrachloride	ND	1.00	"	"	"	"	"	U
Chlorobenzene	ND	1.00	"	"	"	"	"	U
Chloroethane	ND	1.00	"	"	"	"	"	U
Chloroform	ND	1.00	"	"	"	"	"	U
Chloromethane	ND	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	U
cis-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	U
Dibromochloromethane	ND	1.00	"	"	"	"	"	U
Dibromomethane	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Hexachlorobutadiene	ND	5.00	"	"	"	"	"	U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW05 - 04/27/17
4/27/2017 2:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-05 (Water)

VOC by EPA 8260C

Iodomethane	ND	10.0	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
Isopropylbenzene	ND	1.00	"	"	"	"	"	U
m,p-Xylene	ND	2.00	"	"	"	"	"	U
Methylene Chloride	ND	5.00	"	"	"	"	"	U
Methyl tert-Butyl Ether	ND	1.00	"	"	"	"	"	U
Naphthalene	ND	4.00	"	"	"	"	"	U
n-Butylbenzene	ND	1.00	"	"	"	"	"	U
n-Propylbenzene	ND	1.00	"	"	"	"	"	U
o-Xylene	ND	1.00	"	"	"	"	"	U
sec-Butylbenzene	ND	1.00	"	"	"	"	"	U
Styrene	ND	1.00	"	"	"	"	"	U
tert-Butylbenzene	ND	1.00	"	"	"	"	"	U
Tetrachloroethene	ND	1.00	"	"	"	"	"	U
Toluene	ND	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	U
trans-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	U
Trichloroethene	ND	1.00	"	"	"	"	"	U
Trichlorofluoromethane	ND	1.00	"	"	"	"	"	U
Vinyl chloride	ND	1.00	"	"	"	"	"	U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

MW05 - 04/27/17

4/27/2017 2:20:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.
Y704355-05 (Water)

VOC by EPA 8260C

Surrogate: 1,2-Dichloroethane-d4	93.2 %	84-121	B7D28 03	04/28/2017	04/28/2017
Surrogate: Toluene-d8	101 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	84-114	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

Trip Blank
4/27/2017 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-06 (Water)

GRO/TVPH by EPA 8260C

Gasoline Range Hydrocarbons	ND	100	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
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Surrogate: 1,2-Dichloroethane-d4	109 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	104 %	70-130			"	"	"	
Surrogate: Toluene-d8	100 %	70-130			"	"	"	

VOC by EPA 8260C

1,1,1,2-Tetrachloroethane	ND	1.00	ug/L	1	B7D2803	"	04/28/2017	U
1,1,1-Trichloroethane	ND	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	ND	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	ND	1.00	"	"	"	"	"	U
1,1-Dichloroethane	ND	1.00	"	"	"	"	"	U
1,1-Dichloroethene	ND	1.00	"	"	"	"	"	U
1,1-Dichloropropene	ND	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	ND	5.00	"	"	"	"	"	U
1,2,3-Trichloropropane	ND	5.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	ND	5.00	"	"	"	"	"	U
1,2,4-Trimethylbenzene	ND	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	ND	5.00	"	"	"	"	"	U
1,2-Dibromoethane (EDB)	ND	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	ND	1.00	"	"	"	"	"	U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

Trip Blank
4/27/2017 12:00:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.
Y704355-06 (Water)

VOC by EPA 8260C

1,2-Dichloroethane	ND	1.00	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
1,2-Dichloropropane	ND	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	ND	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	ND	1.00	"	"	"	"	"	U
1,3-Dichloropropane	ND	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	ND	1.00	"	"	"	"	"	U
2,2-Dichloropropane	ND	1.00	"	"	"	"	"	U
2-Butanone	ND	5.00	"	"	"	"	"	U
2-Chlorotoluene	ND	1.00	"	"	"	"	"	U
2-Hexanone	ND	5.00	"	"	"	"	"	U
4-Chlorotoluene	ND	1.00	"	"	"	"	"	U
4-Isopropyltoluene	ND	1.00	"	"	"	"	"	U
4-Methyl-2-pentanone	ND	5.00	"	"	"	"	"	U
Acetone	ND	8.00	"	"	"	"	"	U
Benzene	ND	1.00	"	"	"	"	"	U
Bromobenzene	ND	1.00	"	"	"	"	"	U
Bromochloromethane	ND	1.00	"	"	"	"	"	U
Bromodichloromethane	ND	1.00	"	"	"	"	"	U
Bromoform	ND	1.00	"	"	"	"	"	U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

Trip Blank
4/27/2017 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-06 (Water)

VOC by EPA 8260C

Bromomethane	ND	1.00	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
Carbon disulfide	ND	5.00	"	"	"	"	"	U
Carbon tetrachloride	ND	1.00	"	"	"	"	"	U
Chlorobenzene	ND	1.00	"	"	"	"	"	U
Chloroethane	ND	1.00	"	"	"	"	"	U
Chloroform	ND	1.00	"	"	"	"	"	U
Chloromethane	ND	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	U
cis-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	U
Dibromochloromethane	ND	1.00	"	"	"	"	"	U
Dibromomethane	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Hexachlorobutadiene	ND	5.00	"	"	"	"	"	U
Iodomethane	ND	10.0	"	"	"	"	"	U
Isopropylbenzene	ND	1.00	"	"	"	"	"	U
m,p-Xylene	ND	2.00	"	"	"	"	"	U
Methylene Chloride	ND	5.00	"	"	"	"	"	U
Methyl tert-Butyl Ether	ND	1.00	"	"	"	"	"	U
Naphthalene	ND	4.00	"	"	"	"	"	U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

Trip Blank
4/27/2017 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y704355-06 (Water)

VOC by EPA 8260C

n-Butylbenzene	ND	1.00	ug/L	1	B7D2803	04/28/2017	04/28/2017	U
n-Propylbenzene	ND	1.00	"	"	"	"	"	U
o-Xylene	ND	1.00	"	"	"	"	"	U
sec-Butylbenzene	ND	1.00	"	"	"	"	"	U
Styrene	ND	1.00	"	"	"	"	"	U
tert-Butylbenzene	ND	1.00	"	"	"	"	"	U
Tetrachloroethene	ND	1.00	"	"	"	"	"	U
Toluene	ND	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	U
trans-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	U
Trichloroethene	ND	1.00	"	"	"	"	"	U
Trichlorofluoromethane	ND	1.00	"	"	"	"	"	U
Vinyl chloride	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	98.4 %	84-121	"	"	"
Surrogate: Toluene-d8	100 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	105 %	84-114	"	"	"

Origins Laboratory, Inc.

Jefe Pellegrini

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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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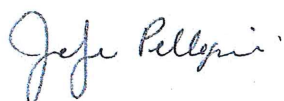
Batch B7D2803 - EPA 5030B (Water)

Blank (B7D2803-BLK1)

Prepared: 04/28/2017 Analyzed: 04/28/2017

1,1,1,2-Tetrachloroethane	ND	1.00	ug/L							U
1,1,1-Trichloroethane	ND	1.00	"							U
1,1,2,2-Tetrachloroethane	ND	1.00	"							U
1,1,2-Trichloroethane	ND	1.00	"							U
1,1-Dichloroethane	ND	1.00	"							U
1,1-Dichloroethene	ND	1.00	"							U
1,1-Dichloropropene	ND	1.00	"							U
1,2,3-Trichlorobenzene	ND	5.00	"							U
1,2,3-Trichloropropane	ND	5.00	"							U
1,2,4-Trichlorobenzene	ND	5.00	"							U
1,2,4-Trimethylbenzene	ND	1.00	"							U
1,2-Dibromo-3-chloropropane	ND	5.00	"							U
1,2-Dibromoethane (EDB)	ND	1.00	"							U
1,2-Dichlorobenzene	ND	1.00	"							U
1,2-Dichloroethane	ND	1.00	"							U
1,2-Dichloropropane	ND	1.00	"							U
1,3,5-Trimethylbenzene	ND	1.00	"							U
1,3-Dichlorobenzene	ND	1.00	"							U
1,3-Dichloropropane	ND	1.00	"							U
1,4-Dichlorobenzene	ND	1.00	"							U
2,2-Dichloropropane	ND	1.00	"							U
2-Butanone	ND	5.00	"							U
2-Chlorotoluene	ND	1.00	"							U
2-Hexanone	ND	5.00	"							U
4-Chlorotoluene	ND	1.00	"							U
4-Isopropyltoluene	ND	1.00	"							U

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B7D2803 - EPA 5030B (Water)

Blank (B7D2803-BLK1)

Prepared: 04/28/2017 Analyzed: 04/28/2017

4-Methyl-2-pentanone	ND	5.00	ug/L							U
Acetone	ND	8.00	"							U
Benzene	ND	1.00	"							U
Bromobenzene	ND	1.00	"							U
Bromochloromethane	ND	1.00	"							U
Bromodichloromethane	ND	1.00	"							U
Bromoform	ND	1.00	"							U
Bromomethane	ND	1.00	"							U
Carbon disulfide	ND	5.00	"							U
Carbon tetrachloride	ND	1.00	"							U
Chlorobenzene	ND	1.00	"							U
Chloroethane	ND	1.00	"							U
Chloroform	ND	1.00	"							U
Chloromethane	ND	1.00	"							U
cis-1,2-Dichloroethene	ND	1.00	"							U
cis-1,3-Dichloropropene	ND	1.00	"							U
Dibromochloromethane	ND	1.00	"							U
Dibromomethane	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Hexachlorobutadiene	ND	5.00	"							U
Iodomethane	ND	10.0	"							U
Isopropylbenzene	ND	1.00	"							U
m,p-Xylene	ND	2.00	"							U
Methylene Chloride	ND	5.00	"							U
Methyl tert-Butyl Ether	ND	1.00	"							U
Naphthalene	ND	4.00	"							U

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B7D2803 - EPA 5030B (Water)

Blank (B7D2803-BLK1)

Prepared: 04/28/2017 Analyzed: 04/28/2017

n-Butylbenzene	ND	1.00	ug/L							U
n-Propylbenzene	ND	1.00	"							U
o-Xylene	ND	1.00	"							U
sec-Butylbenzene	ND	1.00	"							U
Styrene	ND	1.00	"							U
tert-Butylbenzene	ND	1.00	"							U
Tetrachloroethene	ND	1.00	"							U
Toluene	ND	1.00	"							U
trans-1,2-Dichloroethene	ND	1.00	"							U
trans-1,3-Dichloropropene	ND	1.00	"							U
Trichloroethene	ND	1.00	"							U
Trichlorofluoromethane	ND	1.00	"							U
Vinyl chloride	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.8	84-121			
Surrogate: Toluene-d8	61		"	62.5		98.0	85-115			
Surrogate: 4-Bromofluorobenzene	66		"	62.5		105	84-114			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7D2803 - EPA 5030B (Water)										
LCS (B7D2803-BS1)					Prepared: 04/28/2017 Analyzed: 04/28/2017					
1,1,1,2-Tetrachloroethane	50.0	1.00	ug/L	50.0		99.9	78.8-128			
1,1,1-Trichloroethane	44.5	1.00	"	50.0		89.1	80-120			
1,1,2,2-Tetrachloroethane	54.4	1.00	"	50.0		109	67.9-120			
1,1,2-Trichloroethane	51.1	1.00	"	50.0		102	75.4-120			
1,1-Dichloroethane	55.9	1.00	"	50.0		112	80-120			
1,1-Dichloroethene	56.7	1.00	"	50.0		113	79.4-120			
1,1-Dichloropropene	53.0	1.00	"	50.0		106	78-120			
1,2,3-Trichlorobenzene	44.8	5.00	"	50.0		89.5	63.8-134			
1,2,3-Trichloropropane	56.4	5.00	"	50.0		113	63.3-121			
1,2,4-Trichlorobenzene	44.4	5.00	"	50.0		88.8	70.4-125			
1,2,4-Trimethylbenzene	48.5	1.00	"	50.0		96.9	73.3-123			
1,2-Dibromo-3-chloropropane	43.3	5.00	"	50.0		86.6	80-120			
1,2-Dibromoethane (EDB)	47.8	1.00	"	50.0		95.6	74.7-127			
1,2-Dichlorobenzene	49.1	1.00	"	50.0		98.3	80-120			
1,2-Dichloroethane	51.4	1.00	"	50.0		103	71.1-120			
1,2-Dichloropropane	49.5	1.00	"	50.0		99.0	80-120			
1,3,5-Trimethylbenzene	49.4	1.00	"	50.0		98.9	71.9-128			
1,3-Dichlorobenzene	47.1	1.00	"	50.0		94.3	82.1-120			
1,3-Dichloropropane	48.9	1.00	"	50.0		97.8	75.1-123			
1,4-Dichlorobenzene	47.5	1.00	"	50.0		95.0	76.8-120			
2,2-Dichloropropane	48.1	1.00	"	50.0		96.3	80-120			
2-Butanone	298	5.00	"	250		119	64.9-123			
2-Chlorotoluene	51.3	1.00	"	50.0		103	66-133			
2-Hexanone	288	5.00	"	250		115	80-120			
4-Chlorotoluene	49.4	1.00	"	50.0		98.7	73.2-120			
4-Isopropyltoluene	47.2	1.00	"	50.0		94.5	79.8-120			

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7D2803 - EPA 5030B (Water)										
LCS (B7D2803-BS1)					Prepared: 04/28/2017 Analyzed: 04/28/2017					
4-Methyl-2-pentanone	294	5.00	ug/L	250		117	58.5-122			
Acetone	291	8.00	"	250		117	65.4-125			
Benzene	46.3	1.00	"	50.0		92.6	75.5-120			
Bromobenzene	54.5	1.00	"	50.0		109	70-130			
Bromochloromethane	47.3	1.00	"	50.0		94.7	80-120			
Bromodichloromethane	49.4	1.00	"	50.0		98.8	73-123			
Bromoform	47.6	1.00	"	50.0		95.3	75-128			
Bromomethane	53.2	1.00	"	50.0		106	72-138			
Carbon disulfide	54.8	5.00	"	50.0		110	69-129			
Carbon tetrachloride	44.4	1.00	"	50.0		88.7	80-124			
Chlorobenzene	45.6	1.00	"	50.0		91.2	78-121			
Chloroethane	57.6	1.00	"	50.0		115	77-138			
Chloroform	46.8	1.00	"	50.0		93.6	75-120			
Chloromethane	64.5	1.00	"	50.0		129	72-130			
cis-1,2-Dichloroethene	49.8	1.00	"	50.0		99.5	78-120			
cis-1,3-Dichloropropene	49.7	1.00	"	50.0		99.4	73-122			
Dibromochloromethane	48.5	1.00	"	50.0		97.0	78-120			
Dibromomethane	44.8	1.00	"	50.0		89.6	79-120			
Ethylbenzene	50.8	1.00	"	50.0		102	78-130			
Hexachlorobutadiene	44.9	5.00	"	50.0		89.8	72-129			
Iodomethane	47.5	10.0	"	50.0		95.0	74-121			
Isopropylbenzene	48.9	1.00	"	50.0		97.8	75-128			
m,p-Xylene	104	2.00	"	100		104	75-134			
Methylene Chloride	62.4	5.00	"	50.0		125	80-122			QM-11
Methyl tert-Butyl Ether	47.1	1.00	"	50.0		94.2	72-125			
Naphthalene	46.8	4.00	"	50.0		93.5	65-128			

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B7D2803 - EPA 5030B (Water)

LCS (B7D2803-BS1)

Prepared: 04/28/2017 Analyzed: 04/28/2017

n-Butylbenzene	48.4	1.00	ug/L	50.0		96.8	69-134			
n-Propylbenzene	50.4	1.00	"	50.0		101	74-132			
o-Xylene	50.7	1.00	"	50.0		101	76-129			
sec-Butylbenzene	49.3	1.00	"	50.0		98.7	74-128			
Styrene	50.6	1.00	"	50.0		101	74-126			
tert-Butylbenzene	48.1	1.00	"	50.0		96.3	72-123			
Tetrachloroethene	43.5	1.00	"	50.0		87.0	78-132			
Toluene	45.6	1.00	"	50.0		91.3	76-128			
trans-1,2-Dichloroethene	55.9	1.00	"	50.0		112	79-120			
trans-1,3-Dichloropropene	50.8	1.00	"	50.0		102	74-122			
Trichloroethene	44.0	1.00	"	50.0		88.0	76-125			
Trichlorofluoromethane	51.1	1.00	"	50.0		102	66-149			
Vinyl chloride	61.3	1.00	"	50.0		123	70-137			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		93.4	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.3	84-114			

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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B7D2803 - EPA 5030B (Water)

Matrix Spike (B7D2803-MS1)		Source: Y704313-01			Prepared: 04/28/2017 Analyzed: 04/28/2017					
1,1,1,2-Tetrachloroethane	50.4	1.00	ug/L	50.0	ND	101	82-130			
1,1,1-Trichloroethane	44.0	1.00	"	50.0	ND	88.0	81-125			
1,1,2,2-Tetrachloroethane	54.6	1.00	"	50.0	ND	109	74-120			
1,1,2-Trichloroethane	50.7	1.00	"	50.0	ND	101	80-118			
1,1-Dichloroethane	53.4	1.00	"	50.0	ND	107	79-120			
1,1-Dichloroethene	54.3	1.00	"	50.0	ND	109	73-130			
1,1-Dichloropropene	52.3	1.00	"	50.0	ND	105	77-124			
1,2,3-Trichlorobenzene	46.4	5.00	"	50.0	0.540	91.6	55-144			
1,2,3-Trichloropropane	56.6	5.00	"	50.0	ND	113	67-126			
1,2,4-Trichlorobenzene	48.4	5.00	"	50.0	ND	96.9	56-141			
1,2,4-Trimethylbenzene	52.2	1.00	"	50.0	ND	104	62-132			
1,2-Dibromo-3-chloropropane	41.4	5.00	"	50.0	ND	82.8	56-142			
1,2-Dibromoethane (EDB)	46.4	1.00	"	50.0	ND	92.9	84-124			
1,2-Dichlorobenzene	51.4	1.00	"	50.0	ND	103	74-124			
1,2-Dichloroethane	47.6	1.00	"	50.0	ND	95.1	76-120			
1,2-Dichloropropane	48.3	1.00	"	50.0	ND	96.6	78-117			
1,3,5-Trimethylbenzene	53.5	1.00	"	50.0	ND	107	64-138			
1,3-Dichlorobenzene	50.8	1.00	"	50.0	ND	102	73-126			
1,3-Dichloropropane	48.8	1.00	"	50.0	ND	97.6	83-120			
1,4-Dichlorobenzene	50.9	1.00	"	50.0	ND	102	64-130			
2,2-Dichloropropane	50.4	1.00	"	50.0	ND	101	77-129			
2-Butanone	271	5.00	"	250	ND	109	66-128			
2-Chlorotoluene	55.4	1.00	"	50.0	ND	111	71-130			
2-Hexanone	261	5.00	"	250	ND	104	74-123			
4-Chlorotoluene	52.7	1.00	"	50.0	ND	105	66-128			
4-Isopropyltoluene	52.1	1.00	"	50.0	ND	104	60-140			

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Denver CO 80211

Bob Cornez
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Project: KMG - DFMF #2

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B7D2803 - EPA 5030B (Water)

Matrix Spike (B7D2803-MS1)		Source: Y704313-01			Prepared: 04/28/2017 Analyzed: 04/28/2017					
4-Methyl-2-pentanone	252	5.00	ug/L	250	ND	101	65-125			
Acetone	261	8.00	"	250	ND	104	63-134			
Benzene	45.6	1.00	"	50.0	ND	91.2	74-130			
Bromobenzene	56.8	1.00	"	50.0	ND	114	70-130			
Bromochloromethane	46.0	1.00	"	50.0	ND	92.0	80-118			
Bromodichloromethane	47.2	1.00	"	50.0	ND	94.4	76-122			
Bromoform	46.4	1.00	"	50.0	ND	92.8	80-128			
Bromomethane	52.0	1.00	"	50.0	ND	104	69-144			
Carbon disulfide	34.7	5.00	"	50.0	ND	69.3	70-131			QM-07
Carbon tetrachloride	46.5	1.00	"	50.0	ND	92.9	81-130			
Chlorobenzene	46.0	1.00	"	50.0	ND	91.9	72-128			
Chloroethane	56.3	1.00	"	50.0	ND	113	79-140			
Chloroform	44.8	1.00	"	50.0	ND	89.5	76-118			
Chloromethane	60.0	1.00	"	50.0	ND	120	72-128			
cis-1,2-Dichloroethene	47.9	1.00	"	50.0	ND	95.7	78-120			
cis-1,3-Dichloropropene	49.7	1.00	"	50.0	ND	99.4	79-120			
Dibromochloromethane	46.8	1.00	"	50.0	ND	93.6	81-121			
Dibromomethane	43.3	1.00	"	50.0	ND	86.6	84-115			
Ethylbenzene	53.3	1.00	"	50.0	ND	107	76-132			
Hexachlorobutadiene	50.5	5.00	"	50.0	ND	101	70-130			
Iodomethane	46.5	10.0	"	50.0	ND	93.1	72-127			
Isopropylbenzene	52.2	1.00	"	50.0	ND	104	66-135			
m,p-Xylene	110	2.00	"	100	ND	110	69-139			
Methylene Chloride	55.6	5.00	"	50.0	ND	111	87-118			
Methyl tert-Butyl Ether	43.4	1.00	"	50.0	ND	86.8	62-138			
Naphthalene	45.9	4.00	"	50.0	0.140	91.5	59-148			

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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B7D2803 - EPA 5030B (Water)

Matrix Spike (B7D2803-MS1)		Source: Y704313-01			Prepared: 04/28/2017 Analyzed: 04/28/2017					
n-Butylbenzene	55.3	1.00	ug/L	50.0	ND	111	52-146			
n-Propylbenzene	54.6	1.00	"	50.0	ND	109	66-141			
o-Xylene	52.9	1.00	"	50.0	ND	106	74-131			
sec-Butylbenzene	53.5	1.00	"	50.0	ND	107	63-138			
Styrene	55.1	1.00	"	50.0	ND	110	72-128			
tert-Butylbenzene	51.0	1.00	"	50.0	ND	102	67-129			
Tetrachloroethene	44.5	1.00	"	50.0	ND	88.9	76-134			
Toluene	46.3	1.00	"	50.0	ND	92.6	73-131			
trans-1,2-Dichloroethene	54.0	1.00	"	50.0	ND	108	78-123			
trans-1,3-Dichloropropene	49.9	1.00	"	50.0	ND	99.8	75-125			
Trichloroethene	43.8	1.00	"	50.0	ND	87.6	73-131			
Trichlorofluoromethane	51.0	1.00	"	50.0	ND	102	83-141			
Vinyl chloride	60.7	1.00	"	50.0	ND	121	73-139			
Surrogate: 1,2-Dichloroethane-d4	54		"	62.5		86.3	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

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Denver CO 80211

Bob Cornez
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Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B7D2803 - EPA 5030B (Water)

Matrix Spike Dup (B7D2803-MSD1)		Source: Y704313-01			Prepared: 04/28/2017 Analyzed: 04/28/2017					
1,1,1,2-Tetrachloroethane	50.2	1.00	ug/L	50.0	ND	100	82-130	0.378	20	
1,1,1-Trichloroethane	44.4	1.00	"	50.0	ND	88.9	81-125	0.972	20	
1,1,2,2-Tetrachloroethane	55.8	1.00	"	50.0	ND	112	74-120	2.21	20	
1,1,2-Trichloroethane	50.6	1.00	"	50.0	ND	101	80-118	0.217	20	
1,1-Dichloroethane	54.5	1.00	"	50.0	ND	109	79-120	2.19	20	
1,1-Dichloroethene	54.6	1.00	"	50.0	ND	109	73-130	0.569	20	
1,1-Dichloropropene	53.0	1.00	"	50.0	ND	106	77-124	1.29	20	
1,2,3-Trichlorobenzene	49.8	5.00	"	50.0	0.540	98.6	55-144	7.25	20	
1,2,3-Trichloropropane	56.1	5.00	"	50.0	ND	112	67-126	0.888	20	
1,2,4-Trichlorobenzene	50.3	5.00	"	50.0	ND	101	56-141	3.75	20	
1,2,4-Trimethylbenzene	51.2	1.00	"	50.0	ND	102	62-132	2.01	20	
1,2-Dibromo-3-chloropropane	43.8	5.00	"	50.0	ND	87.6	56-142	5.59	20	
1,2-Dibromoethane (EDB)	47.3	1.00	"	50.0	ND	94.6	84-124	1.83	20	
1,2-Dichlorobenzene	51.1	1.00	"	50.0	ND	102	74-124	0.683	20	
1,2-Dichloroethane	48.7	1.00	"	50.0	ND	97.4	76-120	2.33	20	
1,2-Dichloropropane	49.5	1.00	"	50.0	ND	99.0	78-117	2.52	20	
1,3,5-Trimethylbenzene	51.6	1.00	"	50.0	ND	103	64-138	3.69	20	
1,3-Dichlorobenzene	50.1	1.00	"	50.0	ND	100	73-126	1.39	20	
1,3-Dichloropropane	49.9	1.00	"	50.0	ND	99.8	83-120	2.23	20	
1,4-Dichlorobenzene	47.7	1.00	"	50.0	ND	95.4	64-130	6.43	20	
2,2-Dichloropropane	51.8	1.00	"	50.0	ND	104	77-129	2.62	20	
2-Butanone	289	5.00	"	250	ND	115	66-128	6.17	20	
2-Chlorotoluene	53.3	1.00	"	50.0	ND	107	71-130	3.84	20	
2-Hexanone	284	5.00	"	250	ND	114	74-123	8.35	20	
4-Chlorotoluene	51.4	1.00	"	50.0	ND	103	66-128	2.61	20	
4-Isopropyltoluene	50.0	1.00	"	50.0	ND	100	60-140	4.02	20	

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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7D2803 - EPA 5030B (Water)										
Matrix Spike Dup (B7D2803-MSD1)			Source: Y704313-01		Prepared: 04/28/2017 Analyzed: 04/28/2017					
4-Methyl-2-pentanone	293	5.00	ug/L	250	ND	117	65-125	15.1	20	
Acetone	274	8.00	"	250	ND	110	63-134	4.73	20	
Benzene	46.0	1.00	"	50.0	ND	92.1	74-130	1.00	20	
Bromobenzene	55.8	1.00	"	50.0	ND	112	70-130	1.76	20	
Bromochloromethane	47.2	1.00	"	50.0	ND	94.4	80-118	2.51	20	
Bromodichloromethane	48.0	1.00	"	50.0	ND	96.0	76-122	1.74	20	
Bromoform	48.2	1.00	"	50.0	ND	96.4	80-128	3.85	20	
Bromomethane	48.1	1.00	"	50.0	ND	96.3	69-144	7.63	20	
Carbon disulfide	53.6	5.00	"	50.0	ND	107	70-131	42.9	20	QR-03
Carbon tetrachloride	45.6	1.00	"	50.0	ND	91.1	81-130	1.96	20	
Chlorobenzene	45.7	1.00	"	50.0	ND	91.4	72-128	0.567	20	
Chloroethane	52.2	1.00	"	50.0	ND	104	79-140	7.52	20	
Chloroform	45.8	1.00	"	50.0	ND	91.6	76-118	2.34	20	
Chloromethane	52.8	1.00	"	50.0	ND	106	72-128	12.8	20	
cis-1,2-Dichloroethene	48.9	1.00	"	50.0	ND	97.7	78-120	2.09	20	
cis-1,3-Dichloropropene	49.6	1.00	"	50.0	ND	99.2	79-120	0.121	20	
Dibromochloromethane	47.5	1.00	"	50.0	ND	94.9	81-121	1.40	20	
Dibromomethane	44.7	1.00	"	50.0	ND	89.4	84-115	3.14	20	
Ethylbenzene	51.2	1.00	"	50.0	ND	102	76-132	4.04	20	
Hexachlorobutadiene	49.1	5.00	"	50.0	ND	98.2	70-130	2.83	20	
Iodomethane	46.9	10.0	"	50.0	ND	93.8	72-127	0.749	20	
Isopropylbenzene	50.5	1.00	"	50.0	ND	101	66-135	3.35	20	
m,p-Xylene	106	2.00	"	100	ND	106	69-139	4.13	20	
Methylene Chloride	56.0	5.00	"	50.0	ND	112	87-118	0.699	20	
Methyl tert-Butyl Ether	46.7	1.00	"	50.0	ND	93.4	62-138	7.37	20	
Naphthalene	50.1	4.00	"	50.0	0.140	100	59-148	8.86	20	

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Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B7D2803 - EPA 5030B (Water)

Matrix Spike Dup (B7D2803-MSD1)			Source: Y704313-01			Prepared: 04/28/2017 Analyzed: 04/28/2017				
n-Butylbenzene	53.6	1.00	ug/L	50.0	ND	107	52-146	3.07	20	
n-Propylbenzene	52.6	1.00	"	50.0	ND	105	66-141	3.75	20	
o-Xylene	51.7	1.00	"	50.0	ND	103	74-131	2.33	20	
sec-Butylbenzene	51.1	1.00	"	50.0	ND	102	63-138	4.61	20	
Styrene	54.5	1.00	"	50.0	ND	109	72-128	1.08	20	
tert-Butylbenzene	49.7	1.00	"	50.0	ND	99.4	67-129	2.68	20	
Tetrachloroethene	43.6	1.00	"	50.0	ND	87.2	76-134	2.00	20	
Toluene	45.9	1.00	"	50.0	ND	91.9	73-131	0.759	20	
trans-1,2-Dichloroethene	54.4	1.00	"	50.0	ND	109	78-123	0.682	20	
trans-1,3-Dichloropropene	51.6	1.00	"	50.0	ND	103	75-125	3.29	20	
Trichloroethene	44.5	1.00	"	50.0	ND	89.1	73-131	1.65	20	
Trichlorofluoromethane	46.9	1.00	"	50.0	ND	93.8	83-141	8.38	20	
Vinyl chloride	56.4	1.00	"	50.0	ND	113	73-139	7.29	20	
Surrogate: 1,2-Dichloroethane-d4	56		"	62.5		89.3	84-121			
Surrogate: Toluene-d8	63		"	62.5		100	85-115			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		104	84-114			

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Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Extractable Petroleum Hydrocarbons by 8015C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B7D2804 - EPA 3511 Mod.

Blank (B7D2804-BLK1)

Prepared: 04/28/2017 Analyzed: 05/03/2017

Diesel (C10-C28)	ND	5.00	mg/L							U
Residual Range Organics (C28-C40)	ND	10.0	"							U
Surrogate: o-Terphenyl	5.1		"	5.00		102	54-117			

LCS (B7D2804-BS1)

Prepared: 04/28/2017 Analyzed: 05/03/2017

Diesel (C10-C28)	103	5.00	mg/L	100		103	61-120			
Residual Range Organics (C28-C40)	100	10.0	"	100		100	66-113			
Surrogate: o-Terphenyl	5.0		"	5.00		101	54-117			

Matrix Spike (B7D2804-MS1)

Source: Y704335-01

Prepared: 04/28/2017 Analyzed: 05/03/2017

Diesel (C10-C28)	107	5.00	mg/L	100	1.53	106	54-126			
Residual Range Organics (C28-C40)	103	10.0	"	100	ND	103	50-128			
Surrogate: o-Terphenyl	5.1		"	5.00		102	54-117			

Matrix Spike Dup (B7D2804-MSD1)

Source: Y704335-01

Prepared: 04/28/2017 Analyzed: 05/03/2017

Diesel (C10-C28)	106	5.00	mg/L	100	1.53	105	54-126	1.15	20	
Residual Range Organics (C28-C40)	104	10.0	"	100	ND	104	50-128	1.88	20	
Surrogate: o-Terphenyl	5.3		"	5.00		106	54-117			

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Tasman Geosciences
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Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7D2803 - EPA 5030B (Water)										
Blank (B7D2803-BLK1)					Prepared: 04/28/2017 Analyzed: 04/28/2017					
Gasoline Range Hydrocarbons	ND	100	ug/L							U
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.8	70-130			
Surrogate: 4-Bromofluorobenzene	66		"	62.5		105	70-130			
Surrogate: Toluene-d8	61		"	62.5		98.0	70-130			
LCS (B7D2803-BS1)					Prepared: 04/28/2017 Analyzed: 04/28/2017					
Gasoline Range Hydrocarbons	1720	100	ug/L	2000		86.0	80-120			
Surrogate: 1,2-Dichloroethane-d4	73		"	62.5		116	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	70-130			
Surrogate: Toluene-d8	64		"	62.5		103	70-130			
LCS Dup (B7D2803-BSD1)					Prepared: 04/28/2017 Analyzed: 04/28/2017					
Gasoline Range Hydrocarbons	1700	100	ug/L	2000		85.0	80-120	1.21	20	
Surrogate: 1,2-Dichloroethane-d4	71		"	62.5		114	70-130			
Surrogate: 4-Bromofluorobenzene	66		"	62.5		105	70-130			
Surrogate: Toluene-d8	64		"	62.5		103	70-130			
Matrix Spike (B7D2803-MS1)					Source: Y704313-01	Prepared: 04/28/2017 Analyzed: 04/28/2017				
Surrogate: 1,2-Dichloroethane-d4	54		ug/L	62.5		86.3	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Matrix Spike Dup (B7D2803-MSD1)					Source: Y704313-01	Prepared: 04/28/2017 Analyzed: 04/28/2017				
Surrogate: 1,2-Dichloroethane-d4	56		ug/L	62.5		89.3	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		104	70-130			
Surrogate: Toluene-d8	63		"	62.5		100	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: AFE.2107112.CON
Project: KMG - DFMF #2

Notes and Definitions

U Sample is Non-Detect.

QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.

QM-11 Spike recovery was outside acceptance limits for LCS, however samples are non-detect for this compound.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President



June 08, 2017

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver

CO 80211

Project Name - KMG - DFMF #2

Project Number - [none]

Attached are your analytical results for KMG - DFMF #2 received by Origins Laboratory, Inc. June 02, 2017. This project is associated with Origins project number Y706025-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - DFMF #2

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DFMF-Area1A-Annual-R	Y706025-01	Soil	June 2, 2017 9:05	06/02/2017 12:25
DFMF-Area2A-Annual-R	Y706025-02	Soil	June 2, 2017 9:15	06/02/2017 12:25
DFMF-Area3A-Annual-R	Y706025-03	Soil	June 2, 2017 9:30	06/02/2017 12:25
DFMF-Area3B-Annual-R	Y706025-04	Soil	June 2, 2017 9:45	06/02/2017 12:25
DFMF-Area3C-Annual-R	Y706025-05	Soil	June 2, 2017 10:15	06/02/2017 12:25
DFMF-Area4B-Annual-R	Y706025-06	Soil	June 2, 2017 10:00	06/02/2017 12:25
DFMF-Area4C-Annual-R	Y706025-07	Soil	June 2, 2017 10:30	06/02/2017 12:25
DFMF-Area4D-Annual-R	Y706025-08	Soil	June 2, 2017 10:45	06/02/2017 12:25

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - DFMF #2

www.originslaboratory.com

1706025

page 1 of 1

Client: Tasman Geosciences for APC
Address:
Telephone Number: 303 810 2414
Email Address: [Cornez@tgm-geo.com]
Project Manager: Bob Cornez
Project Name: DFMF #2
Project Number:
Samples Collected By: Matt P. Kate F.

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative	Matrix	Analysis	Sample Instructions
DFMF-Area1A-Annual-R	6/2/17	905	2	X	Soil	X	1
DFMF-Area2A-Annual-R	6/2/17	915	2	X	Soil	X	2
DFMF-Area3A-Annual-R	6/2/17	930	2	X	Soil	X	3
DFMF-Area3B-Annual-R	6/2/17	945	4	X	Soil	X	4
DFMF-Area3C-Annual-R	6/2/17	1015	2	X	Soil	X	5
DFMF-Area4B-Annual-R	6/2/17	1030	2	X	Soil	X	6
DFMF-Area4C-Annual-R	6/2/17	1030	2	X	Soil	X	7
DFMF-Area4D-Annual-R	6/2/17	1045	2	X	Soil	X	8
							9
							10
Relinquished By:	Date: 6/2/17	Time: 12:25	Received By:	Date: 6-2-17	Time: 12:25	Turnaround Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Same Day	
						48 Hr	
						72 Hr	
						Standard	

Date Results Needed

6/2/17

Origins Laboratory, Inc.

Jefe Pellegrini

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - DFMF #2

Origins Laboratory

F-012207-01-R1
Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: 4706015

Client: Tasman

Client Project ID: KMG - DFMF #2

Checklist Completed by: Don

Shipped Via: HD
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 6-2-12 12:45

Airbill #: N/A

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: _____

Cooler Number/Temperature: 1 / 0.8 °C 1 / _____ °C 1 / _____ °C 1 / _____ °C (Describe)

Thermometer ID: 1003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SAR
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity) (pH < 2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with Na ₂ CO ₃ +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Don
Reviewed by (Project Manager)

6/5/12
Date/Time Reviewed

Origins Laboratory, Inc.

Jen Pellegrini

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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - DFMF #2

DFMF-Area1A-Annual-R

6/2/2017 9:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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AAL, Inc. Y706025-01 (Soil)

Metals (Saturated Paste Prep)

Calcium	26.60		me/L	1	'[none]'	06/05/2017	06/07/2017	
Magnesium	5.43		"	"	"	"	"	
Sodium	33.52		"	"	"	"	"	

SAR by 20B Saturated Paste

SAR	8.38			1	'[none]'	"	06/07/2017	
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Total Metals by 6010C

Arsenic	6.57	3.53	mg/kg dry	1	1670905	06/04/2017	06/05/2017	
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Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - DFMF #2

DFMF-Area2A-Annual-R
6/2/2017 9:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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AAL, Inc.
Y706025-02 (Soil)

Metals (Saturated Paste Prep)

Calcium	28.10		me/L	1	'[none]'	06/05/2017	06/07/2017	
Magnesium	6.26		"	"	"	"	"	
Sodium	53.87		"	"	"	"	"	

SAR by 20B Saturated Paste

SAR	13.00			1	'[none]'	"	06/07/2017	
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Total Metals by 6010C

Arsenic	7.70	3.33	mg/kg dry	1	1670905	06/04/2017	06/05/2017	
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Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - DFMF #2

DFMF-Area3A-Annual-R
6/2/2017 9:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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AAL, Inc.
Y706025-03 (Soil)

Metals (Saturated Paste Prep)

Calcium	11.30		me/L	1	'[none]'	06/05/2017	06/07/2017	
Magnesium	3.28		"	"	"	"	"	
Sodium	29.37		"	"	"	"	"	

SAR by 20B Saturated Paste

SAR	10.88			1	'[none]'	"	06/07/2017	
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Total Metals by 6010C

Arsenic	7.74	3.48	mg/kg dry	1	1670905	06/04/2017	06/05/2017	
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Origins Laboratory, Inc.



Jen Pellegrini For Noelle Doyle Mathis, President

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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - DFMF #2

DFMF-Area3B-Annual-R

6/2/2017 9:45:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y706025-04 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B7F0602	06/06/2017	06/06/2017	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	80.5 %	59-131			"	"	"	
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GRO/TVPH by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.100	mg/kg	1	B7F0601	06/06/2017	06/06/2017	Ua
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Surrogate: 1,2-Dichloroethane-d4	100 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	93.3 %	70-130			"	"	"	
Surrogate: Toluene-d8	90.2 %	70-130			"	"	"	

Metals (Saturated Paste Prep)

Calcium	8.56		me/L	1	'[none]'	06/05/2017	06/07/2017	
Magnesium	1.96		"	"	"	"	"	
Sodium	37.04		"	"	"	"	"	

SAR by 20B Saturated Paste

SAR	16.15			1	'[none]'	"	06/07/2017	
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Total Metals by 6010C

Arsenic	7.99	3.79	mg/kg dry	1	1670905	06/04/2017	06/05/2017	
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Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - DFMF #2

DFMF-Area3C-Annual-R

6/2/2017 10:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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AAL, Inc. Y706025-05 (Soil)

Metals (Saturated Paste Prep)

Calcium	28.66		me/L	1	'[none]'	06/05/2017	06/07/2017	
Magnesium	7.65		"	"	"	"	"	
Sodium	64.96		"	"	"	"	"	

SAR by 20B Saturated Paste

SAR	15.25			1	'[none]'	"	06/07/2017	
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Total Metals by 6010C

Arsenic	4.26	3.64	mg/kg dry	1	1670905	06/04/2017	06/05/2017	
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Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - DFMF #2

DFMF-Area4B-Annual-R

6/2/2017 10:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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AAL, Inc.
Y706025-06 (Soil)

Metals (Saturated Paste Prep)

Calcium	4.00		me/L	1	'[none]'	06/05/2017	06/07/2017	
Magnesium	1.39		"	"	"	"	"	
Sodium	32.14		"	"	"	"	"	

SAR by 20B Saturated Paste

SAR	19.58			1	'[none]'	"	06/07/2017	
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Total Metals by 6010C

Arsenic	8.30	3.38	mg/kg dry	1	1670905	06/04/2017	06/05/2017	
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Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Comez
Project Number: [none]
Project: KMG - DFMF #2

DFMF-Area4C-Annual-R

6/2/2017 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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AAL, Inc. Y706025-07 (Soil)

Metals (Saturated Paste Prep)

Calcium	27.73		me/L	1	'[none]'	06/05/2017	06/07/2017	
Magnesium	7.16		"	"	"	"	"	
Sodium	56.87		"	"	"	"	"	

SAR by 20B Saturated Paste

SAR	13.62			1	'[none]'	"	06/07/2017	
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Total Metals by 6010C

Arsenic	7.80	3.54	mg/kg dry	1	1670905	06/04/2017	06/05/2017	
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Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Comez
Project Number: [none]
Project: KMG - DFMF #2

DFMF-Area4D-Annual-R**6/2/2017 10:45:00AM**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

AAL, Inc.**Y706025-08 (Soil)****Metals (Saturated Paste Prep)**

Calcium	29.00		me/L	1	'[none]'	06/05/2017	06/07/2017
Magnesium	5.56		"	"	"	"	"
Sodium	53.36		"	"	"	"	"

SAR by 20B Saturated Paste

SAR	12.84			1	'[none]'	"	06/07/2017
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Total Metals by 6010C

Arsenic	7.18	3.66	mg/kg dry	1	1670905	06/04/2017	06/05/2017
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Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - DFME #2

Extractable Petroleum Hydrocarbons by 8015C - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F0602 - EPA 3580										
Blank (B7F0602-BLK1)					Prepared: 06/06/2017 Analyzed: 06/06/2017					
Diesel (C10-C28)	ND	50.0	mg/kg							Ua
Residual Range Organics (C28-C40)	ND	200	"							Ua
Surrogate: o-Terphenyl	36		"	50.0		72.4	59-131			
LCS (B7F0602-BS1)					Prepared: 06/06/2017 Analyzed: 06/06/2017					
Diesel (C10-C28)	936	50.0	mg/kg	1000		93.6	64-121			
Residual Range Organics (C28-C40)	1000	200	"	1000		100	58-124			
Surrogate: o-Terphenyl	47		"	50.0		93.1	59-131			
Matrix Spike (B7F0602-MS1)					Source: Y706025-04 Prepared: 06/06/2017 Analyzed: 06/06/2017					
Diesel (C10-C28)	963	50.0	mg/kg	1000	ND	96.3	53-125			
Residual Range Organics (C28-C40)	1010	200	"	1000	13.6	99.9	47-133			
Surrogate: o-Terphenyl	50		"	50.0		99.7	59-131			
Matrix Spike Dup (B7F0602-MSD1)					Source: Y706025-04 Prepared: 06/06/2017 Analyzed: 06/06/2017					
Diesel (C10-C28)	943	50.0	mg/kg	1000	ND	94.3	53-125	2.13	20	
Residual Range Organics (C28-C40)	1030	200	"	1000	13.6	102	47-133	1.81	20	
Surrogate: o-Terphenyl	52		"	50.0		103	59-131			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - DFMF #2

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7F0601 - EPA 5030 (soil)										
Blank (B7F0601-BLK1)					Prepared: 06/06/2017 Analyzed: 06/06/2017					
Gasoline Range Hydrocarbons	ND	0.100	mg/kg							Ua
Surrogate: 1,2-Dichloroethane-d4	66		ug/kg	62.5		105	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.4	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.1	70-130			
LCS (B7F0601-BS1)					Prepared: 06/06/2017 Analyzed: 06/06/2017					
Gasoline Range Hydrocarbons	3.53	0.100	mg/kg	4.00		88.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	58		ug/kg	62.5		93.6	70-130			
Surrogate: 4-Bromofluorobenzene	58		"	62.5		93.2	70-130			
Surrogate: Toluene-d8	56		"	62.5		89.2	70-130			
LCS Dup (B7F0601-BSD1)					Prepared: 06/06/2017 Analyzed: 06/06/2017					
Gasoline Range Hydrocarbons	3.55	0.100	mg/kg	4.00		88.8	70-130	0.588	20	
Surrogate: 1,2-Dichloroethane-d4	58		ug/kg	62.5		92.0	70-130			
Surrogate: 4-Bromofluorobenzene	58		"	62.5		93.5	70-130			
Surrogate: Toluene-d8	56		"	62.5		90.2	70-130			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - DFMF #2

Total Metals by 6010C - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1670905 - SW846 3050B										
BLANK (1203803584-BLK)					Prepared: 06/04/2017 Analyzed: 06/05/2017					
Arsenic	ND	2.90	mg/kg				-			U
LCS (1203803585-BKS)					Prepared: 06/04/2017 Analyzed: 06/05/2017					
Arsenic	46.6	2.83	mg/kg	47.2		98.8	80-120			
DUP (1203803586 D)					Prepared: 06/04/2017 Analyzed: 06/05/2017					
Arsenic	7.46	3.48	mg/kg dry		6.57		0-20	12.8	20	
MS (1203803587 S)					Prepared: 06/04/2017 Analyzed: 06/05/2017					
Arsenic	61.7	3.41	mg/kg dry	56.8	6.57	97.1	75-125			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - DFMF #2

Notes and Definitions

Ua Sample is Non-Detect.

U Result not detected above the detection limit

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

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Jen Pellegrini For Noelle Doyle Mathis, President