APPENDIX E

Water Chemistry – Laboratory Analytical Reports

AIRLIFT DRILLING SAMPLES

ANALYTICAL SUMMARY REPORT

March 18, 2013

Morrison Maierle Inc
PO Box 6147
Helena, MT 59604

Workorder No.: G13020487 Quote ID: G2 - Templates - Gillette

Project Name: Submitted as non-EPA/COG Test Well #1

Energy Laboratories Inc. Gillette WY received the following 5 samples for Morrison Maierle Inc on 2/27/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
G13020487-001	TW1-2445	02/22/13 8:15	02/27/13	Drinking Water	Metals by ICP/ICPMS, Dissolved Alkalinity Anion - Cation Balance Conductivity Hardness Anions by Ion Chromatography pH Preparation, Dissolved Filtration Sodium Absorption Ratio Solids, Total Dissolved
G13020487-002	TH1-2472	02/22/13 15:40	02/27/13	Drinking Water	Same As Above
G13020487-003	TH1-2539	02/23/13 8:25	02/27/13	Drinking Water	Same As Above
G13020487-004	TH1-2685	02/25/13 10:00	02/27/13	Drinking Water	Same As Above
G13020487-005	TH1-2801	02/26/13 2:45	02/27/13	Drinking Water	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 400 W. Boxelder Rd., Gillette, WY 82718, unless otherwise noted.

As appropriate, any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these tests results, please call.

Report Approved By:

Alyson Degnan
Project Manager

Digitally signed by
Alyson T. Degnan
Date: 2013.03.18 10:58:01 -06:00

CLIENT: Morrison Maierle Inc
Project: Submitted as non-EPA/COG Test Well #1
Sample Delivery Group: G13020487

Report Date: 03/18/13

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Submitted as non-EPA/COG Test Well #1
Lab ID: G13020487-001
Client Sample ID: TW1-2445

Report Date: 03/18/13
Collection Date: 02/22/13 08:15
Date Received: 02/27/13
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO3	48	mg/L		5		A2320 B	02/28/13 10:16 / blb
Carbonate as CO3	30	mg/L		5		A2320 B	02/28/13 10:16 / blb
Chloride	12	mg/L		1		E300.0	02/28/13 13:47 / jab
Fluoride	1.0	mg/L		0.1	4	E300.0	02/28/13 13:47 / jab
Sulfate	270	mg/L		1		E300.0	02/28/13 13:47 / jab
Calcium	94	mg/L		1		E200.7	03/01/13 19:05 / eli-b
Magnesium	38	mg/L		1		E200.7	03/01/13 19:05 / eli-b
Potassium	11	mg/L		1		E200.7	03/01/13 19:05 / eli-b
Sodium	9	mg/L		1		E200.7	03/01/13 19:05 / eli-b
METALS, DISSOLVED							
Arsenic	ND	mg/L		0.001	0.01	E200.8	03/01/13 23:48 / eli-b
NON-METALS							
Alkalinity, Total as CaCO3	90	mg/L		5		A2320 B	02/28/13 10:16 / blb
Conductivity @ 25 C	697	umhos/cm		10		A2510 B	02/27/13 17:11 / blb
Hardness as CaCO3	390	mg/L				A2340 B	03/01/13 19:05 / jab
pH	10.4	s.u.	H	0.01		A4500-H B	02/27/13 17:11 / blb
Sodium Adsorption Ratio (SAR)	0.2	unitless				Calculation	03/01/13 19:05 / jab
Solids, Total Dissolved TDS @ 180 C	446	mg/L		20		A2540 C	02/28/13 08:28 / blb
DATA QUALITY							
A/C Balance	4.10	%				A1030 E	03/04/13 13:14 / jab
Anions	7.80	meq/L				A1030 E	03/04/13 13:14 / jab
Cations	8.47	meq/L				A1030 E	03/04/13 13:14 / jab

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Submitted as non-EPA/COG Test Well #1
Lab ID: G13020487-002
Client Sample ID: TH1-2472

Report Date: 03/18/13
Collection Date: 02/22/13 15:40
Date Received: 02/27/13
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO3	250	mg/L		5		A2320 B	02/28/13 10:32 / blb
Carbonate as CO3	ND	mg/L		5		A2320 B	02/28/13 10:32 / blb
Chloride	5	mg/L		1		E300.0	02/28/13 14:01 / jab
Fluoride	1.3	mg/L		0.1	4	E300.0	02/28/13 14:01 / jab
Sulfate	272	mg/L		1		E300.0	02/28/13 14:01 / jab
Calcium	106	mg/L		1		E200.7	03/01/13 19:09 / eli-b
Magnesium	48	mg/L		1		E200.7	03/01/13 19:09 / eli-b
Potassium	2	mg/L		1		E200.7	03/01/13 19:09 / eli-b
Sodium	4	mg/L		1		E200.7	03/01/13 19:09 / eli-b
METALS, DISSOLVED							
Arsenic	ND	mg/L		0.001	0.01	E200.8	03/01/13 23:53 / eli-b
NON-METALS							
Alkalinity, Total as CaCO3	205	mg/L		5		A2320 B	02/28/13 10:32 / blb
Conductivity @ 25 C	859	umhos/cm		10		A2510 B	02/27/13 17:13 / blb
Hardness as CaCO3	460	mg/L				A2340 B	03/01/13 19:09 / jab
pH	8.14	s.u.	H	0.01		A4500-H B	02/27/13 17:13 / blb
Sodium Adsorption Ratio (SAR)	0	unitless				Calculation	03/01/13 19:09 / jab
Solids, Total Dissolved TDS @ 180 C	587	mg/L		20		A2540 C	02/28/13 08:28 / blb
DATA QUALITY							
A/C Balance	-2.22	%				A1030 E	03/04/13 13:15 / jab
Anions	9.94	meq/L				A1030 E	03/04/13 13:15 / jab
Cations	9.51	meq/L				A1030 E	03/04/13 13:15 / jab

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Submitted as non-EPA/COG Test Well #1
Lab ID: G13020487-003
Client Sample ID: TH1-2539

Report Date: 03/18/13
Collection Date: 02/23/13 08:25
Date Received: 02/27/13
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO3	233	mg/L		5		A2320 B	02/28/13 10:50 / blb
Carbonate as CO3	ND	mg/L		5		A2320 B	02/28/13 10:50 / blb
Chloride	8	mg/L		1		E300.0	02/28/13 14:15 / jab
Fluoride	1.5	mg/L		0.1	4	E300.0	02/28/13 14:15 / jab
Sulfate	311	mg/L		1		E300.0	03/05/13 16:28 / blb
Calcium	114	mg/L		1		E200.7	03/13/13 11:23 / eli-b
Magnesium	47	mg/L		1		E200.7	03/13/13 11:23 / eli-b
Potassium	2	mg/L		1		E200.7	03/13/13 11:23 / eli-b
Sodium	8	mg/L		1		E200.7	03/13/13 11:23 / eli-b
METALS, DISSOLVED							
Arsenic	ND	mg/L		0.001	0.01	E200.8	03/01/13 23:58 / eli-b
NON-METALS							
Alkalinity, Total as CaCO3	191	mg/L		5		A2320 B	02/28/13 10:50 / blb
Conductivity @ 25 C	911	umhos/cm		10		A2510 B	02/27/13 17:16 / blb
Hardness as CaCO3	480	mg/L				A2340 B	03/13/13 11:23 / blb
pH	8.10	s.u.	H	0.01		A4500-H B	02/27/13 17:16 / blb
Sodium Adsorption Ratio (SAR)	0.2	unitless				Calculation	03/13/13 11:23 / blb
Solids, Total Dissolved TDS @ 180 C	622	mg/L		20		A2540 C	02/28/13 08:28 / blb
DATA QUALITY							
A/C Balance	-2.94	%				A1030 E	03/15/13 12:06 / blb
Anions	10.6	meq/L				A1030 E	03/15/13 12:06 / blb
Cations	9.98	meq/L				A1030 E	03/15/13 12:06 / blb

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Submitted as non-EPA/COG Test Well #1
Lab ID: G13020487-004
Client Sample ID: TH1-2685

Report Date: 03/18/13
Collection Date: 02/25/13 10:00
Date Received: 02/27/13
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO3	203	mg/L		5		A2320 B	02/28/13 10:56 / blb
Carbonate as CO3	ND	mg/L		5		A2320 B	02/28/13 10:56 / blb
Chloride	13	mg/L		1		E300.0	02/28/13 14:29 / jab
Fluoride	2.1	mg/L		0.1	4	E300.0	02/28/13 14:29 / jab
Sulfate	358	mg/L		1		E300.0	02/28/13 14:29 / jab
Calcium	124	mg/L		1		E200.7	03/01/13 19:16 / eli-b
Magnesium	56	mg/L		1		E200.7	03/01/13 19:16 / eli-b
Potassium	3	mg/L		1		E200.7	03/01/13 19:16 / eli-b
Sodium	14	mg/L	D	2		E200.7	03/01/13 19:16 / eli-b
METALS, DISSOLVED							
Arsenic	ND	mg/L		0.001	0.01	E200.8	03/02/13 00:03 / eli-b
NON-METALS							
Alkalinity, Total as CaCO3	167	mg/L		5		A2320 B	02/28/13 10:56 / blb
Conductivity @ 25 C	1020	umhos/cm		10		A2510 B	02/27/13 17:18 / blb
Hardness as CaCO3	540	mg/L				A2340 B	03/01/13 19:16 / jab
pH	8.18	s.u.	H	0.01		A4500-H B	02/27/13 17:18 / blb
Sodium Adsorption Ratio (SAR)	0.3	unitless				Calculation	03/01/13 19:16 / jab
Solids, Total Dissolved TDS @ 180 C	726	mg/L		20		A2540 C	02/28/13 08:29 / blb
DATA QUALITY							
A/C Balance	1.19	%				A1030 E	03/04/13 13:15 / jab
Anions	11.3	meq/L				A1030 E	03/04/13 13:15 / jab
Cations	11.5	meq/L				A1030 E	03/04/13 13:15 / jab

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Submitted as non-EPA/COG Test Well #1
Lab ID: G13020487-005
Client Sample ID: TH1-2801

Report Date: 03/18/13
Collection Date: 02/26/13 02:45
Date Received: 02/27/13
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO3	204	mg/L		5		A2320 B	02/28/13 11:04 / blb
Carbonate as CO3	ND	mg/L		5		A2320 B	02/28/13 11:04 / blb
Chloride	15	mg/L		1		E300.0	02/28/13 14:44 / jab
Fluoride	2.2	mg/L		0.1	4	E300.0	02/28/13 14:44 / jab
Sulfate	375	mg/L		1		E300.0	02/28/13 14:44 / jab
Calcium	129	mg/L		1		E200.7	03/01/13 19:19 / eli-b
Magnesium	58	mg/L		1		E200.7	03/01/13 19:19 / eli-b
Potassium	4	mg/L		1		E200.7	03/01/13 19:19 / eli-b
Sodium	15	mg/L	D	2		E200.7	03/01/13 19:19 / eli-b
METALS, DISSOLVED							
Arsenic	ND	mg/L		0.001	0.01	E200.8	03/02/13 00:30 / eli-b
NON-METALS							
Alkalinity, Total as CaCO3	167	mg/L		5		A2320 B	02/28/13 11:04 / blb
Conductivity @ 25 C	1060	umhos/cm		10		A2510 B	02/27/13 17:21 / blb
Hardness as CaCO3	560	mg/L				A2340 B	03/01/13 19:19 / jab
pH	8.29	s.u.	H	0.01		A4500-H B	02/27/13 17:21 / blb
Sodium Adsorption Ratio (SAR)	0.3	unitless				Calculation	03/01/13 19:19 / jab
Solids, Total Dissolved TDS @ 180 C	765	mg/L		20		A2540 C	02/28/13 08:29 / blb
DATA QUALITY							
A/C Balance	0.96	%				A1030 E	03/04/13 13:15 / jab
Anions	11.7	meq/L				A1030 E	03/04/13 13:15 / jab
Cations	11.9	meq/L				A1030 E	03/04/13 13:15 / jab

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Report Date: 03/18/13
Project: Submitted as non-EPA/COG Test Well #1
Work Order: G13020487

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B							Analytical Run: MAN-TECH_130228A		
Sample ID: ICV	Initial Calibration Verification Standard								02/28/13 09:50
pH	7.98	s.u.	0.010	100	98	102			
Method: A2320 B									Batch: R201718
Sample ID: MBLK	Method Blank				Run: MAN-TECH_130228A				02/28/13 10:00
Alkalinity, Total as CaCO3	ND	mg/L	2						
Sample ID: LCS-W	Laboratory Control Sample				Run: MAN-TECH_130228A				02/28/13 10:07
Alkalinity, Total as CaCO3	150	mg/L	5.0	100	90	110			
Sample ID: G13020487-001ADUP	Sample Duplicate				Run: MAN-TECH_130228A				02/28/13 10:25
Alkalinity, Total as CaCO3	86.5	mg/L	5.0				3.9	10	
Sample ID: G13020487-002AMS	Sample Matrix Spike				Run: MAN-TECH_130228A				02/28/13 10:42
Alkalinity, Total as CaCO3	1170	mg/L	5.0	87	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Submitted as non-EPA/COG Test Well #1

Report Date: 03/18/13
Work Order: G13020487

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B									Batch: R201686
Sample ID: SC 5000	Initial Calibration Verification Standard				Run: PHSC_101-G_130227A				02/27/13 12:51
Conductivity @ 25 C	4990	umhos/cm	10	100	95	105			
Sample ID: SC 20000	Initial Calibration Verification Standard				Run: PHSC_101-G_130227A				02/27/13 12:54
Conductivity @ 25 C	20000	umhos/cm	10	100	95	105			
Sample ID: SC 50000	Initial Calibration Verification Standard				Run: PHSC_101-G_130227A				02/27/13 12:56
Conductivity @ 25 C	48900	umhos/cm	10	98	95	105			
Sample ID: SC 100	Initial Calibration Verification Standard				Run: PHSC_101-G_130227A				02/27/13 14:40
Conductivity @ 25 C	103	umhos/cm	10	103	95	105			
Sample ID: MBLK - SC	Method Blank				Run: PHSC_101-G_130227A				02/27/13 16:52
Conductivity @ 25 C	4	umhos/cm	2						
Sample ID: G13020453-001ADUP	Sample Duplicate				Run: PHSC_101-G_130227A				02/27/13 16:57
Conductivity @ 25 C	3430	umhos/cm	10				0.2	5	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Submitted as non-EPA/COG Test Well #1

Report Date: 03/18/13
Work Order: G13020487

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C									Batch: TDS130228A
Sample ID: MB-1_130228A	Method Blank				Run: BAL-MET-AE_130228A				02/28/13 08:26
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	5						
Sample ID: LCS-2_130228A	Laboratory Control Sample				Run: BAL-MET-AE_130228A				02/28/13 08:26
Solids, Total Dissolved TDS @ 180 C	1090	mg/L	11	98	90	110			
Sample ID: G13020453-001A DUP	Sample Duplicate				Run: BAL-MET-AE_130228A				02/28/13 08:27
Solids, Total Dissolved TDS @ 180 C	3460	mg/L	33				7.5	5	R
Sample ID: G13020473-001A MS	Sample Matrix Spike				Run: BAL-MET-AE_130228A				02/28/13 08:28
Solids, Total Dissolved TDS @ 180 C	2840	mg/L	33	91	90	110			

Qualifiers:

RL - Analyte reporting limit.
R - RPD exceeds advisory limit.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Submitted as non-EPA/COG Test Well #1

Report Date: 03/18/13
Work Order: G13020487

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B								Analytical Run: PHSC_101-G_130227A	
Sample ID: pH 8	Initial Calibration Verification Standard								02/27/13 12:59
pH	7.97	s.u.	0.010	100	98	102			
Method: A4500-H B									Batch: R201686
Sample ID: G13020453-001ADUP	Sample Duplicate				Run: PHSC_101-G_130227A				02/27/13 16:57
pH	6.30	s.u.	0.010				0.2	1.5	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Submitted as non-EPA/COG Test Well #1

Report Date: 03/18/13
Work Order: G13020487

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0								Analytical Run: DIONEX-IC1_130228A	
Sample ID: ICV/LCS-W022813-2	Initial Calibration Verification Standard							02/28/13 11:54	
Chloride	40.0	mg/L	1.0	100	90	110			
Fluoride	3.94	mg/L	0.10	98	90	110			
Sulfate	39.5	mg/L	1.0	99	90	110			
Method: E300.0								Batch: R201734	
Sample ID: ICB022813-3	Method Blank				Run: DIONEX-IC1_130228A			02/28/13 12:08	
Chloride	0.2	mg/L	0.04						
Fluoride	ND	mg/L	0.002						
Sulfate	ND	mg/L	0.03						
Sample ID: LFB022813-4	Laboratory Fortified Blank				Run: DIONEX-IC1_130228A			02/28/13 12:22	
Chloride	39.0	mg/L	1.0	99	90	110			
Fluoride	3.81	mg/L	0.10	97	90	110			
Sulfate	38.6	mg/L	1.0	98	90	110			
Sample ID: G13020453-001AMS	Sample Matrix Spike				Run: DIONEX-IC1_130228A			02/28/13 12:50	
Chloride	1590	mg/L	4.0	96	90	110			
Fluoride	72.4	mg/L	0.40	92	90	110			
Sulfate	943	mg/L	4.0	97	90	110			
Sample ID: G13020453-001AMSD	Sample Matrix Spike Duplicate				Run: DIONEX-IC1_130228A			02/28/13 13:05	
Chloride	1550	mg/L	4.0	90	90	110	2.6	20	
Fluoride	71.6	mg/L	0.40	91	90	110	1.2	20	
Sulfate	926	mg/L	4.0	94	90	110	1.9	20	
Method: E300.0								Analytical Run: DIONEX-IC1_130305B	
Sample ID: ICV/LCS-W030513-12	Initial Calibration Verification Standard							03/05/13 15:47	
Sulfate	40.4	mg/L	1.0	101	90	110			
Method: E300.0								Batch: R201834	
Sample ID: ICB030513-13	Method Blank				Run: DIONEX-IC1_130305B			03/05/13 16:01	
Sulfate	ND	mg/L	0.03						
Sample ID: LFB030513-14	Laboratory Fortified Blank				Run: DIONEX-IC1_130305B			03/05/13 16:14	
Sulfate	41.5	mg/L	1.0	106	90	110			
Sample ID: G13020487-003AMS	Sample Matrix Spike				Run: DIONEX-IC1_130305B			03/05/13 16:42	
Sulfate	518	mg/L	1.0	106	90	110			
Sample ID: G13020487-003AMSD	Sample Matrix Spike Duplicate				Run: DIONEX-IC1_130305B			03/05/13 16:55	
Sulfate	514	mg/L	1.0	104	90	110	0.8	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: COG Test Well #1

Report Date: 03/04/13
Work Order: G13020487

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7								Analytical Run: ICP201-B_130301A	
Sample ID: ICV	Continuing Calibration Verification Standard							03/01/13 17:10	
Calcium	25.7	mg/L	1.0	103	95	105			
Magnesium	25.6	mg/L	1.0	102	95	105			
Potassium	24.3	mg/L	1.0	97	95	105			
Sodium	24.6	mg/L	1.0	98	95	105			
Method: E200.7								Batch: R200726	
Sample ID: MB-IRISDIS130301A	Method Blank				Run: ICP201-B_130301A			03/01/13 17:35	
Calcium	ND	mg/L	0.02						
Magnesium	0.01	mg/L	0.01						
Potassium	ND	mg/L	0.1						
Sodium	ND	mg/L	0.05						
Sample ID: LFB-IRISDIS130301A	Laboratory Fortified Blank				Run: ICP201-B_130301A			03/01/13 17:38	
Calcium	53.9	mg/L	1.0	108	85	115			
Magnesium	53.5	mg/L	1.0	107	85	115			
Potassium	51.8	mg/L	1.0	104	85	115			
Sodium	51.6	mg/L	1.0	103	85	115			
Sample ID: B13021889-001BMS2	Sample Matrix Spike				Run: ICP201-B_130301A			03/01/13 18:34	
Calcium	53.6	mg/L	1.0	102	70	130			
Magnesium	51.6	mg/L	1.0	103	70	130			
Potassium	52.2	mg/L	1.0	101	70	130			
Sodium	205	mg/L	1.0	78	70	130			
Sample ID: B13021889-001BMSD2	Sample Matrix Spike Duplicate				Run: ICP201-B_130301A			03/01/13 18:37	
Calcium	53.9	mg/L	1.0	103	70	130	0.5	20	
Magnesium	52.6	mg/L	1.0	105	70	130	1.8	20	
Potassium	52.4	mg/L	1.0	102	70	130	0.3	20	
Sodium	206	mg/L	1.0	81	70	130	0.5	20	
Sample ID: B13021742-003BMS2	Sample Matrix Spike				Run: ICP201-B_130301A			03/01/13 19:40	
Calcium	94.0	mg/L	1.0	99	70	130			
Magnesium	65.8	mg/L	1.0	102	70	130			
Potassium	64.8	mg/L	1.0	103	70	130			
Sodium	117	mg/L	1.0	100	70	130			
Sample ID: B13021742-003BMSD2	Sample Matrix Spike Duplicate				Run: ICP201-B_130301A			03/01/13 19:44	
Calcium	95.6	mg/L	1.0	102	70	130	1.7	20	
Magnesium	67.8	mg/L	1.0	106	70	130	2.9	20	
Potassium	66.9	mg/L	1.0	107	70	130	3.2	20	
Sodium	121	mg/L	1.0	106	70	130	2.6	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: COG Test Well #1

Report Date: 03/04/13
Work Order: G13020487

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7								Analytical Run: ICP203-B_130313A	
Sample ID: ICV	Continuing Calibration Verification Standard							03/13/13 10:51	
Calcium	25.3	mg/L	1.0	101	95	105			
Magnesium	24.9	mg/L	1.0	100	95	105			
Potassium	25.2	mg/L	1.0	101	95	105			
Sodium	25.0	mg/L	1.0	100	95	105			
Method: E200.7								Batch: R201271	
Sample ID: MB-6500DIS130313A	Method Blank				Run: ICP203-B_130313A			03/13/13 11:15	
Calcium	ND	mg/L	0.007						
Magnesium	ND	mg/L	0.002						
Potassium	0.08	mg/L	0.02						
Sodium	ND	mg/L	0.008						
Sample ID: LFB-6500DIS130313A	Laboratory Fortified Blank				Run: ICP203-B_130313A			03/13/13 11:19	
Calcium	50.8	mg/L	1.0	102	85	115			
Magnesium	50.0	mg/L	1.0	100	85	115			
Potassium	49.9	mg/L	1.0	100	85	115			
Sodium	49.8	mg/L	1.0	100	85	115			
Sample ID: B13030749-001BMS2	Sample Matrix Spike				Run: ICP203-B_130313A			03/13/13 11:34	
Calcium	92.4	mg/L	1.0	97	70	130			
Magnesium	60.2	mg/L	1.0	99	70	130			
Potassium	49.6	mg/L	1.0	98	70	130			
Sodium	50.3	mg/L	1.0	97	70	130			
Sample ID: B13030749-001BMSD2	Sample Matrix Spike Duplicate				Run: ICP203-B_130313A			03/13/13 11:45	
Calcium	92.2	mg/L	1.0	97	70	130	0.2	20	
Magnesium	59.8	mg/L	1.0	98	70	130	0.7	20	
Potassium	49.6	mg/L	1.0	98	70	130	0.0	20	
Sodium	50.1	mg/L	1.0	97	70	130	0.5	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: COG Test Well #1

Report Date: 03/04/13
Work Order: G13020487

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS203-B_130301C	
Sample ID: QCS	Initial Calibration Verification Standard								03/01/13 14:08
Arsenic	0.0514	mg/L	0.0050	103	90	110			
Method: E200.8									Batch: R200741
Sample ID: LFB	Laboratory Fortified Blank				Run: ICPMS203-B_130301C				03/01/13 14:13
Arsenic	0.0484	mg/L	0.0050	97	85	115			
Sample ID: LRB	Method Blank				Run: ICPMS203-B_130301C				03/01/13 15:18
Arsenic	ND	mg/L	7E-05						
Sample ID: B13021689-001BMS	Sample Matrix Spike				Run: ICPMS203-B_130301C				03/02/13 00:35
Arsenic	0.0508	mg/L	0.0010	102	70	130			
Sample ID: B13021689-001BMSD	Sample Matrix Spike Duplicate				Run: ICPMS203-B_130301C				03/02/13 00:40
Arsenic	0.0572	mg/L	0.0010	114	70	130	12	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Workorder Receipt Checklist

Morrison Maierle Inc

G13020487

Login completed by: Amanda Alley

Date Received: 2/27/2013

Reviewed by: BL2000\kscottruff

Received by: ala

Reviewed Date: 2/28/2013

Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	2.2°C On Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Contact and Corrective Action Comments:

Samples were partially frozen upon arrival. 02/27/13 ala

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: MORRISON-MAIERLE, INC

Project Name, PWS, Permit, Etc.: COB TEST WELL #1

Sample Origin: GW

State: WY

EPA/State Compliance: Yes ☐ No ☒

Report Mail Address (Required): 1 ENGINEERING PLACE HELENA, MT 59602

Contact Name: MIKE KACZMAREK

Phone/Fax: (406) 495-3440

Cell: (406) 431-5668

Sampler: (Please Print) M. KACZMAREK

☒ No Hard Copy Email: mkaczmarek@mmi.mt

Invoice Contact & Phone:

Purchase Order:

Quote/Bottle Order:

Invoice Address (Required): ASARCO ATTN: M. KACZMAREK

☒ No Hard Copy Email:

Special Report/Formats:

☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format:
☐ State: ☐ LEVEL IV
☐ Other: ☐ NELAC

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: Hand

Cooler ID(s):

Receipt Temp: 2.2 °C IR

On Ice: (Y) N

Custody Seal: On Bottle Y N; On Cooler Y N; Intact Y N; Signature Match Y N

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX (Number of Containers; Sample Type: A W S V B O DW; Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water)	MAJOR ANIONS/CATIONS	~~METALS~~	TDS/SC/pH	DISSOLVED ARSENIC							SEE ATTACHED	Standard Turnaround (TAT)	RUSH
1 TW1-2445	2/22/13	0815	W	X		X	X								✓	
2 TW1-2472	2/22/13	1540	W	X		X	X								✓	
3 TW1-2539	2/23/13	0825	W	X		X	X								✓	
4 TW1-2685	2/25/13	1000	W	X		X	X								✓	
5 TW1-2801	2/26/13	0245	W	X		X	X								✓	
6																
7																
8																
9																
10																

LABORATORY USE ONLY: LF LF LF LF LF 3020487

Custody Record MUST be Signed

Relinquished by (print): MIKE KACZMAREK Date/Time: 2/27/13 1345 Signature: M Kaczmarek

Received by (print): Date/Time: Signature:

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: Date/Time: 2/27/13 13:43 Signature:

Sample Disposal: Return to Client: Lab Disposal:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

SAMPLE AT END OF 12-HOUR, 900-GPM TEST PRIOR TO ACID STIMULATION OF WELL

ANALYTICAL SUMMARY REPORT

March 20, 2013

Morrison Maierle Inc
PO Box 6147
Helena, MT 59604

Workorder No.: G13030254 Quote ID: G2 - Templates - Gillette

Project Name: Madison Test Well 1

Energy Laboratories Inc. Gillette WY received the following 1 sample for Morrison Maierle Inc on 3/12/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
G13030254-001	TW #1 Pre-Frac	03/11/13 20:30	03/12/13	Drinking Water	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Drinking Water Acidity, Total as CaCO3 Alkalinity Anion - Cation Balance Cyanide, SDWA Conductivity Fluoride Hardness Anions by Ion Chromatography Langelier Index Nitrogen, Nitrate + Nitrite pH Drinking Water Metals Digestion by EPA 200.2 Preparation, Dissolved Filtration Sodium Absorption Ratio Solids, Total Dissolved Sulfide, Methylene Blue Colorimetric

The analyses presented in this report were performed by Energy Laboratories, Inc., 400 W. Boxelder Rd., Gillette, WY 82718, unless otherwise noted.

As appropriate, any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these tests results, please call.

Report Approved By:

Alyson Degnan
Project Manager

Digitally signed by
Alyson T. Degnan
Date: 2013.03.20 12:50:54 -06:00

CLIENT: Morrison Maierle Inc
Project: Madison Test Well 1
Sample Delivery Group: G13030254

Report Date: 03/20/13

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1
Lab ID: G13030254-001
Client Sample ID: TW #1 Pre-Frac

Report Date: 03/20/13
Collection Date: 03/11/13 20:30
Date Received: 03/12/13
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO3	208	mg/L		5		A2320 B	03/14/13 14:26 / eli-b
Carbonate as CO3	ND	mg/L		5		A2320 B	03/14/13 14:26 / eli-b
Chloride	14	mg/L		1		E300.0	03/14/13 19:09 / eli-b
Sulfate	396	mg/L		1		E300.0	03/14/13 19:09 / eli-b
Calcium	135	mg/L		1		E200.7	03/14/13 19:17 / eli-b
Magnesium	59	mg/L		1		E200.7	03/14/13 19:17 / eli-b
Potassium	4	mg/L		1		E200.7	03/14/13 19:17 / eli-b
Sodium	15	mg/L		1		E200.7	03/14/13 19:17 / eli-b
METALS, DISSOLVED							
Iron	0.11	mg/L		0.03		E200.7	03/14/13 17:24 / eli-b
Manganese	0.011	mg/L		0.001		E200.7	03/14/13 17:24 / eli-b
INORGANIC COMPOUNDS, SDWA							
Antimony	ND	mg/L		0.001	0.006	E200.8	03/14/13 11:28 / eli-b
Nitrogen, Nitrate+Nitrite as N	0.18	mg/L		0.01	10	E353.2	03/14/13 11:23 / eli-b
Arsenic	0.005	mg/L		0.001	0.01	E200.8	03/14/13 11:28 / eli-b
Barium	ND	mg/L		0.05	2	E200.7	03/14/13 19:17 / eli-b
Beryllium	ND	mg/L		0.001	0.004	E200.7	03/14/13 19:17 / eli-b
Boron	ND	mg/L		0.05		E200.7	03/14/13 19:17 / eli-b
Cadmium	ND	mg/L		0.001	0.005	E200.8	03/14/13 11:28 / eli-b
Chromium	ND	mg/L		0.005	0.1	E200.7	03/14/13 19:17 / eli-b
Copper	ND	mg/L		0.005		E200.8	03/14/13 11:28 / eli-b
Cyanide, Total	ND	mg/L		0.005	0.2	Kelada-01	03/15/13 14:04 / eli-b
Fluoride	2.5	mg/L		0.1	4	A4500-F C	03/14/13 11:33 / eli-b
Iron	0.63	mg/L		0.03		E200.7	03/14/13 19:17 / eli-b
Lead	ND	mg/L		0.001		E200.8	03/14/13 11:28 / eli-b
Manganese	0.011	mg/L		0.001		E200.7	03/14/13 19:17 / eli-b
Mercury	ND	mg/L		0.0001	0.002	E200.8	03/14/13 11:28 / eli-b
Nickel	ND	mg/L		0.01		E200.8	03/14/13 11:28 / eli-b
Selenium	0.006	mg/L		0.001	0.05	E200.8	03/15/13 16:53 / eli-b
Silicon	5.8	mg/L		0.1		E200.7	03/14/13 19:17 / eli-b
Silicon as SiO2	12.5	mg/L		0.2		E200.7	03/14/13 19:17 / eli-b
Thallium	ND	mg/L		0.0005	0.002	E200.8	03/14/13 11:28 / eli-b
Zinc	ND	mg/L		0.01		E200.7	03/14/13 19:17 / eli-b
NON-METALS							
Acidity, Total as CaCO3	14	mg/L		4		A2310 B	03/15/13 11:29 / eli-b
Alkalinity, Total as CaCO3	170	mg/L		5		A2320 B	03/14/13 14:26 / eli-b
Conductivity @ 25 C	1060	umhos/cm		10		A2510 B	03/12/13 17:42 / jab
Hardness as CaCO3	580	mg/L				A2340 B	03/14/13 19:17 / jab

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1
Lab ID: G13030254-001
Client Sample ID: TW #1 Pre-Frac

Report Date: 03/20/13
Collection Date: 03/11/13 20:30
Date Received: 03/12/13
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
NON-METALS							
Langelier Index	0.36					Calculation	03/19/13 10:00 / jab
pH	7.54	s.u.	H	0.01		A4500-H B	03/12/13 17:42 / jab
Sodium Adsorption Ratio (SAR)	0.3	unitless				Calculation	03/14/13 19:17 / jab
Solids, Total Dissolved TDS @ 180 C	766	mg/L		10		A2540 C	03/15/13 16:21 / eli-b
Sulfide	ND	mg/L		0.04		A4500-S D	03/14/13 15:00 / eli-b
DATA QUALITY							
A/C Balance	2.14	%				A1030 E	03/19/13 10:00 / jab
Anions	12.1	meq/L				A1030 E	03/19/13 10:00 / jab
Cations	12.6	meq/L				A1030 E	03/19/13 10:00 / jab

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 03/20/13
Work Order: G13030254

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B									Batch: R202002
Sample ID: SC 100	Initial Calibration Verification Standard				Run: PHSC_101-G_130312A				03/12/13 10:40
Conductivity @ 25 C	104	umhos/cm	10	104	95	105			
Sample ID: SC 5000	Initial Calibration Verification Standard				Run: PHSC_101-G_130312A				03/12/13 10:43
Conductivity @ 25 C	4950	umhos/cm	10	99	95	105			
Sample ID: SC 20000	Initial Calibration Verification Standard				Run: PHSC_101-G_130312A				03/12/13 10:45
Conductivity @ 25 C	19700	umhos/cm	10	98	95	105			
Sample ID: SC 50000	Initial Calibration Verification Standard				Run: PHSC_101-G_130312A				03/12/13 10:48
Conductivity @ 25 C	47700	umhos/cm	10	95	95	105			
Sample ID: MBLK - SC	Method Blank				Run: PHSC_101-G_130312A				03/12/13 16:56
Conductivity @ 25 C	10	umhos/cm	2						
Sample ID: G13030251-002ADUP	Sample Duplicate				Run: PHSC_101-G_130312A				03/12/13 17:29
Conductivity @ 25 C	2750	umhos/cm	10				0.0	5	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 03/20/13
Work Order: G13030254

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B							Analytical Run: PHSC_101-G_130312A		
Sample ID: pH 8	Initial Calibration Verification Standard								03/12/13 10:50
pH	7.96	s.u.	0.010	100	98	102			
Method: A4500-H B									Batch: R202002
Sample ID: G13030251-002ADUP	Sample Duplicate				Run: PHSC_101-G_130312A				03/12/13 17:29
pH	8.70	s.u.	0.010				0.0	1.5	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 03/18/13
Work Order: G13030254

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2310 B										Batch: R201453
Sample ID: MB		Method Blank				Run: MAN-TECH_130315A				03/15/13 10:19
Acidity, Total as CaCO3		20	mg/L							
Sample ID: LCS		Laboratory Control Sample				Run: MAN-TECH_130315A				03/15/13 10:32
Acidity, Total as CaCO3		125	mg/L	4.0	100	90	110			
Sample ID: B13030817-005ADUP		Sample Duplicate				Run: MAN-TECH_130315A				03/15/13 11:22
Acidity, Total as CaCO3		215	mg/L	4.0				0.1	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 03/18/13
Work Order: G13030254

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: R201314
Sample ID: MBLK	3	Method Blank				Run: Metrohm 2_130314A				03/14/13 13:01
Alkalinity, Total as CaCO3		5	mg/L	0.7						
Bicarbonate as HCO3		6	mg/L	4						
Carbonate as CO3		ND	mg/L	4						
Sample ID: LCS		Laboratory Control Sample				Run: Metrohm 2_130314A				03/14/13 13:06
Alkalinity, Total as CaCO3		104	mg/L	4.0	99	90	110			
Sample ID: B13030141-002AMS		Sample Matrix Spike				Run: Metrohm 2_130314A				03/14/13 13:36
Alkalinity, Total as CaCO3		703	mg/L	4.0	99	80	120			
Sample ID: B13031013-001ADUP	3	Sample Duplicate				Run: Metrohm 2_130314A				03/14/13 14:39
Alkalinity, Total as CaCO3		264	mg/L	4.0				0.2	20	
Bicarbonate as HCO3		322	mg/L	4.0				0.2	20	
Carbonate as CO3		ND	mg/L	4.0					20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 03/18/13
Work Order: G13030254

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-F C								Analytical Run: MAN-TECH_130314A		
Sample ID: ICV		Initial Calibration Verification Standard								03/14/13 10:48
Fluoride		1.07	mg/L	0.10	107	90	110			
Method: A4500-F C										Batch: R201361
Sample ID: MB		Method Blank				Run: MAN-TECH_130314A				03/14/13 10:42
Fluoride		0.03	mg/L	0.02						
Sample ID: LFB		Laboratory Fortified Blank				Run: MAN-TECH_130314A				03/14/13 10:45
Fluoride		1.05	mg/L	0.10	102	90	110			
Sample ID: B13030799-001AMS		Sample Matrix Spike				Run: MAN-TECH_130314A				03/14/13 11:13
Fluoride		2.00	mg/L	0.10	98	80	120			
Sample ID: B13030799-001AMSD		Sample Matrix Spike Duplicate				Run: MAN-TECH_130314A				03/14/13 11:16
Fluoride		2.01	mg/L	0.10	99	80	120	0.5	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 03/18/13
Work Order: G13030254

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-S D										Batch: R201360
Sample ID: MB-R201360		Method Blank				Run: SPEC_130314B				03/14/13 15:00
Sulfide		ND	mg/L	0.002						
Sample ID: LCS-R201360		Laboratory Control Sample				Run: SPEC_130314B				03/14/13 15:00
Sulfide		0.198	mg/L	0.040	113	70	130			
Sample ID: B13031084-002AMS		Sample Matrix Spike				Run: SPEC_130314B				03/14/13 15:00
Sulfide		0.223	mg/L	0.040	120	70	130			
Sample ID: B13031084-002AMSD		Sample Matrix Spike Duplicate				Run: SPEC_130314B				03/14/13 15:00
Sulfide		0.235	mg/L	0.040	127	70	130	5.1	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 03/18/13
Work Order: G13030254

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP203-B_130314A	
Sample ID: ICV	14	Continuing Calibration Verification Standard							03/14/13 10:14	
Barium		2.49	mg/L	0.10	99	95	105			
Beryllium		1.28	mg/L	0.010	102	95	105			
Boron		2.54	mg/L	0.10	101	95	105			
Calcium		25.2	mg/L	1.0	101	95	105			
Chromium		2.48	mg/L	0.050	99	95	105			
Iron		2.51	mg/L	0.030	100	95	105			
Magnesium		24.7	mg/L	1.0	99	95	105			
Manganese		2.51	mg/L	0.010	101	95	105			
Potassium		25.1	mg/L	1.0	101	95	105			
Sodium		25.1	mg/L	1.0	101	95	105			
Zinc		2.52	mg/L	0.010	101	95	105			
Silicon		5.16	mg/L	0.10	103	95	105			
Silica		11.0	mg/L	0.21	103	95	105			
Silicon as SiO2		11.0	mg/L	0.21	103	95	105			
Method: E200.7										Batch: R201363
Sample ID: MB-6500DIS130314A	14	Method Blank				Run: ICP203-B_130314A			03/14/13 10:38	
Barium		ND	mg/L	0.0003						
Beryllium		0.0001	mg/L	0.0001						
Boron		ND	mg/L	0.002						
Calcium		0.04	mg/L	0.007						
Chromium		ND	mg/L	0.001						
Iron		0.02	mg/L	0.003						
Magnesium		0.02	mg/L	0.002						
Manganese		0.0007	mg/L	0.0003						
Potassium		ND	mg/L	0.02						
Sodium		ND	mg/L	0.008						
Zinc		0.002	mg/L	0.001						
Silicon		ND	mg/L	0.01						
Silica		ND	mg/L	0.03						
Silicon as SiO2		ND	mg/L	0.03						
Sample ID: LFB-6500DIS130314A	14	Laboratory Fortified Blank				Run: ICP203-B_130314A			03/14/13 10:42	
Barium		0.999	mg/L	0.10	100	85	115			
Beryllium		0.515	mg/L	0.010	103	85	115			
Boron		0.985	mg/L	0.10	99	85	115			
Calcium		50.7	mg/L	1.0	101	85	115			
Chromium		0.972	mg/L	0.050	97	85	115			
Iron		5.07	mg/L	0.030	101	85	115			
Magnesium		49.8	mg/L	1.0	99	85	115			
Manganese		5.02	mg/L	0.010	100	85	115			
Potassium		50.2	mg/L	1.0	100	85	115			
Sodium		50.6	mg/L	1.0	101	85	115			
Zinc		0.997	mg/L	0.010	99	85	115			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 03/18/13
Work Order: G13030254

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Batch: R201363
Sample ID: LFB-6500DIS130314A	14	Laboratory Fortified Blank				Run: ICP203-B_130314A				03/14/13 10:42
Silicon		10.3	mg/L	0.10	103	85	115			
Silica		22.0	mg/L	0.21	103	85	115			
Silicon as SiO2		22.0	mg/L	0.21	103	85	115			
Sample ID: B13030960-001CMS2	14	Sample Matrix Spike				Run: ICP203-B_130314A				03/14/13 17:52
Barium		1.09	mg/L	0.050	106	70	130			
Beryllium		0.544	mg/L	0.0010	109	70	130			
Boron		1.24	mg/L	0.050	108	70	130			
Calcium		85.6	mg/L	1.0	107	70	130			
Chromium		1.04	mg/L	0.0050	104	70	130			
Iron		5.41	mg/L	0.030	107	70	130			
Magnesium		64.4	mg/L	1.0	111	70	130			
Manganese		5.37	mg/L	0.0010	105	70	130			
Potassium		65.3	mg/L	1.0	109	70	130			
Silicon		21.0	mg/L	0.10	107	70	130			
Sodium		95.7	mg/L	1.0	110	70	130			
Zinc		1.10	mg/L	0.010	103	70	130			
Silica		44.9	mg/L	0.21	107	70	130			
Silicon as SiO2		44.9	mg/L	0.21	107	70	130			
Sample ID: B13030960-001CMSD	14	Sample Matrix Spike Duplicate				Run: ICP203-B_130314A				03/14/13 17:55
Barium		1.10	mg/L	0.050	107	70	130	0.4	20	
Beryllium		0.546	mg/L	0.0010	109	70	130	0.4	20	
Boron		1.24	mg/L	0.050	108	70	130	0.1	20	
Calcium		85.8	mg/L	1.0	108	70	130	0.2	20	
Chromium		1.05	mg/L	0.0050	105	70	130	0.5	20	
Iron		5.46	mg/L	0.030	107	70	130	0.8	20	
Magnesium		64.6	mg/L	1.0	111	70	130	0.3	20	
Manganese		5.39	mg/L	0.0010	106	70	130	0.3	20	
Potassium		65.6	mg/L	1.0	110	70	130	0.5	20	
Silicon		21.0	mg/L	0.10	107	70	130	0.1	20	
Sodium		96.2	mg/L	1.0	111	70	130	0.5	20	
Zinc		1.10	mg/L	0.010	103	70	130	0.2	20	
Silica		45.0	mg/L	0.21	107	70	130	0.1	20	
Silicon as SiO2		45.0	mg/L	0.21	107	70	130	0.1	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 03/18/13
Work Order: G13030254

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS202-B_130314A		
Sample ID: QCS	8	Initial Calibration Verification Standard								03/14/13 09:38
Antimony		0.0475	mg/L	0.050	95	90	110			
Arsenic		0.0506	mg/L	0.0050	101	90	110			
Cadmium		0.0258	mg/L	0.0010	103	90	110			
Copper		0.0525	mg/L	0.010	105	90	110			
Lead		0.0496	mg/L	0.010	99	90	110			
Mercury		0.00196	mg/L	0.0010	98	90	110			
Nickel		0.0516	mg/L	0.010	103	90	110			
Thallium		0.0501	mg/L	0.10	100	90	110			
Method: E200.8										Batch: R201377
Sample ID: LRB	8	Method Blank				Run: ICPMS202-B_130314A				03/14/13 10:03
Antimony		ND	mg/L	2E-05						
Arsenic		0.0004	mg/L	0.0002						
Cadmium		ND	mg/L	8E-06						
Copper		0.0003	mg/L	3E-05						
Lead		ND	mg/L	2E-05						
Mercury		7E-06	mg/L	6E-06						
Nickel		ND	mg/L	3E-05						
Thallium		ND	mg/L	8E-06						
Sample ID: LFB	8	Laboratory Fortified Blank				Run: ICPMS202-B_130314A				03/14/13 11:17
Antimony		0.0466	mg/L	0.050	93	85	115			
Arsenic		0.0495	mg/L	0.0050	98	85	115			
Cadmium		0.0502	mg/L	0.0010	100	85	115			
Copper		0.0518	mg/L	0.010	103	85	115			
Lead		0.0506	mg/L	0.010	101	85	115			
Mercury		0.000870	mg/L	0.0010	86	85	115			
Nickel		0.0507	mg/L	0.010	101	85	115			
Thallium		0.0504	mg/L	0.10	101	85	115			
Sample ID: B13030975-001BMS	8	Sample Matrix Spike				Run: ICPMS202-B_130314A				03/14/13 12:27
Antimony		0.0485	mg/L	0.0010	97	70	130			
Arsenic		0.0544	mg/L	0.0010	103	70	130			
Cadmium		0.0505	mg/L	0.0010	101	70	130			
Copper		0.0509	mg/L	0.0050	101	70	130			
Lead		0.0514	mg/L	0.0010	102	70	130			
Mercury		0.000990	mg/L	0.00010	99	70	130			
Nickel		0.0498	mg/L	0.010	99	70	130			
Thallium		0.0515	mg/L	0.00050	103	70	130			
Sample ID: B13030975-001BMSD	8	Sample Matrix Spike Duplicate				Run: ICPMS202-B_130314A				03/14/13 12:30
Antimony		0.0507	mg/L	0.0010	101	70	130	4.4	20	
Arsenic		0.0574	mg/L	0.0010	109	70	130	5.3	20	
Cadmium		0.0524	mg/L	0.0010	105	70	130	3.8	20	
Copper		0.0530	mg/L	0.0050	105	70	130	4.1	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 03/18/13
Work Order: G13030254

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R201377
Sample ID: B13030975-001BMSD	8	Sample Matrix Spike Duplicate				Run: ICPMS202-B_130314A				03/14/13 12:30
Lead		0.0532	mg/L	0.0010	106	70	130	3.6	20	
Mercury		0.000972	mg/L	0.00010	97	70	130	1.8	20	
Nickel		0.0538	mg/L	0.010	106	70	130	7.6	20	
Thallium		0.0539	mg/L	0.00050	108	70	130	4.6	20	
Method: E200.8										Analytical Run: ICPMS202-B_130315A
Sample ID: QCS		Initial Calibration Verification Standard								03/15/13 10:10
Selenium		0.0503	mg/L	0.0050	101	90	110			
Method: E200.8										Batch: R201424
Sample ID: LRB		Method Blank				Run: ICPMS202-B_130315A				03/15/13 11:24
Selenium		ND	mg/L	0.0006						
Sample ID: LFB		Laboratory Fortified Blank				Run: ICPMS202-B_130315A				03/15/13 14:08
Selenium		0.0493	mg/L	0.0050	99	85	115			
Sample ID: B13030975-001BMS		Sample Matrix Spike				Run: ICPMS202-B_130315A				03/15/13 17:39
Selenium		0.0494	mg/L	0.0010	97	70	130			
Sample ID: B13030975-001BMSD		Sample Matrix Spike Duplicate				Run: ICPMS202-B_130315A				03/15/13 17:42
Selenium		0.0521	mg/L	0.0010	102	70	130	5.2	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 03/18/13
Work Order: G13030254

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0									Analytical Run: IC202-B_130314A	
Sample ID: ICV	2	Initial Calibration Verification Standard							03/14/13 13:38	
Chloride		24.7	mg/L	1.0	99	90	110			
Sulfate		99.1	mg/L	1.0	99	90	110			
Method: E300.0									Batch: R201390	
Sample ID: ICB	2	Method Blank				Run: IC202-B_130314A			03/14/13 13:53	
Chloride		0.06	mg/L	0.02						
Sulfate		ND	mg/L	0.08						
Sample ID: LFB	2	Laboratory Fortified Blank				Run: IC202-B_130314A			03/14/13 14:08	
Chloride		25.8	mg/L	1.0	103	90	110			
Sulfate		105	mg/L	1.1	105	90	110			
Sample ID: G13030254-001BMS	2	Sample Matrix Spike				Run: IC202-B_130314A			03/14/13 19:24	
Chloride		42.3	mg/L	1.0	112	90	110			S
Sulfate		487	mg/L	1.1	91	90	110			
Sample ID: G13030254-001BMSD	2	Sample Matrix Spike Duplicate				Run: IC202-B_130314A			03/14/13 19:39	
Chloride		42.5	mg/L	1.0	113	90	110	0.3	20	S
Sulfate		487	mg/L	1.1	91	90	110	0.1	20	

Qualifiers:

RL - Analyte reporting limit.
S - Spike recovery outside of advisory limits.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 03/18/13
Work Order: G13030254

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2									Analytical Run: FIA203-B_130314A	
Sample ID: ICV		Initial Calibration Verification Standard							03/14/13 08:17	
Nitrogen, Nitrate+Nitrite as N		21.9	mg/L	0.060	101	90	110			
Method: E353.2									Batch: R201305	
Sample ID: MBLK		Method Blank				Run: FIA203-B_130314A			03/14/13 08:18	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.005						
Sample ID: LFB		Laboratory Fortified Blank				Run: FIA203-B_130314A			03/14/13 08:19	
Nitrogen, Nitrate+Nitrite as N		1.03	mg/L	0.010	105	90	110			
Sample ID: G13030254-001DMS		Sample Matrix Spike				Run: FIA203-B_130314A			03/14/13 11:24	
Nitrogen, Nitrate+Nitrite as N		1.20	mg/L	0.010	104	90	110			
Sample ID: G13030254-001DMSD		Sample Matrix Spike Duplicate				Run: FIA203-B_130314A			03/14/13 11:25	
Nitrogen, Nitrate+Nitrite as N		1.17	mg/L	0.010	102	90	110	2.3	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 03/18/13
Work Order: G13030254

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: Kelada-01									Analytical Run: SFA-201-B_130315A	
Sample ID: ICV		Initial Calibration Verification Standard							03/15/13 10:14	
Cyanide, Total		0.100	mg/L	0.0050	100	90	110			
Method: Kelada-01									Batch: R201426	
Sample ID: LFB		Laboratory Fortified Blank				Run: SFA-201-B_130315A			03/15/13 10:16	
Cyanide, Total		0.0974	mg/L	0.0050	97	90	110			
Sample ID: MB		Method Blank				Run: SFA-201-B_130315A			03/15/13 10:18	
Cyanide, Total		ND	mg/L	0.0006						
Sample ID: G13030254-001EMS		Sample Matrix Spike				Run: SFA-201-B_130315A			03/15/13 14:07	
Cyanide, Total		0.108	mg/L	0.0050	108	90	110			
Sample ID: G13030254-001EMSD		Sample Matrix Spike Duplicate				Run: SFA-201-B_130315A			03/15/13 14:09	
Cyanide, Total		0.109	mg/L	0.0050	109	90	110	0.6	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 03/20/13
Work Order: G13030254

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C									Batch: TDS130315A
Sample ID: MB-1_130315A	Method Blank				Run: BAL #11_130315B				03/15/13 16:19
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	6						
Sample ID: LCS-2_130315A	Laboratory Control Sample				Run: BAL #11_130315B				03/15/13 16:19
Solids, Total Dissolved TDS @ 180 C	2020	mg/L	10	101	90	110			
Sample ID: B13030801-005A MS	Sample Matrix Spike				Run: BAL #11_130315B				03/15/13 16:19
Solids, Total Dissolved TDS @ 180 C	2260	mg/L	10	101	90	110			
Sample ID: B13030801-004A DUP	Sample Duplicate				Run: BAL #11_130315B				03/15/13 16:20
Solids, Total Dissolved TDS @ 180 C	26.2	mg/L	10		90	110	0.5	5	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Workorder Receipt Checklist

Morrison Maierle Inc

G13030254

Login completed by: Amanda Alley

Date Received: 3/12/2013

Reviewed by: BL2000\kscottruff

Received by: kls

Reviewed Date: 3/13/2013

Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	3.4°C On Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Contact and Corrective Action Comments:

None

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page ____ of ____

PLEASE PRINT (Provide as much information as possible.)

Company Name: MORRISON-MAIERLE, INC

Project Name, PWS, Permit, Etc.: MADISON TEST WELL 1

Sample Origin State: WY

EPA/State Compliance: Yes ☒ No ☐

Report Mail Address (Required):

Contact Name: MIKE KACZMAREK

Phone/Fax: (406) 495-3440

Cell: (406) 431-5568

Sampler: (Please Print) M. KACZMAREK

☒ No Hard Copy Email: mkaczmarek@m-m.net

Invoice Contact & Phone: AS ABOVE

Purchase Order:

Quote/Bottle Order:

Invoice Address (Required):

☒ No Hard Copy Email: mkaczmarek@m-m.net

Special Report/Formats:

☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format: _____
☐ State: _____ ☐ LEVEL IV
☐ Other: MORRISON-MAIERLE ☒ NELAC

ANALYSIS REQUESTED

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids Vegetation Bioassay Other
DW - Drinking Water

SEE ATTACHED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: Hand

Cooler ID(s):

Receipt Temp: 3.4 °C

On Ice: (Y) N

Custody Seal
On Bottle Y N
On Cooler Y N
Intact Y N
Signature Match Y N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX											
1	TW#1 PRE-FRAC	3/11/2013	2030	DW-7 BOTTLES								X			
2	~~TW#1 POST-FRAC~~														
3															
4															
5															
6															
7															
8															
9															
10															

LABORATORY USE ONLY: 3030254

Custody Record MUST be Signed

Relinquished by (print): M KACZMAREK Date/Time: 3/12/2013 1:15 PM Signature: M Kaczmarek

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: 3/12/13 Date/Time: 1315 Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: _____

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

ENERGY LAB www.energylab.com Analytical Excellence Since 1952
Helena, MT 877-472-0711 • Billings, MT 800-735-4489 • Casper, WY 888-235-0515
Gillette, WY 866-686-7175 • Rapid City, SD 888-672-1225 • College Station, TX 888-690-2218

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: City Of Gillette Test Well TH #2A
Lab ID: G12120325-001
Client Sample ID: TH #2A

Report Date: 01/15/13
Collection Date: 12/13/12 13:30
Date Received: 12/13/12
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Color	ND	c.u.	LH	5	15	A2120 B	12/18/12 16:35 / eli-b
Odor	35	T.O.N.				A2150 B	12/20/12 13:45 / eli-b
Surfactants, MBAS	ND	mg/L	H	1		LaMotte DS-1	12/18/12 16:30 / eli-b
Turbidity	12	NTU		0.2		A2130 B	12/13/12 16:14 / jab
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO3	278	mg/L		5		A2320 B	12/24/12 14:35 / eli-b
Carbonate as CO3	ND	mg/L		5		A2320 B	12/24/12 14:35 / eli-b
Chloride	108	mg/L		1		E300.0	12/18/12 20:16 / eli-b
Sulfate	324	mg/L		1		E300.0	12/18/12 04:31 / eli-b
Calcium	174	mg/L		1		E200.7	12/18/12 14:27 / eli-b
Magnesium	62	mg/L		1		E200.7	12/18/12 14:27 / eli-b
Potassium	3	mg/L		1		E200.7	12/18/12 14:27 / eli-b
Sodium	13	mg/L		1		E200.7	12/18/12 14:27 / eli-b
INORGANIC COMPOUNDS, SDWA							
Antimony	ND	mg/L		0.003	0.006	E200.8	12/19/12 16:04 / eli-b
Nitrogen, Nitrate+Nitrite as N	0.18	mg/L		0.01	10	E353.2	12/19/12 12:09 / eli-b
Arsenic	ND	mg/L		0.001	0.01	E200.8	12/20/12 21:14 / eli-b
Barium	ND	mg/L		0.1	2	E200.7	12/18/12 14:27 / eli-b
Beryllium	ND	mg/L		0.001	0.004	E200.7	12/18/12 14:27 / eli-b
Boron	ND	mg/L		0.1		E200.7	12/18/12 14:27 / eli-b
Cadmium	ND	mg/L		0.001	0.005	E200.8	12/19/12 16:04 / eli-b
Chromium	ND	mg/L		0.01	0.1	E200.7	12/18/12 14:27 / eli-b
Copper	ND	mg/L		0.01		E200.8	12/19/12 16:04 / eli-b
Cyanide, Total	ND	mg/L		0.005	0.2	Kelada-01	12/16/12 13:03 / eli-b
Fluoride	1.9	mg/L		0.1	4	A4500-F C	12/19/12 14:40 / eli-b
Iron - DISSOLVED & TOTAL	4.20	mg/L		0.03		E200.7	12/18/12 14:27 / eli-b
Lead	ND	mg/L		0.001		E200.8	12/19/12 16:04 / eli-b
Manganese DISSOLVED & TOTAL	0.10	mg/L		0.01		E200.7	12/18/12 14:27 / eli-b
Mercury	ND	mg/L		0.0002	0.002	E245.1	12/18/12 16:05 / eli-b
Nickel	0.02	mg/L		0.01		E200.7	12/18/12 14:27 / eli-b
Selenium	ND	mg/L		0.005	0.05	E200.8	12/20/12 21:14 / eli-b
Silicon	6.2	mg/L		0.1		E200.7	12/18/12 14:27 / eli-b
Silicon as SiO2	13.3	mg/L		0.2		E200.7	12/18/12 14:27 / eli-b
Thallium	ND	mg/L		0.001	0.002	E200.8	12/19/12 16:04 / eli-b
Zinc	0.07	mg/L		0.01		E200.7	12/18/12 14:27 / eli-b
NON-METALS							
Acidity, Total as CaCO3	11	mg/L		4		A2310 B	12/19/12 19:32 / eli-b
Alkalinity, Total as CaCO3	228	mg/L		5		A2320 B	12/24/12 14:35 / eli-b

Mike Kaczmarek 3/12/2013

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
L - Lowest available reporting limit for the analytical methoc used.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: City Of Gillette Test Well TH #2A
Lab ID: G12120325-001
Client Sample ID: TH #2A

Report Date: 01/15/13
Collection Date: 12/13/12 13:30
Date Received: 12/13/12
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
NON-METALS							
Conductivity @ 25 C	290	umhos/cm		10		A2510 B	12/13/12 17:30 / blb
Hardness as CaCO3	690	mg/L				A2340 B	12/18/12 14:27 / jab
Langelier Index	0.04					Calculation	01/08/13 11:16 / jab
pH	6.96	s.u.	H	0.01		A4500-H B	12/13/12 17:30 / blb
Sodium Adsorption Ratio (SAR)	0.2	unitless				Calculation	12/18/12 14:27 / jab
Solids, Total Dissolved TDS @ 180 C	760	mg/L		10		A2540 C	12/17/12 10:02 / eli-b
Sulfide	ND	mg/L		0.04		A4500-S D	12/14/12 11:45 / eli-b
RADIONUCLIDES - TOTAL							
Gross Alpha	18.0	pCi/L	*		15	E900.0	12/28/12 08:36 / eli-ca
Gross Alpha precision (±)	2.5	pCi/L				E900.0	12/28/12 08:36 / eli-ca
Gross Alpha MDC	1.6	pCi/L				E900.0	12/28/12 08:36 / eli-ca
Radium 226	1.1	pCi/L			5	E903.0	12/26/12 18:32 / eli-ca
Radium 226 precision (±)	0.2	pCi/L				E903.0	12/26/12 18:32 / eli-ca
Radium 226 MDC	0.1	pCi/L				E903.0	12/26/12 18:32 / eli-ca
Radium 228	0.6	pCi/L	U		5	RA-05	01/14/13 15:44 / eli-ca
Radium 228 precision (±)	0.9	pCi/L				RA-05	01/14/13 15:44 / eli-ca
Radium 228 MDC	0.9	pCi/L				RA-05	01/14/13 15:44 / eli-ca
Radium 226 + Radium 228	1.6	pCi/L			5	A7500-RA	01/15/13 08:29 / eli-ca
Radium 226 + Radium 228 precision (±)	0.9	pCi/L				A7500-RA	01/15/13 08:29 / eli-ca
Radium 226 + Radium 228 MDC	0.9	pCi/L				A7500-RA	01/15/13 08:29 / eli-ca
Uranium	0.008	mg/L		0.001	0.03	E200.8	12/27/12 01:05 / eli-ca
Uranium, Activity	5.7	pCi/L		0.7	20	E200.8	12/27/12 01:05 / eli-ca
- See case narrative regarding combined Ra226+Ra228 calculation.							
DATA QUALITY							
A/C Balance	0.48	%				A1030 E	01/08/13 11:16 / jab
Anions	14.5	meq/L				A1030 E	01/08/13 11:16 / jab
Cations	14.6	meq/L				A1030 E	01/08/13 11:16 / jab
SOC-HERBICIDES, SDWA							
2,4-D	ND	ug/L		1.0	70	E515.1	12/24/12 21:24 / eli-b
2,4-DB	ND	ug/L		2.5		E515.1	12/24/12 21:24 / eli-b
Dalapon	ND	ug/L		2.5	200	E515.1	12/24/12 21:24 / eli-b
Dicamba	ND	ug/L		0.25		E515.1	12/24/12 21:24 / eli-b
Dichlorprop	ND	ug/L		1.0		E515.1	12/24/12 21:24 / eli-b
Dinoseb	ND	ug/L		1.0	7	E515.1	12/24/12 21:24 / eli-b
Pentachlorophenol	ND	ug/L		0.040	1	E515.1	12/24/12 21:24 / eli-b
Picloram	ND	ug/L		0.50	500	E515.1	12/24/12 21:24 / eli-b
2,4,5-TP (Silvex)	ND	ug/L		0.20	50	E515.1	12/24/12 21:24 / eli-b
Surr: DCAA	76.0	%REC		70-130		E515.1	12/24/12 21:24 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
* - The result exceeds the MCL.
U - Not detected at minimum detectable concentration

IRON CONCENTRATIONS
DURING 1600-GPM CONSTANT RATE TEST

ANALYTICAL SUMMARY REPORT

May 22, 2013

Morrison Maierle Inc
PO Box 6147
Helena, MT 59604

Workorder No.: G13050318

Project Name: Gillette Madison Pipeline Project

Energy Laboratories Inc. Gillette WY received the following 20 samples for Morrison Maierle Inc on 5/14/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
G13050318-001	TW #1 - 1	05/10/13 8:50	05/14/13	Aqueous	Metals, Total Recoverable Metals Digestion by EPA 200.2
G13050318-002	TW #1 - 2	05/10/13 13:00	05/14/13	Aqueous	Same As Above
G13050318-003	TW #1 - 3	05/10/13 17:00	05/14/13	Aqueous	Same As Above
G13050318-004	TW #1 - 4	05/10/13 21:00	05/14/13	Aqueous	Same As Above
G13050318-005	TW #1 - 5	05/11/13 1:00	05/14/13	Aqueous	Same As Above
G13050318-006	TW #1 - 6	05/11/13 5:00	05/14/13	Aqueous	Same As Above
G13050318-007	TW #1 - 7	05/11/13 9:00	05/14/13	Aqueous	Same As Above
G13050318-008	TW #1 - 8	05/11/13 13:00	05/14/13	Aqueous	Same As Above
G13050318-009	TW #1 - 9	05/11/13 17:00	05/14/13	Aqueous	Same As Above
G13050318-010	TW #1 - 10	05/11/13 21:00	05/14/13	Aqueous	Same As Above
G13050318-011	TW #1 - 11	05/12/13 1:00	05/14/13	Aqueous	Same As Above
G13050318-012	TW #1 - 12	05/12/13 5:00	05/14/13	Aqueous	Same As Above
G13050318-013	TW #1 - 13	05/12/13 9:00	05/14/13	Aqueous	Same As Above
G13050318-014	TW #1 - 14	05/12/13 13:00	05/14/13	Aqueous	Same As Above
G13050318-015	TW #1 - 15	05/12/13 17:00	05/14/13	Aqueous	Same As Above
G13050318-016	TW #1 - 16	05/12/13 21:00	05/14/13	Aqueous	Same As Above
G13050318-017	TW #1 - 17	05/13/13 1:00	05/14/13	Aqueous	Same As Above
G13050318-018	TW #1 - 18	05/13/13 5:00	05/14/13	Aqueous	Same As Above
G13050318-019	TW #1 - 19	05/13/13 9:02	05/14/13	Aqueous	Same As Above
G13050318-020	TW #1 - 20	05/13/13 13:00	05/14/13	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 400 W. Boxelder Rd., Gillette, WY 82718, unless otherwise noted.

As appropriate, any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these tests results, please call.

Report Approved By: Alyson Degnan
Project Manager

Digitally signed by
Alyson T. Degnan
Date: 2013.05.22 11:56:03 -06:00

CLIENT: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Sample Delivery Group: G13050318

Report Date: 05/22/13

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 1
Location:
Samp FRQ/Type:
Lab ID: G13050318-001

Report Date: 05/22/13
Collection Date: 05/10/13 08:50
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	5.04	mg/L	0.03		E200.7	05/17/13 22:47 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 2
Location:
Samp FRQ/Type:
Lab ID: G13050318-002

Report Date: 05/22/13
Collection Date: 05/10/13 13:00
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	2.08	mg/L	0.03		E200.7	05/17/13 22:59 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 3
Location:
Samp FRQ/Type:
Lab ID: G13050318-003

Report Date: 05/22/13
Collection Date: 05/10/13 17:00
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	2.30	mg/L	0.03		E200.7	05/17/13 23:02 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 4
Location:
Samp FRQ/Type:
Lab ID: G13050318-004

Report Date: 05/22/13
Collection Date: 05/10/13 21:00
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	0.81	mg/L	0.03		E200.7	05/17/13 23:22 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 5
Location:
Samp FRQ/Type:
Lab ID: G13050318-005

Report Date: 05/22/13
Collection Date: 05/11/13 01:00
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	1.66	mg/L	0.03		E200.7	05/17/13 23:26 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 6
Location:
Samp FRQ/Type:
Lab ID: G13050318-006

Report Date: 05/22/13
Collection Date: 05/11/13 05:00
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	1.56	mg/L	0.03		E200.7	05/17/13 23:30 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 7
Location:
Samp FRQ/Type:
Lab ID: G13050318-007

Report Date: 05/22/13
Collection Date: 05/11/13 09:00
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	1.20	mg/L	0.03		E200.7	05/17/13 23:34 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 8
Location:
Samp FRQ/Type:
Lab ID: G13050318-008

Report Date: 05/22/13
Collection Date: 05/11/13 13:00
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	0.96	mg/L	0.03		E200.7	05/17/13 23:45 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 9
Location:
Samp FRQ/Type:
Lab ID: G13050318-009

Report Date: 05/22/13
Collection Date: 05/11/13 17:00
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	0.91	mg/L	0.03		E200.7	05/17/13 23:49 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 10
Location:
Samp FRQ/Type:
Lab ID: G13050318-010

Report Date: 05/22/13
Collection Date: 05/11/13 21:00
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	0.73	mg/L	0.03		E200.7	05/17/13 23:53 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 11
Location:
Samp FRQ/Type:
Lab ID: G13050318-011

Report Date: 05/22/13
Collection Date: 05/12/13 01:00
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	0.81	mg/L	0.03		E200.7	05/17/13 23:57 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 12
Location:
Samp FRQ/Type:
Lab ID: G13050318-012

Report Date: 05/22/13
Collection Date: 05/12/13 05:00
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	0.74	mg/L	0.03		E200.7	05/18/13 00:01 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 13
Location:
Samp FRQ/Type:
Lab ID: G13050318-013

Report Date: 05/22/13
Collection Date: 05/12/13 09:00
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	0.62	mg/L	0.03		E200.7	05/18/13 00:05 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 14
Location:
Samp FRQ/Type:
Lab ID: G13050318-014

Report Date: 05/22/13
Collection Date: 05/12/13 13:00
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	0.58	mg/L	0.03		E200.7	05/18/13 00:09 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 15
Location:
Samp FRQ/Type:
Lab ID: G13050318-015

Report Date: 05/22/13
Collection Date: 05/12/13 17:00
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	0.55	mg/L	0.03		E200.7	05/18/13 00:13 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 16
Location:
Samp FRQ/Type:
Lab ID: G13050318-016

Report Date: 05/22/13
Collection Date: 05/12/13 21:00
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	0.52	mg/L	0.03		E200.7	05/18/13 00:52 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 17
Location:
Samp FRQ/Type:
Lab ID: G13050318-017

Report Date: 05/22/13
Collection Date: 05/13/13 01:00
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	0.17	mg/L	0.03		E200.7	05/18/13 00:56 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 18
Location:
Samp FRQ/Type:
Lab ID: G13050318-018

Report Date: 05/22/13
Collection Date: 05/13/13 05:00
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	0.41	mg/L	0.03		E200.7	05/18/13 01:00 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 19
Location:
Samp FRQ/Type:
Lab ID: G13050318-019

Report Date: 05/22/13
Collection Date: 05/13/13 09:02
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	0.42	mg/L	0.03		E200.7	05/18/13 01:04 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project
Client Sample ID: TW #1 - 20
Location:
Samp FRQ/Type:
Lab ID: G13050318-020

Report Date: 05/22/13
Collection Date: 05/13/13 13:00
Date Received: 05/14/13
Matrix: Aqueous
Sampled By: Pat Eller

Analyses	Result	Units	RL	Qualifier	Method	Analysis Date / By
METALS, TOTAL RECOVERABLE						
Iron	0.40	mg/L	0.03		E200.7	05/18/13 01:08 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Gillette Madison Pipeline Project

Report Date: 05/20/13
Work Order: G13050318

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP203-B_130517A	
Sample ID: ICV		Continuing Calibration Verification Standard							05/17/13 12:09	
Iron		2.49	mg/L	0.030	100	95	105			
Method: E200.7									Batch: 71339	
Sample ID: MB-71339		Method Blank				Run: ICP203-B_130517A			05/17/13 22:39	
Iron		ND	mg/L	0.002						
Sample ID: LCS-71339		Laboratory Control Sample				Run: ICP203-B_130517A			05/17/13 22:43	
Iron		2.55	mg/L	0.030	102	85	115			
Sample ID: G13050318-003BMS3		Sample Matrix Spike				Run: ICP203-B_130517A			05/17/13 23:14	
Iron		15.0	mg/L	0.030	101	70	130			
Sample ID: G13050318-003BMSD3		Sample Matrix Spike Duplicate				Run: ICP203-B_130517A			05/17/13 23:18	
Iron		15.2	mg/L	0.030	103	70	130	1.4	20	
Sample ID: B13051339-001CMS3		Sample Matrix Spike				Run: ICP203-B_130517A			05/18/13 00:36	
Iron		3.05	mg/L	0.030	103	70	130			
Sample ID: B13051339-001CMSD3		Sample Matrix Spike Duplicate				Run: ICP203-B_130517A			05/18/13 00:40	
Iron		3.04	mg/L	0.030	103	70	130	0.5	20	
Method: E200.7									Batch: 71340	
Sample ID: MB-71340		Method Blank				Run: ICP203-B_130517A			05/18/13 00:44	
Iron		ND	mg/L	0.002						
Sample ID: LCS-71340		Laboratory Control Sample				Run: ICP203-B_130517A			05/18/13 00:48	
Iron		2.57	mg/L	0.030	103	85	115			
Sample ID: B13051338-001CMS3		Sample Matrix Spike				Run: ICP203-B_130517A			05/18/13 01:58	
Iron		2.66	mg/L	0.030	79	70	130			
Sample ID: B13051338-001CMSD3		Sample Matrix Spike Duplicate				Run: ICP203-B_130517A			05/18/13 02:02	
Iron		2.69	mg/L	0.030	80	70	130	1.5	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Workorder Receipt Checklist

Morrison Maierle Inc

G13050318

Login completed by: Amanda Alley

Date Received: 5/14/2013

Reviewed by: BL2000\kscottruff

Received by: kls

Reviewed Date: 5/14/2013

Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	11.8°C Melted Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Contact and Corrective Action Comments:

None

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 1 of 2

PLEASE PRINT (Provide as much information as possible.)

Company Name: MORRISON-MAIDLE INC.

Project Name, PWS, Permit, Etc.: GILLETTE MADISON PIPELINE PROJECT (GMPP)

Sample Origin State: WY

EPA/State Compliance: Yes ☐ No ☒

Report Mail Address (Required): 1 ENGINEERING PLACE HELENA MT 59602

Contact Name: MIKE KALZMANEK

Phone/Fax: 406 495-3440

Cell: 406-431-5568

Sampler: (Please Print) PAT ELLIOT

☐ No Hard Copy Email:

Invoice Contact & Phone: SAMO AS

Purchase Order:

Quote/Bottle Order:

Invoice Address (Required): SAMO AS

☐ No Hard Copy Email:

Special Report/Formats:

☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format:
☐ State: ☐ LEVEL IV
☐ Other: ☐ NELAC

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

ANALYSIS REQUESTED

SEE ATTACHED

Standard Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: Hand

Cooler ID(s):

Receipt Temp 11.8 °C

On Ice: Y N

Custody Seal
On Bottle Y N
On Cooler Y N

Intact Y N

Signature Match Y N

LABORATORY USE ONLY 13050318

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Total Iron
1	TW#1-1	05/10	0850	W	7
2	TW#1-2	05/10	1300	W	8
3	TW#1-3	05/10	1700	W	6
4	TW#1-4	5/10	2100	W	6
5	TW#1-5	5/11	0100	W	6
6	TW#1-6	5/11	0500	W	8
7	TW#1-7	5/11	0900	W	6
8	TW#1-8	5/11	1300	W	7
9	TW#1-9	5/11	1700	W	4
10	TW#1-10	5/11	2100	W	6

Custody Record MUST be Signed

Relinquished by (print): PAT ELLIOT Date/Time: 05/14 1045 Signature:

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: Date/Time: 5/14/13 1045 Signature:

Sample Disposal: Return to Client: Lab Disposal:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: Morrison – Maierle

Project Name, PWS, Permit, Etc: Gillette Madison Pipeline Project (GMP)

Sample Origin State: WY

EPA/State Compliance: Yes ☐ No ☒

Report Mail Address (Required):

Contact Name: Phone/Fax: Cell:

Sampler: (Please Print)

☐ No Hard Copy Email:

Invoice Contact & Phone:

Purchase Order:

Quote/Bottle Order:

Invoice Address (Required):

☐ No Hard Copy Email:

Special Report/Formats:

☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format:
☐ State: ☐ LEVEL IV
☐ Other: ☐ NELAC

ANALYSIS REQUESTED

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

Standard Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: Hand

Cooler ID(s):

Receipt Temp: 11.8 °C

On Ice: Y N

Custody Seal
On Bottle Y N
On Cooler Y N
Intact Y N
Signature Match Y N

LABORATORY USE ONLY: 3050318

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Total Iron	SEE ATTACHED
1	TW1 11	5/12	0100	W	X	
2	TW1 12	5/12	0500	W	X	
3	TW1 13	5/12	0900	W	X	
4	TW1 14	5/12	1300	W	X	
5	TW1 15	5/12	1700	W	X	
6	TW1 16	5/12	2100	W	X	
7	TW1 17	5/13	0100	W	X	
8	TW1 18	5/13	0500	W	X	
9	TW1 19	5/13	0902	W	X	
10	TW1 20	5/13	1300	W	X	

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Matt Elum	5/14 10:45				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory:	5/14/13 1145	

Sample Disposal: Return to Client: Lab Disposal:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

WATER SAMPLE COLLECTED AT END OF 81-HOUR, 1600-GPM CONSTANT RATE TEST

ANALYTICAL SUMMARY REPORT

June 06, 2013

Morrison Maierle Inc
PO Box 6147
Helena, MT 59604

Workorder No.: G13050312 Quote ID: G2 - Templates - Gillette

Project Name: Madison Test Well 1

Energy Laboratories Inc. Gillette WY received the following 3 samples for Morrison Maierle Inc on 5/14/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
G13050312-001	TW1	05/13/13 17:00	05/14/13	Drinking Water	Metals by ICP/ICPMS, Drinking Water Acidity, Total as CaCO3 Alkalinity Anion - Cation Balance Bacteria, Iron Related Bacteria, SDWA Anions by ion chromatography Cyanide, SDWA Color Conductivity Fluoride Foaming Agents 515-Herbicides, Chlorinated SDWA Hardness Total Uranium Langelier Index Nitrogen, Nitrate + Nitrite Odor pH Metals Digestion by EPA 200.2 Drinking Water Metals Digestion by EPA 200.2 504 Microextraction E504 Pesticides Seperatory Funnel Liquid Liquid Ext. Pesticides, Carbamates SDWA Gross Alpha, Gross Beta Radium 226 + Radium 228 Radium 226, Total Radium 228, Total Sodium Absorption Ratio Solids, Total Dissolved Sulfide, Methylene Blue Colorimetric Semi-Volatile Organic Compounds Extraction 525-Semi-Volatile Organic Compounds, SDWA Turbidity 524-Purgeable Organics, SDWA
G13050312-002	TRIP BLANK-LOTg2ala1303080950	05/13/13 17:00	05/14/13	Trip Blank	
G13050312-003	TRIP BLANK-LOTg2ala1303080950	05/13/13 17:00	05/14/13	Trip Blank	524-Purgeable Organics, SDWA

The analyses presented in this report were performed by Energy Laboratories, Inc., 400 W. Boxelder Rd., Gillette, WY 82718, unless otherwise noted.

As appropriate, any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the

ANALYTICAL SUMMARY REPORT

QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these tests results, please call.

Report Approved By:

Alyson Degnan
Project Manager

Digitally signed by
Alyson T. Degnan
Date: 2013.06.06 15:24:52 -06:00

CLIENT: Morrison Maierle Inc
Project: Madison Test Well 1
Sample Delivery Group: G13050312

Report Date: 06/06/13

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002 and WY00937.

COMBINED RA226+RA228 CALCULATION
The result for the combined Ra226/228 calculation is performed by adding the Ra226 activity to the Ra228 activity. If one or both of these activities is negative or less than the 40CFR_DL, one half the 40CFR_DL is substituted for the respective value below the 40CFR_DL. This may produce a value for the combined radium activities larger than the sum of the two original activities. This method of calculating the sum of the activities for these two radionuclides is in accordance with the guidance in 40CFR141.26(a)(4).

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1
Lab ID: G13050312-001
Client Sample ID: TW1

Report Date: 06/06/13
Collection Date: 05/13/13 17:00
Date Received: 05/14/13
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Color	15	c.u.		5		A2120 B	05/15/13 15:00 / eli-b
Odor	1	T.O.N.	H			A2150 B	05/17/13 08:35 / eli-b
Surfactants, MBAS	ND	mg/L		1		LaMotte DS-1	05/15/13 15:10 / eli-b
Turbidity	3.6	NTU		0.2		A2130 B	05/14/13 12:21 / blb
MAJOR IONS, DISSOLVED							
Bicarbonate as HCO3	220	mg/L		5		A2320 B	05/16/13 12:31 / eli-b
Carbonate as CO3	ND	mg/L		5		A2320 B	05/16/13 12:31 / eli-b
Chloride	43	mg/L		1		E300.0	05/16/13 07:45 / eli-b
Sulfate	390	mg/L		1		E300.0	05/16/13 07:45 / eli-b
Calcium	145	mg/L		1		E200.7	05/16/13 06:45 / eli-b
Magnesium	58	mg/L		1		E200.7	05/16/13 06:45 / eli-b
Potassium	3	mg/L		1		E200.7	05/16/13 06:45 / eli-b
Sodium	13	mg/L		1		E200.7	05/16/13 06:45 / eli-b
INORGANIC COMPOUNDS, SDWA							
Antimony	ND	mg/L		0.001	0.006	E200.8	05/15/13 22:47 / eli-b
Nitrogen, Nitrate+Nitrite as N	0.20	mg/L		0.01	10	E353.2	05/16/13 10:18 / eli-b
Arsenic	0.002	mg/L		0.001	0.01	E200.8	05/17/13 15:48 / eli-b
Barium	ND	mg/L		0.05	2	E200.8	05/15/13 22:47 / eli-b
Beryllium	ND	mg/L		0.001	0.004	E200.8	05/15/13 22:47 / eli-b
Boron	ND	mg/L		0.05		E200.7	05/16/13 06:45 / eli-b
Cadmium	ND	mg/L		0.001	0.005	E200.8	05/15/13 22:47 / eli-b
Chromium	ND	mg/L		0.005	0.1	E200.8	05/15/13 22:47 / eli-b
Copper	ND	mg/L		0.005		E200.8	05/16/13 17:57 / eli-b
Cyanide, Total	ND	mg/L		0.005	0.2	Kelada-01	05/16/13 15:46 / eli-b
Fluoride	2.2	mg/L		0.1	4	A4500-F C	05/17/13 12:07 / eli-b
Iron	0.39	mg/L		0.03		E200.7	05/16/13 06:45 / eli-b
Lead	ND	mg/L		0.001		E200.8	05/17/13 15:48 / eli-b
Manganese	0.008	mg/L		0.001		E200.8	05/17/13 15:48 / eli-b
Mercury	ND	mg/L		0.0001	0.002	E200.8	05/15/13 22:47 / eli-b
Nickel	ND	mg/L		0.01		E200.8	05/15/13 22:47 / eli-b
Selenium	0.006	mg/L		0.001	0.05	E200.8	05/17/13 15:48 / eli-b
Silicon	5.6	mg/L		0.1		E200.7	05/16/13 06:45 / eli-b
Silicon as SiO2	12.0	mg/L		0.2		E200.7	05/16/13 06:45 / eli-b
Thallium	ND	mg/L		0.0005	0.002	E200.8	05/15/13 22:47 / eli-b
Zinc	0.02	mg/L		0.01		E200.8	05/16/13 17:57 / eli-b
NON-METALS							
Acidity, Total as CaCO3	16	mg/L		4		A2310 B	05/15/13 17:19 / eli-b
Alkalinity, Total as CaCO3	180	mg/L		5		A2320 B	05/16/13 12:31 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1
Lab ID: G13050312-001
Client Sample ID: TW1

Report Date: 06/06/13
Collection Date: 05/13/13 17:00
Date Received: 05/14/13
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
NON-METALS							
Conductivity @ 25 C	1110	umhos/cm		10		A2510 B	05/14/13 13:37 / blb
Hardness as CaCO3	600	mg/L				A2340 B	05/16/13 06:45 / blb
Langelier Index	0.35					A2330 B	06/04/13 10:34 / blb
pH	7.25	s.u.	H	0.01		A4500-H B	05/14/13 13:37 / blb
Sodium Adsorption Ratio (SAR)	0.2	unitless				Calculation	05/16/13 06:45 / blb
Solids, Total Dissolved TDS @ 180 C	817	mg/L		10		A2540 C	05/15/13 10:35 / eli-b
Sulfide	ND	mg/L		0.04		A4500-S D	05/15/13 15:45 / eli-b
RADIONUCLIDES - TOTAL							
Gross Alpha	8.2	pCi/L			15	E900.0	05/31/13 20:59 / eli-ca
Gross Alpha precision (±)	2.1	pCi/L				E900.0	05/31/13 20:59 / eli-ca
Gross Alpha MDC	1.7	pCi/L				E900.0	05/31/13 20:59 / eli-ca
Radium 226	0.9	pCi/L			5	E903.0	05/29/13 18:52 / eli-ca
Radium 226 precision (±)	0.2	pCi/L				E903.0	05/29/13 18:52 / eli-ca
Radium 226 MDC	0.1	pCi/L				E903.0	05/29/13 18:52 / eli-ca
Radium 228	1.0	pCi/L	U		5	RA-05	05/28/13 10:31 / eli-ca
Radium 228 precision (±)	1.1	pCi/L				RA-05	05/28/13 10:31 / eli-ca
Radium 228 MDC	1.1	pCi/L				RA-05	05/28/13 10:31 / eli-ca
Radium 226 + Radium 228	1.5	pCi/L			5	A7500-RA	05/30/13 12:20 / eli-ca
Radium 226 + Radium 228 precision (±)	1.1	pCi/L				A7500-RA	05/30/13 12:20 / eli-ca
Radium 226 + Radium 228 MDC	1.1	pCi/L				A7500-RA	05/30/13 12:20 / eli-ca
Uranium	0.008	mg/L		0.001	0.03	E200.8	05/31/13 18:21 / eli-ca
Uranium, Activity	5.2	pCi/L		0.7	20	E200.8	05/31/13 18:21 / eli-ca
- See case narrative regarding combined Ra226+Ra228 calculation.							
DATA QUALITY							
A/C Balance	-0.24	%				A1030 E	06/04/13 10:34 / blb
Anions	13.1	meq/L				A1030 E	06/04/13 10:34 / blb
Cations	13.0	meq/L				A1030 E	06/04/13 10:34 / blb
SOC-HERBICIDES, SDWA							
2,4-D	ND	ug/L		1.0	70	E515.1	05/20/13 14:28 / eli-b
2,4-DB	ND	ug/L		2.5		E515.1	05/20/13 14:28 / eli-b
Dalapon	ND	ug/L		2.5	200	E515.1	05/20/13 14:28 / eli-b
Dicamba	ND	ug/L		0.25		E515.1	05/20/13 14:28 / eli-b
Dichlorprop	ND	ug/L		1.0		E515.1	05/20/13 14:28 / eli-b
Dinoseb	ND	ug/L		1.0	7	E515.1	05/20/13 14:28 / eli-b
Pentachlorophenol	ND	ug/L		0.040	1	E515.1	05/20/13 14:28 / eli-b
Picloram	ND	ug/L		0.50	500	E515.1	05/20/13 14:28 / eli-b
2,4,5-TP (Silvex)	ND	ug/L		0.20	50	E515.1	05/20/13 14:28 / eli-b
Surr: DCAA	70.0	%REC		70-130		E515.1	05/20/13 14:28 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1
Lab ID: G13050312-001
Client Sample ID: TW1

Report Date: 06/06/13
Collection Date: 05/13/13 17:00
Date Received: 05/14/13
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
SOC-PESTICIDES, SDWA							
1,2-Dibromo-3-chloropropane	ND	ug/L		0.020	0.2	E504.1	05/22/13 04:59 / eli-ca
Aldicarb	ND	ug/L		0.40	3	E531.1	05/15/13 11:23 / eli-ca
1,2-Dibromoethane	ND	ug/L		0.010	0.05	E504.1	05/22/13 04:59 / eli-ca
Aldicarb sulfone	ND	ug/L		0.40	2	E531.1	05/15/13 11:23 / eli-ca
Aldicarb sulfoxide	ND	ug/L		0.40	4	E531.1	05/15/13 11:23 / eli-ca
1,2,3-Trichloropropane	ND	ug/L		0.050		E504.1	05/22/13 04:59 / eli-ca
Carbaryl	ND	ug/L		0.40		E531.1	05/15/13 11:23 / eli-ca
Carbofuran	ND	ug/L		0.40	40	E531.1	05/15/13 11:23 / eli-ca
3-Hydroxycarbofuran	ND	ug/L		0.40		E531.1	05/15/13 11:23 / eli-ca
Methiocarb	ND	ug/L		0.40		E531.1	05/15/13 11:23 / eli-ca
Methomyl	ND	ug/L		0.40		E531.1	05/15/13 11:23 / eli-ca
Oxamyl	ND	ug/L		0.40	200	E531.1	05/15/13 11:23 / eli-ca
Baygon	ND	ug/L		0.40		E531.1	05/15/13 11:23 / eli-ca
Surr: 1,1,1,2-Tetrachloroethane	110	%REC		63-130		E504.1	05/22/13 04:59 / eli-ca
Surr: BDMC	92.0	%REC		70-130		E531.1	05/15/13 11:23 / eli-ca
VOLATILE ORGANIC COMPOUNDS, SDWA							
Benzene	ND	ug/L		0.50	5	E524.2	05/16/13 16:06 / eli-b
Bromobenzene	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
Bromochloromethane	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
Bromodichloromethane	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
Bromoform	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
Bromomethane	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
n-Butylbenzene	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
sec-Butylbenzene	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
tert-Butylbenzene	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
Carbon tetrachloride	ND	ug/L		0.50	5	E524.2	05/16/13 16:06 / eli-b
Chlorobenzene	ND	ug/L		0.50	100	E524.2	05/16/13 16:06 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
Chloroethane	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
Chloroform	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
Chloromethane	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
2-Chlorotoluene	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
4-Chlorotoluene	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0	0.2	E524.2	05/16/13 16:06 / eli-b
Dibromomethane	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
1,2-Dichlorobenzene	ND	ug/L		0.50	600	E524.2	05/16/13 16:06 / eli-b
1,3-Dichlorobenzene	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
1,4-Dichlorobenzene	ND	ug/L		0.50	75	E524.2	05/16/13 16:06 / eli-b
Dichlorodifluoromethane	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
1,1-Dichloroethane	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1
Lab ID: G13050312-001
Client Sample ID: TW1

Report Date: 06/06/13
Collection Date: 05/13/13 17:00
Date Received: 05/14/13
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS, SDWA							
1,2-Dichloroethane	ND	ug/L		0.50	5	E524.2	05/16/13 16:06 / eli-b
1,2-Dibromoethane	ND	ug/L		0.50	0.05	E524.2	05/16/13 16:06 / eli-b
1,1-Dichloroethene	ND	ug/L		0.50	7	E524.2	05/16/13 16:06 / eli-b
cis-1,2-Dichloroethene	ND	ug/L		0.50	70	E524.2	05/16/13 16:06 / eli-b
trans-1,2-Dichloroethene	ND	ug/L		0.50	100	E524.2	05/16/13 16:06 / eli-b
1,2-Dichloropropane	ND	ug/L		0.50	5	E524.2	05/16/13 16:06 / eli-b
1,3-Dichloropropane	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
2,2-Dichloropropane	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
1,1-Dichloropropene	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
cis-1,3-Dichloropropene	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
trans-1,3-Dichloropropene	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
Ethylbenzene	ND	ug/L		0.50	700	E524.2	05/16/13 16:06 / eli-b
Hexachlorobutadiene	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
Isopropylbenzene	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
p-Isopropyltoluene	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
Methyl tert-butyl ether (MTBE)	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
Methylene chloride	ND	ug/L		0.50	5	E524.2	05/16/13 16:06 / eli-b
Naphthalene	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
n-Propylbenzene	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
Styrene	ND	ug/L		0.50	100	E524.2	05/16/13 16:06 / eli-b
1,1,1,2-Tetrachloroethane	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
1,1,2,2-Tetrachloroethane	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
Tetrachloroethene	ND	ug/L		0.50	5	E524.2	05/16/13 16:06 / eli-b
Toluene	ND	ug/L		0.50	1000	E524.2	05/16/13 16:06 / eli-b
1,2,3-Trichlorobenzene	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
1,2,4-Trichlorobenzene	ND	ug/L		0.50	70	E524.2	05/16/13 16:06 / eli-b
1,1,1-Trichloroethane	ND	ug/L		0.50	200	E524.2	05/16/13 16:06 / eli-b
1,1,2-Trichloroethane	ND	ug/L		0.50	5	E524.2	05/16/13 16:06 / eli-b
Trichloroethene	ND	ug/L		0.50	5	E524.2	05/16/13 16:06 / eli-b
Trichlorofluoromethane	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
1,2,3-Trichloropropane	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50	80	E524.2	05/16/13 16:06 / eli-b
1,2,4-Trimethylbenzene	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
1,3,5-Trimethylbenzene	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
Vinyl chloride	ND	ug/L		0.50	2	E524.2	05/16/13 16:06 / eli-b
m+p-Xylenes	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
o-Xylene	ND	ug/L		0.50		E524.2	05/16/13 16:06 / eli-b
Xylenes, Total	ND	ug/L		0.50	10000	E524.2	05/16/13 16:06 / eli-b
Surr: p-Bromofluorobenzene	99.0	%REC		80-120		E524.2	05/16/13 16:06 / eli-b
Surr: 1,2-Dichloroethane-d4	94.0	%REC		74-127		E524.2	05/16/13 16:06 / eli-b
Surr: Toluene-d8	96.0	%REC		80-120		E524.2	05/16/13 16:06 / eli-b

Report Definitions:
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QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1
Lab ID: G13050312-001
Client Sample ID: TW1

Report Date: 06/06/13
Collection Date: 05/13/13 17:00
Date Received: 05/14/13
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
SEMI-VOLATILE ORGANIC COMPOUNDS							
Alachlor	ND	ug/L		0.10	2	E525.2	05/16/13 06:00 / eli-b
Aldrin	ND	ug/L		0.10		E525.2	05/16/13 06:00 / eli-b
Aroclor 1016	ND	ug/L		0.080		E525.2	05/16/13 06:00 / eli-b
Aroclor 1221	ND	ug/L		2.0		E525.2	05/16/13 06:00 / eli-b
Aroclor 1232	ND	ug/L		0.50		E525.2	05/16/13 06:00 / eli-b
Aroclor 1242	ND	ug/L		0.30		E525.2	05/16/13 06:00 / eli-b
Aroclor 1248	ND	ug/L		0.10		E525.2	05/16/13 06:00 / eli-b
Aroclor 1254	ND	ug/L		0.10		E525.2	05/16/13 06:00 / eli-b
Aroclor 1260	ND	ug/L		0.20		E525.2	05/16/13 06:00 / eli-b
Atrazine	ND	ug/L		0.10	3	E525.2	05/16/13 06:00 / eli-b
Benzo(a)pyrene	ND	ug/L		0.10	0.2	E525.2	05/16/13 06:00 / eli-b
bis(2-ethylhexyl)Adipate	ND	ug/L		0.50	400	E525.2	05/16/13 06:00 / eli-b
bis(2-ethylhexyl)Phthalate	ND	ug/L		2.0	6	E525.2	05/16/13 06:00 / eli-b
Butachlor	ND	ug/L		0.10		E525.2	05/16/13 06:00 / eli-b
Chlordane	ND	ug/L		1.0	2	E525.2	05/16/13 06:00 / eli-b
Dieldrin	ND	ug/L		0.10		E525.2	05/16/13 06:00 / eli-b
Endrin	ND	ug/L		0.10	2	E525.2	05/16/13 06:00 / eli-b
gamma-BHC (Lindane)	ND	ug/L		0.10	0.2	E525.2	05/16/13 06:00 / eli-b
Heptachlor	ND	ug/L		0.10	0.4	E525.2	05/16/13 06:00 / eli-b
Heptachlor epoxide	ND	ug/L		0.10	0.2	E525.2	05/16/13 06:00 / eli-b
Hexachlorobenzene	ND	ug/L		0.10	1	E525.2	05/16/13 06:00 / eli-b
Hexachlorocyclopentadiene	ND	ug/L		0.10	50	E525.2	05/16/13 06:00 / eli-b
Methoxychlor	ND	ug/L		0.10	40	E525.2	05/16/13 06:00 / eli-b
Metolachlor	ND	ug/L		0.10		E525.2	05/16/13 06:00 / eli-b
Metribuzin	ND	ug/L		0.10		E525.2	05/16/13 06:00 / eli-b
Propachlor	ND	ug/L		0.10		E525.2	05/16/13 06:00 / eli-b
Simazine	ND	ug/L		0.10	4	E525.2	05/16/13 06:00 / eli-b
Toxaphene	ND	ug/L		2.0	3	E525.2	05/16/13 06:00 / eli-b
PCBs, Total	ND	ug/L		0.50	0.5	E525.2	05/16/13 06:00 / eli-b
Surr: 1,3-Dimethyl-2-nitrobenzene	95.0	%REC		70-130		E525.2	05/16/13 06:00 / eli-b
Surr: Perylene-d12	103	%REC		70-130		E525.2	05/16/13 06:00 / eli-b
Surr: Pyrene-d10	121	%REC		70-130		E525.2	05/16/13 06:00 / eli-b
Surr: Triphenylphosphate	116	%REC		70-130		E525.2	05/16/13 06:00 / eli-b

Note: The federal MCL for total PCB's is 0.5 ug/L as Decachlorobiphenyl (DCB). PCB screening at the reporting limits given for the individual Aroclors meets or exceeds federal and state requirements for "Total PCB" monitoring if Aroclors are not detected.

BACTERIA							
Bacteria, Iron Related	25	CFU/ml		25		IRB-BART	05/14/13 11:38 / jab

Report Definitions:
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MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1
Client Sample ID TW1
Sampled By: Pat Eller
Lab ID: G13050312-001L

Report Date: 06/06/13
Collection Date: 05/13/13 17:00
Received Date: 05/14/13 10:45
Matrix: Drinking Water

Analyses	Result	Units	Safe/Unsafe	Qualifier	Method	Analysis Date / By
BACTERIA						
Bacteria, Total Coliform	Absent	P/A	SAFE		A9223 B	05/14/13 11:45 / jab
Bacteria, E-Coli Coliform	Absent	P/A			A9223 B	05/14/13 11:45 / jab

Comments: The notation "SAFE" indicates that the water was bacteriologically SAFE when sampled.
The notation "UNSAFE" indicates that the water was bacteriologically UNSAFE when sampled.

Method Reference: E - EPA / MCAWW Methodology A - Standard Methods 19th Ed.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1
Lab ID: G13050312-003
Client Sample ID: TRIP BLANK-LOTg2ala1303080950

Report Date: 06/06/13
Collection Date: 05/13/13 17:00
Date Received: 05/14/13
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS, SDWA							
Benzene	ND	ug/L		0.50	5	E524.2	05/16/13 16:37 / eli-b
Bromobenzene	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
Bromochloromethane	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
Bromodichloromethane	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
Bromoform	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
Bromomethane	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
n-Butylbenzene	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
sec-Butylbenzene	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
tert-Butylbenzene	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
Carbon tetrachloride	ND	ug/L		0.50	5	E524.2	05/16/13 16:37 / eli-b
Chlorobenzene	ND	ug/L		0.50	100	E524.2	05/16/13 16:37 / eli-b
Chlorodibromomethane	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
Chloroethane	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
Chloroform	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
Chloromethane	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
2-Chlorotoluene	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
4-Chlorotoluene	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0	0.2	E524.2	05/16/13 16:37 / eli-b
Dibromomethane	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
1,2-Dichlorobenzene	ND	ug/L		0.50	600	E524.2	05/16/13 16:37 / eli-b
1,3-Dichlorobenzene	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
1,4-Dichlorobenzene	ND	ug/L		0.50	75	E524.2	05/16/13 16:37 / eli-b
Dichlorodifluoromethane	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
1,1-Dichloroethane	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
1,2-Dichloroethane	ND	ug/L		0.50	5	E524.2	05/16/13 16:37 / eli-b
1,2-Dibromoethane	ND	ug/L		0.50	0.05	E524.2	05/16/13 16:37 / eli-b
1,1-Dichloroethene	ND	ug/L		0.50	7	E524.2	05/16/13 16:37 / eli-b
cis-1,2-Dichloroethene	ND	ug/L		0.50	70	E524.2	05/16/13 16:37 / eli-b
trans-1,2-Dichloroethene	ND	ug/L		0.50	100	E524.2	05/16/13 16:37 / eli-b
1,2-Dichloropropane	ND	ug/L		0.50	5	E524.2	05/16/13 16:37 / eli-b
1,3-Dichloropropane	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
2,2-Dichloropropane	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
1,1-Dichloropropene	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
cis-1,3-Dichloropropene	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
trans-1,3-Dichloropropene	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
Ethylbenzene	ND	ug/L		0.50	700	E524.2	05/16/13 16:37 / eli-b
Hexachlorobutadiene	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
Isopropylbenzene	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
p-Isopropyltoluene	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
Methyl tert-butyl ether (MTBE)	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
Methylene chloride	ND	ug/L		0.50	5	E524.2	05/16/13 16:37 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1
Lab ID: G13050312-003
Client Sample ID: TRIP BLANK-LOTg2ala1303080950

Report Date: 06/06/13
Collection Date: 05/13/13 17:00
Date Received: 05/14/13
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS, SDWA							
Naphthalene	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
n-Propylbenzene	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
Styrene	ND	ug/L		0.50	100	E524.2	05/16/13 16:37 / eli-b
1,1,1,2-Tetrachloroethane	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
1,1,2,2-Tetrachloroethane	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
Tetrachloroethene	ND	ug/L		0.50	5	E524.2	05/16/13 16:37 / eli-b
Toluene	ND	ug/L		0.50	1000	E524.2	05/16/13 16:37 / eli-b
1,2,3-Trichlorobenzene	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
1,2,4-Trichlorobenzene	ND	ug/L		0.50	70	E524.2	05/16/13 16:37 / eli-b
1,1,1-Trichloroethane	ND	ug/L		0.50	200	E524.2	05/16/13 16:37 / eli-b
1,1,2-Trichloroethane	ND	ug/L		0.50	5	E524.2	05/16/13 16:37 / eli-b
Trichloroethene	ND	ug/L		0.50	5	E524.2	05/16/13 16:37 / eli-b
Trichlorofluoromethane	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
1,2,3-Trichloropropane	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
Trihalomethanes, Total	ND	ug/L		0.50	80	E524.2	05/16/13 16:37 / eli-b
1,2,4-Trimethylbenzene	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
1,3,5-Trimethylbenzene	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
Vinyl chloride	ND	ug/L		0.50	2	E524.2	05/16/13 16:37 / eli-b
m+p-Xylenes	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
o-Xylene	ND	ug/L		0.50		E524.2	05/16/13 16:37 / eli-b
Xylenes, Total	ND	ug/L		0.50	10000	E524.2	05/16/13 16:37 / eli-b
Surr: p-Bromofluorobenzene	101	%REC		80-120		E524.2	05/16/13 16:37 / eli-b
Surr: 1,2-Dichloroethane-d4	96.0	%REC		74-127		E524.2	05/16/13 16:37 / eli-b
Surr: Toluene-d8	101	%REC		80-120		E524.2	05/16/13 16:37 / eli-b

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 06/06/13
Work Order: G13050312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2130 B								Batch: 130514_1_TURB-W	
Sample ID: MBLK-1_130514	Method Blank				Run: TURBIDIMETER 2100P_13051			05/14/13 12:16	
Turbidity	0.1	NTU	0.05						
Sample ID: LCS-1_130514	Laboratory Control Sample				Run: TURBIDIMETER 2100P_13051			05/14/13 12:17	
Turbidity	18	NTU	0.2	91	90	110			
Sample ID: LCS1-1_130514	Laboratory Control Sample				Run: TURBIDIMETER 2100P_13051			05/14/13 12:20	
Turbidity	1.1	NTU	0.2	98	90	110			
Sample ID: G13050312-001ADUP	Sample Duplicate				Run: TURBIDIMETER 2100P_13051			05/14/13 12:22	
Turbidity	3.6	NTU	0.2				1.1	10	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 06/06/13
Work Order: G13050312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B									Batch: R203569
Sample ID: SC 100	Initial Calibration Verification Standard				Run: PHSC_101-G_130514A				05/14/13 10:09
Conductivity @ 25 C	107	umhos/cm	10	107	95	105			S
Sample ID: SC 5000	Initial Calibration Verification Standard				Run: PHSC_101-G_130514A				05/14/13 10:11
Conductivity @ 25 C	4970	umhos/cm	10	99	95	105			
Sample ID: SC 20000	Initial Calibration Verification Standard				Run: PHSC_101-G_130514A				05/14/13 10:14
Conductivity @ 25 C	19700	umhos/cm	10	98	95	105			
Sample ID: SC 50000	Initial Calibration Verification Standard				Run: PHSC_101-G_130514A				05/14/13 10:16
Conductivity @ 25 C	48400	umhos/cm	10	97	95	105			
Sample ID: MBLK - SC	Method Blank				Run: PHSC_101-G_130514A				05/14/13 13:25
Conductivity @ 25 C	5	umhos/cm	2						
Sample ID: G13050303-001ADUP	Sample Duplicate				Run: PHSC_101-G_130514A				05/14/13 13:30
Conductivity @ 25 C	3790	umhos/cm	10				0.0	5	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 06/06/13
Work Order: G13050312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B							Analytical Run: PHSC_101-G_130514A		
Sample ID: pH 8	Initial Calibration Verification Standard								05/14/13 10:06
pH	7.97	s.u.	0.010	100	98	102			
Method: A4500-H B									Batch: R203569
Sample ID: G13050303-001ADUP	Sample Duplicate				Run: PHSC_101-G_130514A				05/14/13 13:30
pH	7.59	s.u.	0.010				0.0	1.5	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 05/22/13
Work Order: G13050312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2120 B									Analytical Run: MISC-WC_130515C	
Sample ID: ICV		Initial Calibration Verification Standard							05/15/13 14:58	
Color		25	c.u.	5.0	100	90	110			
Method: A2120 B									Batch: R204653	
Sample ID: MB-R204653		Method Blank				Run: MISC-WC_130515C			05/15/13 14:56	
Color		1	c.u.							
Sample ID: G13050312-001BDUP		Sample Duplicate				Run: MISC-WC_130515C			05/15/13 15:05	
Color		15	c.u.	5		80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 05/22/13
Work Order: G13050312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2310 B										Batch: R204682
Sample ID: MBLK		Method Blank				Run: Metrohm 2_130515A				05/15/13 16:40
Acidity, Total as CaCO3		2	mg/L	0.3						
Sample ID: LCS		Laboratory Control Sample				Run: Metrohm 2_130515A				05/15/13 16:48
Acidity, Total as CaCO3		1040	mg/L	4.0	99	90	110			
Sample ID: B13050931-003ADUP		Sample Duplicate				Run: Metrohm 2_130515A				05/15/13 17:10
Acidity, Total as CaCO3		47.0	mg/L	4.0				0.8	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 05/22/13
Work Order: G13050312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: R204790
Sample ID: MBLK	3	Method Blank				Run: MAN-TECH_130516A				05/16/13 11:18
Alkalinity, Total as CaCO3		ND	mg/L	5.0						
Bicarbonate as HCO3		-1.76	mg/L	5.0						
Carbonate as CO3			mg/L	5.0						
Sample ID: LCS		Laboratory Control Sample				Run: MAN-TECH_130516A				05/16/13 11:23
Alkalinity, Total as CaCO3		99.4	mg/L	4.0	99	90	110			
Sample ID: B13050816-003ADUP	3	Sample Duplicate				Run: MAN-TECH_130516A				05/16/13 11:51
Alkalinity, Total as CaCO3		205	mg/L	4.0				0.0	20	
Bicarbonate as HCO3		251	mg/L	4.0				0.0	20	
Carbonate as CO3		ND	mg/L	4.0					20	
Sample ID: B13050816-006AMS		Sample Matrix Spike				Run: MAN-TECH_130516A				05/16/13 12:05
Alkalinity, Total as CaCO3		427	mg/L	4.0	89	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 05/22/13
Work Order: G13050312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: TDS130515A
Sample ID: MB-1_130515A		Method Blank				Run: BAL #11_130515A				05/15/13 10:31
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	10						
Sample ID: LCS-2_130515A		Laboratory Control Sample				Run: BAL #11_130515A				05/15/13 10:32
Solids, Total Dissolved TDS @ 180 C		2010	mg/L	10	100	90	110			
Sample ID: B13051120-011A MS		Sample Matrix Spike				Run: BAL #11_130515A				05/15/13 10:33
Solids, Total Dissolved TDS @ 180 C		3980	mg/L	10	104	90	110			
Sample ID: B13051142-001A DUP		Sample Duplicate				Run: BAL #11_130515A				05/15/13 10:34
Solids, Total Dissolved TDS @ 180 C		4190	mg/L	10		90	110	0.8	5	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Report Date: 05/22/13
Project: Madison Test Well 1
Work Order: G13050312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-F C									Analytical Run: MAN-TECH_130517A	
Sample ID: ICV		Initial Calibration Verification Standard							05/17/13 10:39	
Fluoride		1.06	mg/L	0.10	106	90	110			
Method: A4500-F C									Batch: R204838	
Sample ID: MBLK		Method Blank				Run: MAN-TECH_130517A			05/17/13 10:33	
Fluoride		ND	mg/L	0.02						
Sample ID: LFB		Laboratory Fortified Blank				Run: MAN-TECH_130517A			05/17/13 10:36	
Fluoride		1.02	mg/L	0.10	102	90	110			
Sample ID: B13051275-002AMS		Sample Matrix Spike				Run: MAN-TECH_130517A			05/17/13 12:23	
Fluoride		1.14	mg/L	0.10	93	80	120			
Sample ID: B13051275-002AMSD		Sample Matrix Spike Duplicate				Run: MAN-TECH_130517A			05/17/13 12:26	
Fluoride		1.15	mg/L	0.10	94	80	120	0.9	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 05/22/13
Work Order: G13050312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B									Analytical Run: Metrohm 2_130515A	
Sample ID: pH 8		Initial Calibration Verification Standard							05/15/13 12:31	
pH		7.97	s.u.	0.10	100	98	102			
Method: A4500-H B									Batch: R204682	
Sample ID: B13050931-003ADUP		Sample Duplicate				Run: Metrohm 2_130515A			05/15/13 17:10	
pH		3.82	s.u.	0.10				0.0	3	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 05/22/13
Work Order: G13050312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-S D										Batch: R204717
Sample ID: MB-R204717		Method Blank				Run: SPEC_130515C				05/15/13 15:45
Sulfide		ND	mg/L	0.002						
Sample ID: LCS-R204717		Laboratory Control Sample				Run: SPEC_130515C				05/15/13 15:45
Sulfide		0.269	mg/L	0.040	114	70	130			
Sample ID: B13051148-001FMS		Sample Matrix Spike				Run: SPEC_130515C				05/15/13 15:45
Sulfide		0.270	mg/L	0.040	103	70	130			
Sample ID: B13051148-001FMSD		Sample Matrix Spike Duplicate				Run: SPEC_130515C				05/15/13 15:45
Sulfide		0.276	mg/L	0.040	105	70	130	2.0	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 05/22/13
Work Order: G13050312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP203-B_130515A	
Sample ID: ICV	10	Continuing Calibration Verification Standard							05/15/13 11:48	
Boron		2.56	mg/L	0.10	102	95	105			
Calcium		26.2	mg/L	1.0	105	95	105			
Iron		2.60	mg/L	0.030	104	95	105			
Magnesium		25.6	mg/L	1.0	102	95	105			
Potassium		26.1	mg/L	1.0	104	95	105			
Sodium		25.8	mg/L	1.0	103	95	105			
Zinc		2.51	mg/L	0.010	100	95	105			
Silicon		5.15	mg/L	0.10	103	95	105			
Silica		11.0	mg/L	0.21	103	95	105			
Silicon as SiO2		11.0	mg/L	0.21	103	95	105			
Method: E200.7										Batch: R204670
Sample ID: MB-6500DIS130515A	10	Method Blank				Run: ICP203-B_130515A			05/15/13 12:12	
Boron		ND	mg/L	0.002						
Calcium		ND	mg/L	0.007						
Iron		0.003	mg/L	0.003						
Magnesium		0.003	mg/L	0.002						
Potassium		ND	mg/L	0.02						
Sodium		ND	mg/L	0.008						
Zinc		ND	mg/L	0.001						
Silicon		ND	mg/L	0.01						
Silica		ND	mg/L	0.03						
Silicon as SiO2		ND	mg/L	0.03						
Sample ID: LFB-6500DIS130515A	10	Laboratory Fortified Blank				Run: ICP203-B_130515A			05/15/13 12:16	
Boron		0.995	mg/L	0.10	100	85	115			
Calcium		51.6	mg/L	1.0	103	85	115			
Iron		5.10	mg/L	0.030	102	85	115			
Magnesium		51.2	mg/L	1.0	102	85	115			
Potassium		50.7	mg/L	1.0	101	85	115			
Sodium		51.0	mg/L	1.0	102	85	115			
Zinc		0.989	mg/L	0.010	99	85	115			
Silicon		9.98	mg/L	0.10	100	85	115			
Silica		21.4	mg/L	0.21	100	85	115			
Silicon as SiO2		21.4	mg/L	0.21	100	85	115			
Sample ID: G13050312-001CMS2	10	Sample Matrix Spike				Run: ICP203-B_130515A			05/16/13 06:53	
Boron		2.03	mg/L	0.050	100	70	130			
Calcium		242	mg/L	1.0	97	70	130			
Iron		10.5	mg/L	0.030	101	70	130			
Magnesium		161	mg/L	1.0	103	70	130			
Potassium		105	mg/L	1.0	102	70	130			
Silicon		24.3	mg/L	0.10	94	70	130			
Sodium		114	mg/L	1.0	102	70	130			
Zinc		2.03	mg/L	0.010	101	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 05/22/13
Work Order: G13050312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Batch: R204670
Sample ID: G13050312-001CMS2	10	Sample Matrix Spike				Run: ICP203-B_130515A				05/16/13 06:53
Silica		52.1	mg/L	0.21	94	70	130			
Silicon as SiO2		52.1	mg/L	0.21	94	70	130			
Sample ID: G13050312-001CMSD2	10	Sample Matrix Spike Duplicate				Run: ICP203-B_130515A				05/16/13 06:57
Boron		2.05	mg/L	0.050	101	70	130	0.6	20	
Calcium		243	mg/L	1.0	98	70	130	0.4	20	
Iron		10.5	mg/L	0.030	101	70	130	0.0	20	
Magnesium		161	mg/L	1.0	103	70	130	0.2	20	
Potassium		106	mg/L	1.0	103	70	130	0.9	20	
Silicon		25.0	mg/L	0.10	97	70	130	2.6	20	
Sodium		115	mg/L	1.0	102	70	130	0.6	20	
Zinc		2.02	mg/L	0.010	101	70	130	0.3	20	
Silica		53.5	mg/L	0.21	97	70	130	2.6	20	
Silicon as SiO2		53.5	mg/L	0.21	97	70	130	2.6	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 05/22/13
Work Order: G13050312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS202-B_130515B		
Sample ID: QCS	10	Initial Calibration Verification Standard							05/15/13 10:10	
Antimony		0.0497	mg/L	0.050	99	90	110			
Barium		0.0495	mg/L	0.10	99	90	110			
Beryllium		0.0258	mg/L	0.0010	103	90	110			
Cadmium		0.0265	mg/L	0.0010	106	90	110			
Chromium		0.0506	mg/L	0.010	101	90	110			
Copper		0.0532	mg/L	0.010	106	90	110			
Manganese		0.251	mg/L	0.010	100	90	110			
Mercury		0.00204	mg/L	0.0010	102	90	110			
Nickel		0.0525	mg/L	0.010	105	90	110			
Thallium		0.0504	mg/L	0.10	101	90	110			
Sample ID: QCS	10	Initial Calibration Verification Standard							05/16/13 15:33	
Antimony		0.0478	mg/L	0.050	96	90	110			
Barium		0.0481	mg/L	0.10	96	90	110			
Beryllium		0.0250	mg/L	0.0010	100	90	110			
Cadmium		0.0256	mg/L	0.0010	102	90	110			
Chromium		0.0493	mg/L	0.010	99	90	110			
Copper		0.0499	mg/L	0.010	100	90	110			
Manganese		0.246	mg/L	0.010	98	90	110			
Mercury		0.00187	mg/L	0.0010	94	90	110			
Nickel		0.0499	mg/L	0.010	100	90	110			
Thallium		0.0494	mg/L	0.10	99	90	110			
Method: E200.8										Batch: R204702
Sample ID: LFB	10	Laboratory Fortified Blank				Run: ICPMS202-B_130515B			05/15/13 10:35	
Antimony		0.0459	mg/L	0.050	92	85	115			
Barium		0.0481	mg/L	0.10	96	85	115			
Beryllium		0.0487	mg/L	0.0010	97	85	115			
Cadmium		0.0490	mg/L	0.0010	98	85	115			
Chromium		0.0490	mg/L	0.010	98	85	115			
Copper		0.0519	mg/L	0.010	104	85	115			
Manganese		0.0489	mg/L	0.010	98	85	115			
Mercury		0.000940	mg/L	0.0010	94	85	115			
Nickel		0.0511	mg/L	0.010	102	85	115			
Thallium		0.0484	mg/L	0.10	97	85	115			
Sample ID: LRB	10	Method Blank				Run: ICPMS202-B_130515B			05/15/13 10:53	
Antimony		0.003	mg/L	2E-05						
Barium		0.003	mg/L	4E-05						
Beryllium		0.003	mg/L	2E-05						
Cadmium		0.003	mg/L	8E-06						
Chromium		0.002	mg/L	3E-05						
Copper		0.003	mg/L	3E-05						
Manganese		0.003	mg/L	2E-05						
Mercury		2E-05	mg/L	6E-06						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 05/22/13
Work Order: G13050312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R204702
Sample ID: LRB	10	Method Blank				Run: ICPMS202-B_130515B				05/15/13 10:53
Nickel		0.003	mg/L	3E-05						
Thallium		0.003	mg/L	8E-06						
Sample ID: G13050312-001CMS	10	Sample Matrix Spike				Run: ICPMS202-B_130515B				05/15/13 22:50
Antimony		0.0513	mg/L	0.0010	102	70	130			
Barium		0.0685	mg/L	0.050	99	70	130			
Beryllium		0.0503	mg/L	0.0010	101	70	130			
Cadmium		0.0493	mg/L	0.0010	99	70	130			
Chromium		0.0558	mg/L	0.0050	112	70	130			
Copper		0.0589	mg/L	0.0050	101	70	130			
Manganese		0.0608	mg/L	0.0010	105	70	130			
Mercury		0.000940	mg/L	0.00010	93	70	130			
Nickel		0.0570	mg/L	0.010	106	70	130			
Thallium		0.0501	mg/L	0.00050	100	70	130			
Sample ID: G13050312-001CMSD	10	Sample Matrix Spike Duplicate				Run: ICPMS202-B_130515B				05/15/13 23:04
Antimony		0.0489	mg/L	0.0010	98	70	130	4.7	20	
Barium		0.0669	mg/L	0.050	96	70	130	2.3	20	
Beryllium		0.0488	mg/L	0.0010	98	70	130	3.0	20	
Cadmium		0.0470	mg/L	0.0010	94	70	130	4.9	20	
Chromium		0.0515	mg/L	0.0050	103	70	130	7.9	20	
Copper		0.0540	mg/L	0.0050	91	70	130	8.7	20	
Manganese		0.0586	mg/L	0.0010	101	70	130	3.8	20	
Mercury		0.000952	mg/L	0.00010	94	70	130	1.3	20	
Nickel		0.0543	mg/L	0.010	101	70	130	4.9	20	
Thallium		0.0482	mg/L	0.00050	96	70	130	3.9	20	
Sample ID: B13050704-050AMS	10	Sample Matrix Spike				Run: ICPMS202-B_130515B				05/16/13 21:41
Antimony		0.0474	mg/L	0.0010	95	70	130			
Barium		0.0776	mg/L	0.050	87	70	130			
Beryllium		0.0562	mg/L	0.0010	112	70	130			
Cadmium		0.0493	mg/L	0.0010	99	70	130			
Chromium		0.0492	mg/L	0.0050	98	70	130			
Copper		0.372	mg/L	0.0050		70	130			A
Manganese		0.0510	mg/L	0.0010	99	70	130			
Mercury		0.000900	mg/L	0.00010	88	70	130			
Nickel		0.0546	mg/L	0.010	101	70	130			
Thallium		0.0498	mg/L	0.00050	100	70	130			
Sample ID: B13050704-050AMSD	10	Sample Matrix Spike Duplicate				Run: ICPMS202-B_130515B				05/16/13 21:44
Antimony		0.0469	mg/L	0.0010	94	70	130	5.9	20	
Barium		0.0766	mg/L	0.050	90	70	130	6.6	20	
Beryllium		0.0552	mg/L	0.0010	110	70	130	12	20	
Cadmium		0.0491	mg/L	0.0010	98	70	130	1.2	20	
Chromium		0.0480	mg/L	0.0050	94	70	130	1.0	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 05/22/13
Work Order: G13050312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Batch: R204702	
Sample ID: B13050704-050AMSD	10	Sample Matrix Spike Duplicate				Run: ICPMS202-B_130515B			05/16/13 21:44	
Copper		0.371	mg/L	0.0050		70	130	2.2	20	A
Manganese		0.0485	mg/L	0.0010	94	70	130	4.1	20	
Mercury		0.000867	mg/L	0.00010	86	70	130	8.1	20	
Nickel		0.0529	mg/L	0.010	100	70	130	1.3	20	
Thallium		0.0489	mg/L	0.00050	98	70	130	1.8	20	
Method: E200.8									Analytical Run: ICPMS202-B_130517B	
Sample ID: QCS	3	Initial Calibration Verification Standard							05/17/13 11:33	
Arsenic		0.0505	mg/L	0.0050	101	90	110			
Lead		0.0480	mg/L	0.010	96	90	110			
Selenium		0.0496	mg/L	0.0050	99	90	110			
Method: E200.8									Batch: R204885	
Sample ID: LFB	3	Laboratory Fortified Blank				Run: ICPMS202-B_130517B			05/17/13 11:49	
Arsenic		0.0488	mg/L	0.0050	98	85	115			
Lead		0.0494	mg/L	0.010	99	85	115			
Selenium		0.0456	mg/L	0.0050	91	85	115			
Sample ID: LRB	3	Method Blank				Run: ICPMS202-B_130517B			05/17/13 12:11	
Arsenic		ND	mg/L	0.0002						
Lead		2E-05	mg/L	2E-05						
Selenium		ND	mg/L	0.0006						
Sample ID: B13051500-001AMS	3	Sample Matrix Spike				Run: ICPMS202-B_130517B			05/17/13 17:12	
Arsenic		0.0612	mg/L	0.0010	116	70	130			
Lead		0.0494	mg/L	0.0010	98	70	130			
Selenium		0.0754	mg/L	0.0010	118	70	130			
Sample ID: B13051500-001AMSD	3	Sample Matrix Spike Duplicate				Run: ICPMS202-B_130517B			05/17/13 17:15	
Arsenic		0.0650	mg/L	0.0010	123	70	130	6.0	20	
Lead		0.0523	mg/L	0.0010	104	70	130	5.6	20	
Selenium		0.0794	mg/L	0.0010	126	70	130	5.2	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 05/22/13
Work Order: G13050312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0									Analytical Run: IC203-B_130514A	
Sample ID: ICV	2	Initial Calibration Verification Standard							05/15/13 09:18	
Chloride		24.5	mg/L	1.0	98	90	110			
Sulfate		96.4	mg/L	1.0	96	90	110			
Method: E300.0									Batch: R204640	
Sample ID: ICB	2	Method Blank				Run: IC203-B_130514A			05/14/13 12:12	
Chloride		0.08	mg/L	0.02						
Sulfate		ND	mg/L	0.06						
Sample ID: LFB	2	Laboratory Fortified Blank				Run: IC203-B_130514A			05/14/13 12:27	
Chloride		24.0	mg/L	1.0	96	90	110			
Sulfate		94.7	mg/L	1.1	95	90	110			
Sample ID: B13051184-003AMS	2	Sample Matrix Spike				Run: IC203-B_130514A			05/16/13 07:00	
Chloride		260	mg/L	2.6	99	90	110			
Sulfate		1690	mg/L	11	108	90	110			
Sample ID: B13051184-003AMSD	2	Sample Matrix Spike Duplicate				Run: IC203-B_130514A			05/16/13 07:15	
Chloride		261	mg/L	2.6	99	90	110	0.2	20	
Sulfate		1690	mg/L	11	108	90	110	0.1	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 05/22/13
Work Order: G13050312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2									Analytical Run: FIA203-B_130516A	
Sample ID: ICV		Initial Calibration Verification Standard							05/16/13 09:27	
Nitrogen, Nitrate+Nitrite as N		21.9	mg/L	0.060	101	90	110			
Method: E353.2									Batch: R204749	
Sample ID: MBLK		Method Blank				Run: FIA203-B_130516A			05/16/13 09:28	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.005						
Sample ID: LFB		Laboratory Fortified Blank				Run: FIA203-B_130516A			05/16/13 09:30	
Nitrogen, Nitrate+Nitrite as N		1.03	mg/L	0.010	105	90	110			
Sample ID: B13051088-001BMS		Sample Matrix Spike				Run: FIA203-B_130516A			05/16/13 10:09	
Nitrogen, Nitrate+Nitrite as N		1.72	mg/L	0.010	95	90	110			
Sample ID: B13051088-001BMSD		Sample Matrix Spike Duplicate				Run: FIA203-B_130516A			05/16/13 10:10	
Nitrogen, Nitrate+Nitrite as N		1.74	mg/L	0.010	98	90	110	1.3	10	
Sample ID: B13051348-001AMS		Sample Matrix Spike				Run: FIA203-B_130516A			05/16/13 11:25	
Nitrogen, Nitrate+Nitrite as N		1.17	mg/L	0.010	104	90	110			
Sample ID: B13051348-001AMSD		Sample Matrix Spike Duplicate				Run: FIA203-B_130516A			05/16/13 11:26	
Nitrogen, Nitrate+Nitrite as N		1.16	mg/L	0.010	104	90	110	0.6	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 05/22/13
Work Order: G13050312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: Kelada-01									Analytical Run: SFA-201-B_130516A	
Sample ID: ICV		Initial Calibration Verification Standard							05/16/13 11:04	
Cyanide, Total		0.0966	mg/L	0.0050	97	90	110			
Method: Kelada-01									Batch: R204793	
Sample ID: LFB		Laboratory Fortified Blank				Run: SFA-201-B_130516A			05/16/13 10:12	
Cyanide, Total		0.100	mg/L	0.0050	100	90	110			
Sample ID: MB		Method Blank				Run: SFA-201-B_130516A			05/16/13 10:16	
Cyanide, Total		ND	mg/L	0.002						
Sample ID: B13051403-001EMS		Sample Matrix Spike				Run: SFA-201-B_130516A			05/16/13 15:51	
Cyanide, Total		0.103	mg/L	0.0050	103	90	110			
Sample ID: B13051403-001EMSD		Sample Matrix Spike Duplicate				Run: SFA-201-B_130516A			05/16/13 15:54	
Cyanide, Total		0.106	mg/L	0.0050	106	90	110	2.7	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 06/03/13
Work Order: G13050312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.0									Batch: GrDW-0396
Sample ID: Th230-GrDW-0396	Laboratory Control Sample				Run: TENNELEC-3_130528B				05/31/13 20:58
Gross Alpha	120	pCi/L		112	80	120			
Sample ID: MB-GrDW-0396	Method Blank				Run: TENNELEC-3_130528B				05/31/13 20:58
Gross Alpha	2	pCi/L							
Gross Alpha precision (±)	0.8	pCi/L							
Gross Alpha MDC	0.7	pCi/L							
Sample ID: C13050699-001AMS	Sample Matrix Spike				Run: TENNELEC-3_130528B				05/31/13 20:58
Gross Alpha	110	pCi/L		103	70	130			
Sample ID: C13050699-001AMSD	Sample Matrix Spike Duplicate				Run: TENNELEC-3_130528B				05/31/13 20:59
Gross Alpha	110	pCi/L		97	70	130	5.9	20	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 06/03/13
Work Order: G13050312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0									Batch: RA226DW-0163R
Sample ID: LCS-RA226DW-0163	Laboratory Control Sample				Run: BERTHOLD 770-1_130520A			05/29/13 17:08	
Radium 226	12	pCi/L		109	90	110			
Sample ID: C13050382-001ADUP	Sample Duplicate				Run: BERTHOLD 770-1_130520A			05/29/13 17:08	
Radium 226	-0.13	pCi/L					0.4	20	U
Radium 226 precision (±)	0.086	pCi/L							
Radium 226 MDC	0.14	pCi/L							
Sample ID: C13050474-001AMS	Sample Matrix Spike				Run: BERTHOLD 770-1_130520A			05/29/13 18:52	
Radium 226	21	pCi/L		92	80	120			
Sample ID: C13050647-001BDUP	Sample Duplicate				Run: BERTHOLD 770-1_130520A			05/29/13 18:52	
Radium 226	-0.069	pCi/L					31	20	UR
Radium 226 precision (±)	0.070	pCi/L							
Radium 226 MDC	0.10	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis; however, the RER of 0.5 is less than the limit of 2.0. This batch is approved.									
Sample ID: MB-RA226DW-0163	Method Blank				Run: BERTHOLD 770-1_130520A			05/29/13 20:52	
Radium 226	-0.1	pCi/L							U
Radium 226 precision (±)	0.07	pCi/L							
Radium 226 MDC	0.1	pCi/L							

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
ND - Not detected at the reporting limit.
R - RPD exceeds advisory limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 06/03/13
Work Order: G13050312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05									Batch: RA228DW-0161
Sample ID: LCS-228-RA228DW-0161	Laboratory Control Sample				Run: TENNELEC-3_130520D				05/28/13 08:58
Radium 228	7.5	pCi/L		94	80	120			
Sample ID: C13050354-001HDUP	Sample Duplicate				Run: TENNELEC-3_130520D				05/28/13 08:58
Radium 228	0.30	pCi/L					63	20	UR
Radium 228 precision (±)	0.83	pCi/L							
Radium 228 MDC	0.86	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis; however, the RER of 0.5 is less than the limit of 2.0. This batch is approved.									
Sample ID: C13050473-001AMS	Sample Matrix Spike				Run: TENNELEC-3_130520D				05/28/13 08:58
Radium 228	22	pCi/L		125	70	130			
Sample ID: C13050475-001ADUP	Sample Duplicate				Run: TENNELEC-3_130520D				05/28/13 08:58
Radium 228	0.67	pCi/L					510	20	UR
Radium 228 precision (±)	1.0	pCi/L							
Radium 228 MDC	1.0	pCi/L							
- Duplicate RPD is outside of the acceptance range for this analysis; however, the RER of 1.3 is less than the limit of 2.0. This batch is approved.									
Sample ID: MB-228-RA228DW-0161	Method Blank				Run: TENNELEC-3_130520D				05/28/13 10:31
Radium 228	0.09	pCi/L							U
Radium 228 precision (±)	1	pCi/L							
Radium 228 MDC	1	pCi/L							

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
ND - Not detected at the reporting limit.
R - RPD exceeds advisory limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 06/04/13
Work Order: G13050312

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS2-C_130531A	
Sample ID: ICV		Initial Calibration Verification Standard							05/31/13 12:40	
Uranium		0.0507	mg/L	0.00030	101	90	110			
Method: E200.8									Batch: 37568	
Sample ID: MB-37568		Method Blank				Run: ICPMS2-C_130531A			05/31/13 17:53	
Uranium		ND	mg/L	1E-05						
Sample ID: LCS3-37568		Laboratory Control Sample				Run: ICPMS2-C_130531A			05/31/13 17:56	
Uranium		0.566	mg/L	0.0010	113	85	115			
Sample ID: G13050312-001KMS3		Sample Matrix Spike				Run: ICPMS2-C_130531A			05/31/13 18:24	
Uranium		0.606	mg/L	0.0010	120	70	130			
Sample ID: G13050312-001KMSD		Sample Matrix Spike Duplicate				Run: ICPMS2-C_130531A			05/31/13 18:26	
Uranium		0.605	mg/L	0.0010	119	70	130	0.2	20	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 06/03/13
Work Order: G13050312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E515.1									Batch: 71383
Sample ID: MB-71383	Method Blank				Run: CECD.I_130520A			05/20/13 19:56	
2,4-D	ND	ug/L	1.0						
2,4-DB	ND	ug/L	2.5						
Dalapon	ND	ug/L	2.5						
Dicamba	ND	ug/L	0.25						
Dichlorprop	ND	ug/L	1.0						
Dinoseb	ND	ug/L	1.0						
Pentachlorophenol	ND	ug/L	0.040						
Picloram	ND	ug/L	0.50						
2,4,5-TP (Silvex)	ND	ug/L	0.20						
Surr: DCAA			0.10	84	70	130			
Sample ID: LCS-71383	Laboratory Control Sample				Run: CECD.I_130520A			05/20/13 20:29	
2,4-D	4.97	ug/L	1.0	99	70	130			
2,4-DB	4.21	ug/L	2.5	84	70	130			
Dalapon	3.15	ug/L	2.5	63	70	130			S
Dicamba	4.84	ug/L	0.25	97	70	130			
Dichlorprop	5.94	ug/L	1.0	119	70	130			
Dinoseb	4.43	ug/L	1.0	89	70	130			
Pentachlorophenol	4.20	ug/L	0.040	84	70	130			
Picloram	4.03	ug/L	0.50	81	70	130			
2,4,5-TP (Silvex)	5.06	ug/L	0.20	101	70	130			
Surr: DCAA			0.10	88	70	130			
-The recovery for Dalapon is within USEPA Water Study performance acceptance limits.									
Sample ID: G13050312-001IMS	Sample Matrix Spike				Run: CECD.I_130520A			05/20/13 15:01	
2,4-D	4.88	ug/L	1.0	98	65	135			
2,4-DB	5.02	ug/L	2.5	100	65	135			
Dalapon	3.06	ug/L	2.5	61	65	135			S
Dicamba	4.67	ug/L	0.25	93	65	135			
Dichlorprop	5.57	ug/L	1.0	111	65	135			
Dinoseb	4.20	ug/L	1.0	84	65	135			
Pentachlorophenol	4.36	ug/L	0.040	87	65	135			
Picloram	3.98	ug/L	0.50	80	65	135			
2,4,5-TP (Silvex)	4.51	ug/L	0.20	90	65	135			
Surr: DCAA			0.10	83	70	130			
Sample ID: G13050312-001IMSD	Sample Matrix Spike Duplicate				Run: CECD.I_130520A			05/20/13 15:34	
2,4-D	4.52	ug/L	1.0	90	65	135	7.7	40	
2,4-DB	4.84	ug/L	2.5	97	65	135	3.7	40	
Dalapon	2.78	ug/L	2.5	56	65	135	9.6	40	S
Dicamba	4.31	ug/L	0.25	86	65	135	8.0	40	
Dichlorprop	5.12	ug/L	1.0	102	65	135	8.4	40	
Dinoseb	4.00	ug/L	1.0	80	65	135	4.9	40	
Pentachlorophenol	4.09	ug/L	0.040	82	65	135	6.4	40	

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 06/03/13
Work Order: G13050312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E515.1									Batch: 71383
Sample ID: G13050312-001IMSD	Sample Matrix Spike Duplicate				Run: CECD.I_130520A				05/20/13 15:34
Picloram	3.92	ug/L	0.50	78	65	135	1.5	40	
2,4,5-TP (Silvex)	4.25	ug/L	0.20	85	65	135	5.9	40	
Surr: DCAA			0.10	76	70	130			
Method: E515.1									Analytical Run: R204986
Sample ID: 8151CK5	Continuing Calibration Verification Standard								05/20/13 12:18
2,4-D	0.491	ug/L	1.0	98	80	120			
2,4-DB	0.437	ug/L	2.5	87	80	120			
Dalapon	0.508	ug/L	2.5	102	80	120			
Dicamba	0.508	ug/L	0.25	102	80	120			
Dichlorprop	0.506	ug/L	1.0	101	80	120			
Dinoseb	0.463	ug/L	1.0	93	80	120			
Pentachlorophenol	0.508	ug/L	0.040	102	80	120			
Picloram	0.445	ug/L	0.50	89	80	120			
2,4,5-TP (Silvex)	0.501	ug/L	0.20	100	80	120			
Surr: DCAA			0.10	96	80	120			
Sample ID: 8151CK5	Continuing Calibration Verification Standard								05/20/13 19:23
2,4-D	0.543	ug/L	1.0	109	80	120			
2,4-DB	0.459	ug/L	2.5	92	80	120			
Dalapon	0.548	ug/L	2.5	110	80	120			
Dicamba	0.559	ug/L	0.25	112	80	120			
Dichlorprop	0.545	ug/L	1.0	109	80	120			
Dinoseb	0.591	ug/L	1.0	118	80	120			
Pentachlorophenol	0.546	ug/L	0.040	109	80	120			
Picloram	0.571	ug/L	0.50	114	80	120			
2,4,5-TP (Silvex)	0.561	ug/L	0.20	112	80	120			
Surr: DCAA			0.10	105	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 06/03/13
Work Order: G13050312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2									Analytical Run: R204827
Sample ID: ccv051613	Continuing Calibration Verification Standard								05/16/13 09:16
Benzene	5.00	ug/L	0.50	100	70	130			
Bromobenzene	4.88	ug/L	0.50	98	70	130			
Bromochloromethane	4.72	ug/L	0.50	94	70	130			
Bromodichloromethane	4.72	ug/L	0.50	94	70	130			
Bromoform	4.44	ug/L	0.50	89	70	130			
Bromomethane	6.04	ug/L	0.50	121	70	130			
n-Butylbenzene	5.28	ug/L	0.50	106	70	130			
sec-Butylbenzene	5.36	ug/L	0.50	107	70	130			
tert-Butylbenzene	5.40	ug/L	0.50	108	70	130			
Carbon tetrachloride	5.20	ug/L	0.50	104	70	130			
Chlorobenzene	5.24	ug/L	0.50	105	70	130			
Chlorodibromomethane	4.96	ug/L	0.50	99	70	130			
Chloroethane	5.68	ug/L	0.50	114	70	130			
Chloroform	4.76	ug/L	0.50	95	70	130			
Chloromethane	5.56	ug/L	0.50	111	70	130			
2-Chlorotoluene	5.00	ug/L	0.50	100	70	130			
4-Chlorotoluene	5.16	ug/L	0.50	103	70	130			
1,2-Dibromo-3-chloropropane	4.20	ug/L	1.0	84	70	130			
Dibromomethane	4.72	ug/L	0.50	94	70	130			
1,2-Dichlorobenzene	4.92	ug/L	0.50	98	70	130			
1,3-Dichlorobenzene	4.72	ug/L	0.50	94	70	130			
1,4-Dichlorobenzene	4.60	ug/L	0.50	92	70	130			
Dichlorodifluoromethane	5.80	ug/L	0.50	116	70	130			
1,1-Dichloroethane	4.80	ug/L	0.50	96	70	130			
1,2-Dichloroethane	4.56	ug/L	0.50	91	70	130			
1,2-Dibromoethane	5.12	ug/L	0.50	102	70	130			
1,1-Dichloroethene	5.16	ug/L	0.50	103	70	130			
cis-1,2-Dichloroethene	4.72	ug/L	0.50	94	70	130			
trans-1,2-Dichloroethene	4.96	ug/L	0.50	99	70	130			
1,2-Dichloropropane	5.36	ug/L	0.50	107	70	130			
1,3-Dichloropropane	5.00	ug/L	0.50	100	70	130			
2,2-Dichloropropane	5.16	ug/L	0.50	103	70	130			
1,1-Dichloropropene	5.36	ug/L	0.50	107	70	130			
cis-1,3-Dichloropropene	5.20	ug/L	0.50	104	70	130			
trans-1,3-Dichloropropene	5.00	ug/L	0.50	100	70	130			
Ethylbenzene	5.60	ug/L	0.50	112	70	130			
Hexachlorobutadiene	4.84	ug/L	0.50	97	70	130			
Isopropylbenzene	5.16	ug/L	0.50	103	70	130			
p-Isopropyltoluene	5.20	ug/L	0.50	104	70	130			
Methyl tert-butyl ether (MTBE)	4.84	ug/L	0.50	97	70	130			
Methylene chloride	4.92	ug/L	0.50	98	70	130			
Naphthalene	4.36	ug/L	0.50	87	70	130			
n-Propylbenzene	5.08	ug/L	0.50	102	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 06/03/13
Work Order: G13050312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2									Analytical Run: R204827
Sample ID: ccv051613	Continuing Calibration Verification Standard								05/16/13 09:16
Styrene	5.00	ug/L	0.50	100	70	130			
1,1,1,2-Tetrachloroethane	5.16	ug/L	0.50	103	70	130			
1,1,2,2-Tetrachloroethane	4.56	ug/L	0.50	91	70	130			
Tetrachloroethene	4.92	ug/L	0.50	98	70	130			
Toluene	5.36	ug/L	0.50	107	70	130			
1,2,3-Trichlorobenzene	4.32	ug/L	0.50	86	70	130			
1,2,4-Trichlorobenzene	4.40	ug/L	0.50	88	70	130			
1,1,1-Trichloroethane	5.00	ug/L	0.50	100	70	130			
1,1,2-Trichloroethane	4.64	ug/L	0.50	93	70	130			
Trichloroethene	4.84	ug/L	0.50	97	70	130			
Trichlorofluoromethane	5.04	ug/L	0.50	101	70	130			
1,2,3-Trichloropropane	4.44	ug/L	0.50	89	70	130			
1,2,4-Trimethylbenzene	5.20	ug/L	0.50	104	70	130			
1,3,5-Trimethylbenzene	5.04	ug/L	0.50	101	70	130			
Vinyl chloride	5.60	ug/L	0.50	112	70	130			
m+p-Xylenes	10.8	ug/L	0.50	108	70	130			
o-Xylene	5.64	ug/L	0.50	113	70	130			
Trihalomethanes, Total	18.9	ug/L	0.50		0	0			
Xylenes, Total	16.5	ug/L	0.50		0	0			
Surr: p-Bromofluorobenzene			0.50	99	80	120			
Surr: 1,2-Dichloroethane-d4			0.50	92	74	127			
Surr: Toluene-d8			0.50	100	80	120			
Method: E524.2									Batch: R204827
Sample ID: lcs051613	Laboratory Control Sample				Run: VOASATURN_130516A				05/16/13 09:51
Benzene	4.96	ug/L	0.50	99	70	130			
Bromobenzene	4.88	ug/L	0.50	98	70	130			
Bromochloromethane	4.84	ug/L	0.50	97	70	130			
Bromodichloromethane	5.24	ug/L	0.50	105	70	130			
Bromoform	4.56	ug/L	0.50	91	70	130			
Bromomethane	6.52	ug/L	0.50	130	70	130			
n-Butylbenzene	5.28	ug/L	0.50	106	70	130			
sec-Butylbenzene	5.52	ug/L	0.50	110	70	130			
tert-Butylbenzene	5.60	ug/L	0.50	112	70	130			
Carbon tetrachloride	5.00	ug/L	0.50	100	70	130			
Chlorobenzene	5.52	ug/L	0.50	110	70	130			
Chlorodibromomethane	5.36	ug/L	0.50	107	70	130			
Chloroethane	5.44	ug/L	0.50	109	70	130			
Chloroform	4.76	ug/L	0.50	95	70	130			
Chloromethane	5.60	ug/L	0.50	112	70	130			
2-Chlorotoluene	5.04	ug/L	0.50	101	70	130			
4-Chlorotoluene	5.44	ug/L	0.50	109	70	130			
1,2-Dibromo-3-chloropropane	4.48	ug/L	1.0	90	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 06/03/13
Work Order: G13050312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2									Batch: R204827
Sample ID: lcs051613	Laboratory Control Sample				Run: VOASATURN_130516A				05/16/13 09:51
Dibromomethane	4.96	ug/L	0.50	99	70	130			
1,2-Dichlorobenzene	5.44	ug/L	0.50	109	70	130			
1,3-Dichlorobenzene	5.00	ug/L	0.50	100	70	130			
1,4-Dichlorobenzene	5.00	ug/L	0.50	100	70	130			
Dichlorodifluoromethane	6.16	ug/L	0.50	123	70	130			
1,1-Dichloroethane	4.92	ug/L	0.50	98	70	130			
1,2-Dichloroethane	4.56	ug/L	0.50	91	70	130			
1,2-Dibromoethane	5.20	ug/L	0.50	104	70	130			
1,1-Dichloroethene	5.20	ug/L	0.50	104	70	130			
cis-1,2-Dichloroethene	4.68	ug/L	0.50	94	70	130			
trans-1,2-Dichloroethene	4.72	ug/L	0.50	94	70	130			
1,2-Dichloropropane	5.16	ug/L	0.50	103	70	130			
1,3-Dichloropropane	5.12	ug/L	0.50	102	70	130			
2,2-Dichloropropane	5.04	ug/L	0.50	101	70	130			
1,1-Dichloropropene	5.32	ug/L	0.50	106	70	130			
cis-1,3-Dichloropropene	5.24	ug/L	0.50	105	70	130			
trans-1,3-Dichloropropene	5.92	ug/L	0.50	118	70	130			
Ethylbenzene	6.00	ug/L	0.50	120	70	130			
Hexachlorobutadiene	4.64	ug/L	0.50	93	70	130			
Isopropylbenzene	6.00	ug/L	0.50	120	70	130			
p-Isopropyltoluene	5.52	ug/L	0.50	110	70	130			
Methyl tert-butyl ether (MTBE)	4.88	ug/L	0.50	98	70	130			
Methylene chloride	5.12	ug/L	0.50	102	70	130			
Naphthalene	4.80	ug/L	0.50	96	70	130			
n-Propylbenzene	5.20	ug/L	0.50	104	70	130			
Styrene	5.52	ug/L	0.50	110	70	130			
1,1,1,2-Tetrachloroethane	5.16	ug/L	0.50	103	70	130			
1,1,2,2-Tetrachloroethane	4.32	ug/L	0.50	86	70	130			
Tetrachloroethene	5.32	ug/L	0.50	106	70	130			
Toluene	5.48	ug/L	0.50	110	70	130			
1,2,3-Trichlorobenzene	4.60	ug/L	0.50	92	70	130			
1,2,4-Trichlorobenzene	4.68	ug/L	0.50	94	70	130			
1,1,1-Trichloroethane	4.88	ug/L	0.50	98	70	130			
1,1,2-Trichloroethane	4.80	ug/L	0.50	96	70	130			
Trichloroethene	5.36	ug/L	0.50	107	70	130			
Trichlorofluoromethane	4.64	ug/L	0.50	93	70	130			
1,2,3-Trichloropropane	4.76	ug/L	0.50	95	70	130			
1,2,4-Trimethylbenzene	5.12	ug/L	0.50	102	70	130			
1,3,5-Trimethylbenzene	5.08	ug/L	0.50	102	70	130			
Vinyl chloride	5.20	ug/L	0.50	104	70	130			
m+p-Xylenes	11.7	ug/L	0.50	117	70	130			
o-Xylene	6.04	ug/L	0.50	121	70	130			
Surr: p-Bromofluorobenzene			0.50	105	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 06/03/13
Work Order: G13050312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2									Batch: R204827
Sample ID: lcs051613	Laboratory Control Sample				Run: VOASATURN_130516A				05/16/13 09:51
Surr: 1,2-Dichloroethane-d4			0.50	94	74	127			
Surr: Toluene-d8			0.50	101	80	120			
Sample ID: blk051613	Method Blank				Run: VOASATURN_130516A				05/16/13 10:51
Benzene	ND	ug/L	0.50						
Bromobenzene	ND	ug/L	0.50						
Bromochloromethane	ND	ug/L	0.50						
Bromodichloromethane	ND	ug/L	0.50						
Bromoform	ND	ug/L	0.50						
Bromomethane	ND	ug/L	0.50						
n-Butylbenzene	ND	ug/L	0.50						
sec-Butylbenzene	ND	ug/L	0.50						
tert-Butylbenzene	ND	ug/L	0.50						
Carbon tetrachloride	ND	ug/L	0.50						
Chlorobenzene	ND	ug/L	0.50						
Chlorodibromomethane	ND	ug/L	0.50						
Chloroethane	ND	ug/L	0.50						
Chloroform	ND	ug/L	0.50						
Chloromethane	ND	ug/L	0.50						
2-Chlorotoluene	ND	ug/L	0.50						
4-Chlorotoluene	ND	ug/L	0.50						
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0						
Dibromomethane	ND	ug/L	0.50						
1,2-Dichlorobenzene	ND	ug/L	0.50						
1,3-Dichlorobenzene	ND	ug/L	0.50						
1,4-Dichlorobenzene	ND	ug/L	0.50						
Dichlorodifluoromethane	ND	ug/L	0.50						
1,1-Dichloroethane	ND	ug/L	0.50						
1,2-Dichloroethane	ND	ug/L	0.50						
1,2-Dibromoethane	ND	ug/L	0.50						
1,1-Dichloroethene	ND	ug/L	0.50						
cis-1,2-Dichloroethene	ND	ug/L	0.50						
trans-1,2-Dichloroethene	ND	ug/L	0.50						
1,2-Dichloropropane	ND	ug/L	0.50						
1,3-Dichloropropane	ND	ug/L	0.50						
2,2-Dichloropropane	ND	ug/L	0.50						
1,1-Dichloropropene	ND	ug/L	0.50						
cis-1,3-Dichloropropene	ND	ug/L	0.50						
trans-1,3-Dichloropropene	ND	ug/L	0.50						
Ethylbenzene	ND	ug/L	0.50						
Hexachlorobutadiene	ND	ug/L	0.50						
Isopropylbenzene	ND	ug/L	0.50						
p-Isopropyltoluene	ND	ug/L	0.50						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 06/03/13
Work Order: G13050312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2									Batch: R204827
Sample ID: blk051613	Method Blank				Run: VOASATURN_130516A				05/16/13 10:51
Methyl tert-butyl ether (MTBE)	ND	ug/L	0.50						
Methylene chloride	ND	ug/L	0.50						
Naphthalene	ND	ug/L	0.50						
n-Propylbenzene	ND	ug/L	0.50						
Styrene	ND	ug/L	0.50						
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50						
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50						
Tetrachloroethene	ND	ug/L	0.50						
Toluene	ND	ug/L	0.50						
1,2,3-Trichlorobenzene	ND	ug/L	0.50						
1,2,4-Trichlorobenzene	ND	ug/L	0.50						
1,1,1-Trichloroethane	ND	ug/L	0.50						
1,1,2-Trichloroethane	ND	ug/L	0.50						
Trichloroethene	ND	ug/L	0.50						
Trichlorofluoromethane	ND	ug/L	0.50						
1,2,3-Trichloropropane	ND	ug/L	0.50						
1,2,4-Trimethylbenzene	ND	ug/L	0.50						
1,3,5-Trimethylbenzene	ND	ug/L	0.50						
Vinyl chloride	ND	ug/L	0.50						
m+p-Xylenes	ND	ug/L	0.50						
o-Xylene	ND	ug/L	0.50						
Trihalomethanes, Total	ND	ug/L	0.50						
Xylenes, Total	ND	ug/L	0.50						
Surr: p-Bromofluorobenzene			0.50	104	80	120			
Surr: 1,2-Dichloroethane-d4			0.50	92	74	127			
Surr: Toluene-d8			0.50	97	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 06/03/13
Work Order: G13050312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E525.2									Batch: 71306
Sample ID: MB-71306	Method Blank				Run: SVSATURN2_130515A				05/15/13 22:57
Aroclor 1016	ND	ug/L	0.080						
Aroclor 1221	ND	ug/L	2.0						
Aroclor 1232	ND	ug/L	0.50						
Aroclor 1242	ND	ug/L	0.30						
Aroclor 1248	ND	ug/L	0.10						
Aroclor 1254	ND	ug/L	0.10						
Aroclor 1260	ND	ug/L	0.20						
Surr: 1,3-Dimethyl-2-nitrobenzene			0.10	101	70	130			
Surr: Perylene-d12			0.10	96	70	130			
Surr: Pyrene-d10			0.10	128	70	130			
Surr: Triphenylphosphate			0.10	119	70	130			
Sample ID: MB-71306	Method Blank				Run: SVSATURN2_130515A				05/15/13 22:57
Alachlor	ND	ug/L	0.10						
Aldrin	ND	ug/L	0.10						
Atrazine	ND	ug/L	0.10						
Benzo(a)pyrene	ND	ug/L	0.10						
bis(2-ethylhexyl)Adipate	ND	ug/L	0.50						
bis(2-ethylhexyl)Phthalate	ND	ug/L	0.60						
Butachlor	ND	ug/L	0.10						
Chlordane	ND	ug/L	1.0						
Dieldrin	ND	ug/L	0.10						
Endrin	ND	ug/L	0.10						
gamma-BHC (Lindane)	ND	ug/L	0.10						
Heptachlor	ND	ug/L	0.10						
Heptachlor epoxide	ND	ug/L	0.10						
Hexachlorobenzene	ND	ug/L	0.10						
Hexachlorocyclopentadiene	ND	ug/L	0.10						
Methoxychlor	ND	ug/L	0.10						
Metolachlor	ND	ug/L	0.10						
Metribuzin	ND	ug/L	0.10						
Propachlor	ND	ug/L	0.10						
Simazine	ND	ug/L	0.10						
Toxaphene	ND	ug/L	2.0						
Surr: 1,3-Dimethyl-2-nitrobenzene			0.10	101	70	130			
Surr: Perylene-d12			0.10	96	70	130			
Surr: Pyrene-d10			0.10	128	70	130			
Surr: Triphenylphosphate			0.10	119	70	130			
Sample ID: Ar1660-71306	Laboratory Control Sample				Run: SVSATURN2_130515A				05/15/13 23:35
Aroclor 1016	1.54	ug/L	0.080	77	70	130			
Aroclor 1260	1.71	ug/L	0.20	86	70	130			
Surr: 1,3-Dimethyl-2-nitrobenzene			0.10	99	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 06/03/13
Work Order: G13050312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E525.2									Batch: 71306
Sample ID: Ar1660-71306	Laboratory Control Sample				Run: SVSATURN2_130515A				05/15/13 23:35
Surr: Perylene-d12			0.10	101	70	130			
Surr: Pyrene-d10			0.10	116	70	130			
Surr: Triphenylphosphate			0.10	116	70	130			
Sample ID: LCS-71306	Laboratory Control Sample				Run: SVSATURN2_130515A				05/16/13 00:14
Alachlor	2.10	ug/L	0.10	105	70	130			
Aldrin	1.58	ug/L	0.10	79	70	130			
Atrazine	1.98	ug/L	0.10	99	70	130			
Benzo(a)pyrene	1.61	ug/L	0.10	81	70	130			
bis(2-ethylhexyl)Adipate	1.93	ug/L	0.50	97	70	130			
bis(2-ethylhexyl)Phthalate	1.92	ug/L	0.60	96	70	130			
Butachlor	2.26	ug/L	0.10	113	70	130			
Dieldrin	2.02	ug/L	0.10	101	70	130			
Endrin	2.09	ug/L	0.10	104	70	130			
gamma-BHC (Lindane)	2.19	ug/L	0.10	109	70	130			
Heptachlor	1.91	ug/L	0.10	96	70	130			
Heptachlor epoxide	1.98	ug/L	0.10	99	70	130			
Hexachlorobenzene	1.90	ug/L	0.10	95	70	130			
Hexachlorocyclopentadiene	1.57	ug/L	0.10	78	70	130			
Methoxychlor	2.00	ug/L	0.10	100	70	130			
Metolachlor	2.31	ug/L	0.10	116	70	130			
Metribuzin	2.02	ug/L	0.10	101	70	130			
Propachlor	2.45	ug/L	0.10	123	70	130			
Simazine	1.79	ug/L	0.10	90	70	130			
Surr: 1,3-Dimethyl-2-nitrobenzene			0.10	92	70	130			
Surr: Perylene-d12			0.10	99	70	130			
Surr: Pyrene-d10			0.10	112	70	130			
Surr: Triphenylphosphate			0.10	115	70	130			
Sample ID: TOX-71306	Laboratory Control Sample				Run: SVSATURN2_130515A				05/16/13 02:09
Toxaphene	29.7	ug/L	2.0	74	70	130			
Surr: 1,3-Dimethyl-2-nitrobenzene			0.10	100	70	130			
Surr: Perylene-d12			0.10	103	70	130			
Surr: Pyrene-d10			0.10	116	70	130			
Surr: Triphenylphosphate			0.10	120	70	130			
Sample ID: B13051019-001BMS	Sample Matrix Spike				Run: SVSATURN2_130515A				05/16/13 00:52
Alachlor	4.28	ug/L	0.20	107	70	130			
Aldrin	2.84	ug/L	0.20	71	70	130			
Atrazine	3.86	ug/L	0.20	97	70	130			
Benzo(a)pyrene	3.22	ug/L	0.20	81	70	130			
bis(2-ethylhexyl)Adipate	3.70	ug/L	1.0	93	70	130			
bis(2-ethylhexyl)Phthalate	3.84	ug/L	1.2	96	70	130			
Butachlor	4.26	ug/L	0.20	106	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 06/03/13
Work Order: G13050312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E525.2									Batch: 71306
Sample ID: B13051019-001BMS	Sample Matrix Spike				Run: SVSATURN2_130515A				05/16/13 00:52
Dieldrin	3.62	ug/L	0.20	91	70	130			
Endrin	3.52	ug/L	0.20	88	70	130			
gamma-BHC (Lindane)	4.24	ug/L	0.20	106	70	130			
Heptachlor	3.34	ug/L	0.20	84	70	130			
Heptachlor epoxide	3.56	ug/L	0.20	89	70	130			
Hexachlorobenzene	3.04	ug/L	0.20	76	70	130			
Hexachlorocyclopentadiene	3.08	ug/L	0.20	77	70	130			
Methoxychlor	4.04	ug/L	0.20	101	70	130			
Metolachlor	4.40	ug/L	0.20	110	70	130			
Metribuzin	3.86	ug/L	0.20	97	70	130			
Propachlor	5.14	ug/L	0.20	128	70	130			
Simazine	3.52	ug/L	0.20	88	70	130			
Surr: 1,3-Dimethyl-2-nitrobenzene			0.20	100	70	130			
Surr: Perylene-d12			0.20	101	70	130			
Surr: Pyrene-d10			0.20	110	70	130			
Surr: Triphenylphosphate			0.20	112	70	130			
Sample ID: B13051019-001BMSD	Sample Matrix Spike Duplicate				Run: SVSATURN2_130515A				05/16/13 01:30
Alachlor	4.52	ug/L	0.20	113	70	130	5.5	40	
Aldrin	3.10	ug/L	0.20	78	70	130	8.8	40	
Atrazine	3.94	ug/L	0.20	99	70	130	2.1	40	
Benzo(a)pyrene	3.68	ug/L	0.20	92	70	130	13	40	
bis(2-ethylhexyl)Adipate	4.22	ug/L	1.0	105	70	130	13	40	
bis(2-ethylhexyl)Phthalate	4.44	ug/L	1.2	111	70	130	14	40	
Butachlor	4.70	ug/L	0.20	118	70	130	9.8	40	
Dieldrin	4.40	ug/L	0.20	110	70	130	19	40	
Endrin	4.16	ug/L	0.20	104	70	130	17	40	
gamma-BHC (Lindane)	4.38	ug/L	0.20	109	70	130	3.2	40	
Heptachlor	4.30	ug/L	0.20	107	70	130	25	40	
Heptachlor epoxide	3.78	ug/L	0.20	94	70	130	6.0	40	
Hexachlorobenzene	3.90	ug/L	0.20	98	70	130	25	40	
Hexachlorocyclopentadiene	3.44	ug/L	0.20	86	70	130	11	40	
Methoxychlor	4.66	ug/L	0.20	117	70	130	14	40	
Metolachlor	4.84	ug/L	0.20	121	70	130	9.5	40	
Metribuzin	4.30	ug/L	0.20	107	70	130	11	40	
Propachlor	5.12	ug/L	0.20	128	70	130	0.4	40	
Simazine	3.94	ug/L	0.20	99	70	130	11	40	
Surr: 1,3-Dimethyl-2-nitrobenzene			0.20	98	70	130			
Surr: Perylene-d12			0.20	102	70	130			
Surr: Pyrene-d10			0.20	105	70	130			
Surr: Triphenylphosphate			0.20	116	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 06/03/13
Work Order: G13050312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E525.2									Analytical Run: R204848
Sample ID: 525_CCV_5	Continuing Calibration Verification Standard								05/15/13 19:41
Alachlor	1.88	ug/L	0.10	94	70	130			
Aldrin	1.78	ug/L	0.10	89	70	130			
Atrazine	1.89	ug/L	0.10	95	70	130			
Benzo(a)pyrene	1.90	ug/L	0.10	95	70	130			
bis(2-ethylhexyl)Adipate	1.76	ug/L	0.50	88	70	130			
bis(2-ethylhexyl)Phthalate	1.73	ug/L	0.60	87	70	130			
Butachlor	1.83	ug/L	0.10	92	70	130			
Dieldrin	1.92	ug/L	0.10	96	70	130			
Endrin	1.95	ug/L	0.10	98	70	130			
gamma-BHC (Lindane)	1.93	ug/L	0.10	96	70	130			
Heptachlor	2.00	ug/L	0.10	100	70	130			
Heptachlor epoxide	1.82	ug/L	0.10	91	70	130			
Hexachlorobenzene	1.94	ug/L	0.10	97	70	130			
Hexachlorocyclopentadiene	1.98	ug/L	0.10	99	70	130			
Methoxychlor	1.83	ug/L	0.10	92	70	130			
Metolachlor	1.94	ug/L	0.10	97	70	130			
Metribuzin	1.78	ug/L	0.10	89	70	130			
Propachlor	1.90	ug/L	0.10	95	70	130			
Simazine	1.77	ug/L	0.10	89	70	130			
Surr: 1,3-Dimethyl-2-nitrobenzene			0.10	104	70	130			
Surr: Perylene-d12			0.10	92	70	130			
Surr: Pyrene-d10			0.10	102	70	130			
Surr: Triphenylphosphate			0.10	92	70	130			
Sample ID: Ar1660_CCV_5	Continuing Calibration Verification Standard								05/15/13 20:20
Aroclor 1016	1.81	ug/L	0.080	113	70	130			
Aroclor 1260	3.70	ug/L	0.20	93	70	130			
Surr: 1,3-Dimethyl-2-nitrobenzene			0.10	99	70	130			
Surr: Perylene-d12			0.10	101	70	130			
Surr: Pyrene-d10			0.10	114	70	130			
Surr: Triphenylphosphate			0.10	109	70	130			
Sample ID: CLD_CCV_5	Continuing Calibration Verification Standard								05/15/13 21:00
Chlordane	18.6	ug/L	1.0	93	70	130			
Surr: 1,3-Dimethyl-2-nitrobenzene			0.10	102	70	130			
Surr: Perylene-d12			0.10	100	70	130			
Surr: Pyrene-d10			0.10	112	70	130			
Surr: Triphenylphosphate			0.10	109	70	130			
Sample ID: TOX_CCV_5	Continuing Calibration Verification Standard								05/15/13 21:39
Toxaphene	30.0	ug/L	2.0	75	70	130			
Surr: 1,3-Dimethyl-2-nitrobenzene			0.10	101	70	130			
Surr: Perylene-d12			0.10	105	70	130			
Surr: Pyrene-d10			0.10	114	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Morrison Maierle Inc
Project: Madison Test Well 1

Report Date: 06/03/13
Work Order: G13050312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E525.2									Analytical Run: R204848
Sample ID: TOX_CCV_5	Continuing Calibration Verification Standard								05/15/13 21:39
Surr: Triphenylphosphate			0.10	116	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Workorder Receipt Checklist

Morrison Maierle Inc

G13050312

Login completed by: Amanda Alley

Date Received: 5/14/2013

Reviewed by: BL2000\kscottruff

Received by: kls

Reviewed Date: 5/14/2013

Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	14.2°C On Ice - From Field		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Contact and Corrective Action Comments:

None

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT (Provide as much information as possible.)

Company Name: MORRISON MAIERLE INC

Report Mail Address (Required): 1 ENGINEERING PLACE HELENA, MT 59602

☐ No Hard Copy Email:

Invoice Address (Required): SAME AS

☐ No Hard Copy Email:

Special Report/Formats:
- ☒ DW
- ☐ POTW/WWTP
- ☐ State:
- ☐ Other:
- ☐ EDD/EDT (Electronic Data) Format:
- ☐ LEVEL IV
- ☐ NELAC

Project Name, PWS, Permit, Etc.: WELL TW1 CITY OF GILLETTE GILLETTE MADISON PIPELINE PROJECT

Sample Origin State: WY

EPA/State Compliance: Yes ☒ No ☐

Contact Name: MIKE KACZMAREK

Phone/Fax: 406 495-3440

Cell: 406 431-5568

Sampler: (Please Print) PAT ELLOR

Invoice Contact & Phone: SAME AS

Purchase Order:

Quote/Bottle Order:

ANALYSIS REQUESTED

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	WAP C	TCP HE	SEE ATTACHED
1 TW 1	5/13	1700	DW	X		
2						
3						
4						
5						
6						
7						
8						
9						
10						

Standard Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: Hand

Cooler ID(s):

Receipt Temp: 14.2 °C

On Ice: Y N

Custody Seal: On Bottle Y N; On Cooler Y N

Intact Y N

Signature Match Y N

LABORATORY USE ONLY: 13050312

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
PAT ELLOR	5/14 10:45				
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory:	Date/Time: 5/14/13 1045	Signature:

Sample Disposal: Return to Client: Lab Disposal:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.