

Appendix 1-B
2007 Laboratory Data (*on compact disc*)

Appendix 1-B1

2007 Overall Quality Control Assessment

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2007 Overall Quality Control Assessment

1.1 Introduction and Executive Summary

The analytical data generated during the 2007 Phase 1 RCRA Facility Investigation (RFI), Rhodia Silver Bow Plant, Corrective Action Order on Consent, Docket No. RCRA-08-2004-0001 by Columbia Analytical Services, Inc. (CAS) were reviewed and validated in conformance with of the Quality Assurance Project Plan (QAPP, Barr, August 2006 and subsequent drafts, comments, responses, etc.)

This Quality Control (QC) assessment is divided into two major sections following this introduction. Section 4.2 provides the QC assessment for the chemical analysis performed by the laboratories. Section 4.3 provides the QC assessment for the field sampling procedures.

The QC assessment of the analytical data collected for the April and November 2007 Phase 1 RFI, Rhodia Silver Bow Plant, demonstrate compliance with the data quality objectives in the QAPP. The analytical results have been validated and determined useable as qualified in the data summary tables and associated databases.

The QC assessment of the field sampling procedures and data demonstrate compliance with the data quality objectives in the QAPP and the Phase I RFI Workplan (Barr, 2006). The field sampling procedures were appropriate. No introduction of contamination or negative effects on sample representativeness was observed.

1.2 Laboratory Analyses

Columbia Analytical Services Inc. (CAS) located in Kelso, Washington conducted the physical preparation and chemical analyses of the analytical samples requiring metals and general chemistry analyses as set forth in the QAPP.

CAS reported the data for the interim groundwater monitoring wells in a level three deliverable format. It was not reported in full U.S. EPA Contract Laboratory Program (CLP) deliverables, the areas evaluated during the data validation process were focused to holding times, laboratory control samples, MS and MSD data, laboratory duplicate data, laboratory method blank data and an overall assessment of the data. In addition to the CLP National Functional Guidelines for Organic and Inorganic Data Review, (1999/2002) (Guidelines), specific method criteria (SW-846) were also considered in the validation process as differences in some of the performance aspects exist between the Guidelines and the non-CLP methods used for the sample analysis. No Guidelines exist for the validation of general chemistry (fluoride, bicarbonate, carbonate, alkalinity, chloride, sulfate, ammonia as N, nitrate as N, nitrite as N, nitrate + nitrite as N, and total phosphorus); therefore, a data quality review was performed to evaluate general conformity with the performance aspects of the individual analytical methods. The laboratories evaluated sample results from the total and dissolved metals and general chemistry data to practical quantitation limit (PQL).

1.2.1 Laboratory Report Data Validation Summaries

Results from the analysis of samples collected for the 2007 Phase 1 RCRA Facility Investigation, Rhodia Silver Bow Plant, Corrective Action Order on Consent, Docket No. RCRA-08-2004-0001 are included in the following laboratory reports:

Columbia Analytical Services, Inc. Data Packages	
K0703596	K0710473

The individual data evaluations for the laboratory reports listed above are provided in Appendix N-2. This assessment provides an overview of the overall quality control aspects of the project data. The data validation reports contain more specific details regarding the application of sample qualifiers assigned during the validation process. The laboratory data are considered to be usable as qualified in the data summary tables and databases.

1.2.2 Overview of Quality Control Assessment

The Data Quality Objectives of 95% completeness were achieved (Section A9.2.3 of the QAPP).

The following is a general summary of the QC assessment of the analytical results of project samples performed by CAS. Deviations in the quality control aspects discussed in detail below are limited to those QC issues considered to be significant. Individual data evaluations provide specific results of the validation and subsequent data qualification (provided in Appendix N-2).

The project samples were analyzed for one or more of the following parameter(s)/groups: total and dissolved metals, fluoride, total alkalinity as CaCO₃, bicarbonate as CaCO₃, carbonate as CaCO₃, chloride, sulfate, ammonia as N, nitrate and nitrite as N, nitrate + nitrite as N and total phosphorus as described in Table 1-2 of the QAPP.

CAS selected alternative analytical methods for fluoride and for total and dissolved manganese and zinc for the Phase I data set. The QAPP specified EPA Method 340.2 for fluoride and EPA Method 6020 for total and dissolved manganese and zinc; however, the laboratory employed Standard Method 4500-F- C and EPA Method 6010B, respectively. No adverse affects on the final data were determined based on these alternative method selections by the laboratory. No other deviations to the specified methodologies published in the QAPP occurred.

The laboratories met sample holding time requirements for extraction and analysis. With a few exceptions, the samples were received in acceptable condition and properly labeled. Labeling discrepancies were resolved prior to sample preparation and analysis. The samples were received at the laboratories within the acceptable sample temperature (0 to 6 degrees C).

The laboratory control sample (LCS) analyses met the relevant acceptance criteria (Section A9.2.2 of the QAPP). Following the request from EPA (via QAPP comments), LCS and MS/MSD percent recoveries ¹ <30% and >150% force results to be qualified “R” unusable. For this data set, there were no LCS, MS/MSD spike recoveries that fell beyond the EPA <30% and >150% limits.

¹ Percent recoveries include: laboratory control samples, matrix spike and matrix spike duplicates, surrogate standards, internal standards, interference check samples and initial and continuing calibration standards.

Matrix spike (MS) samples were submitted at the frequency specified in the QAPP. The MS sample results met acceptance criteria for percent recovery for each of the required analyses/target compounds (total and dissolved metals, fluoride, total alkalinity as CaCO₃, bicarbonate as CaCO₃, carbonate as CaCO₃, chloride, sulfate, ammonia as N, nitrate and nitrite as N, nitrate + nitrite as N and total phosphorus).

Laboratory duplicate data met the relevant acceptance criteria (Section A9.2.1 of the QAPP) for precision.

A minor deviation was made from the Guidelines relative to the affect of detected blank sample results on corresponding project sample results. In general, the Guidelines indicate that when sample concentrations are detected at or near the concentrations detected in the blank samples, the results should be presented as the CRQL/RL, with a corresponding “<” (less than) or U qualifier. However, the CRQLs are far greater than the final laboratory PQLs set forth in the QAPP. Therefore, when a project sample result is less than 5 times the associated blank sample concentration, the project sample result is reported with a “<” or U (EPA 2002 Inorganic Guidelines) qualifier.

Target compounds were not detected above the PQL in the laboratory method blank samples.

1.3 Field Sampling

1.3.1 Field Sampling Quality Control

Field sampling procedures were performed in accordance with the Phase 1 RFI Work Plan (Barr, 2006).

Field quality control procedures included the collection and analysis of field duplicate samples and field blank samples to monitor the contamination introduced from improper field equipment decontamination, sample collection, and laboratory analytical procedures. The results from the analysis of these samples demonstrate that the data are in compliance with the data quality objectives.

Field sampling procedures and protocols were determined to be appropriate. As described in the QAPP, blank samples associated with groundwater sampling were analyzed for corresponding sample analysis (total and dissolved metals, fluoride, total alkalinity as CaCO₃, bicarbonate as CaCO₃, carbonate as CaCO₃, chloride, sulfate, ammonia as N, nitrate and nitrite as N, nitrate + nitrite as N and total phosphorus). Although the field blank samples had low levels of target analytes present near the PQL, no introduction of gross contamination or other adverse affects on sample representativeness were identified. The field blank sample results are summarized in Appendix N-4b and are detailed within the individual data evaluations.

A total of two field duplicate samples were collected as specified in Section A9.3.2 of the QAPP. Precision (both field and analytical) was evaluated through a comparison of the duplicate data when both the native and duplicate sample had detected concentrations reported. The precision was evaluated by calculating the relative percent difference (RPD) for the data pairs as follows:

$$RPD = \frac{D_1 - D_2}{(D_1 + D_2)/2} \times 100$$

Where: D_1 = concentration of sample
 D_2 = concentration of duplicate sample

The RPD results for dissolved cadmium and nitrate + nitrite as N fell beyond the 30% criteria in the groundwater field duplicate samples. Higher RPDs are expected when results are at or near the PQL and do not always indicate poor precision. In only one case was a qualifier applied due to RPD exceedences and are qualified accordingly in the data summary tables. The field duplicate sample results are discussed in detail within the individual data evaluations.

Appendix 1-B2

2007 Individual Data Assessments

Data Validation Report

Laboratory Report / Batch: K0703596

**Rhodia Silver Bow Plant – Butte, Montana
2007 – Phase I RCRA Facility Investigation
U.S. EPA Corrective Action Order on Consent,
Docket No. RCRA-2006-08-2004-0001**

Date of Data Validation Report: January 11, 2011

The validation of the Columbia Analytical Services, Inc. (CAS, Kelso, Washington) laboratory data for the general chemistry and metals analyses of the samples collected in 2007 to support the Phase I - RCRA Facility Investigation is complete as detailed below.

The analytical data were reviewed in accordance Barr's Data Validation SOPs which are based upon the U.S. EPA Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Inorganic Data Review (EPA 2002) and in general accordance with U.S. EPA Methods 300.0, 340.2, 350.1, 353.2, 365.3, 6020, 6010B and Standard Method 2320 B.

In general, the areas covered by the validation process include:

- Overall assessment
- Holding times, preservation and storage
- Blank analysis
- Laboratory control samples
- Matrix spike results
- General chemistry analysis (total fluoride, chloride, sulfate, carbonate as CaCO_3 , total alkalinity as CaCO_3 , bicarbonate as CaCO_3 , ammonia as N, nitrate and nitrite as N, nitrate + nitrite as N, and total phosphorus)
- Field duplicate samples

The results for three groundwater samples and one field (rinsate) sample are contained in this laboratory report. The samples are identified as follows:

MW-02-3

MW-02-4

Field Blank (FB-1)

M-1 (MW-02-3 DUP)

The samples were analyzed for total and dissolved metals (ICP/ICP/MS), general chemistry parameters (total fluoride, chloride, sulfate, carbonate as CaCO_3 , total alkalinity as CaCO_3 , bicarbonate as CaCO_3 , ammonia as N, nitrate and nitrite as N, nitrate + nitrite as N, and total phosphorus) as specified in the laboratory report.

The non-detect concentrations are presented as less than the practical quantitation limit (PQL) "<PQL" in the data tables.

Overall Assessment

The QAPP specified that 10% of the project data be reviewed using CLP NFG (Guidelines) and the remaining data be reviewed in accordance with Barr's Data Validation Standard Operating Procedures (SOPs). Because 90% of the data was correspondingly validated using non-CLP criteria, the laboratory criterion were used for consistency, except where outliers exceeded 30-150% EPA quality control criteria. In summary, because the Guidelines have limits which are often different than and, in certain cases, are more stringent than the limits specified by the analytical methods and the laboratory generated limits, the end result may be slightly different data qualification.

**Data Validation Report
Laboratory Report / Batch: K0703596**

Rhodia Silver Bow Plant – Butte, Montana
2007 – Phase I RCRA Facility Investigation
U.S. EPA Corrective Action Order on Consent,
Docket No. RCRA-2006-08-2004-0001

Date Data Validation Report: January 11, 2011

Mr. John Davis of HKM Engineering collected and submitted the groundwater samples for analysis. The data were reported directly to Barr Engineering Company.

The data are useable as reported and qualified and fulfill the data quality objectives (DQOs) for sensitivity, accuracy and precision as specified in the QAPP. Any exceptions are detailed in the following sections.

Holding Times, Preservation and Storage

The samples were collected April 24th, 2007, packed on ice and sent to the laboratory (CAS, Kelso, Washington) with an accompanying chain-of-custody form (COC). Per the chain-of-custody and subsequent laboratory acknowledgement receipt forms, the samples were received intact with a temperature of 1.9 °C to 2.3 °C upon receipt at the laboratory and were stored at 4 °C until analysis. No qualifiers were assigned due to holding times, sample preservation or storage issues.

Blank Analysis

As stated in Section B10.3.2 of the QAPP, when project sample concentrations are “<” (less than) five times the associated blank sample concentrations, thus suspected false positives, they are shown at the concentration reported in the sample, with a “<” qualifier.

Trace concentrations of total and dissolved calcium and copper, total alkalinity as CaCO₃, bicarbonate as CaCO₃, nitrate as N were present above the PQL in the field blank sample (FB-1) associated with this data package; associated sample concentrations within five times the field blank sample concentrations were assigned a “<” qualifier as described above.

The method blank samples had no target analytes present above the PQL.

Laboratory Control Samples (Ongoing Precision/Accuracy)

Laboratory control samples (LCSs) were prepared and analyzed for the target compounds and met the relevant acceptance criteria for percent recovery of the spike concentrations, indicating in-control analytical systems.

Matrix Spike Results

Samples MW-02-4 was used for the MS/MSD samples associated with the total and dissolved ICP and ICP/MS analyses. The MS/MSD percent recoveries met the laboratory acceptance criteria for the target analytes.

General Chemistry Analysis (total fluoride, chloride, sulfate, carbonate as CaCO₃, total alkalinity as CaCO₃, bicarbonate as CaCO₃, ammonia as N, nitrate and nitrite as N, nitrate + nitrite as N, and total phosphorus)

Samples MW-02-4 and non-project specific samples served as the MS/MSD samples for general chemistry analyses. The MS/MSDs and laboratory duplicate samples met the applicable laboratory acceptance criteria for precision and accuracy for the general chemistry analyses. The LCS data indicated that the laboratory and method criteria were met. The method blank samples were all non-detect.

**Data Validation Report
Laboratory Report / Batch: K0703596**

**Rhodia Silver Bow Plant – Butte, Montana
2007 – Phase I RCRA Facility Investigation
U.S. EPA Corrective Action Order on Consent,
Docket No. RCRA-2006-08-2004-0001**

Date Data Validation Report: January 11, 2011

Field Duplicate Samples

Sample MW-02-3 served as the field duplicate sample for this data package. Except for one case, the field duplicate groundwater sample met the RPD criteria (30%) as specified in the QAPP. The field duplicate RPD for nitrate + nitrite as N was 190.1 %; therefore, the associated data were “J” qualified and should be considered estimated.

Data Validation Report

Laboratory Report / Batch: K0710473

**Rhodia Silver Bow Plant – Butte, Montana
2007 – Phase I RCRA Facility Investigation
U.S. EPA Corrective Action Order on Consent,
Docket No. RCRA-2006-08-2004-0001**

Date of Data Validation Report: January 11, 2011

The validation of the Columbia Analytical Services, Inc. (CAS, Kelso, Washington) laboratory data for the general chemistry and metals analyses of the samples collected in 2007 to support the Phase 1 - RCRA Facility Investigation is complete as detailed below.

The analytical data were reviewed in accordance with Barr's Data Validation SOPs which are based upon the U.S. EPA Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Inorganic Data Review (EPA 2002) and in general accordance with U.S. EPA Methods 300.0, 350.1, 353.2, 365.3, 6020, 6010B and Standard Methods 4500-F⁻ C modified and 2320 B.

In general, the areas covered by the validation process include:

- Overall assessment
- Holding times, preservation and storage
- Blank analysis
- Laboratory control samples
- Matrix spike results
- General chemistry analysis (total fluoride, chloride, sulfate, carbonate as CaCO₃, total alkalinity as CaCO₃, bicarbonate as CaCO₃, ammonia as N, nitrate and nitrite as N, nitrate + nitrite as N, and total phosphorus)
- Field duplicate samples

The results for three groundwater samples and one field (rinstate) sample are contained in this laboratory report. The samples are identified as follows:

MW-02-3
M-1 (MW-02-3 DUP)

MW-02-4

Field Blank (FB-1)

The samples were analyzed for total and dissolved metals (ICP/ICP/MS), general chemistry parameters (total fluoride, chloride, sulfate, carbonate as CaCO₃, total alkalinity as CaCO₃, bicarbonate as CaCO₃, ammonia as N, nitrate and nitrite as N, nitrate + nitrite as N, and total phosphorus) as specified in the laboratory report.

The non-detect concentrations are presented as less than the practical quantitation limit (PQL) "<PQL" in the data tables.

Overall Assessment

The QAPP specified that 10% of the project data be reviewed using CLP NFG (Guidelines) and the remaining data be reviewed in accordance with Barr's Data Validation Standard Operating Procedures (SOPs). Because 90% of the data was correspondingly validated using non-CLP criteria, the laboratory criterion were used for consistency, except where outliers exceeded 30-150% EPA quality control criteria. In summary, because the Guidelines have limits which are often different

**Data Validation Report
Laboratory Report / Batch: K0710473**

Rhodia Silver Bow Plant – Butte, Montana
2007 – Phase I RCRA Facility Investigation
U.S. EPA Corrective Action Order on Consent,
Docket No. RCRA-2006-08-2004-0001

Date Data Validation Report: January 11, 2011

than and, in certain cases, are more stringent than the limits specified by the analytical methods and the laboratory generated limits, the end result may be slightly different data qualification.

Ms. Tina Donovan of TREC Inc. collected and submitted the groundwater samples for analysis. The data were reported directly to Barr Engineering Company.

The data are useable as reported and qualified and fulfill the data quality objectives (DQOs) for sensitivity, accuracy and precision as specified in the QAPP. Any exceptions are detailed in the following sections.

Holding Times, Preservation and Storage

The samples were collected November 6th, 2007, packed on ice and sent to the laboratory (CAS, Kelso, Washington) with an accompanying chain-of-custody form (COC). Per the chain-of-custody and subsequent laboratory acknowledgement receipt forms, the samples were received intact with a temperature of 2.5 °C to 3.8 °C upon receipt at the laboratory and were stored at 4 °C until analysis. No qualifiers were assigned due to holding times, sample preservation or storage issues.

Blank Analysis

As stated in Section B10.3.2 of the QAPP, when project sample concentrations are “<” (less than) five times the associated blank sample concentrations, thus suspected false positives, they are shown at the concentration reported in the sample, with a “<” qualifier.

The method and field blank (FB-1) blank samples had no target analytes present above the PQL.

Laboratory Control Samples (Ongoing Precision/Accuracy)

Laboratory control samples (LCSs) were prepared and analyzed for the target compounds and met the relevant acceptance criteria for percent recovery of the spike concentrations, indicating in-control analytical systems.

Matrix Spike Results

Samples MW-02-4 was used for the MS/MSD samples associated with the total and dissolved ICP and ICP/MS analyses. The MS/MSD percent recoveries met the laboratory acceptance criteria for the target analytes.

General Chemistry Analysis (total fluoride, chloride, sulfate, carbonate as CaCO₃, total alkalinity as CaCO₃, bicarbonate as CaCO₃, ammonia as N, nitrate and nitrite as N, nitrate + nitrite as N, and total phosphorus)

Samples MW-02-4 served as the MS/MSD sample for general chemistry analyses. The MS/MSDs and laboratory duplicate samples met the applicable laboratory acceptance criteria for precision and accuracy for the general chemistry analyses. The LCS data indicated that the laboratory and method criteria were met. The method blank samples were all non-detect.

**Data Validation Report
Laboratory Report / Batch: K0710473**

**Rhodia Silver Bow Plant – Butte, Montana
2007 – Phase I RCRA Facility Investigation
U.S. EPA Corrective Action Order on Consent,
Docket No. RCRA-2006-08-2004-0001**

Date Data Validation Report: January 11, 2011

Field Duplicate Samples

Sample MW-02-3 served as the field duplicate sample for this data package. Except for one case, the field duplicate groundwater sample met the RPD criteria (30%) as specified in the QAPP. The field duplicate RPD for dissolved cadmium was greater than 30%, however, no data were qualified because the sample concentrations were at or near the PQL thereby exaggerating the deviation of the RPD.

Appendix 1-B3

2007 Laboratory Reports

June 4, 2007

Analytical Report for Service Request No: K0703596

RECEIVED

JUN 11 2007

Barr Engineering Co.

Andrea Nord
Barr Engineering
4700 West 77th Street
Minneapolis, MN 55435

RE: 26/46-006/Rhodia-Silver Bow Plant

Dear Andrea:

Enclosed are the results of the sample(s) submitted to our laboratory on April 26, 2007. For your reference, these analyses have been assigned our service request number K0703596.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3358. You may also contact me via Email at LHuckestein@kelso.caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Lynda Huckestein
Client Services Manager

LH/lmb

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

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Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Barr Engineering Company
Project: 26/46-006
Sample Matrix: Water

Service Request No.: K0703596
Date Received: 4/26/2007

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), and Laboratory Control Sample (LCS).

Sample Receipt

Four water samples were received for analysis at Columbia Analytical Services on 4/26/2007. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Nitrite and Nitrate by EPA Method 300.0 and 353.2:

The Nitrate+Nitrite as Nitrogen result for Sample M-1 were significantly higher than the concentration measured via EPA Method 300.0. Each of the sample bottles (sulfuric acid preserved bottle for the Nitrate+Nitrite and unpreserved bottle for the Nitrate) were reanalyzed and the results confirmed with the original analysis indicating that the sample preserved with sulfuric acid may have a high bias.

Total and Dissolved Metals

No anomalies associated with the analysis of these samples were observed.

Approved by LAH Date 6/6/07

00006

Chain of Custody Documentation

00007



An Employee - Owned Company

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

PAGE 1 OF 1 COC #

SR#: 3596
60703578PROJECT NAME *Rhodia - Silver Bow Plant*

PROJECT NUMBER

PROJECT MANAGER

COMPANY/ADDRESS

CITY/STATE/ZIP

E-MAIL ADDRESS

PHONE #

FAX #

SAMPLER'S SIGNATURE

NUMBER OF CONTAINERS

Semi-volatile Organics by GC/MS
625 ☐ 8270 ☐ 8270LL ☐
Volatile Organics
624 ☐ 8260 ☐Hydrocarbons (*see below)
Gas ☐ 8021 ☐ BTEX ☐
Fuel Fingerprint ☐ Oil ☐
NW-HCID Screen ☐
Oil & Grease/TPH ☐ 1664 SGT ☐PCB's
Aroclors ☐ Congeners ☐
608 ☐ 8081A ☐Chlorophenolics - 8151M ☐ 8151A ☐
Tri ☐ Tetra ☐ PCP ☐PAHs 8310 ☐ SIM ☐
Metals, Total or Dissolved
(See list below)Cyanide ☐ Hex-Chrom ☐
pH Cond., Cl, SO₄, PO₄, F, NO₂,
NH₃-N, COD, TSS, TDS (circle)
DOC (circle) NO₂+NO₃, TOX 9020 ☐ AOX 1650 ☐ 506 ☐

00008

SAMPLE I.D. DATE TIME LAB I.D. MATRIX

MW-02-3 4/24/07 1120 W S

MW-02-4 1355 W S

M-1 1200 W S

FB-1 1215 W S

MS/MSD 1355 W S

see order #5774

REPORT REQUIREMENTS

- ___ I. Routine Report: Method Blank, Surrogate, as required
- ___ II. Report Dup., MS, MSD as required
- ___ III. Data Validation Report (includes all raw data)
- ___ IV. CLP Deliverable Report
- ___ V. EDD

INVOICE INFORMATION

P.O. #

Bill To:

TURNAROUND REQUIREMENTS

- ___ 24 hr. ___ 48 hr.
- ___ 5 Day
- ___ Standard (10-15 working days)
- ___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al ☒ As ☒ Sb Ba Be B ☒ Ca ☒ Cd Co Cr ☒ Cu Fe Pb ☒ Mo ☒ Mn ☒ Ni ☒ K ☒ Ag ☒ Na ☒ Se Sr Ti Sn V ☒ Zn Hg

Dissolved Metals: Al ☒ As ☒ Sb Ba Be B ☒ Ca ☒ Cd Co Cr ☒ Cu Fe Pb ☒ Mo ☒ Mn ☒ Ni ☒ K ☒ Ag ☒ Na ☒ Se Sr Ti Sn V ☒ Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

Copy of email attached with analytical request

RELINQUISHED BY:

John R Davis
Signature
John R Davis
Printed Name
4/25/07 1100
Date/Time
HKM
Firm

RECEIVED BY:

Tracy Black
Signature
Black
Printed Name
4/26/07 1140
Date/Time
CNS
Firm

RELINQUISHED BY:

Signature
Printed Name
Date/Time
Firm

RECEIVED BY:

Signature
Printed Name
Date/Time
Firm

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC Lff

Client / Project: HKM Service Request K07 03518
Received: 4/16/17 Opened: 4/16/17 By: V. Bal

1. Samples were received via? ☐ US Mail ☐ Fed Ex ☒ UPS ☐ DHL ☐ GH ☐ GS ☐ PDX ☐ Courier ☐ Hand Delivered
2. Samples were received in: (circle) ☒ Cooler ☐ Box ☐ Envelope ☐ Other ☐ NA
3. Were custody seals on coolers? ☐ NA ☒ Y ☐ N If yes, how many and where? 2-front
If present, were custody seals intact? ☒ Y ☐ N If present, were they signed and dated? ☒ Y ☐ N
4. Is shipper's air-bill filed? If not, record air-bill number: 128 AF65 20148432358 ☐ NA ☒ Y ☐ N
5. Temperature of cooler(s) upon receipt (°C): 2.3
Temperature Blank (°C): 1.9
6. If applicable, list Chain of Custody Numbers: _____
7. Were custody papers properly filled out (ink, signed, etc.)? ☐ NA ☒ Y ☐ N
8. Packing material used. ☐ Inserts ☒ Bubble Wrap ☐ Gel Packs ☒ Wet Ice ☐ Sleeves ☐ Other _____
9. Did all bottles arrive in good condition (unbroken)? Indicate in the table below. ☒ Y ☐ N
10. Were all bottle labels complete (i.e analysis, preservation, etc.)? ☒ Y ☐ N
11. Did all bottle labels and tags agree with custody papers? Indicate in the table below ☒ Y ☐ N
12. Were the correct types of bottles used for the tests indicated? ☒ Y ☐ N
13. Were all of the preserved bottles received at the lab with the appropriate pH? Indicate in the table below ☐ NA ☒ Y ☐ N
14. Were VOA vials and 1631 Mercury bottles checked for absence of air bubbles? Indicate in the table below. ☒ NA ☐ Y ☐ N
15. Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection? ☒ NA ☐ Y ☐ N
16. Was C12/Res negative? ☒ NA ☐ Y ☐ N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
<u>6 MW-02-1</u>	<u>MW-02-3</u>		

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

Additional Notes, Discrepancies, & Resolutions: MW-02-7B & placed by date + time

General Chemistry Parameters

00010

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Alkalinity as CaCO₃, Total

Analysis Method : SM 2320B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-3	K0703596-001	2	1	05/02/07	130	
MW-02-4	K0703596-002	2	1	05/02/07	199	
M-1	K0703596-003	2	1	05/02/07	132	
FB-1	K0703596-004	2	1	05/02/07	2	
Method Blank	K0703596-MB	2	1	05/02/07	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00011

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/02/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Alkalinity as CaCO ₃ , Total	SM 2320B	2	199	198	198	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00012

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 05/02/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Alkalinity as CaCO ₃ , Total	NONE	SM 2320B	94	94	100	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00013

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Bicarbonate as CaCO₃

Analysis Method : SM 2320B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-3	K0703596-001	2	1	05/02/07	130	
MW-02-4	K0703596-002	2	1	05/02/07	199	
M-1	K0703596-003	2	1	05/02/07	132	
FB-1	K0703596-004	2	1	05/02/07	2	
Method Blank	K0703596-MB	2	1	05/02/07	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00014

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/02/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Bicarbonate as CaCO3	SM 2320B	2	199	198	198	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00015

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 05/02/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Alkalinity, Total as CaCO ₃	NONE	SM 2320B	94	94	100	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00016

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Carbonate as CaCO₃

Analysis Method : SM 2320B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-3	K0703596-001	2	1	05/03/07	ND	
MW-02-4	K0703596-002	2	1	05/02/07	ND	
M-1	K0703596-003	2	1	05/02/07	ND	
FB-1	K0703596-004	2	1	05/02/07	ND	
Method Blank	K0703596-MB	2	1	05/02/07	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00017

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/02/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbonate as CaCO ₃	SM 2320B	2	ND	ND	ND	-	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00018

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 05/02/07

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbonate as CaCO ₃	NONE	SM 2320B	94	94	100	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00019

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Ammonia as Nitrogen

Analysis Method : 350.1
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-3	K0703596-001	0.05	1	05/01/07	ND	
MW-02-4	K0703596-002	0.05	1	05/01/07	ND	
M-1	K0703596-003	0.05	1	05/01/07	ND	
FB-1	K0703596-004	0.05	1	05/01/07	ND	
Method Blank	K0703596-MB	0.05	1	05/01/07	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.05	ND	ND	ND	-	

00021

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Matrix Spike Summary
Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	350.1	0.05	2.00	ND	1.98	99	90-110	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 05/01/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	NONE	350.1	2.45	2.43	99	90-110	

00023

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Chloride

Analysis Method : 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-3	K0703596-001	4.0	20	04/30/07	165	
MW-02-4	K0703596-002	40.0	200	05/01/07	178	
M-1	K0703596-003	4.0	20	04/30/07	163	
FB-1	K0703596-004	0.2	1	05/01/07	ND	
Method Blank	K0703596-MB	0.2	1	04/30/07	ND	

00024

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Chloride	300.0	40.0	178	178	178	<1	

00025

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Chloride	300.0	40.0	400	178	540	91	80-120	

00026

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 04/30/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Chloride	NONE	300.0	5.0	4.8	96	90-110	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Nitrite as Nitrogen

Analysis Method : 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
MW-02-3	K0703596-001	0.5	5	04/30/07 23:33	ND	i
MW-02-4	K0703596-002	0.5	5	05/01/07 01:57	ND	i
M-1	K0703596-003	0.5	5	04/30/07 23:45	ND	i
FB-1	K0703596-004	0.1	1	05/01/07 02:57	ND	
Method Blank	K0703596-MB	0.1	1	04/30/07 10:49	ND	

00028

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrite as Nitrogen	300.0	0.5	ND	ND	ND	-	i

00029

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery	Result Notes
							Acceptance Limits	
Nitrite as Nitrogen	300.0	0.5	10.0	ND	9.7	97	80-120	

00030

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 04/30/07

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrite as Nitrogen	NONE	300.0	100	99.8	100	90-110	

00031

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Nitrate as Nitrogen

Analysis Method : 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
MW-02-3	K0703596-001	0.1	2	04/30/07 12:25	0.5	
MW-02-4	K0703596-002	0.5	5	05/01/07 01:57	0.5	
M-1	K0703596-003	0.5	5	04/30/07 23:45	ND	i
FB-1	K0703596-004	0.1	1	05/01/07 02:57	0.3	
Method Blank	K0703596-MB	0.1	1	04/30/07 10:49	ND	

00032

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate as Nitrogen	300.0	0.5	0.5	0.5	0.5	<1	

00033

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Nitrate as Nitrogen	300.0	0.5	10.0	0.5	10.0	95	80-120	

00034

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 04/30/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Nitrate as Nitrogen	NONE	300.0	4.5	4.9	109	90-110	

00035

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Sulfate

Analysis Method : 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
MW-02-3	K0703596-001	40.0	200	04/30/07 23:21	670	
MW-02-4	K0703596-002	40.0	200	05/01/07 01:09	649	
M-1	K0703596-003	40.0	200	04/30/07 00:57	670	
FB-1	K0703596-004	0.2	1	05/01/07 02:57	ND	
Method Blank	K0703596-MB	0.2	1	04/30/07 10:49	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Sulfate	300.0	40.0	649	649	649	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Sulfate	300.0	40.0	400	649	1050	100	80-120	

00038

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 04/30/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Sulfate	NONE	300.0	5.0	4.8	96	90-110	

00039

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Fluoride

Analysis Method : 340.2
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-3	K0703596-001	0.2	1	05/01/07	0.5	
MW-02-4	K0703596-002	0.2	1	05/01/07	0.4	
M-1	K0703596-003	0.2	1	05/01/07	0.5	
FB-1	K0703596-004	0.2	1	05/01/07	ND	
Method Blank	K0703596-MB	0.2	1	05/01/07	ND	

00040

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Fluoride	340.2	0.2	0.4	0.4	0.4	<1	

00041

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Fluoride	340.2	0.2	25.0	0.4	26.0	102	75-125	

00042

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 05/01/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Fluoride	NONE	340.2	9.6	9.8	102	85-115	

00043

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Nitrate+Nitrite as Nitrogen

Analysis Method : 353.2
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-3	K0703596-001	0.05	1	05/15/07	0.25	
MW-02-4	K0703596-002	0.05	1	05/15/07	0.25	
M-1	K0703596-003	0.50	10	05/15/07	9.81	
FB-1	K0703596-004	0.05	1	05/15/07	ND	
Method Blank	K0703596-MB	0.05	1	05/15/07	ND	

00044

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 05/15/07

Duplicate Summary Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0703967-006DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.05	0.05	0.05	0.05	<1	

00045

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 05/15/07

Matrix Spike Summary Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0703967-006MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Nitrate+Nitrite as Nitrogen	353.2	0.05	2.00	0.05	2.07	101	90-110	/

00046

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 05/15/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	NONE	353.2	5.13	5.23	102	90-110	

00047

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Phosphorus, Total

Analysis Method : 365.3
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-3	K0703596-001	0.01	1	05/15/07	0.20	
MW-02-4	K0703596-002	0.01	1	05/18/07	0.56	
M-1	K0703596-003	0.01	1	05/15/07	0.20	
FB-1	K0703596-004	0.01	1	05/15/07	ND	
Method Blank	K0703596-MB	0.01	1	05/15/07	ND	
Method Blank	K0703596-MB	0.01	1	05/18/07	ND	

00048

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : 05/17/07
Date Analyzed : 05/15/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Phosphorus, Total	365.3	0.01	0.56	0.57	0.57	2	

00049

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : 05/17/07
Date Analyzed : 05/15/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Phosphorus, Total	365.3	0.01	0.50	0.56	1.02	92	75-125	

00050

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : 05/15/07
Date Analyzed : 05/15/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	Method	365.3	2.61	2.67	103	85-115	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : 05/17/07
Date Analyzed : 05/18/07

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	Method	365.3	2.61	2.70	103	85-115	

00052

Metals

METALS

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Barr Engineering Company
Project No.: Rhodia-Silver Bow Plant
Project Name: 26/46-006

Service Request: K0703596

<u>Sample No.</u>	<u>Lab Sample ID.</u>
MW-02-3	K0703596-001
MW-02-3	K0703596-001 DISS
MW-02-4	K0703596-002
MW-02-4	K0703596-002 DISS
MW-02-4D	K0703596-002D
MW-02-4S	K0703596-002S
M-1	K0703596-003
M-1	K0703596-003 DISS
FB-1	K0703596-004
FB-1	K0703596-004 DISS
Method Blank	K0703596-MB

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

Signature:  Date: 6/5/07

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: Rhodia-Silver Bow Plant
Project Name: 26/46-006
Matrix: WATER

Service Request: K0703596
Date Collected: 04/24/07
Date Received: 04/26/07
Units: µG/L
Basis: NA

Sample Name: MW-02-3

Lab Code: K0703596-001

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	5/12/07	5/23/07	15.9		
Cadmium	6020	0.02	1	5/12/07	5/23/07	0.12		
Calcium	6010B	500	10	5/12/07	5/14/07	275000		
Copper	6020	0.1	1	5/12/07	5/23/07	2.7		
Magnesium	6010B	20	1	5/12/07	5/14/07	44700		
Manganese	6010B	5.0	1	5/12/07	5/14/07	5.0	U	
Potassium	6010B	2000	1	5/12/07	5/14/07	14100		
Sodium	6010B	100	1	5/12/07	5/14/07	87600		
Zinc	6010B	10	1	5/12/07	5/14/07	10	U	

% Solids: 0.0

Comments:

00055

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: Rhodia-Silver Bow Plant
Project Name: 26/46-006
Matrix: WATER

Service Request: K0703596
Date Collected: 04/24/07
Date Received: 04/26/07
Units: µG/L
Basis: NA

Sample Name: MW-02-3

Lab Code: K0703596-001 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	5/12/07	5/23/07	15.1		
Cadmium	6020	0.02	1	5/12/07	5/23/07	0.10		
Calcium	6010B	500	10	5/12/07	5/14/07	286000		
Copper	6020	0.1	1	5/12/07	5/23/07	2.4		
Magnesium	6010B	20	1	5/12/07	5/14/07	45700		
Manganese	6010B	5.0	1	5/12/07	5/14/07	5.0	U	
Potassium	6010B	2000	1	5/12/07	5/14/07	14400		
Sodium	6010B	100	1	5/12/07	5/14/07	89500		
Zinc	6010B	10	1	5/12/07	5/14/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: Rhodia-Silver Bow Plant
Project Name: 26/46-006
Matrix: WATER

Service Request: K0703596
Date Collected: 04/24/07
Date Received: 04/26/07
Units: µG/L
Basis: NA

Sample Name: MW-02-4

Lab Code: K0703596-002

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	5/12/07	5/23/07	24.1		
Cadmium	6020	0.02	1	5/12/07	5/23/07	0.19		
Calcium	6010B	500	10	5/12/07	5/14/07	313000		
Copper	6020	0.1	1	5/12/07	5/23/07	3.6		
Magnesium	6010B	20	1	5/12/07	5/14/07	53400		
Manganese	6010B	5.0	1	5/12/07	5/14/07	5.0	U	
Potassium	6010B	2000	1	5/12/07	5/14/07	16200		
Sodium	6010B	100	1	5/12/07	5/14/07	88000		
Zinc	6010B	10	1	5/12/07	5/14/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company

Service Request: K0703596

Project No.: Rhodia-Silver Bow Plant

Date Collected: 04/24/07

Project Name: 26/46-006

Date Received: 04/26/07

Matrix: WATER

Units: µG/L

Basis: NA

Sample Name: MW-02-4

Lab Code: K0703596-002 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	5/12/07	5/23/07	24.8		
Cadmium	6020	0.02	1	5/12/07	5/23/07	0.16		
Calcium	6010B	500	10	5/12/07	5/14/07	314000		
Copper	6020	0.1	1	5/12/07	5/23/07	2.8		
Magnesium	6010B	20	1	5/12/07	5/14/07	53900		
Manganese	6010B	5.0	1	5/12/07	5/14/07	5.0	U	
Potassium	6010B	2000	1	5/12/07	5/14/07	16500		
Sodium	6010B	100	1	5/12/07	5/14/07	88900		
Zinc	6010B	10	1	5/12/07	5/14/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: Rhodia-Silver Bow Plant
Project Name: 26/46-006
Matrix: WATER

Service Request: K0703596
Date Collected: 04/24/07
Date Received: 04/26/07
Units: µG/L
Basis: NA

Sample Name: M-1

Lab Code: K0703596-003

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	5/12/07	5/23/07	15.6		
Cadmium	6020	0.02	1	5/12/07	5/23/07	0.11		
Calcium	6010B	500	10	5/12/07	5/14/07	284000		
Copper	6020	0.1	1	5/12/07	5/23/07	2.4		
Magnesium	6010B	20	1	5/12/07	5/14/07	45300		
Manganese	6010B	5.0	1	5/12/07	5/14/07	5.0	U	
Potassium	6010B	2000	1	5/12/07	5/14/07	14400		
Sodium	6010B	100	1	5/12/07	5/14/07	88600		
Zinc	6010B	10	1	5/12/07	5/14/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: Rhodia-Silver Bow Plant
Project Name: 26/46-006
Matrix: WATER

Service Request: K0703596
Date Collected: 04/24/07
Date Received: 04/26/07
Units: µG/L
Basis: NA

Sample Name: M-1

Lab Code: K0703596-003 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	5/12/07	5/23/07	15.6		
Cadmium	6020	0.02	1	5/12/07	5/23/07	0.10		
Calcium	6010B	500	10	5/12/07	5/14/07	307000		
Copper	6020	0.1	1	5/12/07	5/23/07	2.1		
Magnesium	6010B	20	1	5/12/07	5/14/07	46100		
Manganese	6010B	5.0	1	5/12/07	5/14/07	5.0	U	
Potassium	6010B	2000	1	5/12/07	5/14/07	14700		
Sodium	6010B	100	1	5/12/07	5/14/07	91000		
Zinc	6010B	10	1	5/12/07	5/14/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: Rhodia-Silver Bow Plant
Project Name: 26/46-006
Matrix: WATER

Service Request: K0703596
Date Collected: 04/24/07
Date Received: 04/26/07
Units: µG/L
Basis: NA

Sample Name: FB-1

Lab Code: K0703596-004

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	5/12/07	5/23/07	0.5	U	
Cadmium	6020	0.02	1	5/12/07	5/23/07	0.02	U	
Calcium	6010B	50	1	5/12/07	5/14/07	61.0		
Copper	6020	0.1	1	5/12/07	5/23/07	1.7		
Magnesium	6010B	20	1	5/12/07	5/14/07	20	U	
Manganese	6010B	5.0	1	5/12/07	5/14/07	5.0	U	
Potassium	6010B	2000	1	5/12/07	5/14/07	2000	U	
Sodium	6010B	100	1	5/12/07	5/14/07	100	U	
Zinc	6010B	10	1	5/12/07	5/14/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: Rhodia-Silver Bow Plant
Project Name: 26/46-006
Matrix: WATER

Service Request: K0703596
Date Collected: 04/24/07
Date Received: 04/26/07
Units: µG/L
Basis: NA

Sample Name: FB-1

Lab Code: K0703596-004 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	5/12/07	5/23/07	0.5	U	
Cadmium	6020	0.02	1	5/12/07	5/23/07	0.02	U	
Calcium	6010B	50	1	5/12/07	5/14/07	72.2		
Copper	6020	0.1	1	5/12/07	5/23/07	1.0		
Magnesium	6010B	20	1	5/12/07	5/14/07	20	U	
Manganese	6010B	5.0	1	5/12/07	5/14/07	5.0	U	
Potassium	6010B	2000	1	5/12/07	5/14/07	2000	U	
Sodium	6010B	100	1	5/12/07	5/14/07	100	U	
Zinc	6010B	10	1	5/12/07	5/14/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company

Service Request: K0703596

Project No.: Rhodia-Silver Bow Plant

Date Collected:

Project Name: 26/46-006

Date Received:

Matrix: WATER

Units: µG/L

Basis: NA

Sample Name: Method Blank

Lab Code: K0703596-MB

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	5/12/07	5/23/07	0.5	U	
Cadmium	6020	0.02	1	5/12/07	5/23/07	0.02	U	
Calcium	6010B	50	1	5/12/07	5/14/07	50	U	
Copper	6020	0.1	1	5/12/07	5/23/07	0.1	U	
Magnesium	6010B	20	1	5/12/07	5/14/07	20	U	
Manganese	6010B	5.0	1	5/12/07	5/14/07	5.0	U	
Potassium	6010B	2000	1	5/12/07	5/14/07	2000	U	
Sodium	6010B	100	1	5/12/07	5/14/07	100	U	
Zinc	6010B	10	1	5/12/07	5/14/07	10	U	

% Solids: 0.0

Comments:

METALS

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SPIKE SAMPLE RECOVERY

Client: Barr Engineering Company

Service Request: K0703596

Project No.: Rhodia-Silver Bow Plant

Units: µg/L

Project Name: 26/46-006

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: MW-02-4S

Lab Code: K0703596-002S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	68 - 128	46.9		24.1		20.0	114		6020
Cadmium	82 - 114	19.3		0.19		20.0	96		6020
Copper	52 - 129	20.7		3.6		20.0	86		6020
Manganese	82 - 122	445		5.0	U	500	89		6010B
Zinc	83 - 117	456		10.0	U	500	91		6010B

An empty field in the Control Limit column indicates the control limit is not applicable

METALS

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DUPLICATES

Client: Barr Engineering Company

Service Request: K0703596

Project No.: Rhodia-Silver Bow Plant

Units: µg/L

Project Name: 26/46-006

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: MW-02-4D

Lab Code: K0703596-002D

Analyte	Control Limit (%)	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic	20	24.1		25.0		4		6020
Cadmium	20	0.19		0.18		8		6020
Calcium	20	313000		315000		0		6010B
Copper	20	3.6		3.5		3		6020
Magnesium	20	53400		54500		2		6010B
Manganese		5.0	U	5.0	U			6010B
Potassium	20	16200		16600		2		6010B
Sodium	20	88000		88400		0		6010B
Zinc		10	U	10	U			6010B

METALS

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LABORATORY CONTROL SAMPLE

Client: Barr Engineering Company

Service Request: K0703596

Project No.: Rhodia-Silver Bow Plant

Project Name: 26/46-006

Aqueous LCS Source: Inorganic Ventures

Solid LCS Source:

Analyte	Aqueous ug/L			Solid (mg/kg)					
	True	Found	%R	True	Found	C	Limits (%)	%R	
Arsenic	20.0	19.3	97						
Cadmium	20.0	20.1	100						
Calcium	12500	12200	98						
Copper	20.0	19.9	100						
Magnesium	12500	12600	101						
Manganese	1250	1210	96						
Potassium	12500	12200	98						
Sodium	12500	12500	100						
Zinc	1250	1200	96						

December 19, 2007

Analytical Report for Service Request No: K0710473

Andrea Nord
Barr Engineering
4700 West 77th Street
Minneapolis, MN 55435

RE: Rhodia Silver Bow MT GW

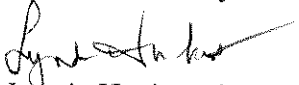
Dear Andrea:

Enclosed are the results of the samples submitted to our laboratory on November 08, 2007. For your reference, these analyses have been assigned our service request number K0710473.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.


Please call if you have any questions. My extension is 3358. You may also contact me via Email at LHuckestein@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Lynda Huckestein
Client Services Manager

LH/lb

Page 1 of 

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 - i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
 - i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 - i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

Client: Barr Engineering Company
Project: Rhodia Silver Bow MT GW
Sample Matrix: Water

000-6

Chain of Custody Documentation



CHAIN OF CUSTODY

K0710473

PROJECT ID Rhodia Silver Bow MT GW

LABORATORY PERFORMING ANALYSIS

Columbia Analytical - Kelso, WA

SAMPLERS (Signature)

Tina Donovan

ANALYSIS REQUESTED

REMARKS

Turnaround Time (TAT)

☐ Standard TAT☐ Rush TAT (please contact laboratory personnel for arrangements)

SAMPLE ID	LAB ID	DATE	TIME	Total Metals/ pH/NO ₃	Dissolved Metals Filtered/ pH/NO ₃	TPH, TOC, LO ₂ , NH ₃ , TKN, TANs, TOC, NO ₂ /NO ₃ , /H ₂ SO ₄ , pH, Cond, Cl ⁻ , SO ₄ ²⁻ , F ⁻ , Se ⁴⁻ , NO ₂ , NO ₃ , O ₂ , TDS, TSS, LO ₂ , TAN, Li ⁺ , Al ³⁺ , LO ₃ , HCO ₃ ⁻
MW-02-03		11-6-07	1347	✓	✓	✓
M-1		11-6-07	1350	✓	✓	✓
FB-1		11-6-07	1500	✓	✓	✓
MS/MSD		11-6-07	1650	✓	✓	✓
MW-02-04		11-6-07	1736	✓	✓	✓

TODAY 11-6-07
Not Submitted

Use sample as MS/MSD also

Run tests as per 10/19/07 email from Andrew Paul
@ Bear.
WMT

RELINQUISHED BY (Signature)

Tina Donovan

DATE

11-7-07

TIME

1426

RECEIVED BY (Signature)

DATE

TIME

PRINTED NAME

Tina Donovan

COMPANY

TRC, Inc.

PRINTED NAME

COMPANY

RELINQUISHED BY (Signature)

DATE

TIME

RECEIVED BY (Signature)

DATE

TIME

PRINTED NAME

COMPANY

PRINTED NAME

COMPANY

RELINQUISHED BY (Signature)

DATE

TIME

RECEIVED FOR LAB BY (Signature)

DATE

TIME

PRINTED NAME

COMPANY

PRINTED NAME

COMPANY

COMMENTS Columbia Analytical/Service, Inc.

1317 S. 13th Ave
9th Sample Receiving
PO Box 479
Kelso WA 98626
360-577-7222

Container Supply Number



6962

Lynda Huckestein

From: Andrea A. Nord [anord@barr.com]
Sent: Thursday, November 08, 2007 11:49 AM
To: Lynda Huckestein
Subject: FW: Rhodia Interim GW sampling 26/46-006 Oct 2007

From: Lynda Huckestein [mailto:lhuckestein@caslab.com]
Sent: Friday, October 19, 2007 3:19 PM
To: Andrea A. Nord
Cc: Tom Mattison
Subject: RE: Rhodia Interim GW sampling 26/46-006 Oct 2007

Will do Andrea!

From: Andrea A. Nord [mailto:anord@barr.com]
Sent: Friday, October 19, 2007 10:02 AM
To: Lynda Huckestein
Cc: Tom Mattison
Subject: Rhodia Interim GW sampling 26/46-006 Oct 2007

Lynda,
Please ship the following bottles to this address for delivery by the end of the day Wednesday 10/24 for the interim groundwater monitoring sample event. Same as the April 2007 event.

Attn: Cam Balentine
C/O HKM
Rhodia Silver Bow Plant
119130 German Gulch Road
Silver Bow, MT 59750
phone: 406-496-2221

6 sets of water bottles for (includes enough bottles for a DUP, MS, MSD and EQ Blank):

Total metals by 6020B: As, Cd, and Cu,

Total metals by 6010: Ca, Mg, Mn, K, Na, Zn

Filtered metals by 6020B: As, Cd, and Cu,

Filtered metals by 6010: Ca, Mg, Mn, K, Na, Zn

Anions -

chloride by EPA 300.0,

fluoride by SM 4500-F C

sulfate by EPA 300.0

Ammonia by SM EPA 350.1

Nitrate by EPA300.0

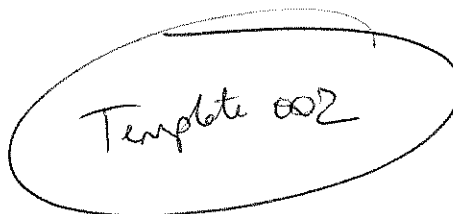
Nitrite by EPA300.0

Nitrate + Nitrite by EPA353.2

Total phosphorus EPA365.3

Carbonate as CO3 SM 2320B

Bicarbonate as HCO3 SM 2320B



Template 002

→ AK 2320B

000-9

Total Alkalinity as CaCO₃ by SM 2320B

Plus 2 gallons of DI water for the Equipment blank sample.

This will be a routine data package (not CLP) which is unique to this sampling event.

Thanks,

Andrea

00010

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: TREC Service Request K07 10473
Received: 11/8/07 Opened: 11/8/07 By: [Signature]

Samples were received via? US Mail Fed Ex UPS DHL GH GS PDX Courier Hand Delivered
Samples were received in: (circle) Cooler Box Envelope Other NA
Were custody seals on coolers? NA Y N If yes, how many and where? 2F
If present, were custody seals intact? Y N If present, were they signed and dated? Y N
Is shipper's air-bill filed? If not, record air-bill number: NA Y N

Temperature of cooler(s) upon receipt (°C): 2.5
Temperature Blank (°C): 3.8
If applicable, list Chain of Custody Numbers: _____
Were custody papers properly filled out (ink, signed, etc.)? NA Y N
Packing material used. Inserts Bubble Wrap Gel Packs Wet Ice Sleeves Other _____
Did all bottles arrive in good condition (unbroken)? Indicate in the table below. NA Y N
Were all sample labels complete (i.e analysis, preservation, etc.)? Y N
Did all sample labels and tags agree with custody papers? Indicate in the table below Y N
Were the correct types of bottles used for the tests indicated? NA Y N
Were all of the preserved bottles received at the lab with the appropriate pH? Indicate in the table below NA Y N
Were VOA vials and 1631 Mercury bottles checked for absence of air bubbles? Indicate in the table below. NA Y N
Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection? Y N
Was C12/Res negative? Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

Additional Notes, Discrepancies, & Resolutions: _____

00011

General Chemistry Parameters

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Alkalinity as CaCO₃, Total

Analysis Method : SM 2320 B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	2	1	11/10/07	130	
M-1	K0710473-002	2	1	11/10/07	130	
FB-1	K0710473-003	2	1	11/10/07	ND	
MW-02-04	K0710473-004	2	1	11/10/07	211	
Method Blank	K0710473-MB	2	1	11/10/07	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00013

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/10/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Alkalinity as CaCO ₃ , Total	SM 2320 B	2	211	210	210	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00014

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/10/07

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Laboratory Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Alkalinity as CaCO ₃ , Total	NONE	SM 2320 B	115	118	103	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00015

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Bicarbonate as CaCO₃

Analysis Method : SM 2320 B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	2	1	11/10/07	130	
M-1	K0710473-002	2	1	11/10/07	130	
FB-1	K0710473-003	2	1	11/10/07	ND	
MW-02-04	K0710473-004	2	1	11/10/07	211	
Method Blank	K0710473-MB	2	1	11/10/07	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00016

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/10/07

Duplicate Summary
Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Bicarbonate as CaCO3	SM 2320 B	2	211	210	210	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00017

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/10/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Alkalinity as CaCO ₃ , Total	NONE	SM 2320 B	115	118	103	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00018

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Carbonate as CaCO₃

Analysis Method : SM 2320 B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	2	1	11/10/07	ND	
M-1	K0710473-002	2	1	11/10/07	ND	
FB-1	K0710473-003	2	1	11/10/07	ND	
MW-02-04	K0710473-004	2	1	11/10/07	ND	
Method Blank	K0710473-MB	2	1	11/10/07	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00019

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/10/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbonate as CaCO ₃	SM 2320 B	2	ND	ND	ND	-	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00020

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/10/07

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Alkalinity as CaCO ₃ , Total	NONE	SM 2320 B	115	118	103	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00021

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Ammonia as Nitrogen

Analysis Method : 350.1
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	0.05	1	11/26/07	ND	
M-1	K0710473-002	0.05	1	11/26/07	ND	
FB-1	K0710473-003	0.05	1	11/26/07	ND	
MW-02-04	K0710473-004	0.05	1	11/26/07	ND	
Method Blank	K0710473-MB	0.05	1	11/26/07	ND	

00022

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/26/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.05	ND	ND	ND	-	

00023

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/26/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Ammonia as Nitrogen	350.1	0.05	2.00	ND	1.95	98	90-110	

00024

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/26/07

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	NONE	350.1	8.45	8.14	96	90-110	

00025

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Chloride

Analysis Method : 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	4.0	20	11/08/07	161	
M-1	K0710473-002	4.0	20	11/08/07	160	
FB-1	K0710473-003	0.2	1	11/08/07	ND	
MW-02-04	K0710473-004	20	100	11/08/07	184	
Method Blank	K0710473-MB	0.2	1	11/08/07	ND	

00026

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/08/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Chloride	300.0	20	184	182	183	1	

00027

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/08/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Chloride	300.0	40	400	184	548	91	80-120	

00028

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/08/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Chloride	NONE	300.0	5.0	4.8	96	90-110	

00029

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Nitrite as Nitrogen

Analysis Method : 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	0.5	5	11/08/07	ND	i
M-1	K0710473-002	0.5	5	11/08/07	ND	i
FB-1	K0710473-003	0.1	1	11/08/07	ND	
MW-02-04	K0710473-004	0.5	5	11/08/07	ND	i
Method Blank	K0710473-MB	0.1	1	11/08/07	ND	

* 00030

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/08/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrite as Nitrogen	300.0	0.5	ND	ND	ND	-	i

00031

00030
12/20

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/08/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Nitrite as Nitrogen	300.0	0.5	10.0	ND	10.0	100	80-120	

00032

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/08/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Nitrite as Nitrogen	NONE	300.0	100	97.4	97	90-110	

00033

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Nitrate as Nitrogen

Analysis Method : 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
MW-02-03	K0710473-001	0.1	2	11/08/07 14:21	0.2	
M-1	K0710473-002	0.1	2	11/08/07 14:33	0.2	
FB-1	K0710473-003	0.1	1	11/08/07 14:45	ND	
MW-02-04	K0710473-004	0.1	2	11/08/07 14:57	0.2	
Method Blank	K0710473-MB	0.1	1	11/08/07 09:05	ND	

00034

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/08/07

Duplicate Summary
Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate as Nitrogen	300.0	0.1	0.2	0.2	0.2	<1	

00035

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/08/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery	Result Notes
							Acceptance Limits	
Nitrate as Nitrogen	300.0	0.1	4.0	0.2	4.0	95	80-120	

00036

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/08/07

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Nitrate as Nitrogen	NONE	300.0	37.5	37.8	101	90-110	

00037

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Sulfate

Analysis Method : 300.0
Test Notes :

Units : mg/L

Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	20	100	11/09/07	672	
M-1	K0710473-002	20	100	11/09/07	673	
FB-1	K0710473-003	0.2	1	11/08/07	ND	
MW-02-04	K0710473-004	20	100	11/08/07	615	
Method Blank	K0710473-MB	0.2	1	11/08/07	ND	
Method Blank	K0710473-MB	0.2	1	11/09/07	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/08/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Sulfate	300.0	20	615	599	607	3	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/08/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Sulfate	300.0	40	400	615	969	89	80-120	

00040

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/08/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Sulfate	NONE	300.0	5.0	4.7	94	90-110	

00041

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/09/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Sulfate	NONE	300.0	5.0	4.8	96	90-110	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Fluoride

Analysis Method : SM 4500-F- C Modified
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	0.2	1	11/12/07	0.4	
M-1	K0710473-002	0.2	1	11/12/07	0.4	
FB-1	K0710473-003	0.2	1	11/12/07	ND	
MW-02-04	K0710473-004	0.2	1	11/12/07	0.3	
Method Blank	K0710473-MB	0.2	1	11/12/07	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00043

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/12/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Fluoride	SM 4500-F- C Modified	0.2	0.3	0.3	0.3	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00044

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/12/07

Matrix Spike Summary
Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Fluoride	SM 4500-F- C Modified	0.2	25.0	0.3	26.0	103	75-125	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00045

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/12/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Fluoride	NONE	SM 4500-F- C Modified	6.3	6.4	102	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00046

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Nitrate+Nitrite as Nitrogen

Analysis Method : 353.2
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	0.05	1	11/13/07	0.25	
M-1	K0710473-002	0.05	1	11/13/07	0.25	
FB-1	K0710473-003	0.05	1	11/13/07	ND	
MW-02-04	K0710473-004	0.05	1	11/13/07	0.30	
Method Blank	K0710473-MB	0.05	1	11/13/07	ND	

00047

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/13/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.05	0.30	0.29	0.30	3	

00048

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/13/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Nitrate+Nitrite as Nitrogen	353.2	0.05	2.00	0.30	2.32	101	90-110	

00049

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/13/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Nitrate+Nitrite as Nitrogen	NONE	353.2	37.5	37.0	99	90-110	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Phosphorus, Total

Prep Method : Method
Analysis Method : 365.3
Test Notes :

Units : mg/L

Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	0.01	1	11/28/2007	11/29/07	0.17	
M-1	K0710473-002	0.01	1	11/28/2007	11/29/07	0.17	
FB-1	K0710473-003	0.01	1	11/28/2007	11/29/07	ND	
MW-02-04	K0710473-004	0.01	1	11/28/2007	11/29/07	0.62	
Method Blank	K0710473-MB	0.01	1	11/28/2007	11/29/07	ND	

00051

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : 11/28/07
Date Analyzed : 11/29/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Phosphorus, Total	NONE	365.3	0.01	0.62	0.62	0.62	<1	

00052

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : 11/28/07
Date Analyzed : 11/29/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
								Percent Recovery Acceptance Limits	
Phosphorus, Total	NONE	365.3	0.02	0.50	0.62	1.07	90	75-115	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : 11/28/07
Date Analyzed : 11/29/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Phosphorus, Total	NONE	365.3	4.66	4.54	97	85-115	

00054

Metals

METALS

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INORGANIC ANALYSIS DATA PACKAGE

Client: Barr Engineering Company

Service Request: K0710473

Project No.:

Project Name: Rhodia Silver Bow MT GW

<u>Sample No.</u>	<u>Lab Sample ID.</u>
MW-02-03	K0710473-001
MW-02-03	K0710473-001 DISS
M-1	K0710473-002
M-1	K0710473-002 DISS
FB-1	K0710473-003
FB-1	K0710473-003 DISS
MW-02-04	K0710473-004
MW-02-04	K0710473-004 DISS
MW-02-04D	K0710473-004D
MW-02-04S	K0710473-004S
Method Blank	K0710473-MB

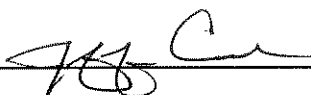
Were ICP interelement corrections applied?

Yes/No YES

Were ICP background corrections applied?

Yes/No YESIf yes-were raw data generated before
application of background corrections?Yes/No NO

Comments:

Signature: Date: 12/19/07

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: NA
Project Name: Rhodia Silver Bow MT GW
Matrix: WATER

Service Request: K0710473
Date Collected: 11/06/07
Date Received: 11/08/07
Units: µG/L
Basis: NA

Sample Name: MW-02-03

Lab Code: K0710473-001

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	11/16/07	12/18/07	17.5		
Cadmium	6020	0.02	1	11/16/07	12/18/07	0.09		
Calcium	6010B	50	1	11/16/07	11/21/07	270000		
Copper	6020	0.1	1	11/16/07	12/18/07	6.1		
Magnesium	6010B	20	1	11/16/07	11/21/07	47100		
Manganese	6010B	5.0	1	11/16/07	11/21/07	5.0	U	
Potassium	6010B	2000	1	11/16/07	11/21/07	15400		
Sodium	6010B	100	1	11/16/07	11/21/07	85000		
Zinc	6010B	10	1	11/16/07	11/21/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: NA
Project Name: Rhodia Silver Bow MT GW
Matrix: WATER

Service Request: K0710473
Date Collected: 11/06/07
Date Received: 11/08/07
Units: µG/L
Basis: NA

Sample Name: MW-02-03

Lab Code: K0710473-001 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	11/16/07	12/18/07	17.9		
Cadmium	6020	0.02	1	11/16/07	12/18/07	0.11		
Calcium	6010B	50	1	11/16/07	11/21/07	276000		
Copper	6020	0.1	1	11/16/07	12/18/07	6.7		
Magnesium	6010B	20	1	11/16/07	11/21/07	49100		
Manganese	6010B	5.0	1	11/16/07	11/21/07	5.0	U	
Potassium	6010B	2000	1	11/16/07	11/21/07	15300		
Sodium	6010B	100	1	11/16/07	11/21/07	88800		
Zinc	6010B	10	1	11/16/07	11/21/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company

Service Request: K0710473

Project No.: NA

Date Collected: 11/06/07

Project Name: Rhodia Silver Bow MT GW

Date Received: 11/08/07

Matrix: WATER

Units: µG/L

Basis: NA

Sample Name: M-1

Lab Code: K0710473-002

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	11/16/07	12/18/07	17.6		
Cadmium	6020	0.02	1	11/16/07	12/18/07	0.08		
Calcium	6010B	50	1	11/16/07	11/21/07	275000		
Copper	6020	0.1	1	11/16/07	12/18/07	6.3		
Magnesium	6010B	20	1	11/16/07	11/21/07	48200		
Manganese	6010B	5.0	1	11/16/07	11/21/07	5.0	U	
Potassium	6010B	2000	1	11/16/07	11/21/07	15600		
Sodium	6010B	100	1	11/16/07	11/21/07	87000		
Zinc	6010B	10	1	11/16/07	11/21/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company

Service Request: K0710473

Project No.: NA

Date Collected: 11/06/07

Project Name: Rhodia Silver Bow MT GW

Date Received: 11/08/07

Matrix: WATER

Units: µG/L

Basis: NA

Sample Name: M-1

Lab Code: K0710473-002 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	11/16/07	12/18/07	16.7		
Cadmium	6020	0.02	1	11/16/07	12/18/07	0.18		
Calcium	6010B	50	1	11/16/07	11/21/07	278000		
Copper	6020	0.1	1	11/16/07	12/18/07	7.7		
Magnesium	6010B	20	1	11/16/07	11/21/07	49400		
Manganese	6010B	5.0	1	11/16/07	11/21/07	5.0	U	
Potassium	6010B	2000	1	11/16/07	11/21/07	16200		
Sodium	6010B	100	1	11/16/07	11/21/07	88900		
Zinc	6010B	10	1	11/16/07	11/21/07	10	U	

% Solids: 0.0

Comments:

METALS

-I-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: NA
Project Name: Rhodia Silver Bow MT GW
Matrix: WATER

Service Request: K0710473
Date Collected: 11/06/07
Date Received: 11/08/07
Units: µG/L
Basis: NA

Sample Name: FB-1

Lab Code: K0710473-003

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	11/16/07	12/18/07	0.5	U	
Cadmium	6020	0.02	1	11/16/07	12/18/07	0.02	U	
Calcium	6010B	50	1	11/16/07	11/21/07	50	U	
Copper	6020	0.1	1	11/16/07	12/18/07	0.1	U	
Magnesium	6010B	20	1	11/16/07	11/21/07	20	U	
Manganese	6010B	5.0	1	11/16/07	11/21/07	5.0	U	
Potassium	6010B	2000	1	11/16/07	11/21/07	2000	U	
Sodium	6010B	100	1	11/16/07	11/21/07	100	U	
Zinc	6010B	10	1	11/16/07	11/21/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company

Service Request: K0710473

Project No.: NA

Date Collected: 11/06/07

Project Name: Rhodia Silver Bow MT GW

Date Received: 11/08/07

Matrix: WATER

Units: µG/L

Basis: NA

Sample Name: FB-1

Lab Code: K0710473-003 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	11/16/07	12/18/07	0.5	U	
Cadmium	6020	0.02	1	11/16/07	12/18/07	0.02	U	
Calcium	6010B	50	1	11/16/07	11/21/07	50	U	
Copper	6020	0.1	1	11/16/07	12/18/07	0.1	U	
Magnesium	6010B	20	1	11/16/07	11/21/07	20	U	
Manganese	6010B	5.0	1	11/16/07	11/21/07	5.0	U	
Potassium	6010B	2000	1	11/16/07	11/21/07	2000	U	
Sodium	6010B	100	1	11/16/07	11/21/07	100	U	
Zinc	6010B	10	1	11/16/07	11/21/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: NA
Project Name: Rhodia Silver Bow MT GW
Matrix: WATER

Service Request: K0710473
Date Collected: 11/06/07
Date Received: 11/08/07
Units: µG/L
Basis: NA

Sample Name: MW-02-04

Lab Code: K0710473-004

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	11/16/07	12/18/07	33.1		
Cadmium	6020	0.02	1	11/16/07	12/18/07	0.15		
Calcium	6010B	50	1	11/16/07	11/21/07	298000		
Copper	6020	0.1	1	11/16/07	12/18/07	6.7		
Magnesium	6010B	20	1	11/16/07	11/21/07	57100		
Manganese	6010B	5.0	1	11/16/07	11/21/07	5.0	U	
Potassium	6010B	2000	1	11/16/07	11/21/07	17600		
Sodium	6010B	100	1	11/16/07	11/21/07	90500		
Zinc	6010B	10	1	11/16/07	11/21/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: NA
Project Name: Rhodia Silver Bow MT GW
Matrix: WATER

Service Request: K0710473
Date Collected: 11/06/07
Date Received: 11/08/07
Units: µG/L
Basis: NA

Sample Name: MW-02-04

Lab Code: K0710473-004 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	11/16/07	12/18/07	32.3		
Cadmium	6020	0.02	1	11/16/07	12/18/07	0.13		
Calcium	6010B	50	1	11/16/07	11/21/07	293000		
Copper	6020	0.1	1	11/16/07	12/18/07	6.1		
Magnesium	6010B	20	1	11/16/07	11/21/07	56800		
Manganese	6010B	5.0	1	11/16/07	11/21/07	5.0	U	
Potassium	6010B	2000	1	11/16/07	11/21/07	17500		
Sodium	6010B	100	1	11/16/07	11/21/07	90500		
Zinc	6010B	10	1	11/16/07	11/21/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company

Service Request: K0710473

Project No.: NA

Date Collected: NA

Project Name: Rhodia Silver Bow MT GW

Date Received: NA

Matrix: WATER

Units: µG/L

Basis: NA

Sample Name: Method Blank

Lab Code: K0710473-MB

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	11/16/07	12/18/07	0.5	U	
Cadmium	6020	0.02	1	11/16/07	12/18/07	0.02	U	
Calcium	6010B	50	1	11/16/07	11/21/07	50	U	
Copper	6020	0.1	1	11/16/07	12/18/07	0.1	U	
Magnesium	6010B	20	1	11/16/07	11/21/07	20	U	
Manganese	6010B	5.0	1	11/16/07	11/21/07	5.0	U	
Potassium	6010B	2000	1	11/16/07	11/21/07	2000	U	
Sodium	6010B	100	1	11/16/07	11/21/07	100	U	
Zinc	6010B	10	1	11/16/07	11/21/07	10	U	

% Solids: 0.0

Comments:

METALS
- 5a -
SPIKE SAMPLE RECOVERY

Client: Barr Engineering Company

Service Request: K0710473

Project No.:

Units: µg/L

Project Name: Rhodia Silver Bow MT GW

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: MW-02-04S

Lab Code: K0710473-004S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	68 - 128	58.0		33.1		20.0	125		6020
Cadmium	82 - 114	21.0		0.15		20.0	104		6020
Copper	52 - 129	25.9		6.7		20.0	96		6020
Manganese	82 - 122	517		5.0	U	500	103		6010B
Zinc	83 - 117	509		10.0	U	500	102		6010B

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

- 6 -

DUPLICATES

Client: Barr Engineering Company

Service Request: K0710473

Project No.:

Units: µg/L

Project Name: Rhodia Silver Bow MT GW

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: MW-02-04D

Lab Code: K0710473-004D

Analyte	Control Limit(%)	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic	20	33.1		32.8		1		6020
Cadmium		0.15		0.12		27		6020
Calcium	20	298000		298000		0		6010B
Copper	20	6.7		6.7		0		6020
Magnesium	20	57100		57200		0		6010B
Manganese		5.0	U	5.0	U			6010B
Potassium	20	17600		17900		2		6010B
Sodium	20	90500		90900		1		6010B
Zinc		10	U	10	U			6010B

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

- 7 -

LABORATORY CONTROL SAMPLE

Client: Barr Engineering Company

Service Request: K0710473

Project No.:

Project Name: Rhodia Silver Bow MT GW

Aqueous LCS Source: Inorganic Ventures

Solid LCS Source:

Analyte	Aqueous ug/L			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits	%R
Calcium	12500	12300	98					
Magnesium	12500	12900	103					
Manganese	1250	1260	101					
Potassium	12500	12200	98					
Sodium	12500	12600	101					
Zinc	1250	1240	99					

METALS

- 7 -

LABORATORY CONTROL SAMPLE

Client: Barr Engineering Company

Service Request: K0710473

Project No.:

Project Name: Rhodia Silver Bow MT GW

Aqueous LCS Source: Inorganic Ventures

Solid LCS Source:

Analyte	Aqueous ug/L			Solid (mg/kg)					
	True	Found	%R	True	Found	C	Limits	%R	
Arsenic	20.0	20.3	101						
Cadmium	20.0	20.6	103						
Copper	20.0	19.3	96						

Appendix 1-B4

2007 Quality Assurance Data Summaries

Appendix 1-B4a
Laboratory Precision Data Summary
2007
Rhodia Silver Bow Plant

%RPD = | (N - FD) / (N + FD) / 2 | X 100
Where: N = 1st Value
FD = 2nd Value

Sys Loc Code Sample Date Sample Name Sys Sample Code Sample Type Code			MW-02-3 04/24/2007		RPD Percent %	MW-02-3 11/06/2007		RPD Percent %
			MW-02-3_04242007 N	M-1 MW-02-3_04242007_FD FD		MW-02-3_11062007 N	M-1 MW-02-3_11062007_FD FD	
Chemical Name	Total or Dissolved	Analysis Location						
General Parameters								
Alkalinity, bicarbonate as CaCO3	NA	Lab	130 mg/l	132 mg/l	1.53	130 mg/l	130 mg/l	0.00
Alkalinity, carbonate as CaCO3	NA	Lab	< 2 mg/l	< 2 mg/l		< 2 mg/l	< 2 mg/l	
Alkalinity, total	NA	Lab	130 mg/l	132 mg/l	1.53	130 mg/l	130 mg/l	0.00
Chloride	NA	Lab	165 mg/l	163 mg/l	1.22	161 mg/l	160 mg/l	0.62
Dissolved oxygen	NA	Field	4.97 mg/l	--		--	--	
Fluoride	NA	Lab	0.5 mg/l	0.5 mg/l	0.00	0.4 mg/l	0.4 mg/l	0.00
Nitrate + Nitrite	NA	Lab	0.25 J mg/l	9.81 J mg/l	190.06	0.25 mg/l	0.25 mg/l	0.00
Nitrogen, ammonia as N	NA	Lab	< 0.05 mg/l	< 0.05 mg/l		< 0.05 mg/l	< 0.05 mg/l	
Nitrogen, Nitrate	NA	Lab	< 0.5 mg/l	< 0.5 mg/l		0.2 mg/l	0.2 mg/l	0.00
Nitrogen, Nitrite	NA	Lab	< 0.5 mg/l	< 0.5 mg/l		< 0.5 mg/l	< 0.5 mg/l	
pH, standard units	NA	Field	7.36 pH units	--		--	--	
Phosphorus, total	NA	Lab	0.20 mg/l	0.20 mg/l	0.00	0.17 mg/l	0.17 mg/l	0.00
Redox (oxidation potential)	NA	Field	355 mV	--		--	--	
Specific Conductance umhos@ 25oC	NA	Field	1833 umhos/cm	--		--	--	
Sulfate	NA	Lab	670 mg/l	670 mg/l	0.00	672 mg/l	673 mg/l	0.15
Temperature, degrees C	NA	Field	10.3 deg C	--		--	--	
Turbidity	NA	Field	0.51 NTU	--		--	--	
Metals								
Arsenic	Dissolved	Lab	0.0151 mg/l	0.0156 mg/l	3.26	0.0179 mg/l	0.0167 mg/l	6.94
Arsenic	Total	Lab	0.0159 mg/l	0.0156 mg/l	1.90	0.0175 mg/l	0.0176 mg/l	0.57
Cadmium	Dissolved	Lab	0.0001 mg/l	0.0001 mg/l	0.00	0.00011 mg/l	0.00018 mg/l	48.28
Cadmium	Total	Lab	0.00012 mg/l	0.00011 mg/l	8.70	0.00009 mg/l	0.00008 mg/l	11.76
Calcium	Dissolved	Lab	286 mg/l	307 mg/l	7.08	276 mg/l	278 mg/l	0.72
Calcium	Total	Lab	275 mg/l	284 mg/l	3.22	270 mg/l	275 mg/l	1.83
Copper	Dissolved	Lab	0.0024 b mg/l	0.0021 b mg/l	13.33	0.0067 mg/l	0.0077 mg/l	13.89
Copper	Total	Lab	0.0027 b mg/l	0.0024 b mg/l	11.76	0.0061 mg/l	0.0063 mg/l	3.23
Magnesium	Dissolved	Lab	45.7 mg/l	46.1 mg/l	0.87	49.1 mg/l	49.4 mg/l	0.61
Magnesium	Total	Lab	44.7 mg/l	45.3 mg/l	1.33	47.1 mg/l	48.2 mg/l	2.31
Manganese	Dissolved	Lab	< 0.0050 mg/l	< 0.0050 mg/l		< 0.0050 mg/l	< 0.0050 mg/l	
Manganese	Total	Lab	< 0.0050 mg/l	< 0.0050 mg/l		< 0.0050 mg/l	< 0.0050 mg/l	
Potassium	Dissolved	Lab	14.4 mg/l	14.7 mg/l	2.06	15.3 mg/l	16.2 mg/l	5.71
Potassium	Total	Lab	14.1 mg/l	14.4 mg/l	2.11	15.4 mg/l	15.6 mg/l	1.29
Sodium	Dissolved	Lab	89.5 mg/l	91 mg/l	1.66	88.8 mg/l	88.9 mg/l	0.11
Sodium	Total	Lab	87.6 mg/l	88.6 mg/l	1.14	85 mg/l	87 mg/l	2.33
Zinc	Dissolved	Lab	< 0.01 mg/l	< 0.01 mg/l		< 0.01 mg/l	< 0.01 mg/l	
Zinc	Total	Lab	< 0.01 mg/l	< 0.01 mg/l		< 0.01 mg/l	< 0.01 mg/l	

Appendix 1-B4b-1
Field Blank Data - Aqueous
2007
Rhodia Silver Bow Plant

Sys Loc Code			QC	QC
Sample Date			4/24/2007	11/6/2007
Sample Name			FB-1	FB-1
Sys Sample Code			FB_04242007	FB_11062007
Sample Type Code			FB	FB
Chemical Name	Total or Dissolved	Analysis Location		
General Parameters				
Alkalinity, bicarbonate as CaCO3	NA	Lab	2 mg/l	< 2 mg/l
Alkalinity, carbonate as CaCO3	NA	Lab	< 2 mg/l	< 2 mg/l
Alkalinity, total	NA	Lab	2 mg/l	< 2 mg/l
Chloride	NA	Lab	< 0.2 mg/l	< 0.2 mg/l
Fluoride	NA	Lab	< 0.2 mg/l	< 0.2 mg/l
Nitrate + Nitrite	NA	Lab	< 0.05 mg/l	< 0.05 mg/l
Nitrogen, ammonia as N	NA	Lab	< 0.05 mg/l	< 0.05 mg/l
Nitrogen, Nitrate	NA	Lab	0.3 mg/l	< 0.1 mg/l
Nitrogen, Nitrite	NA	Lab	< 0.1 mg/l	< 0.1 mg/l
Phosphorus, total	NA	Lab	< 0.01 mg/l	< 0.01 mg/l
Sulfate	NA	Lab	< 0.2 mg/l	< 0.2 mg/l
Metals				
Arsenic	Dissolved	Lab	< 0.0005 mg/l	< 0.0005 mg/l
Arsenic	Total	Lab	< 0.0005 mg/l	< 0.0005 mg/l
Cadmium	Dissolved	Lab	< 0.00002 mg/l	< 0.00002 mg/l
Cadmium	Total	Lab	< 0.00002 mg/l	< 0.00002 mg/l
Calcium	Dissolved	Lab	0.0722 mg/l	< 0.05 mg/l
Calcium	Total	Lab	0.0610 mg/l	< 0.05 mg/l
Copper	Dissolved	Lab	0.001 mg/l	< 0.0001 mg/l
Copper	Total	Lab	0.0017 mg/l	< 0.0001 mg/l
Magnesium	Dissolved	Lab	< 0.02 mg/l	< 0.02 mg/l
Magnesium	Total	Lab	< 0.02 mg/l	< 0.02 mg/l
Manganese	Dissolved	Lab	< 0.0050 mg/l	< 0.0050 mg/l
Manganese	Total	Lab	< 0.0050 mg/l	< 0.0050 mg/l
Potassium	Dissolved	Lab	< 2 mg/l	< 2 mg/l
Potassium	Total	Lab	< 2 mg/l	< 2 mg/l
Sodium	Dissolved	Lab	< 0.1 mg/l	< 0.1 mg/l
Sodium	Total	Lab	< 0.1 mg/l	< 0.1 mg/l
Zinc	Dissolved	Lab	< 0.01 mg/l	< 0.01 mg/l
Zinc	Total	Lab	< 0.01 mg/l	< 0.01 mg/l

Appendix 1-B4b-2
Laboratory Blank Data - Aqueous
2007
Rhodia Silver Bow Plant

Sys Loc Code Sample Date Sample Type Code			QC 4/24/2007 LB	QC 11/6/2007 LB
Chemical Name	Total or Dissolved	Analysis Location		
General Parameters				
Alkalinity, bicarbonate as CaCO ₃	NA	Lab	< 2 mg/l	< 2 mg/l
Alkalinity, carbonate as CaCO ₃	NA	Lab	< 2 mg/l	< 2 mg/l
Alkalinity, total	NA	Lab	< 2 mg/l	< 2 mg/l
Chloride	NA	Lab	< 0.2 mg/l	< 0.2 mg/l
Fluoride	NA	Lab	< 0.2 mg/l	< 0.2 mg/l
Nitrate + Nitrite	NA	Lab	< 0.05 mg/l	< 0.05 mg/l
Nitrogen, ammonia as N	NA	Lab	< 0.05 mg/l	< 0.05 mg/l
Nitrogen, Nitrate	NA	Lab	< 0.1 mg/l	< 0.1 mg/l
Nitrogen, Nitrite	NA	Lab	< 0.1 mg/l	< 0.1 mg/l
Phosphorus, total	NA	Lab	< 0.01 mg/l < 0.01 mg/l	< 0.01 mg/l
Sulfate	NA	Lab	< 0.2 mg/l	< 0.2 mg/l < 0.2 mg/l
Metals				
Arsenic	Total	Lab	< 0.0005 mg/l	< 0.0005 mg/l
Cadmium	Total	Lab	< 0.00002 mg/l	< 0.00002 mg/l
Calcium	Total	Lab	< 0.05 mg/l	< 0.05 mg/l
Copper	Total	Lab	< 0.0001 mg/l	< 0.0001 mg/l
Magnesium	Total	Lab	< 0.02 mg/l	< 0.02 mg/l
Manganese	Total	Lab	< 0.0050 mg/l	< 0.0050 mg/l
Potassium	Total	Lab	< 2 mg/l	< 2 mg/l
Sodium	Total	Lab	< 0.1 mg/l	< 0.1 mg/l
Zinc	Total	Lab	< 0.01 mg/l	< 0.01 mg/l

Appendix 1-B4c
End Notes
Rhodia Silver Bow Plant

Data Qualifiers/Footnotes	
Qualifier	Definition
J	CLP J: The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due to either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).
R	CLP R: The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
< -9999	This historical result had no available laboratory reporting limit but the result was non-detect.
--	Not analyzed/not available.
a	Estimated value, calculated using some or all values that are estimates.
b	Potential false positive value based on blank data validation procedures.
c	Coeluting compound.
e	Estimated value, exceeded the instrument calibration range.
h	EPA recommended sample preservation, extraction or analysis holding time was exceeded.
l	Indeterminate value based on failure of blind duplicate data to meet quality assurance criteria.
j	Reported value is less than the stated laboratory quantitation limit and is considered an estimated value.
p	Relative percent difference is >40% (25% CLP pesticides) between primary and confirmation GC columns.
pp	Small peak in chromatogram below method detection limit.
r	The presence of the compound is suspect based on the ID criteria of the retention time and relative retention time obtained from the examination of the chromatograms.
s	Potential false positive value based on statistical analysis of blank sample data.
*	Estimated value, QA/QC criteria not met.
**	Unusable value, QA/QC criteria not met.
N	Sample Type: Normal
FD	Sample Type: Field Duplicate
AT	Sample chromatogram is noted to be atypical of a petroleum product.
DLND	Not detected, detection limit not determined.
DF	Did not flash
EMPC	Estimated maximum possible concentration.
NA – (Not applicable)	NA indicates that a fractional portion of the sample is not part of the analytical testing or field collection procedures.
ND	Not detected.
TIC	Tentatively identified compound
BQA	Barr-applied project specific qualifier: extraction and/or analyses conducted using an alternative method and/or procedure.
BQC	Barr-applied project specific qualifier: plant shut down.
BQD	Barr-applied project specific qualifier: equipment malfunction.
BQE	Barr-applied project specific qualifier: equipment adjustment.
BQM	Barr-applied project specific qualifier: manual measurement.

**Appendix 1-B4c
End Notes
Rhodia Silver Bow Plant**

Data Qualifiers/Footnotes	
Qualifier	Definition
BQN	Barr-applied project specific qualifier: unable to be sampled or measured due to various reasons.
BQP	Barr-applied project specific qualifier: atypical chromatographic pattern.
BQQ	Barr-applied project specific qualifier: some aspect of QA/QC was not met.
BQR	Barr-applied project specific qualifier: location was re-sampled.
BQS	Barr-applied project specific qualifier: data is considered suspect.
BQT	Barr-applied project specific qualifier: summed value not displayed due to insufficient field length.
BQU	Barr-applied project specific qualifier: historical qualifier - definition unknown.
BQV	Barr-applied project specific qualifier: estimated value.
BQX	Barr-applied project specific qualifier: see notes for qualifier definition.
BQZ	Barr-applied project specific qualifier: data is considered unusable.

Appendix 1-B2

2007 Individual Data Assessments

Data Validation Report

Laboratory Report / Batch: K0703596

**Rhodia Silver Bow Plant – Butte, Montana
2007 – Phase I RCRA Facility Investigation
U.S. EPA Corrective Action Order on Consent,
Docket No. RCRA-2006-08-2004-0001**

Date of Data Validation Report: January 11, 2011

The validation of the Columbia Analytical Services, Inc. (CAS, Kelso, Washington) laboratory data for the general chemistry and metals analyses of the samples collected in 2007 to support the Phase I - RCRA Facility Investigation is complete as detailed below.

The analytical data were reviewed in accordance Barr's Data Validation SOPs which are based upon the U.S. EPA Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Inorganic Data Review (EPA 2002) and in general accordance with U.S. EPA Methods 300.0, 340.2, 350.1, 353.2, 365.3, 6020, 6010B and Standard Method 2320 B.

In general, the areas covered by the validation process include:

- Overall assessment
- Holding times, preservation and storage
- Blank analysis
- Laboratory control samples
- Matrix spike results
- General chemistry analysis (total fluoride, chloride, sulfate, carbonate as CaCO₃, total alkalinity as CaCO₃, bicarbonate as CaCO₃, ammonia as N, nitrate and nitrite as N, nitrate + nitrite as N, and total phosphorus)
- Field duplicate samples

The results for three groundwater samples and one field (rinsate) sample are contained in this laboratory report. The samples are identified as follows:

MW-02-3

MW-02-4

Field Blank (FB-1)

M-1 (MW-02-3 DUP)

The samples were analyzed for total and dissolved metals (ICP/ICP/MS), general chemistry parameters (total fluoride, chloride, sulfate, carbonate as CaCO₃, total alkalinity as CaCO₃, bicarbonate as CaCO₃, ammonia as N, nitrate and nitrite as N, nitrate + nitrite as N, and total phosphorus) as specified in the laboratory report.

The non-detect concentrations are presented as less than the practical quantitation limit (PQL) "<PQL" in the data tables.

Overall Assessment

The QAPP specified that 10% of the project data be reviewed using CLP NFG (Guidelines) and the remaining data be reviewed in accordance with Barr's Data Validation Standard Operating Procedures (SOPs). Because 90% of the data was correspondingly validated using non-CLP criteria, the laboratory criterion were used for consistency, except where outliers exceeded 30-150% EPA quality control criteria. In summary, because the Guidelines have limits which are often different than and, in certain cases, are more stringent than the limits specified by the analytical methods and the laboratory generated limits, the end result may be slightly different data qualification.

**Data Validation Report
Laboratory Report / Batch: K0703596**

Rhodia Silver Bow Plant – Butte, Montana
2007 – Phase I RCRA Facility Investigation
U.S. EPA Corrective Action Order on Consent,
Docket No. RCRA-2006-08-2004-0001

Date Data Validation Report: January 11, 2011

Mr. John Davis of HKM Engineering collected and submitted the groundwater samples for analysis. The data were reported directly to Barr Engineering Company.

The data are useable as reported and qualified and fulfill the data quality objectives (DQOs) for sensitivity, accuracy and precision as specified in the QAPP. Any exceptions are detailed in the following sections.

Holding Times, Preservation and Storage

The samples were collected April 24th, 2007, packed on ice and sent to the laboratory (CAS, Kelso, Washington) with an accompanying chain-of-custody form (COC). Per the chain-of-custody and subsequent laboratory acknowledgement receipt forms, the samples were received intact with a temperature of 1.9 °C to 2.3 °C upon receipt at the laboratory and were stored at 4 °C until analysis. No qualifiers were assigned due to holding times, sample preservation or storage issues.

Blank Analysis

As stated in Section B10.3.2 of the QAPP, when project sample concentrations are “<” (less than) five times the associated blank sample concentrations, thus suspected false positives, they are shown at the concentration reported in the sample, with a “<” qualifier.

Trace concentrations of total and dissolved calcium and copper, total alkalinity as CaCO₃, bicarbonate as CaCO₃, nitrate as N were present above the PQL in the field blank sample (FB-1) associated with this data package; associated sample concentrations within five times the field blank sample concentrations were assigned a “<” qualifier as described above.

The method blank samples had no target analytes present above the PQL.

Laboratory Control Samples (Ongoing Precision/Accuracy)

Laboratory control samples (LCSs) were prepared and analyzed for the target compounds and met the relevant acceptance criteria for percent recovery of the spike concentrations, indicating in-control analytical systems.

Matrix Spike Results

Samples MW-02-4 was used for the MS/MSD samples associated with the total and dissolved ICP and ICP/MS analyses. The MS/MSD percent recoveries met the laboratory acceptance criteria for the target analytes.

General Chemistry Analysis (total fluoride, chloride, sulfate, carbonate as CaCO₃, total alkalinity as CaCO₃, bicarbonate as CaCO₃, ammonia as N, nitrate and nitrite as N, nitrate + nitrite as N, and total phosphorus)

Samples MW-02-4 and non-project specific samples served as the MS/MSD samples for general chemistry analyses. The MS/MSDs and laboratory duplicate samples met the applicable laboratory acceptance criteria for precision and accuracy for the general chemistry analyses. The LCS data indicated that the laboratory and method criteria were met. The method blank samples were all non-detect.

**Data Validation Report
Laboratory Report / Batch: K0703596**

**Rhodia Silver Bow Plant – Butte, Montana
2007 – Phase I RCRA Facility Investigation
U.S. EPA Corrective Action Order on Consent,
Docket No. RCRA-2006-08-2004-0001**

Date Data Validation Report: January 11, 2011

Field Duplicate Samples

Sample MW-02-3 served as the field duplicate sample for this data package. Except for one case, the field duplicate groundwater sample met the RPD criteria (30%) as specified in the QAPP. The field duplicate RPD for nitrate + nitrite as N was 190.1 %; therefore, the associated data were “J” qualified and should be considered estimated.

Data Validation Report

Laboratory Report / Batch: K0710473

**Rhodia Silver Bow Plant – Butte, Montana
2007 – Phase I RCRA Facility Investigation
U.S. EPA Corrective Action Order on Consent,
Docket No. RCRA-2006-08-2004-0001**

Date of Data Validation Report: January 11, 2011

The validation of the Columbia Analytical Services, Inc. (CAS, Kelso, Washington) laboratory data for the general chemistry and metals analyses of the samples collected in 2007 to support the Phase 1 - RCRA Facility Investigation is complete as detailed below.

The analytical data were reviewed in accordance with Barr's Data Validation SOPs which are based upon the U.S. EPA Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Inorganic Data Review (EPA 2002) and in general accordance with U.S. EPA Methods 300.0, 350.1, 353.2, 365.3, 6020, 6010B and Standard Methods 4500-F⁻ C modified and 2320 B.

In general, the areas covered by the validation process include:

- Overall assessment
- Holding times, preservation and storage
- Blank analysis
- Laboratory control samples
- Matrix spike results
- General chemistry analysis (total fluoride, chloride, sulfate, carbonate as CaCO₃, total alkalinity as CaCO₃, bicarbonate as CaCO₃, ammonia as N, nitrate and nitrite as N, nitrate + nitrite as N, and total phosphorus)
- Field duplicate samples

The results for three groundwater samples and one field (rinstate) sample are contained in this laboratory report. The samples are identified as follows:

MW-02-3
M-1 (MW-02-3 DUP)

MW-02-4

Field Blank (FB-1)

The samples were analyzed for total and dissolved metals (ICP/ICP/MS), general chemistry parameters (total fluoride, chloride, sulfate, carbonate as CaCO₃, total alkalinity as CaCO₃, bicarbonate as CaCO₃, ammonia as N, nitrate and nitrite as N, nitrate + nitrite as N, and total phosphorus) as specified in the laboratory report.

The non-detect concentrations are presented as less than the practical quantitation limit (PQL) "<PQL" in the data tables.

Overall Assessment

The QAPP specified that 10% of the project data be reviewed using CLP NFG (Guidelines) and the remaining data be reviewed in accordance with Barr's Data Validation Standard Operating Procedures (SOPs). Because 90% of the data was correspondingly validated using non-CLP criteria, the laboratory criterion were used for consistency, except where outliers exceeded 30-150% EPA quality control criteria. In summary, because the Guidelines have limits which are often different

**Data Validation Report
Laboratory Report / Batch: K0710473**

Rhodia Silver Bow Plant – Butte, Montana
2007 – Phase I RCRA Facility Investigation
U.S. EPA Corrective Action Order on Consent,
Docket No. RCRA-2006-08-2004-0001

Date Data Validation Report: January 11, 2011

than and, in certain cases, are more stringent than the limits specified by the analytical methods and the laboratory generated limits, the end result may be slightly different data qualification.

Ms. Tina Donovan of TREC Inc. collected and submitted the groundwater samples for analysis. The data were reported directly to Barr Engineering Company.

The data are useable as reported and qualified and fulfill the data quality objectives (DQOs) for sensitivity, accuracy and precision as specified in the QAPP. Any exceptions are detailed in the following sections.

Holding Times, Preservation and Storage

The samples were collected November 6th, 2007, packed on ice and sent to the laboratory (CAS, Kelso, Washington) with an accompanying chain-of-custody form (COC). Per the chain-of-custody and subsequent laboratory acknowledgement receipt forms, the samples were received intact with a temperature of 2.5 °C to 3.8 °C upon receipt at the laboratory and were stored at 4 °C until analysis. No qualifiers were assigned due to holding times, sample preservation or storage issues.

Blank Analysis

As stated in Section B10.3.2 of the QAPP, when project sample concentrations are “<” (less than) five times the associated blank sample concentrations, thus suspected false positives, they are shown at the concentration reported in the sample, with a “<” qualifier.

The method and field blank (FB-1) blank samples had no target analytes present above the PQL.

Laboratory Control Samples (Ongoing Precision/Accuracy)

Laboratory control samples (LCSs) were prepared and analyzed for the target compounds and met the relevant acceptance criteria for percent recovery of the spike concentrations, indicating in-control analytical systems.

Matrix Spike Results

Samples MW-02-4 was used for the MS/MSD samples associated with the total and dissolved ICP and ICP/MS analyses. The MS/MSD percent recoveries met the laboratory acceptance criteria for the target analytes.

General Chemistry Analysis (total fluoride, chloride, sulfate, carbonate as CaCO₃, total alkalinity as CaCO₃, bicarbonate as CaCO₃, ammonia as N, nitrate and nitrite as N, nitrate + nitrite as N, and total phosphorus)

Samples MW-02-4 served as the MS/MSD sample for general chemistry analyses. The MS/MSDs and laboratory duplicate samples met the applicable laboratory acceptance criteria for precision and accuracy for the general chemistry analyses. The LCS data indicated that the laboratory and method criteria were met. The method blank samples were all non-detect.

**Data Validation Report
Laboratory Report / Batch: K0710473**

**Rhodia Silver Bow Plant – Butte, Montana
2007 – Phase I RCRA Facility Investigation
U.S. EPA Corrective Action Order on Consent,
Docket No. RCRA-2006-08-2004-0001**

Date Data Validation Report: January 11, 2011

Field Duplicate Samples

Sample MW-02-3 served as the field duplicate sample for this data package. Except for one case, the field duplicate groundwater sample met the RPD criteria (30%) as specified in the QAPP. The field duplicate RPD for dissolved cadmium was greater than 30%, however, no data were qualified because the sample concentrations were at or near the PQL thereby exaggerating the deviation of the RPD.

Appendix 1-B3

2007 Laboratory Reports

June 4, 2007

Analytical Report for Service Request No: K0703596

RECEIVED

JUN 11 2007

Barr Engineering Co.

Andrea Nord
Barr Engineering
4700 West 77th Street
Minneapolis, MN 55435

RE: 26/46-006/Rhodia-Silver Bow Plant

Dear Andrea:

Enclosed are the results of the sample(s) submitted to our laboratory on April 26, 2007. For your reference, these analyses have been assigned our service request number K0703596.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3358. You may also contact me via Email at LHuckestein@kelso.caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.



Lynda Huckestein
Client Services Manager

LH/lmb

Page 1 of 66

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Barr Engineering Company
Project: 26/46-006
Sample Matrix: Water

Service Request No.: K0703596
Date Received: 4/26/2007

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), and Laboratory Control Sample (LCS).

Sample Receipt

Four water samples were received for analysis at Columbia Analytical Services on 4/26/2007. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Nitrite and Nitrate by EPA Method 300.0 and 353.2:

The Nitrate+Nitrite as Nitrogen result for Sample M-1 were significantly higher than the concentration measured via EPA Method 300.0. Each of the sample bottles (sulfuric acid preserved bottle for the Nitrate+Nitrite and unpreserved bottle for the Nitrate) were reanalyzed and the results confirmed with the original analysis indicating that the sample preserved with sulfuric acid may have a high bias.

Total and Dissolved Metals

No anomalies associated with the analysis of these samples were observed.

Approved by LAH Date 6/6/07

00006

Chain of Custody Documentation

00007



An Employee - Owned Company

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

PAGE 1 OF 1 COC #

SR#: 3596
60703578PROJECT NAME *Rhodria-Silver Bow Plant*

PROJECT NUMBER

PROJECT MANAGER

COMPANY/ADDRESS

CITY/STATE/ZIP

E-MAIL ADDRESS

PHONE #

FAX #

SAMPLER'S SIGNATURE

NUMBER OF CONTAINERS

Semi-volatile Organics by GC/MS
625 ☐ 8270 ☐ 8270LL ☐
Volatile Organics
624 ☐ 8260 ☐Hydrocarbons (*see below)
Gas ☐ Diesel ☐ BTEX ☐
Oil & Grease/TPH ☐ Oil ☐
1664 HEM ☐ 1664 SGT ☐PCB's
Aroclors ☐ Congeners ☐
608 ☐ 8081A ☐Chlorophenolics - 8151M ☐ 8151A ☐
Tri ☐ Tetra ☐ PCP ☐PAHS 8310 ☐ SIM ☐
Metals, Total or Dissolved
(See list below)Cyanide ☐ Hex-Chrom ☐
pH Cond., Cl, SO₄, PO₄, F, NO₂,
NH₃-N, COD, TSS, TDS (circle)
DOC (circle) NO₂+NO₃, TOX 9020 ☐ AOX 1650 ☐ 506 ☐

00008

SAMPLE I.D. DATE TIME LAB I.D. MATRIX

MW-02-3	4/24/07	1120		W	S
MW-02-4		1355		W	S
M-1		1200		W	S
FB-1		1215		W	S
MS/MSD	✓	1355		W	S

see order #5774

REPORT REQUIREMENTS

- ___ I. Routine Report: Method Blank, Surrogate, as required
- ___ II. Report Dup., MS, MSD as required
- ___ III. Data Validation Report (includes all raw data)
- ___ IV. CLP Deliverable Report
- ___ V. EDD

INVOICE INFORMATION

P.O. #

Bill To:

TURNAROUND REQUIREMENTS

- ___ 24 hr. ___ 48 hr.
- ___ 5 Day
- ___ Standard (10-15 working days)
- ___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al ☒ As ☒ Sb Ba Be B ☒ Ca ☒ Cd Co Cr ☒ Cu Fe Pb ☒ Mo ☒ Ni ☒ K Ag ☒ Na Se Sr Ti Sn V ☒ Zn Hg

Dissolved Metals: Al ☒ As ☒ Sb Ba Be B ☒ Ca ☒ Cd Co Cr ☒ Cu Fe Pb ☒ Mo ☒ Ni ☒ K Ag ☒ Na Se Sr Ti Sn V ☒ Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

Copy of email attached with analytical request

RELINQUISHED BY:

John R Davis
Signature
John R Davis
Printed Name
4/25/07 1100
Date/Time
HKM
Firm

RECEIVED BY:

Tracy Black
Signature
Black
Printed Name
4/26/07 1140
Date/Time
CNS
Firm

RELINQUISHED BY:

Signature
Printed Name
Date/Time
Firm

RECEIVED BY:

Signature
Printed Name
Date/Time
Firm

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC Lff

Client / Project: HRM Service Request K07 03518
Received: 4/16/17 Opened: 4/16/17 By: V. Bal

1. Samples were received via? ☐ US Mail ☐ Fed Ex ☒ UPS ☐ DHL ☐ GH ☐ GS ☐ PDX ☐ Courier ☐ Hand Delivered
2. Samples were received in: (circle) ☒ Cooler ☐ Box ☐ Envelope ☐ Other ☐ NA
3. Were custody seals on coolers? ☐ NA ☒ Y ☐ N If yes, how many and where? 2-front
If present, were custody seals intact? ☒ Y ☐ N If present, were they signed and dated? ☒ Y ☐ N
4. Is shipper's air-bill filed? If not, record air-bill number: 125AF6520748432358 ☐ NA ☒ Y ☐ N
5. Temperature of cooler(s) upon receipt (°C): 2.3
Temperature Blank (°C): 1.9
6. If applicable, list Chain of Custody Numbers: _____
7. Were custody papers properly filled out (ink, signed, etc.)? ☐ NA ☒ Y ☐ N
8. Packing material used. ☐ Inserts ☒ Bubble Wrap ☐ Gel Packs ☒ Wet Ice ☐ Sleeves ☐ Other _____
9. Did all bottles arrive in good condition (unbroken)? Indicate in the table below. ☒ Y ☐ N
10. Were all bottle labels complete (i.e analysis, preservation, etc.)? ☒ Y ☐ N
11. Did all bottle labels and tags agree with custody papers? Indicate in the table below ☒ Y ☐ N
12. Were the correct types of bottles used for the tests indicated? ☒ Y ☐ N
13. Were all of the preserved bottles received at the lab with the appropriate pH? Indicate in the table below ☐ NA ☒ Y ☐ N
14. Were VOA vials and 1631 Mercury bottles checked for absence of air bubbles? Indicate in the table below. ☒ NA ☐ Y ☐ N
15. Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection? ☒ NA ☐ Y ☐ N
16. Was C12/Res negative? ☒ NA ☐ Y ☐ N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
<u>6 MW-02-1</u>	<u>MW-02-3</u>		

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

Additional Notes, Discrepancies, & Resolutions: MW-02-7B & placed by date + time

General Chemistry Parameters

00010

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Alkalinity as CaCO₃, Total

Analysis Method : SM 2320B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-3	K0703596-001	2	1	05/02/07	130	
MW-02-4	K0703596-002	2	1	05/02/07	199	
M-1	K0703596-003	2	1	05/02/07	132	
FB-1	K0703596-004	2	1	05/02/07	2	
Method Blank	K0703596-MB	2	1	05/02/07	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00011

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/02/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Alkalinity as CaCO ₃ , Total	SM 2320B	2	199	198	198	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00012

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 05/02/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Alkalinity as CaCO ₃ , Total	NONE	SM 2320B	94	94	100	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00013

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Bicarbonate as CaCO₃

Analysis Method : SM 2320B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-3	K0703596-001	2	1	05/02/07	130	
MW-02-4	K0703596-002	2	1	05/02/07	199	
M-1	K0703596-003	2	1	05/02/07	132	
FB-1	K0703596-004	2	1	05/02/07	2	
Method Blank	K0703596-MB	2	1	05/02/07	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00014

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/02/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Bicarbonate as CaCO ₃	SM 2320B	2	199	198	198	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00015

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 05/02/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Alkalinity, Total as CaCO ₃	NONE	SM 2320B	94	94	100	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00016

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Carbonate as CaCO₃

Analysis Method : SM 2320B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-3	K0703596-001	2	1	05/03/07	ND	
MW-02-4	K0703596-002	2	1	05/02/07	ND	
M-1	K0703596-003	2	1	05/02/07	ND	
FB-1	K0703596-004	2	1	05/02/07	ND	
Method Blank	K0703596-MB	2	1	05/02/07	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00017

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/02/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbonate as CaCO ₃	SM 2320B	2	ND	ND	ND	-	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00018

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 05/02/07

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbonate as CaCO3	NONE	SM 2320B	94	94	100	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00019

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Ammonia as Nitrogen

Analysis Method : 350.1
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-3	K0703596-001	0.05	1	05/01/07	ND	
MW-02-4	K0703596-002	0.05	1	05/01/07	ND	
M-1	K0703596-003	0.05	1	05/01/07	ND	
FB-1	K0703596-004	0.05	1	05/01/07	ND	
Method Blank	K0703596-MB	0.05	1	05/01/07	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.05	ND	ND	ND	-	

00021

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Matrix Spike Summary
Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Ammonia as Nitrogen	350.1	0.05	2.00	ND	1.98	99	90-110	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 05/01/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Ammonia as Nitrogen	NONE	350.1	2.45	2.43	99	90-110	

00023

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Chloride

Analysis Method : 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-3	K0703596-001	4.0	20	04/30/07	165	
MW-02-4	K0703596-002	40.0	200	05/01/07	178	
M-1	K0703596-003	4.0	20	04/30/07	163	
FB-1	K0703596-004	0.2	1	05/01/07	ND	
Method Blank	K0703596-MB	0.2	1	04/30/07	ND	

00024

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Chloride	300.0	40.0	178	178	178	<1	

00025

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Chloride	300.0	40.0	400	178	540	91	80-120	

00026

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 04/30/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Chloride	NONE	300.0	5.0	4.8	96	90-110	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Nitrite as Nitrogen

Analysis Method : 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
MW-02-3	K0703596-001	0.5	5	04/30/07 23:33	ND	i
MW-02-4	K0703596-002	0.5	5	05/01/07 01:57	ND	i
M-1	K0703596-003	0.5	5	04/30/07 23:45	ND	i
FB-1	K0703596-004	0.1	1	05/01/07 02:57	ND	
Method Blank	K0703596-MB	0.1	1	04/30/07 10:49	ND	

00028

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrite as Nitrogen	300.0	0.5	ND	ND	ND	-	i

00029

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery	Result Notes
							Acceptance Limits	
Nitrite as Nitrogen	300.0	0.5	10.0	ND	9.7	97	80-120	

00030

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 04/30/07

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrite as Nitrogen	NONE	300.0	100	99.8	100	90-110	

00031

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Nitrate as Nitrogen

Analysis Method : 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
MW-02-3	K0703596-001	0.1	2	04/30/07 12:25	0.5	
MW-02-4	K0703596-002	0.5	5	05/01/07 01:57	0.5	
M-1	K0703596-003	0.5	5	04/30/07 23:45	ND	i
FB-1	K0703596-004	0.1	1	05/01/07 02:57	0.3	
Method Blank	K0703596-MB	0.1	1	04/30/07 10:49	ND	

00032

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate as Nitrogen	300.0	0.5	0.5	0.5	0.5	<1	

00033

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Nitrate as Nitrogen	300.0	0.5	10.0	0.5	10.0	95	80-120	

00034

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 04/30/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate as Nitrogen	NONE	300.0	4.5	4.9	109	90-110	

00035

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Sulfate

Analysis Method : 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
MW-02-3	K0703596-001	40.0	200	04/30/07 23:21	670	
MW-02-4	K0703596-002	40.0	200	05/01/07 01:09	649	
M-1	K0703596-003	40.0	200	04/30/07 00:57	670	
FB-1	K0703596-004	0.2	1	05/01/07 02:57	ND	
Method Blank	K0703596-MB	0.2	1	04/30/07 10:49	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Sulfate	300.0	40.0	649	649	649	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Sulfate	300.0	40.0	400	649	1050	100	80-120	

00038

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 04/30/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Sulfate	NONE	300.0	5.0	4.8	96	90-110	

00039

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Fluoride

Analysis Method : 340.2
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-3	K0703596-001	0.2	1	05/01/07	0.5	
MW-02-4	K0703596-002	0.2	1	05/01/07	0.4	
M-1	K0703596-003	0.2	1	05/01/07	0.5	
FB-1	K0703596-004	0.2	1	05/01/07	ND	
Method Blank	K0703596-MB	0.2	1	05/01/07	ND	

00040

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Fluoride	340.2	0.2	0.4	0.4	0.4	<1	

00041

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 4/24/2007
Date Received : 4/26/2007
Date Prepared : NA
Date Analyzed : 05/01/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Fluoride	340.2	0.2	25.0	0.4	26.0	102	75-125	

00042

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 05/01/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Fluoride	NONE	340.2	9.6	9.8	102	85-115	

00043

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Nitrate+Nitrite as Nitrogen

Analysis Method : 353.2
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-3	K0703596-001	0.05	1	05/15/07	0.25	
MW-02-4	K0703596-002	0.05	1	05/15/07	0.25	
M-1	K0703596-003	0.50	10	05/15/07	9.81	
FB-1	K0703596-004	0.05	1	05/15/07	ND	
Method Blank	K0703596-MB	0.05	1	05/15/07	ND	

00044

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 05/15/07

Duplicate Summary Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0703967-006DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.05	0.05	0.05	0.05	<1	

00045

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 05/15/07

Matrix Spike Summary Inorganic Parameters

Sample Name : Batch QC
Lab Code : K0703967-006MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Nitrate+Nitrite as Nitrogen	353.2	0.05	2.00	0.05	2.07	101	90-110	/

00046

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 05/15/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	NONE	353.2	5.13	5.23	102	90-110	

00047

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : 04/24/07
Date Received : 04/26/07

Phosphorus, Total

Analysis Method : 365.3
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-3	K0703596-001	0.01	1	05/15/07	0.20	
MW-02-4	K0703596-002	0.01	1	05/18/07	0.56	
M-1	K0703596-003	0.01	1	05/15/07	0.20	
FB-1	K0703596-004	0.01	1	05/15/07	ND	
Method Blank	K0703596-MB	0.01	1	05/15/07	ND	
Method Blank	K0703596-MB	0.01	1	05/18/07	ND	

00048

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : 05/17/07
Date Analyzed : 05/15/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Phosphorus, Total	365.3	0.01	0.56	0.57	0.57	2	

00049

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : 05/17/07
Date Analyzed : 05/15/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-4
Lab Code : K0703596-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery	Result Notes
							Acceptance Limits	
Phosphorus, Total	365.3	0.01	0.50	0.56	1.02	92	75-125	

00050

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : 05/15/07
Date Analyzed : 05/15/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Phosphorus, Total	Method	365.3	2.61	2.67	103	85-115	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : 26/46-006
Project Number : Rhodia-Silver Bow Plant
Sample Matrix : Water

Service Request : K0703596
Date Collected : NA
Date Received : NA
Date Prepared : 05/17/07
Date Analyzed : 05/18/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0703596-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Phosphorus, Total	Method	365.3	2.61	2.70	103	85-115	

00052

Metals

METALS

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Barr Engineering Company
Project No.: Rhodia-Silver Bow Plant
Project Name: 26/46-006

Service Request: K0703596

<u>Sample No.</u>	<u>Lab Sample ID.</u>
MW-02-3	K0703596-001
MW-02-3	K0703596-001 DISS
MW-02-4	K0703596-002
MW-02-4	K0703596-002 DISS
MW-02-4D	K0703596-002D
MW-02-4S	K0703596-002S
M-1	K0703596-003
M-1	K0703596-003 DISS
FB-1	K0703596-004
FB-1	K0703596-004 DISS
Method Blank	K0703596-MB

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

Signature:  Date: 6/5/07

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company

Service Request: K0703596

Project No.: Rhodia-Silver Bow Plant

Date Collected: 04/24/07

Project Name: 26/46-006

Date Received: 04/26/07

Matrix: WATER

Units: µG/L

Basis: NA

Sample Name: MW-02-3

Lab Code: K0703596-001

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	5/12/07	5/23/07	15.9		
Cadmium	6020	0.02	1	5/12/07	5/23/07	0.12		
Calcium	6010B	500	10	5/12/07	5/14/07	275000		
Copper	6020	0.1	1	5/12/07	5/23/07	2.7		
Magnesium	6010B	20	1	5/12/07	5/14/07	44700		
Manganese	6010B	5.0	1	5/12/07	5/14/07	5.0	U	
Potassium	6010B	2000	1	5/12/07	5/14/07	14100		
Sodium	6010B	100	1	5/12/07	5/14/07	87600		
Zinc	6010B	10	1	5/12/07	5/14/07	10	U	

% Solids: 0.0

Comments:

00055

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: Rhodia-Silver Bow Plant
Project Name: 26/46-006
Matrix: WATER

Service Request: K0703596
Date Collected: 04/24/07
Date Received: 04/26/07
Units: µG/L
Basis: NA

Sample Name: MW-02-3

Lab Code: K0703596-001 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	5/12/07	5/23/07	15.1		
Cadmium	6020	0.02	1	5/12/07	5/23/07	0.10		
Calcium	6010B	500	10	5/12/07	5/14/07	286000		
Copper	6020	0.1	1	5/12/07	5/23/07	2.4		
Magnesium	6010B	20	1	5/12/07	5/14/07	45700		
Manganese	6010B	5.0	1	5/12/07	5/14/07	5.0	U	
Potassium	6010B	2000	1	5/12/07	5/14/07	14400		
Sodium	6010B	100	1	5/12/07	5/14/07	89500		
Zinc	6010B	10	1	5/12/07	5/14/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: Rhodia-Silver Bow Plant
Project Name: 26/46-006
Matrix: WATER

Service Request: K0703596
Date Collected: 04/24/07
Date Received: 04/26/07
Units: µG/L
Basis: NA

Sample Name: MW-02-4

Lab Code: K0703596-002

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	5/12/07	5/23/07	24.1		
Cadmium	6020	0.02	1	5/12/07	5/23/07	0.19		
Calcium	6010B	500	10	5/12/07	5/14/07	313000		
Copper	6020	0.1	1	5/12/07	5/23/07	3.6		
Magnesium	6010B	20	1	5/12/07	5/14/07	53400		
Manganese	6010B	5.0	1	5/12/07	5/14/07	5.0	U	
Potassium	6010B	2000	1	5/12/07	5/14/07	16200		
Sodium	6010B	100	1	5/12/07	5/14/07	88000		
Zinc	6010B	10	1	5/12/07	5/14/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: Rhodia-Silver Bow Plant
Project Name: 26/46-006
Matrix: WATER

Service Request: K0703596
Date Collected: 04/24/07
Date Received: 04/26/07
Units: µG/L
Basis: NA

Sample Name: MW-02-4

Lab Code: K0703596-002 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	5/12/07	5/23/07	24.8		
Cadmium	6020	0.02	1	5/12/07	5/23/07	0.16		
Calcium	6010B	500	10	5/12/07	5/14/07	314000		
Copper	6020	0.1	1	5/12/07	5/23/07	2.8		
Magnesium	6010B	20	1	5/12/07	5/14/07	53900		
Manganese	6010B	5.0	1	5/12/07	5/14/07	5.0	U	
Potassium	6010B	2000	1	5/12/07	5/14/07	16500		
Sodium	6010B	100	1	5/12/07	5/14/07	88900		
Zinc	6010B	10	1	5/12/07	5/14/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: Rhodia-Silver Bow Plant
Project Name: 26/46-006
Matrix: WATER

Service Request: K0703596
Date Collected: 04/24/07
Date Received: 04/26/07
Units: µG/L
Basis: NA

Sample Name: M-1

Lab Code: K0703596-003

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	5/12/07	5/23/07	15.6		
Cadmium	6020	0.02	1	5/12/07	5/23/07	0.11		
Calcium	6010B	500	10	5/12/07	5/14/07	284000		
Copper	6020	0.1	1	5/12/07	5/23/07	2.4		
Magnesium	6010B	20	1	5/12/07	5/14/07	45300		
Manganese	6010B	5.0	1	5/12/07	5/14/07	5.0	U	
Potassium	6010B	2000	1	5/12/07	5/14/07	14400		
Sodium	6010B	100	1	5/12/07	5/14/07	88600		
Zinc	6010B	10	1	5/12/07	5/14/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: Rhodia-Silver Bow Plant
Project Name: 26/46-006
Matrix: WATER

Service Request: K0703596
Date Collected: 04/24/07
Date Received: 04/26/07
Units: µG/L
Basis: NA

Sample Name: M-1

Lab Code: K0703596-003 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	5/12/07	5/23/07	15.6		
Cadmium	6020	0.02	1	5/12/07	5/23/07	0.10		
Calcium	6010B	500	10	5/12/07	5/14/07	307000		
Copper	6020	0.1	1	5/12/07	5/23/07	2.1		
Magnesium	6010B	20	1	5/12/07	5/14/07	46100		
Manganese	6010B	5.0	1	5/12/07	5/14/07	5.0	U	
Potassium	6010B	2000	1	5/12/07	5/14/07	14700		
Sodium	6010B	100	1	5/12/07	5/14/07	91000		
Zinc	6010B	10	1	5/12/07	5/14/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: Rhodia-Silver Bow Plant
Project Name: 26/46-006
Matrix: WATER

Service Request: K0703596
Date Collected: 04/24/07
Date Received: 04/26/07
Units: µG/L
Basis: NA

Sample Name: FB-1

Lab Code: K0703596-004

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	5/12/07	5/23/07	0.5	U	
Cadmium	6020	0.02	1	5/12/07	5/23/07	0.02	U	
Calcium	6010B	50	1	5/12/07	5/14/07	61.0		
Copper	6020	0.1	1	5/12/07	5/23/07	1.7		
Magnesium	6010B	20	1	5/12/07	5/14/07	20	U	
Manganese	6010B	5.0	1	5/12/07	5/14/07	5.0	U	
Potassium	6010B	2000	1	5/12/07	5/14/07	2000	U	
Sodium	6010B	100	1	5/12/07	5/14/07	100	U	
Zinc	6010B	10	1	5/12/07	5/14/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: Rhodia-Silver Bow Plant
Project Name: 26/46-006
Matrix: WATER

Service Request: K0703596
Date Collected: 04/24/07
Date Received: 04/26/07
Units: µG/L
Basis: NA

Sample Name: FB-1

Lab Code: K0703596-004 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	5/12/07	5/23/07	0.5	U	
Cadmium	6020	0.02	1	5/12/07	5/23/07	0.02	U	
Calcium	6010B	50	1	5/12/07	5/14/07	72.2		
Copper	6020	0.1	1	5/12/07	5/23/07	1.0		
Magnesium	6010B	20	1	5/12/07	5/14/07	20	U	
Manganese	6010B	5.0	1	5/12/07	5/14/07	5.0	U	
Potassium	6010B	2000	1	5/12/07	5/14/07	2000	U	
Sodium	6010B	100	1	5/12/07	5/14/07	100	U	
Zinc	6010B	10	1	5/12/07	5/14/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company

Service Request: K0703596

Project No.: Rhodia-Silver Bow Plant

Date Collected:

Project Name: 26/46-006

Date Received:

Matrix: WATER

Units: µG/L

Basis: NA

Sample Name: Method Blank

Lab Code: K0703596-MB

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	5/12/07	5/23/07	0.5	U	
Cadmium	6020	0.02	1	5/12/07	5/23/07	0.02	U	
Calcium	6010B	50	1	5/12/07	5/14/07	50	U	
Copper	6020	0.1	1	5/12/07	5/23/07	0.1	U	
Magnesium	6010B	20	1	5/12/07	5/14/07	20	U	
Manganese	6010B	5.0	1	5/12/07	5/14/07	5.0	U	
Potassium	6010B	2000	1	5/12/07	5/14/07	2000	U	
Sodium	6010B	100	1	5/12/07	5/14/07	100	U	
Zinc	6010B	10	1	5/12/07	5/14/07	10	U	

% Solids: 0.0

Comments:

METALS**- 5a -****SPIKE SAMPLE RECOVERY**

Client: Barr Engineering Company

Service Request: K0703596

Project No.: Rhodia-Silver Bow Plant

Units: µg/L

Project Name: 26/46-006

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: MW-02-4S

Lab Code: K0703596-002S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	68 - 128	46.9		24.1		20.0	114		6020
Cadmium	82 - 114	19.3		0.19		20.0	96		6020
Copper	52 - 129	20.7		3.6		20.0	86		6020
Manganese	82 - 122	445		5.0	U	500	89		6010B
Zinc	83 - 117	456		10.0	U	500	91		6010B

An empty field in the Control Limit column indicates the control limit is not applicable

METALS

- 6 -

DUPLICATES

Client: Barr Engineering Company

Service Request: K0703596

Project No.: Rhodia-Silver Bow Plant

Units: µg/L

Project Name: 26/46-006

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: MW-02-4D

Lab Code: K0703596-002D

Analyte	Control Limit (%)	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic	20	24.1		25.0		4		6020
Cadmium	20	0.19		0.18		8		6020
Calcium	20	313000		315000		0		6010B
Copper	20	3.6		3.5		3		6020
Magnesium	20	53400		54500		2		6010B
Manganese		5.0	U	5.0	U			6010B
Potassium	20	16200		16600		2		6010B
Sodium	20	88000		88400		0		6010B
Zinc		10	U	10	U			6010B

METALS

- 7 -

LABORATORY CONTROL SAMPLE

Client: Barr Engineering Company

Service Request: K0703596

Project No.: Rhodia-Silver Bow Plant

Project Name: 26/46-006

Aqueous LCS Source: Inorganic Ventures

Solid LCS Source:

Analyte	Aqueous ug/L			Solid (mg/kg)					
	True	Found	%R	True	Found	C	Limits (%)	%R	
Arsenic	20.0	19.3	97						
Cadmium	20.0	20.1	100						
Calcium	12500	12200	98						
Copper	20.0	19.9	100						
Magnesium	12500	12600	101						
Manganese	1250	1210	96						
Potassium	12500	12200	98						
Sodium	12500	12500	100						
Zinc	1250	1200	96						

December 19, 2007

Analytical Report for Service Request No: K0710473

Andrea Nord
Barr Engineering
4700 West 77th Street
Minneapolis, MN 55435

RE: Rhodia Silver Bow MT GW

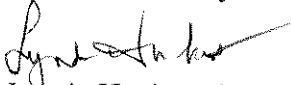
Dear Andrea:

Enclosed are the results of the samples submitted to our laboratory on November 08, 2007. For your reference, these analyses have been assigned our service request number K0710473.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.


Please call if you have any questions. My extension is 3358. You may also contact me via Email at LHuckestein@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Lynda Huckestein
Client Services Manager

LH/lb

Page 1 of 

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 - i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
 - i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 - i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Barr Engineering Company
Project: Rhodia Silver Bow MT GW
Sample Matrix: Water

Service Request No.: K0710473
Date Received: 11/8/2007

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), and Laboratory Control Sample (LCS).

Sample Receipt

Four water samples were received for analysis at Columbia Analytical Services on 11/8/2007. The samples were received in good condition and consistent with the accompanying chain of custody form. The requested analyses were revised to reflect the email correspondence received from Andrea Nord at Barr Engineering on 10/19/07. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Nitrite as Nitrogen by EPA 300.0

The reporting limit is elevated for Nitrite as Nitrogen in samples MW-02-03, M-1 and MW-02-04. The chromatogram indicated the presence of Chloride. The matrix interference prevented adequate resolution of the target compound at the reporting limit. The results are flagged to indicate the matrix interference.

Total and Dissolved Metals

No anomalies associated with the analysis of these samples were observed.

Approved by _____ Date 12/19/07

000-6

Chain of Custody Documentation



CHAIN OF CUSTODY

K0710473

PROJECT ID Rhodia Silver Bow MT GW

LABORATORY PERFORMING ANALYSIS

Columbia Analytical - Kelso, WA

SAMPLERS (Signature)

Tina Donovan

ANALYSIS REQUESTED

REMARKS

Turnaround Time (TAT)

☐ Standard TAT☐ Rush TAT (please contact laboratory personnel for arrangements)

SAMPLE ID	LAB ID	DATE	TIME	Total Metals / HNO_3	Dissolved Metals / Filtered / HNO_3	TPH, TOC, CO_2 , NH_3 , TRN, TANs, TOC , NO_3/NO_2 , H_2SO_4 , BOD , pH , Cond , Cl , F , SO_4 , NO_2 , NO_3 , O_2 , H_2O_2	TDS, TSS, HCO_3 , TAN, Li , Al , K , LO_3 , HCO_3 , H_2O
MW-02-03		11-6-07	1347	✓	✓	✓	✓
M-1		11-6-07	1350	✓	✓	✓	✓
FB-1		11-6-07	1500	✓	✓	✓	✓
MS/MSD		11-6-07	1650	✓	✓	✓	✓
MW-02-04		11-6-07	1736	✓	✓	✓	✓

TOD-107 Not Submitted

Use sample as MS/MSD also

Run tests as per 10/19/07 email from Andrew Paul
@ Bar.
WMT

RELINQUISHED BY (Signature)

Tina Donovan

DATE

11-7-07

TIME

1426

RECEIVED BY (Signature)

DATE

TIME

PRINTED NAME

Tina Donovan

COMPANY

TRC, Inc.

PRINTED NAME

COMPANY

RELINQUISHED BY (Signature)

DATE

TIME

RECEIVED BY (Signature)

DATE

TIME

PRINTED NAME

COMPANY

PRINTED NAME

COMPANY

RELINQUISHED BY (Signature)

DATE

TIME

RECEIVED FOR LAB BY (Signature)

DATE

TIME

PRINTED NAME

COMPANY

PRINTED NAME

COMPANY

COMMENTS Columbia Analytical Serv. Inc.

1317 S. 13th Ave
9th Sample Receiving
PO Box 479
Kelso WA 98626
360-577-7222

Container Supply Number



6962

Lynda Huckestein

From: Andrea A. Nord [anord@barr.com]
Sent: Thursday, November 08, 2007 11:49 AM
To: Lynda Huckestein
Subject: FW: Rhodia Interim GW sampling 26/46-006 Oct 2007

From: Lynda Huckestein [mailto:lhuckestein@caslab.com]
Sent: Friday, October 19, 2007 3:19 PM
To: Andrea A. Nord
Cc: Tom Mattison
Subject: RE: Rhodia Interim GW sampling 26/46-006 Oct 2007

Will do Andrea!

From: Andrea A. Nord [mailto:anord@barr.com]
Sent: Friday, October 19, 2007 10:02 AM
To: Lynda Huckestein
Cc: Tom Mattison
Subject: Rhodia Interim GW sampling 26/46-006 Oct 2007

Lynda,
Please ship the following bottles to this address for delivery by the end of the day Wednesday 10/24 for the interim groundwater monitoring sample event. Same as the April 2007 event.

Attn: Cam Balentine
C/O HKM
Rhodia Silver Bow Plant
119130 German Gulch Road
Silver Bow, MT 59750
phone: 406-496-2221

6 sets of water bottles for (includes enough bottles for a DUP, MS, MSD and EQ Blank):

Total metals by 6020B: As, Cd, and Cu,

Total metals by 6010: Ca, Mg, Mn, K, Na, Zn

Filtered metals by 6020B: As, Cd, and Cu,

Filtered metals by 6010: Ca, Mg, Mn, K, Na, Zn

Anions -

chloride by EPA 300.0,

fluoride by SM 4500-F C

sulfate by EPA 300.0

Ammonia by SM EPA 350.1

Nitrate by EPA300.0

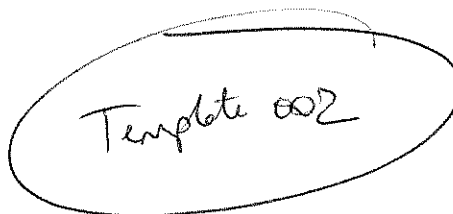
Nitrite by EPA300.0

Nitrate + Nitrite by EPA353.2

Total phosphorus EPA365.3

Carbonate as CO3 SM 2320B

Bicarbonate as HCO3 SM 2320B



Template 002

→ AK 2320B

000-9

Total Alkalinity as CaCO₃ by SM 2320B

Plus 2 gallons of DI water for the Equipment blank sample.

This will be a routine data package (not CLP) which is unique to this sampling event.

Thanks,

Andrea

00010

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC LH

Client / Project: TREC Service Request K07 10473
Received: 11/8/07 Opened: 11/8/07 By: [Signature]

Samples were received via? US Mail Fed Ex UPS DHL GH GS PDX Courier Hand Delivered
Samples were received in: (circle) Cooler Box Envelope Other NA
Were custody seals on coolers? NA Y N If yes, how many and where? 2F
If present, were custody seals intact? Y N If present, were they signed and dated? Y N
Is shipper's air-bill filed? If not, record air-bill number: NA Y N

Temperature of cooler(s) upon receipt (°C): 2.5
Temperature Blank (°C): 3.8
If applicable, list Chain of Custody Numbers: _____
Were custody papers properly filled out (ink, signed, etc.)? NA Y N
Packing material used. Inserts Bubble Wrap Gel Packs Wet Ice Sleeves Other _____
Did all bottles arrive in good condition (unbroken)? Indicate in the table below. NA Y N
Were all sample labels complete (i.e analysis, preservation, etc.)? Y N
Did all sample labels and tags agree with custody papers? Indicate in the table below Y N
Were the correct types of bottles used for the tests indicated? NA Y N
Were all of the preserved bottles received at the lab with the appropriate pH? Indicate in the table below NA Y N
Were VOA vials and 1631 Mercury bottles checked for absence of air bubbles? Indicate in the table below. NA Y N
Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection? NA Y N
Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

Additional Notes, Discrepancies, & Resolutions: _____

00011

General Chemistry Parameters

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Alkalinity as CaCO₃, Total

Analysis Method : SM 2320 B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	2	1	11/10/07	130	
M-1	K0710473-002	2	1	11/10/07	130	
FB-1	K0710473-003	2	1	11/10/07	ND	
MW-02-04	K0710473-004	2	1	11/10/07	211	
Method Blank	K0710473-MB	2	1	11/10/07	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00013

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/10/07

Duplicate Summary
Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Alkalinity as CaCO ₃ , Total	SM 2320 B	2	211	210	210	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00014

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/10/07

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Laboratory Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Alkalinity as CaCO ₃ , Total	NONE	SM 2320 B	115	118	103	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00015

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Bicarbonate as CaCO₃

Analysis Method : SM 2320 B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	2	1	11/10/07	130	
M-1	K0710473-002	2	1	11/10/07	130	
FB-1	K0710473-003	2	1	11/10/07	ND	
MW-02-04	K0710473-004	2	1	11/10/07	211	
Method Blank	K0710473-MB	2	1	11/10/07	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00016

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/10/07

Duplicate Summary
Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Bicarbonate as CaCO3	SM 2320 B	2	211	210	210	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00017

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/10/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Alkalinity as CaCO ₃ , Total	NONE	SM 2320 B	115	118	103	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00018

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Carbonate as CaCO₃

Analysis Method : SM 2320 B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	2	1	11/10/07	ND	
M-1	K0710473-002	2	1	11/10/07	ND	
FB-1	K0710473-003	2	1	11/10/07	ND	
MW-02-04	K0710473-004	2	1	11/10/07	ND	
Method Blank	K0710473-MB	2	1	11/10/07	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00019

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/10/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbonate as CaCO ₃	SM 2320 B	2	ND	ND	ND	-	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00020

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/10/07

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Alkalinity as CaCO ₃ , Total	NONE	SM 2320 B	115	118	103	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00021

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Ammonia as Nitrogen

Analysis Method : 350.1
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	0.05	1	11/26/07	ND	
M-1	K0710473-002	0.05	1	11/26/07	ND	
FB-1	K0710473-003	0.05	1	11/26/07	ND	
MW-02-04	K0710473-004	0.05	1	11/26/07	ND	
Method Blank	K0710473-MB	0.05	1	11/26/07	ND	

00022

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/26/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.05	ND	ND	ND	-	

00023

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/26/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Ammonia as Nitrogen	350.1	0.05	2.00	ND	1.95	98	90-110	

00024

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/26/07

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	NONE	350.1	8.45	8.14	96	90-110	

00025

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Chloride

Analysis Method : 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	4.0	20	11/08/07	161	
M-1	K0710473-002	4.0	20	11/08/07	160	
FB-1	K0710473-003	0.2	1	11/08/07	ND	
MW-02-04	K0710473-004	20	100	11/08/07	184	
Method Blank	K0710473-MB	0.2	1	11/08/07	ND	

00026

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/08/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Chloride	300.0	20	184	182	183	1	

00027

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/08/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery	Result Notes
							Acceptance Limits	
Chloride	300.0	40	400	184	548	91	80-120	

00028

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/08/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Chloride	NONE	300.0	5.0	4.8	96	90-110	

00029

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Nitrite as Nitrogen

Analysis Method : 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	0.5	5	11/08/07	ND	i
M-1	K0710473-002	0.5	5	11/08/07	ND	i
FB-1	K0710473-003	0.1	1	11/08/07	ND	
MW-02-04	K0710473-004	0.5	5	11/08/07	ND	i
Method Blank	K0710473-MB	0.1	1	11/08/07	ND	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/08/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrite as Nitrogen	300.0	0.5	ND	ND	ND	-	i

00031

00030
12/20

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/08/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Nitrite as Nitrogen	300.0	0.5	10.0	ND	10.0	100	80-120	

00032

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/08/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Nitrite as Nitrogen	NONE	300.0	100	97.4	97	90-110	

00033

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Nitrate as Nitrogen

Analysis Method : 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
MW-02-03	K0710473-001	0.1	2	11/08/07 14:21	0.2	
M-1	K0710473-002	0.1	2	11/08/07 14:33	0.2	
FB-1	K0710473-003	0.1	1	11/08/07 14:45	ND	
MW-02-04	K0710473-004	0.1	2	11/08/07 14:57	0.2	
Method Blank	K0710473-MB	0.1	1	11/08/07 09:05	ND	

00034

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/08/07

Duplicate Summary
Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate as Nitrogen	300.0	0.1	0.2	0.2	0.2	<1	

00035

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/08/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery	Result Notes
							Acceptance Limits	
Nitrate as Nitrogen	300.0	0.1	4.0	0.2	4.0	95	80-120	

00036

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/08/07

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Nitrate as Nitrogen	NONE	300.0	37.5	37.8	101	90-110	

00037

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Sulfate

Analysis Method : 300.0
Test Notes :

Units : mg/L

Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	20	100	11/09/07	672	
M-1	K0710473-002	20	100	11/09/07	673	
FB-1	K0710473-003	0.2	1	11/08/07	ND	
MW-02-04	K0710473-004	20	100	11/08/07	615	
Method Blank	K0710473-MB	0.2	1	11/08/07	ND	
Method Blank	K0710473-MB	0.2	1	11/09/07	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/08/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Sulfate	300.0	20	615	599	607	3	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/08/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Sulfate	300.0	40	400	615	969	89	80-120	

00040

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/08/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Sulfate	NONE	300.0	5.0	4.7	94	90-110	

00041

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/09/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Sulfate	NONE	300.0	5.0	4.8	96	90-110	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Fluoride

Analysis Method : SM 4500-F- C Modified
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	0.2	1	11/12/07	0.4	
M-1	K0710473-002	0.2	1	11/12/07	0.4	
FB-1	K0710473-003	0.2	1	11/12/07	ND	
MW-02-04	K0710473-004	0.2	1	11/12/07	0.3	
Method Blank	K0710473-MB	0.2	1	11/12/07	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00043

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/12/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Fluoride	SM 4500-F- C Modified	0.2	0.3	0.3	0.3	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00044

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/12/07

Matrix Spike Summary
Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Fluoride	SM 4500-F- C Modified	0.2	25.0	0.3	26.0	103	75-125	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00045

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/12/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Fluoride	NONE	SM 4500-F- C Modified	6.3	6.4	102	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

00046

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Nitrate+Nitrite as Nitrogen

Analysis Method : 353.2
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	0.05	1	11/13/07	0.25	
M-1	K0710473-002	0.05	1	11/13/07	0.25	
FB-1	K0710473-003	0.05	1	11/13/07	ND	
MW-02-04	K0710473-004	0.05	1	11/13/07	0.30	
Method Blank	K0710473-MB	0.05	1	11/13/07	ND	

00047

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/13/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.05	0.30	0.29	0.30	3	

00048

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : NA
Date Analyzed : 11/13/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Nitrate+Nitrite as Nitrogen	353.2	0.05	2.00	0.30	2.32	101	90-110	

00049

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 11/13/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Nitrate+Nitrite as Nitrogen	NONE	353.2	37.5	37.0	99	90-110	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/06/07
Date Received : 11/08/07

Phosphorus, Total

Prep Method : Method
Analysis Method : 365.3
Test Notes :

Units : mg/L

Basis : NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
MW-02-03	K0710473-001	0.01	1	11/28/2007	11/29/07	0.17	
M-1	K0710473-002	0.01	1	11/28/2007	11/29/07	0.17	
FB-1	K0710473-003	0.01	1	11/28/2007	11/29/07	ND	
MW-02-04	K0710473-004	0.01	1	11/28/2007	11/29/07	0.62	
Method Blank	K0710473-MB	0.01	1	11/28/2007	11/29/07	ND	

00051

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : 11/28/07
Date Analyzed : 11/29/07

Duplicate Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Phosphorus, Total	NONE	365.3	0.01	0.62	0.62	0.62	<1	

00052

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : 11/6/2007
Date Received : 11/8/2007
Date Prepared : 11/28/07
Date Analyzed : 11/29/07

Matrix Spike Summary Inorganic Parameters

Sample Name : MW-02-04
Lab Code : K0710473-004MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
								Percent Recovery Acceptance Limits	
Phosphorus, Total	NONE	365.3	0.02	0.50	0.62	1.07	90	75-115	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Barr Engineering Company
Project Name : Rhodia Silver Bow MT GW
Project Number : NA
Sample Matrix : WATER

Service Request : K0710473
Date Collected : NA
Date Received : NA
Date Prepared : 11/28/07
Date Analyzed : 11/29/07

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K0710473-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Phosphorus, Total	NONE	365.3	4.66	4.54	97	85-115	

00054

Metals

METALS

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Barr Engineering Company

Service Request: K0710473

Project No.:

Project Name: Rhodia Silver Bow MT GW

<u>Sample No.</u>	<u>Lab Sample ID.</u>
MW-02-03	K0710473-001
MW-02-03	K0710473-001 DISS
M-1	K0710473-002
M-1	K0710473-002 DISS
FB-1	K0710473-003
FB-1	K0710473-003 DISS
MW-02-04	K0710473-004
MW-02-04	K0710473-004 DISS
MW-02-04D	K0710473-004D
MW-02-04S	K0710473-004S
Method Blank	K0710473-MB

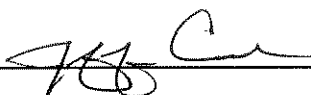
Were ICP interelement corrections applied?

Yes/No YES

Were ICP background corrections applied?

Yes/No YESIf yes-were raw data generated before
application of background corrections?Yes/No NO

Comments:

Signature: Date: 12/19/07

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: NA
Project Name: Rhodia Silver Bow MT GW
Matrix: WATER

Service Request: K0710473
Date Collected: 11/06/07
Date Received: 11/08/07
Units: µG/L
Basis: NA

Sample Name: MW-02-03

Lab Code: K0710473-001

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	11/16/07	12/18/07	17.5		
Cadmium	6020	0.02	1	11/16/07	12/18/07	0.09		
Calcium	6010B	50	1	11/16/07	11/21/07	270000		
Copper	6020	0.1	1	11/16/07	12/18/07	6.1		
Magnesium	6010B	20	1	11/16/07	11/21/07	47100		
Manganese	6010B	5.0	1	11/16/07	11/21/07	5.0	U	
Potassium	6010B	2000	1	11/16/07	11/21/07	15400		
Sodium	6010B	100	1	11/16/07	11/21/07	85000		
Zinc	6010B	10	1	11/16/07	11/21/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: NA
Project Name: Rhodia Silver Bow MT GW
Matrix: WATER

Service Request: K0710473
Date Collected: 11/06/07
Date Received: 11/08/07
Units: µG/L
Basis: NA

Sample Name: MW-02-03

Lab Code: K0710473-001 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	11/16/07	12/18/07	17.9		
Cadmium	6020	0.02	1	11/16/07	12/18/07	0.11		
Calcium	6010B	50	1	11/16/07	11/21/07	276000		
Copper	6020	0.1	1	11/16/07	12/18/07	6.7		
Magnesium	6010B	20	1	11/16/07	11/21/07	49100		
Manganese	6010B	5.0	1	11/16/07	11/21/07	5.0	U	
Potassium	6010B	2000	1	11/16/07	11/21/07	15300		
Sodium	6010B	100	1	11/16/07	11/21/07	88800		
Zinc	6010B	10	1	11/16/07	11/21/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company

Service Request: K0710473

Project No.: NA

Date Collected: 11/06/07

Project Name: Rhodia Silver Bow MT GW

Date Received: 11/08/07

Matrix: WATER

Units: µG/L

Basis: NA

Sample Name: M-1

Lab Code: K0710473-002

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	11/16/07	12/18/07	17.6		
Cadmium	6020	0.02	1	11/16/07	12/18/07	0.08		
Calcium	6010B	50	1	11/16/07	11/21/07	275000		
Copper	6020	0.1	1	11/16/07	12/18/07	6.3		
Magnesium	6010B	20	1	11/16/07	11/21/07	48200		
Manganese	6010B	5.0	1	11/16/07	11/21/07	5.0	U	
Potassium	6010B	2000	1	11/16/07	11/21/07	15600		
Sodium	6010B	100	1	11/16/07	11/21/07	87000		
Zinc	6010B	10	1	11/16/07	11/21/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company

Service Request: K0710473

Project No.: NA

Date Collected: 11/06/07

Project Name: Rhodia Silver Bow MT GW

Date Received: 11/08/07

Matrix: WATER

Units: µG/L

Basis: NA

Sample Name: M-1

Lab Code: K0710473-002 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	11/16/07	12/18/07	16.7		
Cadmium	6020	0.02	1	11/16/07	12/18/07	0.18		
Calcium	6010B	50	1	11/16/07	11/21/07	278000		
Copper	6020	0.1	1	11/16/07	12/18/07	7.7		
Magnesium	6010B	20	1	11/16/07	11/21/07	49400		
Manganese	6010B	5.0	1	11/16/07	11/21/07	5.0	U	
Potassium	6010B	2000	1	11/16/07	11/21/07	16200		
Sodium	6010B	100	1	11/16/07	11/21/07	88900		
Zinc	6010B	10	1	11/16/07	11/21/07	10	U	

% Solids: 0.0

Comments:

METALS

-I-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: NA
Project Name: Rhodia Silver Bow MT GW
Matrix: WATER

Service Request: K0710473
Date Collected: 11/06/07
Date Received: 11/08/07
Units: µG/L
Basis: NA

Sample Name: FB-1

Lab Code: K0710473-003

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	11/16/07	12/18/07	0.5	U	
Cadmium	6020	0.02	1	11/16/07	12/18/07	0.02	U	
Calcium	6010B	50	1	11/16/07	11/21/07	50	U	
Copper	6020	0.1	1	11/16/07	12/18/07	0.1	U	
Magnesium	6010B	20	1	11/16/07	11/21/07	20	U	
Manganese	6010B	5.0	1	11/16/07	11/21/07	5.0	U	
Potassium	6010B	2000	1	11/16/07	11/21/07	2000	U	
Sodium	6010B	100	1	11/16/07	11/21/07	100	U	
Zinc	6010B	10	1	11/16/07	11/21/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company

Service Request: K0710473

Project No.: NA

Date Collected: 11/06/07

Project Name: Rhodia Silver Bow MT GW

Date Received: 11/08/07

Matrix: WATER

Units: µG/L

Basis: NA

Sample Name: FB-1

Lab Code: K0710473-003 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	11/16/07	12/18/07	0.5	U	
Cadmium	6020	0.02	1	11/16/07	12/18/07	0.02	U	
Calcium	6010B	50	1	11/16/07	11/21/07	50	U	
Copper	6020	0.1	1	11/16/07	12/18/07	0.1	U	
Magnesium	6010B	20	1	11/16/07	11/21/07	20	U	
Manganese	6010B	5.0	1	11/16/07	11/21/07	5.0	U	
Potassium	6010B	2000	1	11/16/07	11/21/07	2000	U	
Sodium	6010B	100	1	11/16/07	11/21/07	100	U	
Zinc	6010B	10	1	11/16/07	11/21/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: NA
Project Name: Rhodia Silver Bow MT GW
Matrix: WATER

Service Request: K0710473
Date Collected: 11/06/07
Date Received: 11/08/07
Units: µG/L
Basis: NA

Sample Name: MW-02-04

Lab Code: K0710473-004

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	11/16/07	12/18/07	33.1		
Cadmium	6020	0.02	1	11/16/07	12/18/07	0.15		
Calcium	6010B	50	1	11/16/07	11/21/07	298000		
Copper	6020	0.1	1	11/16/07	12/18/07	6.7		
Magnesium	6010B	20	1	11/16/07	11/21/07	57100		
Manganese	6010B	5.0	1	11/16/07	11/21/07	5.0	U	
Potassium	6010B	2000	1	11/16/07	11/21/07	17600		
Sodium	6010B	100	1	11/16/07	11/21/07	90500		
Zinc	6010B	10	1	11/16/07	11/21/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company
Project No.: NA
Project Name: Rhodia Silver Bow MT GW
Matrix: WATER

Service Request: K0710473
Date Collected: 11/06/07
Date Received: 11/08/07
Units: µG/L
Basis: NA

Sample Name: MW-02-04

Lab Code: K0710473-004 DISS

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	11/16/07	12/18/07	32.3		
Cadmium	6020	0.02	1	11/16/07	12/18/07	0.13		
Calcium	6010B	50	1	11/16/07	11/21/07	293000		
Copper	6020	0.1	1	11/16/07	12/18/07	6.1		
Magnesium	6010B	20	1	11/16/07	11/21/07	56800		
Manganese	6010B	5.0	1	11/16/07	11/21/07	5.0	U	
Potassium	6010B	2000	1	11/16/07	11/21/07	17500		
Sodium	6010B	100	1	11/16/07	11/21/07	90500		
Zinc	6010B	10	1	11/16/07	11/21/07	10	U	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA SHEET

Client: Barr Engineering Company

Service Request: K0710473

Project No.: NA

Date Collected: NA

Project Name: Rhodia Silver Bow MT GW

Date Received: NA

Matrix: WATER

Units: µG/L

Basis: NA

Sample Name: Method Blank

Lab Code: K0710473-MB

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6020	0.5	1	11/16/07	12/18/07	0.5	U	
Cadmium	6020	0.02	1	11/16/07	12/18/07	0.02	U	
Calcium	6010B	50	1	11/16/07	11/21/07	50	U	
Copper	6020	0.1	1	11/16/07	12/18/07	0.1	U	
Magnesium	6010B	20	1	11/16/07	11/21/07	20	U	
Manganese	6010B	5.0	1	11/16/07	11/21/07	5.0	U	
Potassium	6010B	2000	1	11/16/07	11/21/07	2000	U	
Sodium	6010B	100	1	11/16/07	11/21/07	100	U	
Zinc	6010B	10	1	11/16/07	11/21/07	10	U	

% Solids: 0.0

Comments:

METALS
- 5a -
SPIKE SAMPLE RECOVERY

Client: Barr Engineering Company

Service Request: K0710473

Project No.:

Units: µg/L

Project Name: Rhodia Silver Bow MT GW

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: MW-02-04S

Lab Code: K0710473-004S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	68 - 128	58.0		33.1		20.0	125		6020
Cadmium	82 - 114	21.0		0.15		20.0	104		6020
Copper	52 - 129	25.9		6.7		20.0	96		6020
Manganese	82 - 122	517		5.0	U	500	103		6010B
Zinc	83 - 117	509		10.0	U	500	102		6010B

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

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DUPLICATES

Client: Barr Engineering Company

Service Request: K0710473

Project No.:

Units: µg/L

Project Name: Rhodia Silver Bow MT GW

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: MW-02-04D

Lab Code: K0710473-004D

Analyte	Control Limit(%)	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic	20	33.1		32.8		1		6020
Cadmium		0.15		0.12		27		6020
Calcium	20	298000		298000		0		6010B
Copper	20	6.7		6.7		0		6020
Magnesium	20	57100		57200		0		6010B
Manganese		5.0	U	5.0	U			6010B
Potassium	20	17600		17900		2		6010B
Sodium	20	90500		90900		1		6010B
Zinc		10	U	10	U			6010B

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

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LABORATORY CONTROL SAMPLE

Client: Barr Engineering Company

Service Request: K0710473

Project No.:

Project Name: Rhodia Silver Bow MT GW

Aqueous LCS Source: Inorganic Ventures

Solid LCS Source:

Analyte	Aqueous ug/L			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits	%R
Calcium	12500	12300	98					
Magnesium	12500	12900	103					
Manganese	1250	1260	101					
Potassium	12500	12200	98					
Sodium	12500	12600	101					
Zinc	1250	1240	99					

METALS

- 7 -

LABORATORY CONTROL SAMPLE

Client: Barr Engineering Company

Service Request: K0710473

Project No.:

Project Name: Rhodia Silver Bow MT GW

Aqueous LCS Source: Inorganic Ventures

Solid LCS Source:

Analyte	Aqueous ug/L			Solid (mg/kg)					
	True	Found	%R	True	Found	C	Limits	%R	
Arsenic	20.0	20.3	101						
Cadmium	20.0	20.6	103						
Copper	20.0	19.3	96						

Appendix 1-B4

2007 Quality Assurance Data Summaries

Appendix 1-B4a
Laboratory Precision Data Summary
2007
Rhodia Silver Bow Plant

%RPD = | (N - FD) / (N + FD) / 2 | X 100
Where: N = 1st Value
FD = 2nd Value

Sys Loc Code Sample Date Sample Name Sys Sample Code Sample Type Code			MW-02-3 04/24/2007		RPD Percent %	MW-02-3 11/06/2007		RPD Percent %
			MW-02-3_04242007 N	M-1 MW-02-3_04242007_FD FD		MW-02-3_11062007 N	M-1 MW-02-3_11062007_FD FD	
Chemical Name	Total or Dissolved	Analysis Location						
General Parameters								
Alkalinity, bicarbonate as CaCO3	NA	Lab	130 mg/l	132 mg/l	1.53	130 mg/l	130 mg/l	0.00
Alkalinity, carbonate as CaCO3	NA	Lab	< 2 mg/l	< 2 mg/l		< 2 mg/l	< 2 mg/l	
Alkalinity, total	NA	Lab	130 mg/l	132 mg/l	1.53	130 mg/l	130 mg/l	0.00
Chloride	NA	Lab	165 mg/l	163 mg/l	1.22	161 mg/l	160 mg/l	0.62
Dissolved oxygen	NA	Field	4.97 mg/l	--		--	--	
Fluoride	NA	Lab	0.5 mg/l	0.5 mg/l	0.00	0.4 mg/l	0.4 mg/l	0.00
Nitrate + Nitrite	NA	Lab	0.25 J mg/l	9.81 J mg/l	190.06	0.25 mg/l	0.25 mg/l	0.00
Nitrogen, ammonia as N	NA	Lab	< 0.05 mg/l	< 0.05 mg/l		< 0.05 mg/l	< 0.05 mg/l	
Nitrogen, Nitrate	NA	Lab	< 0.5 mg/l	< 0.5 mg/l		0.2 mg/l	0.2 mg/l	0.00
Nitrogen, Nitrite	NA	Lab	< 0.5 mg/l	< 0.5 mg/l		< 0.5 mg/l	< 0.5 mg/l	
pH, standard units	NA	Field	7.36 pH units	--		--	--	
Phosphorus, total	NA	Lab	0.20 mg/l	0.20 mg/l	0.00	0.17 mg/l	0.17 mg/l	0.00
Redox (oxidation potential)	NA	Field	355 mV	--		--	--	
Specific Conductance umhos@ 25oC	NA	Field	1833 umhos/cm	--		--	--	
Sulfate	NA	Lab	670 mg/l	670 mg/l	0.00	672 mg/l	673 mg/l	0.15
Temperature, degrees C	NA	Field	10.3 deg C	--		--	--	
Turbidity	NA	Field	0.51 NTU	--		--	--	
Metals								
Arsenic	Dissolved	Lab	0.0151 mg/l	0.0156 mg/l	3.26	0.0179 mg/l	0.0167 mg/l	6.94
Arsenic	Total	Lab	0.0159 mg/l	0.0156 mg/l	1.90	0.0175 mg/l	0.0176 mg/l	0.57
Cadmium	Dissolved	Lab	0.0001 mg/l	0.0001 mg/l	0.00	0.00011 mg/l	0.00018 mg/l	48.28
Cadmium	Total	Lab	0.00012 mg/l	0.00011 mg/l	8.70	0.00009 mg/l	0.00008 mg/l	11.76
Calcium	Dissolved	Lab	286 mg/l	307 mg/l	7.08	276 mg/l	278 mg/l	0.72
Calcium	Total	Lab	275 mg/l	284 mg/l	3.22	270 mg/l	275 mg/l	1.83
Copper	Dissolved	Lab	0.0024 b mg/l	0.0021 b mg/l	13.33	0.0067 mg/l	0.0077 mg/l	13.89
Copper	Total	Lab	0.0027 b mg/l	0.0024 b mg/l	11.76	0.0061 mg/l	0.0063 mg/l	3.23
Magnesium	Dissolved	Lab	45.7 mg/l	46.1 mg/l	0.87	49.1 mg/l	49.4 mg/l	0.61
Magnesium	Total	Lab	44.7 mg/l	45.3 mg/l	1.33	47.1 mg/l	48.2 mg/l	2.31
Manganese	Dissolved	Lab	< 0.0050 mg/l	< 0.0050 mg/l		< 0.0050 mg/l	< 0.0050 mg/l	
Manganese	Total	Lab	< 0.0050 mg/l	< 0.0050 mg/l		< 0.0050 mg/l	< 0.0050 mg/l	
Potassium	Dissolved	Lab	14.4 mg/l	14.7 mg/l	2.06	15.3 mg/l	16.2 mg/l	5.71
Potassium	Total	Lab	14.1 mg/l	14.4 mg/l	2.11	15.4 mg/l	15.6 mg/l	1.29
Sodium	Dissolved	Lab	89.5 mg/l	91 mg/l	1.66	88.8 mg/l	88.9 mg/l	0.11
Sodium	Total	Lab	87.6 mg/l	88.6 mg/l	1.14	85 mg/l	87 mg/l	2.33
Zinc	Dissolved	Lab	< 0.01 mg/l	< 0.01 mg/l		< 0.01 mg/l	< 0.01 mg/l	
Zinc	Total	Lab	< 0.01 mg/l	< 0.01 mg/l		< 0.01 mg/l	< 0.01 mg/l	

Appendix 1-B4b-1
Field Blank Data - Aqueous
2007
Rhodia Silver Bow Plant

Sys Loc Code			QC	QC
Sample Date			4/24/2007	11/6/2007
Sample Name			FB-1	FB-1
Sys Sample Code			FB_04242007	FB_11062007
Sample Type Code			FB	FB
Chemical Name	Total or Dissolved	Analysis Location		
General Parameters				
Alkalinity, bicarbonate as CaCO3	NA	Lab	2 mg/l	< 2 mg/l
Alkalinity, carbonate as CaCO3	NA	Lab	< 2 mg/l	< 2 mg/l
Alkalinity, total	NA	Lab	2 mg/l	< 2 mg/l
Chloride	NA	Lab	< 0.2 mg/l	< 0.2 mg/l
Fluoride	NA	Lab	< 0.2 mg/l	< 0.2 mg/l
Nitrate + Nitrite	NA	Lab	< 0.05 mg/l	< 0.05 mg/l
Nitrogen, ammonia as N	NA	Lab	< 0.05 mg/l	< 0.05 mg/l
Nitrogen, Nitrate	NA	Lab	0.3 mg/l	< 0.1 mg/l
Nitrogen, Nitrite	NA	Lab	< 0.1 mg/l	< 0.1 mg/l
Phosphorus, total	NA	Lab	< 0.01 mg/l	< 0.01 mg/l
Sulfate	NA	Lab	< 0.2 mg/l	< 0.2 mg/l
Metals				
Arsenic	Dissolved	Lab	< 0.0005 mg/l	< 0.0005 mg/l
Arsenic	Total	Lab	< 0.0005 mg/l	< 0.0005 mg/l
Cadmium	Dissolved	Lab	< 0.00002 mg/l	< 0.00002 mg/l
Cadmium	Total	Lab	< 0.00002 mg/l	< 0.00002 mg/l
Calcium	Dissolved	Lab	0.0722 mg/l	< 0.05 mg/l
Calcium	Total	Lab	0.0610 mg/l	< 0.05 mg/l
Copper	Dissolved	Lab	0.001 mg/l	< 0.0001 mg/l
Copper	Total	Lab	0.0017 mg/l	< 0.0001 mg/l
Magnesium	Dissolved	Lab	< 0.02 mg/l	< 0.02 mg/l
Magnesium	Total	Lab	< 0.02 mg/l	< 0.02 mg/l
Manganese	Dissolved	Lab	< 0.0050 mg/l	< 0.0050 mg/l
Manganese	Total	Lab	< 0.0050 mg/l	< 0.0050 mg/l
Potassium	Dissolved	Lab	< 2 mg/l	< 2 mg/l
Potassium	Total	Lab	< 2 mg/l	< 2 mg/l
Sodium	Dissolved	Lab	< 0.1 mg/l	< 0.1 mg/l
Sodium	Total	Lab	< 0.1 mg/l	< 0.1 mg/l
Zinc	Dissolved	Lab	< 0.01 mg/l	< 0.01 mg/l
Zinc	Total	Lab	< 0.01 mg/l	< 0.01 mg/l

Appendix 1-B4b-2
Laboratory Blank Data - Aqueous
2007
Rhodia Silver Bow Plant

Sys Loc Code Sample Date Sample Type Code			QC 4/24/2007 LB	QC 11/6/2007 LB
Chemical Name	Total or Dissolved	Analysis Location		
General Parameters				
Alkalinity, bicarbonate as CaCO3	NA	Lab	< 2 mg/l	< 2 mg/l
Alkalinity, carbonate as CaCO3	NA	Lab	< 2 mg/l	< 2 mg/l
Alkalinity, total	NA	Lab	< 2 mg/l	< 2 mg/l
Chloride	NA	Lab	< 0.2 mg/l	< 0.2 mg/l
Fluoride	NA	Lab	< 0.2 mg/l	< 0.2 mg/l
Nitrate + Nitrite	NA	Lab	< 0.05 mg/l	< 0.05 mg/l
Nitrogen, ammonia as N	NA	Lab	< 0.05 mg/l	< 0.05 mg/l
Nitrogen, Nitrate	NA	Lab	< 0.1 mg/l	< 0.1 mg/l
Nitrogen, Nitrite	NA	Lab	< 0.1 mg/l	< 0.1 mg/l
Phosphorus, total	NA	Lab	< 0.01 mg/l < 0.01 mg/l	< 0.01 mg/l
Sulfate	NA	Lab	< 0.2 mg/l	< 0.2 mg/l < 0.2 mg/l
Metals				
Arsenic	Total	Lab	< 0.0005 mg/l	< 0.0005 mg/l
Cadmium	Total	Lab	< 0.00002 mg/l	< 0.00002 mg/l
Calcium	Total	Lab	< 0.05 mg/l	< 0.05 mg/l
Copper	Total	Lab	< 0.0001 mg/l	< 0.0001 mg/l
Magnesium	Total	Lab	< 0.02 mg/l	< 0.02 mg/l
Manganese	Total	Lab	< 0.0050 mg/l	< 0.0050 mg/l
Potassium	Total	Lab	< 2 mg/l	< 2 mg/l
Sodium	Total	Lab	< 0.1 mg/l	< 0.1 mg/l
Zinc	Total	Lab	< 0.01 mg/l	< 0.01 mg/l