# South Dakota Spill Report Form

**PRCF #:** **Case #:** 2025.075

| | | |
|---|---|---|
| Reported (MM/DD/YY): 6/16/25 | Time: 10:45 AM | Recorded By: J. McGuire |

**A. REPORTER**

| | | | |
|---|---|---|---|
| Reported By: Mark Tieszen | | | |
| Organization Name: Homestake Mine | ☑ Discharger ☐ Public ☐ State ☐ Local ☐ Federal | | |
| Phone: 605-722-4680 | Email: mtieszen@barrick.com | | |
| Address: 11457 Bobtail Gulch Street | | | |
| City: Central City | State: SD | Zip: 57754 | |

**B. DISCHARGER** (Responsible Party) ☒ As Above in A

| | | |
|---|---|---|
| Name: | | |
| Address: | | |
| City: | State: | Zip: |
| Phone: | Email: | |

**C. INCIDENT DATE & LOCATION** ☐ As Above In B

| | | | |
|---|---|---|---|
| Spill Date: (MM/DD/YY) | Spill Time: | | |
| Street or Approx. Location: Grizzly Gulch Pump House | | | |
| Survey Description: 44.335946, -103.743144 | | | |
| City: Lead | County: Lawrence | State: SD | Zip: 57754 |

**D. MATERIAL**

| Material type (Code/Name): ☑ Hazardous Substance ☐ Oil ☐ Material Unknown ☐ Other | Quantity Spilled | Spilled in Water | Units (Check one) | |
|---|---|---|---|---|
| Seepage Water (Heavy Metals) | unknown | | ☐ lb. ☐ bbl. | ☐ gal. ☐ oth. |
| | | | ☐ lb. ☐ bbl. | ☐ gal. ☐ oth. |
| | | | ☐ lb. ☐ bbl. | ☐ gal. ☐ oth. |

**E. SOURCE**

Source of Spill: ☐ AST ☐ UST ☐ Railway ☐ Transport ☐ Fixed Facility ☑ Pipeline ☐ Highway ☐ Other

Description: seepage pump line

Regulated Tank Facility: ☐ Tank Facility ID #:

**F. MEDIUM**

Medium Affected: ☐ Air ☑ Land ☑ Water ☑ Groundwater ☐ Within Facilities Only

Waterway Affected: Grizzly Gulch Creek

**G. CAUSE**

Reported Cause: ☐ Transportation Accident ☐ Operational Error ☐ Dumping ☑ Equipment Failure ☐ Natural Phenomenon ☐ Unknown ☐ Other

Description: Failure of expansion joint between seepage pump and piping resulted in water sprayed up into pump building.

**H. DAMAGES**

| | |
|---|---|
| # of Injuries: | # of Fatalities: |

**I. ACTIONS**

Response Action Taken:

Will scrape up affected road (visible red streak)

**K. NOTIFIED**

Responding Agency: ☐ DANR ☐ Local ☑ Discharger ☐ Federal ☐ EPA ☐ Other

Agencies Notified: DANR, Local

**K. COMMENTS**

Comments:

Water seeped out of the pump building down the road into Grizzly Gulch Creek. Will collect surface water samples above the first check dam and another near the 3rd check dam and collect groundwater samples monthly (MW4).

**Department of Agriculture and Natural Resources**
**Inspection, Compliance, and Remediation Program**
**523 East Capitol Avenue**
**Pierre, South Dakota 57501**

**Business Hours M – F 8:00-5:00 pm**
**Normal Business Hours- (605)773-3296**
**After Business Hours- (605) 773-3231**

**DEPARTMENT of AGRICULTURE and NATURAL RESOURCES**
JOE FOSS BUILDING
523 E CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

Mark Tieszen
Homestake Mining Company/Barrick
11457 Bobtail Gulch Street
Central City, SD 57754

June 18, 2025

Subject: Department of Agriculture and Natural Resources File Number 2025.075: pertaining to the discharge of seepage water from the pumphouse at Grizzly Gulch.

Dear Mr. Tieszen,

The Department of Agriculture and Natural Resources (DANR) is contacting you regarding the event noted above. A copy of the initial spill report form is enclosed for your review.

Based on the information provided, an expansion joint between a pump and piping failed, releasing mine waste impacted water to the interior of the pumphouse. The water impacted the electrical system, shorting out power, stopping the pump, and ending the surface discharge of wastewater. Water that had discharged to the interior of the pumphouse leaked out of the building, flowed down the access road, and drained into the creek. As a result, the roadway and the creek bed were visibly discolored.

The procedures for the assessment and cleanup in cases such as this were developed to protect surface and groundwater resources. In this situation, DANR requires the following (DANR understands some of these steps have already been taken):

- Immediately obtain water samples from the creek and test for, at a minimum, the following parameters: DO, Temperature, Conductivity, Hardness, TDS, Bicarbonate, Chlorides, Ammonia, Nitrate, Sulfate, Total & Wad CN, Thiocyanate, As, Cd, Cr, Ca, Cu, Fe, Pb, Mn, Hg, K, Se, Na, and Zn;
- Provide results to DANR as soon as analysis is completed; and
- By July 16, 2025, complete and return the attached Written Contamination Incident Follow Up Report form.

Please be aware the DANR continues to gather information about the incident and may have additional requirements or may take additional action. DANR staff will review all information you provide and will contact you if remedial action or additional sampling is required. Thank you for your cooperation in this matter.

Sincerely,

Trish Kindt
Inspection, Compliance, & Remediation Program
(605) 773-3296

cc/e Sean Kruger, DANR Water Quality Program
Aaron Ward, DANR Water Quality Program
Paul Thomson, Lawrence County Emergency Manager
Roberta Hudson, DANR Minerals, Mining, and Superfund Program

**DEPARTMENT of AGRICULTURE and NATURAL RESOURCES**
JOE FOSS BUILDING
523 E CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

August 1, 2025

Mark Tieszen
Homestake Mining Company
11457 Bobtail Gulch Street
Central City, SD 57754

RE: No Further Action designation for DANR File# 2025.075: pertaining to a seepage water release that occurred as the result of an expansion joint rupture at Pump No.1.

Dear Mr. Tieszen:

The Department of Agriculture and Natural Resources (DANR) has reviewed the available information regarding the discharge of produced water and is granting this case No Further Action designation. Based on available information, it appears there is no current risk to human health or further risk to the environment.

Please note, if future problems arise as a result of any contamination remaining as a result of this release, Homestake Mining Company may be responsible for conducting additional assessment or remediation. This No Further Action designation will be recorded in DANR's release database and can be found at: https://apps.sd.gov/NR42InteractiveMap.

Thank you for your cooperation in protecting the ground water resources of South Dakota. If you have questions or concerns about this No Further Action designation, please contact Trish Kindt of my staff at (605) 773-3296.

Sincerely,

Hunter Roberts
Secretary
SD DANR

cc: Paul Thomson, Lawrence County Emergency Manager
Aaron Ward, DANR Water Quality Program
Roberta Hudson, DANR Minerals, Mining, and Superfund Program
Sean Kruger, DANR Water Quality Program

**DEPARTMENT of AGRICULTURE and NATURAL RESOURCES**
JOE FOSS BUILDING
523 E CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

**Memorandum**

8/1/25

**To:** Terry Florentz, P.E., Administrator
Inspection, Compliance, and Remediation Program

**From:** Trish Kindt, Scientist Manager
Inspection, Compliance, and Remediation Program 8/1/25

**Subject:** No Further Action for DANR Spill Case 2025.075, pertaining to a June 14, 2025, expansion joint rupture and subsequent discharge of seepage water from the Grizzly Gulch tailings impoundment.

**Date:** August 1, 2025

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## Introduction

This memo provides a summary of DANR spill case 2025.075. The summary includes a short narrative describing the release and the response. I recommend this file receive No Further Action status.

## General Spill Information

Site Name: Grizzly Gulch tailings impoundment

Responsible party: Homestake Mining Company

Location: The site is southeast of Lead, South Dakota, just north of the Grizzly Gulch tailings impoundment. The latitude/longitude of the site is approximately 44.33602456490524, -103.7431903702395

Discovery Date: June 16, 2025

## Background

The Grizzly Gulch tailings impoundment was constructed to hold tailings generated as a result of gold mining at Homestake Mine. That mine is no longer in operation but seepage water from the tailings continues to be managed. On June 14, 2025, the expansion joint failed, resulting in a release of the seepage water.

Homestake estimates that 1,620 gallons of seepage water was released from pump No. 1. The water shorted out the pump, flowed out the door of the pumphouse, impacted soil near the pumphouse, flowed downhill, and entered Grizzly Gulch Creek. In response, Homestake scraped up impacted soil and placed that soil into the Grizzly Gulch Tailings Impoundment. Water that entered Grizzly Gulch Creek was

unrecoverable. However, Homestake sampled several locations in the creek to determine the extent and degree of impact. Fortunately, based upon water analysis data and the fact that there was no fish kill (live fish were observed), it appears the impact was minimal. It should be noted that Weak Acid Dissociable (WAD) Cyanide concentrations were non-detect in all samples.

**Recommendations**

Taking into account the information summarized above, it is anticipated there is minimal further risk to sensitive environmental and human health receptors. For this reason, I recommend DANR case 2025.075 be assigned No Further Action status.

HOMESTAKE MINING COMPANY
11457 Bobtail Gulch Street
Central City, SD 57754

December 23, 2025

Ms. Trish Kindt
SD Department of Agriculture and Natural Resources
523 East Capital/Joe Foss Building
Pierre, SD 57501-3182

Re: **Homestake Mine Grizzly Gulch Seepage Collection System Release – File no. 2025.075**

Dear Ms. Kindt:

In the July 10, 2025, *Written Contamination Incident Follow Up Report* for the referenced release, Homestake Mining Co. (Homestake) committed to collect monthly samples at surface water sampling site 4 and monitoring well GG-14 for a period of six months to assess any potential effects to surface water or groundwater quality resulting from the release. Although DANR designated the release as No Further Action on August 1, 2025, Homestake completed the sampling as described in the July 10 correspondence.

Surface water sampling site 4 and monitoring well GG-14 are water quality sampling sites located downstream from the Grizzly Gulch seepage collection system, which have been routinely monitored for several decades. Figure 1 shows location of these sampling sites in relation to the Grizzly Gulch collection system. The attached laboratory results for samples collected between June 2025 and November 2025 show that all parameters are within historical ranges and do not indicate any adverse effects of the referenced release on surface water or groundwater quality.

Please contact me if you have any questions.

Sincerely,

Mark Tieszen
Closure Manager

X:/reclamation/regulatory/2025/DANR - Water/GG Seepage Release 06-14-25/File No. 2025.075 WQ data




Provisional Map - This map was not prepared from a field survey and should not be relied on as a representation of legal land descriptions. Information on this map may not be complete or up to date and its accuracy is not to be relied upon. This map is intended only as a general representation of land status and is for Barrick's use only.

N

0 1,000 2,000

Feet

HOMESTAKE

BARRICK

Figure 1
Location of Sampling Sites in Relation to Grizzly Gulch Seepage Collection System

X:/Group/Reclamation/Regulatory/2025/DANR -Water/GG Seepage Release 06-14-25

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: GG-14
Sampled: 06/26/25 at 02:15 PM by Eric Eisner
Sample Matrix: Water

Lab ID#: 20250630203
Received: 06/27/25 at 12:00 PM by Bobbie Laurenz
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | |
| Electrical Conductivity | 867 | µmhos/cm | 1 | 0.168 | 5.00 | SM 2510B | JAM 07/01/25 |
| Hardness | 465 | mg/L | 1 | | | SM 2340 B | TMN 07/09/25 |
| Total Dissolved Solids | 585 | mg/L | 100ml | 12.7 | 50.0 | SM 2540 C | IBS 06/30/25 |
| **Non-Metallics** | | | | | | | |
| Bicarbonate | 279 | mg/L | 1 | 0.598 | 10.0 | SM 2320 B | JAM 07/08/25 |
| Chloride (Cl-) | 1.48 | mg/L | 1 | 0.163 | 0.500 | SM 4500-Cl E | BLL 06/30/25 |
| Cyanide, Total | < 0.010 | mg/L | 1 | 0.0009 | 0.010 | Kelada 01 | TMN 07/02/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN 07/01/25 |
| Nitrogen, Nitrate (NO3) | < 0.050 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL 07/01/25 |
| Sulfate (SO4) | 265 | mg/L | 5 | 3.03 | 50.0 | SM 4500-SO4 E | BLL 06/30/25 |
| Thiocyanate | < 0.100 | mg/L | 1 | 0.026 | 0.100 | ASTM D4193 | GRT 06/30/25 |
| **Metals - Dissolved** | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA 06/30/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 06/30/25 |
| Calcium (Ca) | 71.9 | mg/L | 3 | 0.146 | 3.00 | SM 3111 B | GRT 06/30/25 |
| Iron (Fe) | 1.48 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA 06/30/25 |
| Magnesium (Mg) | 69.3 | mg/L | 2 | 0.138 | 1.00 | SM 3111 B | GRT 06/30/25 |
| Potassium (K) | 7.09 | mg/L | 1 | 0.054 | 0.500 | SM 3111 B | GRT 06/30/25 |
| Sodium (Na) | 8.10 | mg/L | 1 | 0.234 | 1.00 | SM 3111 B | GRT 06/30/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 06/30/25 |
| **Anion - Cation Balance** | | | | | | | |
| Anions | 10.1 | meq/L | 1 | | | Calculation | TMN 07/09/25 |
| Anion - Cation Balance | -1.56 | % | 1 | | | Calculation | TMN 07/09/25 |
| Cations | 9.82 | meq/L | 1 | | | Calculation | TMN 07/09/25 |

Report Approved By:

Report Approved On: 7/9/2025 10:27:41 AM

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: GG-14
Sampled: 07/22/25 at 02:47 PM
by Eric Eisner
Sample Matrix: Water

Lab ID#: 20250724210
Received: 07/23/25 at 01:00 PM
by Bobbie Laurenz
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst | Date |
|---|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | | |
| Electrical Conductivity | 875 | µmhos/cm | 1 | 0.168 | 5.00 | SM 2510B | JAM | 07/24/25 |
| Hardness | 465 | mg/L | 1 | | | SM 2340 B | TMN | 08/04/25 |
| Total Dissolved Solids | 597 | mg/L | 100ml | 12.7 | 50.0 | SM 2540 C | IBS | 07/24/25 |
| **Non-Metallics** | | | | | | | | |
| Bicarbonate | 271 | mg/L | 1 | 0.598 | 10.0 | SM 2320 B | GRR | 07/31/25 |
| Chloride (Cl-) | 1.43 | mg/L | 1 | 0.163 | 0.500 | SM 4500-Cl E | BLL | 07/24/25 |
| Cyanide, Total | < 0.010 | mg/L | 1 | 0.0009 | 0.010 | Kelada 01 | TMN | 08/07/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN | 08/07/25 |
| Nitrogen, Nitrate (NO3) | < 0.050 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL | 07/24/25 |
| Sulfate (SO4) | 263 | mg/L | 5 | 3.03 | 50.0 | SM 4500-SO4 E | BLL | 07/24/25 |
| Thiocyanate | < 0.100 | mg/L | 1 | 0.026 | 0.100 | ASTM D4193 | GRT | 08/04/25 |
| **Metals - Dissolved** | | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA | 07/24/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA | 07/24/25 |
| Calcium (Ca) | 75.6 | mg/L | 3 | 0.146 | 3.00 | SM 3111 B | GRT | 07/31/25 |
| Iron (Fe) | 1.95 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA | 07/24/25 |
| Magnesium (Mg) | 67.0 | mg/L | 2 | 0.138 | 1.00 | SM 3111 B | GRT | 07/31/25 |
| Potassium (K) | 7.29 | mg/L | 1 | 0.054 | 0.500 | SM 3111 B | GRT | 07/31/25 |
| Sodium (Na) | 8.59 | mg/L | 1 | 0.234 | 1.00 | SM 3111 B | GRT | 07/31/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA | 07/24/25 |
| **Anion - Cation Balance** | | | | | | | | |
| Anions | 9.96 | meq/L | 1 | | | Calculation | TMN | 08/07/25 |
| Anion - Cation Balance | -0.571 | % | 1 | | | Calculation | TMN | 08/07/25 |
| Cations | 9.84 | meq/L | 1 | | | Calculation | TMN | 08/07/25 |

**Notes:**
Cyanide reporting limit change due to dilution from matrix interference

Report Approved By:

Report Approved On: 8/11/2025 4:32:49 PM

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: GG-14
Sampled: 08/28/25 at 01:00 PM by Eric Eisner
Sample Matrix: Water

Lab ID#: 20250902209
Received: 08/29/25 at 12:00 PM by Bobbie Laurenz
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | |
| Electrical Conductivity | 886 | µmhos/cm | 1 | 0.168 | 5.00 | SM 2510B | JAM 09/03/25 |
| Hardness | 487 | mg/L | 1 | | | SM 2340 B | TMN 09/11/25 |
| Total Dissolved Solids | 581 | mg/L | 100ml | 12.7 | 50.0 | SM 2540 C | IBS 09/02/25 |
| **Non-Metallics** | | | | | | | |
| Bicarbonate | 287 | mg/L | 1 | 0.598 | 10.0 | SM 2320 B | JAM 09/10/25 |
| Chloride (Cl-) | 1.19 | mg/L | 1 | 0.253 | 0.500 | SM 4500-Cl E | BLL 09/04/25 |
| Cyanide, Total | < 0.010 | mg/L | 1 | 0.0009 | 0.010 | Kelada 01 | TMN 09/04/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN 09/04/25 |
| Nitrogen, Nitrate (NO3) | < 0.050 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL 09/03/25 |
| Sulfate (SO4) | 266 | mg/L | 5 | 1.50 | 50.0 | SM 4500-SO4 E | BLL 09/03/25 |
| Thiocyanate | < 0.100 | mg/L | 1 | 0.026 | 0.100 | ASTM D4193 | GRT 09/08/25 |
| **Metals - Dissolved** | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA 09/04/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 09/04/25 |
| Calcium (Ca) | 73.2 | mg/L | 2 | 0.098 | 2.00 | SM 3111 B | GRT 09/03/25 |
| Iron (Fe) | 2.07 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA 09/04/25 |
| Magnesium (Mg) | 73.9 | mg/L | 2 | 0.138 | 1.00 | SM 3111 B | GRT 09/03/25 |
| Potassium (K) | 7.31 | mg/L | 1 | 0.054 | 0.500 | SM 3111 B | GRT 09/03/25 |
| Sodium (Na) | 8.05 | mg/L | 1 | 0.234 | 1.00 | SM 3111 B | GRT 09/03/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 09/04/25 |
| **Anion - Cation Balance** | | | | | | | |
| Anions | 10.3 | meq/L | 1 | | | Calculation | TMN 09/11/25 |
| Anion - Cation Balance | -0.045 | % | 1 | | | Calculation | TMN 09/11/25 |
| Cations | 10.3 | meq/L | 1 | | | Calculation | TMN 09/11/25 |

Report Approved By:

Report Approved On: 9/11/2025 2:16:04 PM

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: GG-14
Sampled: 09/11/25 at 02:00 PM by Eric Eisner
Sample Matrix: Water

Lab ID#: 20250915104
Received: 09/12/25 at 12:00 PM by Bobbie Laurenz
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | |
| Electrical Conductivity | 884 | µmhos/cm | 1 | 0.168 | 5.00 | SM 2510B | JAM 09/15/25 |
| Hardness | 496 | mg/L | 1 | | | SM 2340 B | TMN 09/22/25 |
| Total Dissolved Solids | 563 | mg/L | 100ml | 12.7 | 50.0 | SM 2540 C | IBS 09/15/25 |
| **Non-Metallics** | | | | | | | |
| Bicarbonate | 288 | mg/L | 1 | 0.598 | 10.0 | SM 2320 B | JAM 09/22/25 |
| Chloride (Cl-) | 1.28 | mg/L | 1 | 0.253 | 0.500 | SM 4500-Cl E | BLL 09/16/25 |
| Cyanide, Total | < 0.010 | mg/L | 1 | 0.0009 | 0.010 | Kelada 01 | TMN 09/15/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN 09/15/25 |
| Nitrogen, Nitrate (NO3) | < 0.050 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL 09/15/25 |
| Sulfate (SO4) | 271 | mg/L | 5 | 1.50 | 50.0 | SM 4500-SO4 E | BLL 09/16/25 |
| Thiocyanate | < 0.100 | mg/L | 1 | 0.026 | 0.100 | ASTM D4193 | GRT 09/26/25 |
| **Metals - Dissolved** | | | | | | | |
| Arsenic (As) | 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA 09/15/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 09/15/25 |
| Calcium (Ca) | 71.5 | mg/L | 3 | 0.146 | 3.00 | SM 3111 B | GRT 09/18/25 |
| Iron (Fe) | 1.95 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA 09/15/25 |
| Magnesium (Mg) | 77.2 | mg/L | 2 | 0.138 | 1.00 | SM 3111 B | GRT 09/18/25 |
| Potassium (K) | 7.49 | mg/L | 1 | 0.054 | 0.500 | SM 3111 B | GRT 09/18/25 |
| Sodium (Na) | 8.10 | mg/L | 1 | 0.234 | 1.00 | SM 3111 B | GRT 09/18/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 09/15/25 |
| **Anion - Cation Balance** | | | | | | | |
| Anions | 10.4 | meq/L | 1 | | | Calculation | TMN 09/23/25 |
| Anion - Cation Balance | 0.272 | % | 1 | | | Calculation | TMN 09/23/25 |
| Cations | 10.5 | meq/L | 1 | | | Calculation | TMN 09/23/25 |

Report Approved By:

Report Approved On: 9/30/2025 1:34:20 PM

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: GG-14
Sampled: 10/29/25 at 03:00 PM by Eric Eisner
Sample Matrix: Water

Lab ID#: 20251031103
Received: 10/30/25 at 12:30 PM by Bobbie Laurenz
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | |
| Electrical Conductivity | 862 | µmhos/cm | 1 | 0.168 | 5.00 | SM 2510B | JAM 11/03/25 |
| Hardness | 459 | mg/L | 1 | | | SM 2340 B | TMN 11/05/25 |
| Total Dissolved Solids | 578 | mg/L | 100ml | 7.02 | 50.0 | SM 2540 C | IBS 11/03/25 |
| **Non-Metallics** | | | | | | | |
| Bicarbonate | 273 | mg/L | 1 | 0.598 | 10.0 | SM 2320 B | JAM 11/05/25 |
| Chloride (Cl-) | 1.66 | mg/L | 1 | 0.253 | 0.500 | SM 4500-Cl E | BLL 10/31/25 |
| Cyanide, Total | < 0.010 | mg/L | 1 | 0.0009 | 0.010 | Kelada 01 | TMN 10/31/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN 10/31/25 |
| Nitrogen, Nitrate (NO3) | < 0.050 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL 10/31/25 |
| Sulfate (SO4) | 253 | mg/L | 5 | 1.50 | 50.0 | SM 4500-SO4 E | BLL 11/03/25 |
| Thiocyanate | < 0.100 | mg/L | 1 | 0.026 | 0.100 | ASTM D4193 | GRT 10/31/25 |
| **Metals - Dissolved** | | | | | | | |
| Arsenic (As) | 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA 10/31/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 10/31/25 |
| Calcium (Ca) | 71.9 | mg/L | 3 | 0.146 | 3.00 | SM 3111 B | GRT 10/31/25 |
| Iron (Fe) | 1.86 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA 10/31/25 |
| Magnesium (Mg) | 67.9 | mg/L | 2 | 0.138 | 1.00 | SM 3111 B | GRT 10/31/25 |
| Potassium (K) | 7.14 | mg/L | 1 | 0.054 | 0.500 | SM 3111 B | GRT 10/31/25 |
| Sodium (Na) | 8.15 | mg/L | 1 | 0.234 | 1.00 | SM 3111 B | GRT 10/31/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 10/31/25 |
| **Anion - Cation Balance** | | | | | | | |
| Anions | 9.79 | meq/L | 1 | | | Calculation | TMN 11/07/25 |
| Anion - Cation Balance | -0.436 | % | 1 | | | Calculation | TMN 11/07/25 |
| Cations | 9.70 | meq/L | 1 | | | Calculation | TMN 11/07/25 |

Report Approved By:

Report Approved On: 11/7/2025 3:42:48 PM

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: GG-14
Sampled: 11/12/25 at 02:58 PM by Eric Eisner
Sample Matrix: Water

Lab ID#: 20251114105
Received: 11/13/25 at 12:10 PM by Bobbie Laurenz
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | |
| Electrical Conductivity | 851 | µmhos/cm | 1 | 0.168 | 5.00 | SM 2510B | JAM 11/19/25 |
| Hardness | 440 | mg/L | 1 | | | SM 2340 B | TMN 11/24/25 |
| Total Dissolved Solids | 542 | mg/L | 100ml | 7.02 | 50.0 | SM 2540 C | IBS 11/18/25 |
| **Non-Metallics** | | | | | | | |
| Bicarbonate | 256 | mg/L | 1 | 0.598 | 10.0 | SM 2320 B | GRR 11/20/25 |
| Chloride (Cl-) | 1.45 | mg/L | 1 | 0.253 | 0.500 | SM 4500-Cl E | BLL 11/14/25 |
| Cyanide, Total | < 0.010 | mg/L | 1 | 0.0009 | 0.010 | Kelada 01 | TMN 11/14/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN 11/17/25 |
| Nitrogen, Nitrate (NO3) | < 0.050 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL 11/14/25 |
| Sulfate (SO4) | 263 | mg/L | 5 | 1.50 | 50.0 | SM 4500-SO4 E | BLL 11/14/25 |
| Thiocyanate | < 0.100 | mg/L | 1 | 0.018 | 0.100 | ASTM D4193 | GRT 11/25/25 |
| **Metals - Dissolved** | | | | | | | |
| Arsenic (As) | 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA 11/17/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 11/17/25 |
| Calcium (Ca) | 71.1 | mg/L | 3 | 0.146 | 3.00 | SM 3111 B | GRT 11/18/25 |
| Iron (Fe) | 1.76 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA 11/17/25 |
| Magnesium (Mg) | 63.8 | mg/L | 2 | 0.138 | 1.00 | SM 3111 B | GRT 11/18/25 |
| Potassium (K) | 7.46 | mg/L | 1 | 0.054 | 0.500 | SM 3111 B | GRT 11/18/25 |
| Sodium (Na) | 7.88 | mg/L | 1 | 0.234 | 1.00 | SM 3111 B | GRT 11/19/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 11/17/25 |
| **Anion - Cation Balance** | | | | | | | |
| Anions | 9.70 | meq/L | 1 | | | Calculation | TMN 12/05/25 |
| Anion - Cation Balance | -2.00 | % | 1 | | | Calculation | TMN 12/05/25 |
| Cations | 9.32 | meq/L | 1 | | | Calculation | TMN 12/05/25 |

Report Approved By:

Report Approved On: 12/5/2025 11:25:22 AM

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: 4
Sampled: 06/23/25 at 02:20 PM by Eric Eisner
Sample Matrix: Water

Lab ID#: 20250625205
Received: 06/24/25 at 11:30 AM by Bobbie Laurenz
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | |
| Hardness | 247 | mg/L | 1 | | | SM 2340 B | TMN 07/01/25 |
| Total Suspended Solids | < 5.00 | mg/L | 200ml | 1.41 | 5.00 | SM 2540 D | IBS 06/25/25 |
| **Non-Metallics** | | | | | | | |
| Cyanide, Total | < 0.010 | mg/L | 1 | 0.0009 | 0.010 | Kelada 01 | TMN 06/26/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN 06/26/25 |
| Nitrogen, Ammonia (NH3) | < 0.050 | mg/L | 1 | 0.006 | 0.050 | Timberline-001 | IBS 06/25/25 |
| Nitrogen, Nitrate (NO3) | < 0.050 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL 06/25/25 |
| Sulfate (SO4) | 182 | mg/L | 5 | 3.03 | 50.0 | SM 4500-SO4 E | BLL 06/26/25 |
| **Metals - Dissolved** | | | | | | | |
| Calcium (Ca) | 59.6 | mg/L | 2 | 0.098 | 2.00 | SM 3111 B | GRT 06/25/25 |
| Magnesium (Mg) | 23.8 | mg/L | 1 | 0.069 | 0.500 | SM 3111 B | GRT 06/25/25 |
| **Metals - Total** | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA 06/25/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 06/25/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA 06/25/25 |
| Iron (Fe) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 06/25/25 |
| Nickel (Ni) | < 0.005 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA 06/25/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA 06/25/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 06/25/25 |

## Quality Control Data

| Parameter | Result | Limits | DF | Method | Analyst/Date |
|---|---|---|---|---|---|
| **Total Metals - Internal Std** | | | | | |
| Bismuth (Bi) | 97.8 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 06/25/25 |
| Germanium (Ge72) | 97.4 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 06/25/25 |
| Germanium (Ge74) | 86.0 % | (60.0 - 125.0) % | 10 | EPA 200.8 DRC | TNA 06/25/25 |
| Indium (In) | 93.4 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 06/25/25 |

Report of Analysis for: **HOMESTAKE MINE** Sample Site: **4**



## Quality Control Data

| Parameter | Result | Limits | DF | Method | Analyst/Date |
|---|---|---|---|---|---|
| **Total Metals - Internal Std** | | | | | |
| Scandium (Sc) | 96.3 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 06/25/25 |

Report Approved By:

Tanya Nelsen

Report Approved On: 7/1/2025 11:52:14 AM

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: 4
Sampled: 07/10/25 at 02:25 PM by Eric Eisner
Sample Matrix: Water

Lab ID#: 20250714207
Received: 07/11/25 at 12:30 PM by Bobbie Laurenz
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | |
| Hardness | 125 | mg/L | 1 | | | SM 2340 B | TMN 07/21/25 |
| Total Suspended Solids | 7.50 | mg/L | 200ml | 1.41 | 5.00 | SM 2540 D | IBS 07/14/25 |
| **Non-Metallics** | | | | | | | |
| Cyanide, Total | < 0.010 | mg/L | 1 | 0.0009 | 0.010 | Kelada 01 | TMN 07/14/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN 07/14/25 |
| Nitrogen, Ammonia (NH3) | < 0.050 | mg/L | 1 | 0.006 | 0.050 | Timberline-001 | IBS 07/17/25 |
| Nitrogen, Nitrate (NO3) | 0.083 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL 07/14/25 |
| Sulfate (SO4) | 72.0 | mg/L | 1 | 0.607 | 10.0 | SM 4500-SO4 E | BLL 07/15/25 |
| **Metals - Dissolved** | | | | | | | |
| Calcium (Ca) | 31.2 | mg/L | 1 | 0.049 | 1.00 | SM 3111 B | GRT 07/14/25 |
| Magnesium (Mg) | 11.6 | mg/L | 1 | 0.069 | 0.500 | SM 3111 B | GRT 07/14/25 |
| **Metals - Total** | | | | | | | |
| Arsenic (As) | 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA 07/23/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 07/15/25 |
| Copper (Cu) | 0.006 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA 07/15/25 |
| Iron (Fe) | 1.64 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 07/15/25 |
| Nickel (Ni) | 0.005 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA 07/15/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA 07/15/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 07/15/25 |

## Quality Control Data

| Parameter | Result | Limits | DF | Method | Analyst/Date |
|---|---|---|---|---|---|
| **Total Metals - Internal Std** | | | | | |
| Bismuth (Bi) | 115.1 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 07/15/25 |
| Germanium (Ge72) | 118.3 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 07/15/25 |
| Germanium (Ge74) | 101.1 % | (60.0 - 125.0) % | 10 | EPA 200.8 DRC | TNA 07/15/25 |
| Indium (In) | 111.7 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 07/15/25 |

Report of Analysis for: **HOMESTAKE MINE** Sample Site: **4**



## Quality Control Data

| Parameter | Result | Limits | DF | Method | Analyst/Date |
|---|---|---|---|---|---|
| **Total Metals - Internal Std** | | | | | |
| Scandium (Sc) | 116.1 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 07/15/25 |
| Bismuth (Bi) | 89.9 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 07/23/25 |
| Germanium (Ge72) | 95.9 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 07/23/25 |
| Germanium (Ge74) | 95.7 % | (60.0 - 125.0) % | 10 | EPA 200.8 DRC | TNA 07/23/25 |
| Indium (In) | 92.6 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 07/23/25 |
| Scandium (Sc) | 101.5 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 07/23/25 |

Report Approved By:

Report Approved On: 7/31/2025 11:57:25 AM

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: 4
Sampled: 08/25/25 at 02:10 PM by Eric Eisner
Sample Matrix: Water

Lab ID#: 20250828205
Received: 08/26/25 at 12:00 PM by Bobbie Laurenz
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | |
| Hardness | 261 | mg/L | 1 | | | SM 2340 B | TMN 09/10/25 |
| Total Suspended Solids | < 5.00 | mg/L | 200ml | 1.41 | 5.00 | SM 2540 D | IBS 08/29/25 |
| **Non-Metallics** | | | | | | | |
| Cyanide, Total | < 0.010 | mg/L | 1 | 0.0009 | 0.010 | Kelada 01 | TMN 08/28/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN 08/28/25 |
| Nitrogen, Ammonia (NH3) | < 0.050 | mg/L | 1 | 0.006 | 0.050 | Timberline-001 | IBS 08/28/25 |
| Nitrogen, Nitrate (NO3) | < 0.050 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL 08/28/25 |
| Sulfate (SO4) | 202 | mg/L | 5 | 1.50 | 50.0 | SM 4500-SO4 E | BLL 08/28/25 |
| **Metals - Dissolved** | | | | | | | |
| Calcium (Ca) | 60.8 | mg/L | 2 | 0.098 | 2.00 | SM 3111 B | GRT 09/02/25 |
| Magnesium (Mg) | 26.6 | mg/L | 1 | 0.069 | 0.500 | SM 3111 B | GRT 09/02/25 |
| **Metals - Total** | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA 08/28/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 08/28/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA 08/28/25 |
| Iron (Fe) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 08/28/25 |
| Nickel (Ni) | < 0.005 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA 08/28/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA 08/28/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 08/28/25 |

## Quality Control Data

| Parameter | Result | Limits | DF | Method | Analyst/Date |
|---|---|---|---|---|---|
| **Total Metals - Internal Std** | | | | | |
| Bismuth (Bi) | 82.4 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 08/28/25 |
| Germanium (Ge72) | 88.6 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 08/28/25 |
| Germanium (Ge74) | 81.5 % | (60.0 - 125.0) % | 10 | EPA 200.8 DRC | TNA 08/28/25 |
| Indium (In) | 80.3 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 08/28/25 |

Report of Analysis for: **HOMESTAKE MINE** Sample Site: **4**



## Quality Control Data

| Parameter | Result | Limits | DF | Method | Analyst/Date |
|---|---|---|---|---|---|
| **Total Metals - Internal Std** | | | | | |
| Scandium (Sc) | 89.6 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 08/28/25 |

Report Approved By:

Report Approved On: 9/22/2025 12:14:14 PM

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: 4
Sampled: 09/08/25 at 02:10 PM by Eric Eisner
Sample Matrix: Water

Lab ID#: 20250911103
Received: 09/09/25 at 12:30 PM by Bobbie Laurenz
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | |
| Hardness | 264 | mg/L | 1 | | | SM 2340 B | TMN 09/22/25 |
| Total Suspended Solids | < 5.00 | mg/L | 200ml | 1.41 | 5.00 | SM 2540 D | IBS 09/11/25 |
| **Non-Metallics** | | | | | | | |
| Cyanide, Total | < 0.010 | mg/L | 1 | 0.0009 | 0.010 | Kelada 01 | TMN 09/10/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN 09/10/25 |
| Nitrogen, Ammonia (NH3) | < 0.050 | mg/L | 1 | 0.006 | 0.050 | Timberline-001 | IBS 09/12/25 |
| Nitrogen, Nitrate (NO3) | < 0.050 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL 09/11/25 |
| Sulfate (SO4) | 227 | mg/L | 5 | 1.50 | 50.0 | SM 4500-SO4 E | BLL 09/11/25 |
| **Metals - Dissolved** | | | | | | | |
| Calcium (Ca) | 62.5 | mg/L | 2 | 0.098 | 2.00 | SM 3111 B | GRT 09/11/25 |
| Magnesium (Mg) | 26.3 | mg/L | 1 | 0.069 | 0.500 | SM 3111 B | GRT 09/11/25 |
| **Metals - Total** | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA 09/11/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 09/11/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA 09/11/25 |
| Iron (Fe) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 09/11/25 |
| Nickel (Ni) | < 0.005 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA 09/11/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA 09/11/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 09/11/25 |

## Quality Control Data

| Parameter | Result | Limits | DF | Method | Analyst/Date |
|---|---|---|---|---|---|
| **Total Metals - Internal Std** | | | | | |
| Bismuth (Bi) | 77.9 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 09/11/25 |
| Germanium (Ge72) | 90.7 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 09/11/25 |
| Germanium (Ge74) | 78.6 % | (60.0 - 125.0) % | 10 | EPA 200.8 DRC | TNA 09/11/25 |
| Indium (In) | 85.9 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 09/11/25 |

Report of Analysis for: **HOMESTAKE MINE** Sample Site: **4**



## Quality Control Data

| Parameter | Result | Limits | DF | Method | Analyst/Date |
|---|---|---|---|---|---|
| **Total Metals - Internal Std** | | | | | |
| Scandium (Sc) | 89.8 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 09/11/25 |

Report Approved By:

Report Approved On: 9/23/2025 2:51:13 PM

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: 4
Sampled: 10/08/25 at 03:35 PM by eric eisner
Sample Matrix: Water

Lab ID#: 20251013208
Received: 10/09/25 at 12:00 PM by Bobbie Laurenz
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | |
| Hardness | 247 | mg/L | 1 | | | SM 2340 B | TMN 10/17/25 |
| Total Suspended Solids | < 5.00 | mg/L | 200ml | 1.41 | 5.00 | SM 2540 D | IBS 10/13/25 |
| **Non-Metallics** | | | | | | | |
| Cyanide, Total | < 0.010 | mg/L | 1 | 0.0009 | 0.010 | Kelada 01 | TMN 10/15/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN 10/15/25 |
| Nitrogen, Ammonia (NH3) | < 0.050 | mg/L | 1 | 0.006 | 0.050 | Timberline-001 | IBS 10/15/25 |
| Nitrogen, Nitrate (NO3) | < 0.050 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | JEP 10/13/25 |
| Sulfate (SO4) | 194 | mg/L | 5 | 1.50 | 50.0 | SM 4500-SO4 E | BLL 10/16/25 |
| **Metals - Dissolved** | | | | | | | |
| Calcium (Ca) | 56.4 | mg/L | 2 | 0.098 | 2.00 | SM 3111 B | GRT 10/14/25 |
| Magnesium (Mg) | 25.7 | mg/L | 1 | 0.069 | 0.500 | SM 3111 B | GRT 10/14/25 |
| **Metals - Total** | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA 10/14/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 10/14/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA 10/14/25 |
| Iron (Fe) | 0.064 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 10/14/25 |
| Nickel (Ni) | < 0.005 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA 10/14/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA 10/14/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 10/14/25 |

## Quality Control Data

| Parameter | Result | Limits | DF | Method | Analyst/Date |
|---|---|---|---|---|---|
| **Total Metals - Internal Std** | | | | | |
| Bismuth (Bi) | 97.7 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 10/14/25 |
| Germanium (Ge72) | 97.7 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 10/14/25 |
| Germanium (Ge74) | 102.0 % | (60.0 - 125.0) % | 10 | EPA 200.8 DRC | TNA 10/14/25 |
| Indium (In) | 100.7 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 10/14/25 |

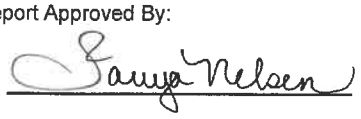
Report of Analysis for: **HOMESTAKE MINE** Sample Site: **4**



## Quality Control Data

| Parameter | Result | Limits | DF | Method | Analyst/Date |
|---|---|---|---|---|---|
| **Total Metals - Internal Std** | | | | | |
| Lithium (Li) | 99.91% | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 10/14/25 |
| Scandium (Sc) | 95.2 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 10/14/25 |

Report Approved By:



Report Approved On: 10/23/2025 1:10:32 PM

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: 4
Sampled: 11/04/25 at 02:35 PM by Eric Eisner
Sample Matrix: Water

Lab ID#: 20251106110
Received: 11/05/25 at 02:15 PM by Bobbie Laurenz
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | |
| Hardness | 246 | mg/L | 1 | | | SM 2340 B | TMN 11/07/25 |
| Total Suspended Solids | < 5.00 | mg/L | 200ml | 1.19 | 5.00 | SM 2540 D | IBS 11/06/25 |
| **Non-Metallics** | | | | | | | |
| Cyanide, Total | < 0.010 | mg/L | 1 | 0.0009 | 0.010 | Kelada 01 | TMN 11/06/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN 11/06/25 |
| Nitrogen, Ammonia (NH3) | < 0.050 | mg/L | 1 | 0.006 | 0.050 | Timberline-001 | IBS 11/12/25 |
| Nitrogen, Nitrate (NO3) | < 0.050 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL 11/06/25 |
| Sulfate (SO4) | 173 | mg/L | 5 | 1.50 | 50.0 | SM 4500-SO4 E | BLL 11/07/25 |
| **Metals - Dissolved** | | | | | | | |
| Calcium (Ca) | 57.1 | mg/L | 2 | 0.098 | 2.00 | SM 3111 B | GRT 11/06/25 |
| Magnesium (Mg) | 25.2 | mg/L | 1 | 0.069 | 0.500 | SM 3111 B | GRT 11/06/25 |
| **Metals - Total** | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA 11/07/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 11/07/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA 11/07/25 |
| Iron (Fe) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 11/07/25 |
| Nickel (Ni) | < 0.005 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA 11/07/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA 11/07/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 11/07/25 |

## Quality Control Data

| Parameter | Result | Limits | DF | Method | Analyst/Date |
|---|---|---|---|---|---|
| **Total Metals - Internal Std** | | | | | |
| Bismuth (Bi) | 82.6 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 11/07/25 |
| Germanium (Ge72) | 83.0 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 11/07/25 |
| Germanium (Ge74) | 86.8 % | (60.0 - 125.0) % | 10 | EPA 200.8 DRC | TNA 11/07/25 |
| Indium (In) | 82.8 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 11/07/25 |

Report of Analysis for: **HOMESTAKE MINE** Sample Site: **4**



## Quality Control Data

| Parameter | Result | Limits | DF | Method | Analyst/Date |
|---|---|---|---|---|---|
| **Total Metals - Internal Std** | | | | | |
| Scandium (Sc) | 90.4 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 11/07/25 |

Report Approved By:

Report Approved On: 11/17/2025 2:57:57 PM

HOMESTAKE MINING COMPANY
11457 Bobtail Gulch Street
Central City, SD 57754

July 10, 2025

Ms. Trish Kindt
SD Dept. of Agriculture and Natural Resources
523 East Capitol / Joe Foss Building
Pierre, SD 57501-3182

Re: **Homestake Mine**
**Grizzly Gulch Seepage Collection Release Report – File No. 2025.075**

Dear Ms. Kindt:

Pursuant to your letter of June 18, 2025, Homestake Mining Company is hereby submitting this *Written Contamination Incident Follow Up Report* for the June 14, 2025, seepage water release.

Please contact me at (605) 722-4680 if you have any questions.

Sincerely,

Mark Tieszen
Closure Manager

E\Archive\Group\Reclamation\Regulatory\2025\DANR - Water\GG Seepage Release 06-14-25\GG Seepage Release let 06-14-25.docx

# INCIDENT FOLLOW-UP REPORT



DANR CASE FILE #: 2025.075

**RETURN COMPLETED FORM TO:**

SOUTH DAKOTA DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES (DANR)
INSPECTION, COMPLIANCE, AND REMEDIATION PROGRAM
JOE FOSS BUILDING
523 EAST CAPITOL AVENUE
PIERRE SD 57501-3182

NAME/TYPE OF PRODUCT SPILLED: Tailings Dam Seepage Water from tailings underdrain system

TOTAL AMOUNT OF PRODUCT SPILLED: Estimate 1,620 gallons

POUNDS OF ACTIVE INGREDIENT SPILLED (fertilizer/pesticide spills): N/A

AMOUNT OF PRODUCT RECOVERED: None

WAS SURFACE WATER OR GROUND WATER IMPACTED BY THE SPILL?: Small amount entered creek

SPILL DATE: 06/14/25 DATE CLEANUP OCCURRED: Completed 06/16/25

SPILL LOCATION (physical address, directions, distance to nearest intersection or landmark, etc.): Homestake, Grizzly Gulch Tailings Facility, Seepage Collection Building

LATITUDE/LONGITUDE: 44° 20' 09" N, 103° 44' 35" W

LAND USE (Residential, Commercial, Agricultural, Industrial, Other – describe): Industrial

RESPONSIBLE PARTY: Homestake Mining Company

MAILING ADDRESS: 11457 Bobtail Gulch St.

CITY/STATE: Central City, SD TELEPHONE NUMBER: (605) 722-4680

PROPERTY OWNER: Homestake Mining Company

MAILING ADDRESS: 11457 Bobtail Gulch St.

CITY/STATE: Central City, SD TELEPHONE NUMBER: (605) 722-4680

CONSULTANT / CLEANUP CONTRACTOR (if applicable): N/A

MAILING ADDRESS

CITY/STATE: TELEPHONE NUMBER:

INSURANCE PROVIDER (if applicable): N/A

NAME OF INSURED:

POLICY NUMBER: CLAIM NUMBER:

MAILING ADDRESS:

CITY/STATE: TELEPHONE NUMBER:

**INCIDENT FOLLOW-UP REPORT** (Page 2 of 2)

DANR CASE FILE #: 2025.075

WAS SOIL EXCAVATED?: Yes DIMENSIONS OF EXCAVATION: Stroped road and surface around building. (Approx. 960 linear ft.) See attached drawing.

CUBIC YARDS EXCAVATED: Approx. 18 yd$^3$

DISPOSAL SITE (Name of Facility): Grizzly Gulch Tailings Impoundment

DISPOSAL DATE: 06/18/25 - 06/19/25 ***If soil was disposed, attach copies of disposal receipts***

**FERTILIZER/PESTICIDE SPILLS ONLY**

WAS CONTAMINATED SOIL/MATERIAL LAND APPLIED?: _____

APPLICATION DATE _____ ***Requires DANR Pre-Approval***

WAS SPILL CONTAINED TO IMMEDIATE AREA?: Water ran down road. Small amount entered creek.

DISTANCE TO AND NAME OF NEAREST SURFACE WATER (include currently dry perennial streams): Grizzly Gulch Creek ≈ 200 ft. N.

DISTANCE TO NEAREST WATER WELL (if applicable): N/A

OWNER OF NEAREST WATER WELL (if applicable): N/A

DESCRIBE RESPONSE ACTION AND ADDITIONAL WORK PLANNED: See attached description, drawing, and analytical results for samples of source water (SC-PUMP) and Grizzly Gulch Creek sample locations. June monitoring results for Sites "4" and monitor well GG-14 are also attached.

FORM COMPLETED BY: Mark Tieszen DATE: 07/10/25

E-MAIL ADDRESS: mtieszen@barrick.com

Original – DANR
Copy – Keep for your records.

**INCIDENT FOLLOW-UP REPORT – Homestake Mine, File No. 2025.075**

DESCRIBE RESPONSE ACTION AND ADDITIONAL WORK PLANNED:

A release of approximately 1,620 gallons of seepage water from the Grizzly Gulch Tailings Facility Seepage Pump No. 1 occurred on June 14. The release occurred due to a ruptured expansion joint on the pump discharge line inside the seepage collection pump-house.

Three seepage collection system pumps normally pump seepage water collected in the seepage collection sump back to the tailings impoundment. The pumps can operate independently or simultaneously depending on the volume of the flows reporting to the sump from the seepage collection system. Operation of the pumps is tracked automatically through Homestake's PLC system.

Based on data retrieved from the PLC system, Pump No. 1 and Pump No. 3 operated from 8:12 a.m. to 8:27 a.m. on June 14, at which time the power failed, shutting down the pumps. It appears that the expansion joint on Pump No. 1 failed sometime during this period. Water from the ruptured expansion joint sprayed throughout the inside of the pump-house. The power to the seepage collection pump-house likely failed due to water running down a conduit into the top of the control panel. The seepage water collected in the sump went to the 5-shaft borehole during the power outage as designed.

The release was discovered at approximately 10:00 a.m. on June 15. Water from the expansion joint ran out both the north and south doors and seeped through the bottom of the walls onto the gravel access road and approach. Most of the water flowed down the access road. Some water entered the ditch on the west side of the access road and flowed into Grizzly Gulch Creek (see attached drawing).

Three water samples were collected from Grizzly Gulch Creek. The total cyanide levels were low in the collected samples (ranging from < 0.010 mg/L at GG Creek Top to 0.054 mg/L at GG Check Dam 1). WAD cyanide levels were non-detect at all three sites (see attached analytical results).

The wetted gravels from the access road and around the building were removed to the extent possible. The material was placed in the Grizzly Gulch Tailings Facility.

The release was verbally reported to DANR, GF&P, Lawrence County Emergency Management and the Lead Deadwood Sanitary District on June 16.

The following modifications have been or will be made to reduce the likelihood of seepage water flowing outside of the seepage pump-house:

1. Deflectors have been installed over the expansion joints to deflect spraying leaks into the sump;

2. The leak detection system for the expansion joints has been repaired and tested to ensure proper operation and alarm function;

3. Door seals or sweeps will be installed on the bottom of the doors, or other modifications will be made, to reduce potential leaks out of the building and facilitate drainage back into the sump;

4. The floor-wall junction will be sealed to prevent potential leaks out of the building and facilitate drainage back into the sump;

5. Monitoring frequency at Grizzly Gulch Surface Monitoring Site "4" is being increased to monthly for the next six months; and,

6. Monitoring frequency at Well GG-14 is being increased to monthly for the next six months.

   (Note: June monitoring results for Sites "4" and Well GG-14 are attached)

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: GG Creek Top
Sampled: 06/16/25 at 11:20 AM by Eric Eisner
Sample Matrix: Water

Lab ID#: 20250617202
Received: 06/16/25 at 03:50 PM by Greg McDougall
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | |
| Electrical Conductivity | 217 | µmhos/cm | 1 | 0.168 | 5.00 | SM 2510B | JAM 06/17/25 |
| Hardness | 97.9 | mg/L | 1 | | | SM 2340 B | TMN 06/18/25 |
| Total Dissolved Solids | 117 | mg/L | 100ml | 12.7 | 50.0 | SM 2540 C | IBS 06/17/25 |
| **Non-Metallics** | | | | | | | |
| Bicarbonate | 86.3 | mg/L | 1 | 0.598 | 10.0 | SM 2320 B | JAM 06/16/25 |
| Chloride (Cl-) | 0.950 | mg/L | 1 | 0.163 | 0.500 | SM 4500-Cl E | BLL 06/17/25 |
| Cyanide, Total | < 0.010 | mg/L | 1 | | | Kelada 01 | TMN 06/17/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN 06/17/25 |
| Nitrogen, Ammonia (NH3) | < 0.050 | mg/L | 1 | 0.006 | 0.050 | Timberline-001 | IBS 06/17/25 |
| Nitrogen, Nitrate (NO3) | 0.164 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL 06/17/25 |
| Sulfate (SO4) | 36.1 | mg/L | 1 | 0.607 | 10.0 | SM 4500-SO4 E | BLL 06/17/25 |
| Thiocyanate | < 0.100 | mg/L | 1 | 0.026 | 0.100 | ASTM D4193 | GRT 06/17/25 |
| **Metals - Dissolved** | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 06/17/25 |
| Calcium (Ca) | 18.6 | mg/L | 1 | 0.049 | 1.00 | SM 3111 B | GRT 06/17/25 |
| Chromium (Cr) | < 0.001 | mg/L | 10 | 0.000109 | 0.001 | EPA 200.8 DRC | TNA 06/17/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Iron (Fe) | < 0.050 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA 06/17/25 |
| Lead (Pb) | < 0.0010 | mg/L | 10 | 0.00015 | 0.0010 | EPA 200.8 | TNA 06/17/25 |
| Magnesium (Mg) | 12.5 | mg/L | 1 | 0.069 | 0.500 | SM 3111 B | GRT 06/17/25 |
| Mercury (Hg) | < 0.0002 | mg/L | 1 | 0.000045 | 0.0002 | EPA 245.1 | GRT 06/18/25 |
| Nickel (Ni) | < 0.005 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Potassium (K) | 1.55 | mg/L | 1 | 0.054 | 0.500 | SM 3111 B | GRT 06/17/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Silver (Ag) | < 0.001 | mg/L | 10 | 0.000074 | 0.001 | EPA 200.8 | TNA 06/17/25 |
| Sodium (Na) | 2.73 | mg/L | 1 | 0.234 | 1.00 | SM 3111 B | GRT 06/17/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 06/17/25 |
| **Metals - Total** | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA 06/17/25 |

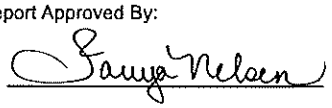
Report of Analysis for: **HOMESTAKE MINE** Sample Site: **GG Creek Top**



| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Metals - Total** | | | | | | | |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 06/17/25 |
| Chromium (Cr) | < 0.001 | mg/L | 10 | 0.000109 | 0.001 | EPA 200.8 DRC | TNA 06/17/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Iron (Fe) | 0.288 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA 06/17/25 |
| Lead (Pb) | < 0.0010 | mg/L | 10 | 0.00015 | 0.0010 | EPA 200.8 | TNA 06/17/25 |
| Mercury (Hg) | < 0.0002 | mg/L | 1 | 0.000045 | 0.0002 | EPA 245.1 | GRT 06/18/25 |
| Nickel (Ni) | < 0.005 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Silver (Ag) | < 0.0010 | mg/L | 10 | 0.000074 | 0.0010 | EPA 200.8 | TNA 06/17/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 06/17/25 |
| **Anion - Cation Balance** | | | | | | | |
| Anions | 2.20 | meq/L | 1 | | | Calculation | TMN 06/18/25 |
| Anion - Cation Balance | -2.09 | % | 1 | | | Calculation | TMN 06/18/25 |
| Cations | 2.11 | meq/L | 1 | | | Calculation | TMN 06/18/25 |

**Notes:**
RUSH

Report Approved By:



Report Approved On: 6/19/2025 8:12:58 AM

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: GG Check Dam 1
Sampled: 06/16/25 at 11:00 AM by Eric Eisner
Sample Matrix: Water

Lab ID#: 20250617203
Received: 06/16/25 at 03:50 PM by Greg McDougall
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

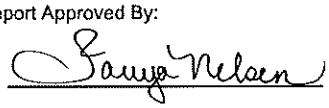
| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst | Date |
|---|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | | |
| Electrical Conductivity | 639 | µmhos/cm | 1 | 0.168 | 5.00 | SM 2510B | JAM | 06/17/25 |
| Hardness | 321 | mg/L | 1 | | | SM 2340 B | TMN | 06/18/25 |
| Total Dissolved Solids | 428 | mg/L | 100ml | 12.7 | 50.0 | SM 2540 C | IBS | 06/17/25 |
| **Non-Metallics** | | | | | | | | |
| Bicarbonate | 95.2 | mg/L | 1 | 0.598 | 10.0 | SM 2320 B | JAM | 06/16/25 |
| Chloride (Cl-) | 2.90 | mg/L | 1 | 0.163 | 0.500 | SM 4500-Cl E | BLL | 06/17/25 |
| Cyanide, Total | 0.054 | mg/L | 1 | | | Kelada 01 | TMN | 06/17/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN | 06/17/25 |
| Nitrogen, Ammonia (NH3) | < 0.050 | mg/L | 1 | 0.006 | 0.050 | Timberline-001 | IBS | 06/17/25 |
| Nitrogen, Nitrate (NO3) | 0.332 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL | 06/17/25 |
| Sulfate (SO4) | 236 | mg/L | 5 | 3.03 | 50.0 | SM 4500-SO4 E | BLL | 06/17/25 |
| Thiocyanate | 1.94 | mg/L | 2 | 0.052 | 0.200 | ASTM D4193 | GRT | 06/17/25 |
| **Metals - Dissolved** | | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA | 06/18/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA | 06/18/25 |
| Calcium (Ca) | 75.6 | mg/L | 3 | 0.146 | 3.00 | SM 3111 B | GRT | 06/17/25 |
| Chromium (Cr) | < 0.001 | mg/L | 10 | 0.000109 | 0.001 | EPA 200.8 DRC | TNA | 06/18/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA | 06/18/25 |
| Iron (Fe) | < 0.050 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA | 06/18/25 |
| Lead (Pb) | < 0.0010 | mg/L | 10 | 0.00015 | 0.0010 | EPA 200.8 | TNA | 06/18/25 |
| Magnesium (Mg) | 32.1 | mg/L | 1 | 0.069 | 0.500 | SM 3111 B | GRT | 06/17/25 |
| Mercury (Hg) | < 0.0002 | mg/L | 1 | 0.000045 | 0.0002 | EPA 245.1 | GRT | 06/18/25 |
| Nickel (Ni) | < 0.005 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA | 06/18/25 |
| Potassium (K) | 4.68 | mg/L | 1 | 0.054 | 0.500 | SM 3111 B | GRT | 06/17/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA | 06/20/25 |
| Silver (Ag) | < 0.001 | mg/L | 10 | 0.000074 | 0.001 | EPA 200.8 | TNA | 06/18/25 |
| Sodium (Na) | 8.98 | mg/L | 1 | 0.234 | 1.00 | SM 3111 B | GRT | 06/17/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA | 06/18/25 |
| **Metals - Total** | | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA | 06/17/25 |

Report of Analysis for: **HOMESTAKE MINE** Sample Site: **GG Check Dam 1**

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Metals - Total** | | | | | | | |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 06/17/25 |
| Chromium (Cr) | < 0.001 | mg/L | 10 | 0.000109 | 0.001 | EPA 200.8 DRC | TNA 06/17/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Iron (Fe) | 0.071 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA 06/17/25 |
| Lead (Pb) | < 0.0010 | mg/L | 10 | 0.00015 | 0.0010 | EPA 200.8 | TNA 06/17/25 |
| Mercury (Hg) | < 0.0002 | mg/L | 1 | 0.000045 | 0.0002 | EPA 245.1 | GRT 06/18/25 |
| Nickel (Ni) | 0.005 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Silver (Ag) | < 0.0010 | mg/L | 10 | 0.000074 | 0.0010 | EPA 200.8 | TNA 06/17/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 06/17/25 |
| **Anion - Cation Balance** | | | | | | | |
| Anions | 6.58 | meq/L | 1 | | | Calculation | TMN 06/18/25 |
| Anion - Cation Balance | 2.53 | % | 1 | | | Calculation | TMN 06/18/25 |
| Cations | 6.92 | meq/L | 1 | | | Calculation | TMN 06/18/25 |

**Notes:**
RUSH

Report Approved By:



Report Approved On: 6/20/2025 10:30:08 AM

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: GG Check Dam 3
Sampled: 06/16/25 at 10:45 AM by Eric Eisner
Sample Matrix: Water

Lab ID#: 20250617204
Received: 06/16/25 at 03:50 PM by Greg McDougall
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst | Date |
|---|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | | |
| Electrical Conductivity | 637 | µmhos/cm | 1 | 0.168 | 5.00 | SM 2510B | JAM | 06/17/25 |
| Hardness | 331 | mg/L | 1 | | | SM 2340 B | TMN | 06/18/25 |
| Total Dissolved Solids | 392 | mg/L | 100ml | 12.7 | 50.0 | SM 2540 C | IBS | 06/17/25 |
| **Non-Metallics** | | | | | | | | |
| Bicarbonate | 112 | mg/L | 1 | 0.598 | 10.0 | SM 2320 B | JAM | 06/16/25 |
| Chloride (Cl-) | 1.34 | mg/L | 1 | 0.163 | 0.500 | SM 4500-Cl E | BLL | 06/17/25 |
| Cyanide, Total | 0.040 | mg/L | 1 | | | Kelada 01 | TMN | 06/17/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN | 06/17/25 |
| Nitrogen, Ammonia (NH3) | < 0.050 | mg/L | 1 | 0.006 | 0.050 | Timberline-001 | IBS | 06/17/25 |
| Nitrogen, Nitrate (NO3) | 0.059 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL | 06/17/25 |
| Sulfate (SO4) | 235 | mg/L | 5 | 3.03 | 50.0 | SM 4500-SO4 E | BLL | 06/17/25 |
| Thiocyanate | 0.700 | mg/L | 1 | 0.026 | 0.100 | ASTM D4193 | GRT | 06/17/25 |
| **Metals - Dissolved** | | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA | 06/17/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA | 06/17/25 |
| Calcium (Ca) | 81.2 | mg/L | 3 | 0.146 | 3.00 | SM 3111 B | GRT | 06/17/25 |
| Chromium (Cr) | < 0.001 | mg/L | 10 | 0.000109 | 0.001 | EPA 200.8 DRC | TNA | 06/17/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA | 06/17/25 |
| Iron (Fe) | < 0.050 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA | 06/17/25 |
| Lead (Pb) | < 0.0010 | mg/L | 10 | 0.00015 | 0.0010 | EPA 200.8 | TNA | 06/17/25 |
| Magnesium (Mg) | 31.1 | mg/L | 1 | 0.069 | 0.500 | SM 3111 B | GRT | 06/17/25 |
| Mercury (Hg) | < 0.0002 | mg/L | 1 | 0.000045 | 0.0002 | EPA 245.1 | GRT | 06/18/25 |
| Nickel (Ni) | < 0.005 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA | 06/17/25 |
| Potassium (K) | 5.12 | mg/L | 1 | 0.054 | 0.500 | SM 3111 B | GRT | 06/17/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA | 06/17/25 |
| Silver (Ag) | < 0.001 | mg/L | 10 | 0.000074 | 0.001 | EPA 200.8 | TNA | 06/17/25 |
| Sodium (Na) | 4.97 | mg/L | 1 | 0.234 | 1.00 | SM 3111 B | GRT | 06/17/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA | 06/17/25 |
| **Metals - Total** | | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA | 06/18/25 |

Report of Analysis for: **HOMESTAKE MINE** Sample Site: **GG Check Dam 3**

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Metals - Total** | | | | | | | |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 06/18/25 |
| Chromium (Cr) | < 0.001 | mg/L | 10 | 0.000109 | 0.001 | EPA 200.8 DRC | TNA 06/18/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA 06/18/25 |
| Iron (Fe) | 0.056 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA 06/18/25 |
| Lead (Pb) | < 0.0010 | mg/L | 10 | 0.00015 | 0.0010 | EPA 200.8 | TNA 06/18/25 |
| Mercury (Hg) | < 0.0002 | mg/L | 1 | 0.000045 | 0.0002 | EPA 245.1 | GRT 06/18/25 |
| Nickel (Ni) | < 0.005 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA 06/18/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA 06/20/25 |
| Silver (Ag) | < 0.0010 | mg/L | 10 | 0.000074 | 0.0010 | EPA 200.8 | TNA 06/18/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 06/18/25 |
| **Anion - Cation Balance** | | | | | | | |
| Anions | 6.77 | meq/L | 1 | | | Calculation | TMN 06/18/25 |
| Anion - Cation Balance | 1.38 | % | 1 | | | Calculation | TMN 06/18/25 |
| Cations | 6.96 | meq/L | 1 | | | Calculation | TMN 06/18/25 |

**Notes:**
RUSH

Report Approved By:

Tonya Nelson

Report Approved On: 6/20/2025 10:30:08 AM

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: SC-PUMP
Sampled: 06/16/25 at 11:40 AM by Eric Eisner
Sample Matrix: Water

Lab ID#: 20250617201
Received: 06/16/25 at 03:50 PM by Greg McDougall
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

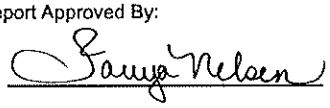
| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst | Date |
|---|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | | |
| Electrical Conductivity | 2800 | µmhos/cm | 1 | 0.168 | 5.00 | SM 2510B | JAM | 06/17/25 |
| Hardness | 1310 | mg/L | 1 | | | SM 2340 B | TMN | 06/18/25 |
| Total Dissolved Solids | 2360 | mg/L | 100ml | 12.7 | 50.0 | SM 2540 C | IBS | 06/17/25 |
| **Non-Metallics** | | | | | | | | |
| Bicarbonate | 92.4 | mg/L | 1 | 0.598 | 10.0 | SM 2320 B | JAM | 06/16/25 |
| Chloride (Cl-) | 12.5 | mg/L | 1 | 0.163 | 0.500 | SM 4500-Cl E | BLL | 06/17/25 |
| Cyanide, Total | 3.49 | mg/L | 100 | | | Kelada 01 | TMN | 06/17/25 |
| Cyanide, WAD | 0.228 | mg/L | 20 | 0.013 | 0.200 | Kelada 01 | TMN | 06/17/25 |
| Nitrogen, Ammonia (NH3) | 5.58 | mg/L | 10 | 0.064 | 0.500 | Timberline-001 | IBS | 06/17/25 |
| Nitrogen, Nitrate (NO3) | 0.393 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL | 06/17/25 |
| Sulfate (SO4) | 1670 | mg/L | 40 | 24.3 | 400 | SM 4500-SO4 E | BLL | 06/17/25 |
| Thiocyanate | 31.4 | mg/L | 50 | 1.30 | 5.00 | ASTM D4193 | GRT | 06/17/25 |
| **Metals - Dissolved** | | | | | | | | |
| Arsenic (As) | 0.075 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA | 06/17/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA | 06/17/25 |
| Calcium (Ca) | 308 | mg/L | 6 | 0.293 | 6.00 | SM 3111 B | GRT | 06/17/25 |
| Chromium (Cr) | < 0.001 | mg/L | 10 | 0.000109 | 0.001 | EPA 200.8 DRC | TNA | 06/17/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA | 06/17/25 |
| Iron (Fe) | 22.5 | mg/L | 100 | 0.149 | 0.500 | EPA 200.8 | TNA | 06/18/25 |
| Lead (Pb) | < 0.0010 | mg/L | 10 | 0.00015 | 0.0010 | EPA 200.8 | TNA | 06/17/25 |
| Magnesium (Mg) | 131 | mg/L | 3 | 0.208 | 1.50 | SM 3111 B | GRT | 06/17/25 |
| Mercury (Hg) | < 0.0002 | mg/L | 1 | 0.000045 | 0.0002 | EPA 245.1 | GRT | 06/18/25 |
| Nickel (Ni) | 0.071 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA | 06/17/25 |
| Potassium (K) | 48.4 | mg/L | 9 | 0.486 | 4.50 | SM 3111 B | GRT | 06/17/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA | 06/17/25 |
| Silver (Ag) | < 0.001 | mg/L | 10 | 0.000074 | 0.001 | EPA 200.8 | TNA | 06/17/25 |
| Sodium (Na) | 177 | mg/L | 7 | 1.64 | 7.00 | SM 3111 B | GRT | 06/17/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA | 06/17/25 |
| **Metals - Total** | | | | | | | | |
| Arsenic (As) | 0.100 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA | 06/17/25 |

Report of Analysis for: **HOMESTAKE MINE** Sample Site: **SC-PUMP**

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date | |
|---|---|---|---|---|---|---|---|---|
| **Metals - Total** | | | | | | | | |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA | 06/17/25 |
| Chromium (Cr) | < 0.001 | mg/L | 10 | 0.000109 | 0.001 | EPA 200.8 DRC | TNA | 06/17/25 |
| Copper (Cu) | 0.010 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA | 06/17/25 |
| Iron (Fe) | 30.1 | mg/L | 100 | 0.149 | 0.500 | EPA 200.8 | TNA | 06/18/25 |
| Lead (Pb) | < 0.0010 | mg/L | 10 | 0.00015 | 0.0010 | EPA 200.8 | TNA | 06/17/25 |
| Mercury (Hg) | < 0.0002 | mg/L | 1 | 0.000045 | 0.0002 | EPA 245.1 | GRT | 06/18/25 |
| Nickel (Ni) | 0.078 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA | 06/17/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA | 06/17/25 |
| Silver (Ag) | < 0.0010 | mg/L | 10 | 0.000074 | 0.0010 | EPA 200.8 | TNA | 06/17/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA | 06/17/25 |
| **Anion - Cation Balance** | | | | | | | | |
| Anions | 36.6 | meq/L | 1 | | | Calculation | TMN | 06/18/25 |
| Anion - Cation Balance | -1.72 | % | 1 | | | Calculation | TMN | 06/18/25 |
| Cations | 35.4 | meq/L | 1 | | | Calculation | TMN | 06/18/25 |

**Notes:**
RUSH

Report Approved By:



Report Approved On: 6/19/2025 8:12:58 AM

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: 4
Sampled: 06/23/25 at 02:20 PM by Eric Eisner
Sample Matrix: Water

Lab ID#: 20250625205
Received: 06/24/25 at 11:30 AM by Bobbie Laurenz
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | |
| Hardness | 247 | mg/L | 1 | | | SM 2340 B | TMN 07/01/25 |
| Total Suspended Solids | < 5.00 | mg/L | 200ml | 1.41 | 5.00 | SM 2540 D | IBS 06/25/25 |
| **Non-Metallics** | | | | | | | |
| Cyanide, Total | < 0.010 | mg/L | 1 | 0.0009 | 0.010 | Kelada 01 | TMN 06/26/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN 06/26/25 |
| Nitrogen, Ammonia (NH3) | < 0.050 | mg/L | 1 | 0.006 | 0.050 | Timberline-001 | IBS 06/25/25 |
| Nitrogen, Nitrate (NO3) | < 0.050 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL 06/25/25 |
| Sulfate (SO4) | 182 | mg/L | 5 | 3.03 | 50.0 | SM 4500-SO4 E | BLL 06/26/25 |
| **Metals - Dissolved** | | | | | | | |
| Calcium (Ca) | 59.6 | mg/L | 2 | 0.098 | 2.00 | SM 3111 B | GRT 06/25/25 |
| Magnesium (Mg) | 23.8 | mg/L | 1 | 0.069 | 0.500 | SM 3111 B | GRT 06/25/25 |
| **Metals - Total** | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA 06/25/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 06/25/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA 06/25/25 |
| Iron (Fe) | < 0.050 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA 06/25/25 |
| Nickel (Ni) | < 0.005 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA 06/25/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA 06/25/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 06/25/25 |

## Quality Control Data

| Parameter | Result | Limits | DF | Method | Analyst/Date |
|---|---|---|---|---|---|
| **Total Metals - Internal Std** | | | | | |
| Bismuth (Bi) | 97.8 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 06/25/25 |
| Germanium (Ge72) | 97.4 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 06/25/25 |
| Germanium (Ge74) | 86.0 % | (60.0 - 125.0) % | 10 | EPA 200.8 DRC | TNA 06/25/25 |
| Indium (In) | 93.4 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 06/25/25 |

Report of Analysis for: **HOMESTAKE MINE** Sample Site: **4**

## Quality Control Data

| Parameter | Result | Limits | DF | Method | Analyst/Date |
|---|---|---|---|---|---|
| **Total Metals - Internal Std** | | | | | |
| Scandium (Sc) | 96.3 % | (60.0 - 125.0) % | 10 | EPA 200.8 | TNA 06/25/25 |

Report Approved By:

Report Approved On: 7/1/2025 11:52:14 AM

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: GG-14
Sampled: 06/26/25 at 02:15 PM by Eric Eisner
Sample Matrix: Water

Lab ID#: 20250630203
Received: 06/27/25 at 12:00 PM by Bobbie Laurenz
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | |
| Electrical Conductivity | 867 | µmhos/cm | 1 | 0.168 | 5.00 | SM 2510B | JAM 07/01/25 |
| Hardness | 465 | mg/L | 1 | | | SM 2340 B | TMN 07/09/25 |
| Total Dissolved Solids | 585 | mg/L | 100ml | 12.7 | 50.0 | SM 2540 C | IBS 06/30/25 |
| **Non-Metallics** | | | | | | | |
| Bicarbonate | 279 | mg/L | 1 | 0.598 | 10.0 | SM 2320 B | JAM 07/08/25 |
| Chloride (Cl-) | 1.48 | mg/L | 1 | 0.163 | 0.500 | SM 4500-Cl E | BLL 06/30/25 |
| Cyanide, Total | < 0.010 | mg/L | 1 | 0.0009 | 0.010 | Kelada 01 | TMN 07/02/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN 07/01/25 |
| Nitrogen, Nitrate (NO3) | < 0.050 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL 07/01/25 |
| Sulfate (SO4) | 265 | mg/L | 5 | 3.03 | 50.0 | SM 4500-SO4 E | BLL 06/30/25 |
| Thiocyanate | < 0.100 | mg/L | 1 | 0.026 | 0.100 | ASTM D4193 | GRT 06/30/25 |
| **Metals - Dissolved** | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA 06/30/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 06/30/25 |
| Calcium (Ca) | 71.9 | mg/L | 3 | 0.146 | 3.00 | SM 3111 B | GRT 06/30/25 |
| Iron (Fe) | 1.48 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA 06/30/25 |
| Magnesium (Mg) | 69.3 | mg/L | 2 | 0.138 | 1.00 | SM 3111 B | GRT 06/30/25 |
| Potassium (K) | 7.09 | mg/L | 1 | 0.054 | 0.500 | SM 3111 B | GRT 06/30/25 |
| Sodium (Na) | 8.10 | mg/L | 1 | 0.234 | 1.00 | SM 3111 B | GRT 06/30/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 06/30/25 |
| **Anion - Cation Balance** | | | | | | | |
| Anions | 10.1 | meq/L | 1 | | | Calculation | TMN 07/09/25 |
| Anion - Cation Balance | -1.56 | % | 1 | | | Calculation | TMN 07/09/25 |
| Cations | 9.82 | meq/L | 1 | | | Calculation | TMN 07/09/25 |

Report Approved By:

Report Approved On: 7/9/2025 10:27:41 AM

# Homestake Mining Company

## Plan Map of Area Affected by 6–14–25 Seepage Collection Spill

GGSW–18
Check Dam #4

36 Inch CMP

GG Check Dam 3

GGSW–17
Check Dam #3

GGSW–16
Check Dam #2

Grizzly Gulch Creek

GGSW–15
Check Dam #1

GG Check Dam 1

GG Creek Top

Road #11

0 50 100

1 INCH = 100 FEET

Sample Site

VALVE HOUSE

30" CMP

SPILL AFFECTED AREA

SEEPAGE COLLECTION BUILDING

5 Shaft Borehole MH
Rim Elev=5065.96

Seepage Return Line

UPPER SEEPAGE COLLECTION VAULT

SDSTA
LOT 1A
5 Shaft

Road #10

| Site Location | Date | Time | pH | Conductivity | Temperature | DO |
|---|---|---|---|---|---|---|
| **SC Pump** | | | | | | |
| | 06/16/2025 | 11:40 AM | 6.56 | 2740 | 11.3 | |
| **GG Creek Top** | | | | | | |
| | 06/16/2025 | 11:20 AM | 7.89 | 209 | 14.2 | |
| | 06/17/2025 | 8:30 AM | 7.65 | 181 | 10.4 | 9.28 |
| **GG Check Dam 1** | | | | | | |
| | 06/16/2025 | 11:00 AM | 7.23 | 616 | 13.8 | |
| | 06/17/2025 | 8:25 AM | 7.31 | 394 | 11 | 7.86 |
| **GG Check Dam 3** | | | | | | |
| | 06/16/2025 | 10:45 AM | 7.49 | 605 | 14.6 | |
| | 06/17/2025 | 8:15 AM | 7.4 | 587 | 11.5 | 7.83 |

| | |
|---|---|
| **From:** | Mark Tieszen |
| **To:** | Kindt, Trish |
| **Subject:** | [EXT] Grizzly Gulch Seepage Water Release - Analytical Results |
| **Date:** | Monday, June 23, 2025 9:45:08 AM |
| **Attachments:** | image001.png<br>image003.png<br>SC-PUMP (source) analytical results.pdf<br>GG Creek Top Analytical Results.pdf<br>GG Check Dam 1 Analytical Results.pdf<br>GG Check Dam 3 Analytical Results.pdf<br>GG Field Results Seepage Spill.xlsx<br>6-14-25 Seepage Collection Pump#1 Spill.pdf |

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Hi Trish,

Attached are the analytical results for the samples collected following the 06/14 Grizzly Gulch seepage water release. I have also included the field monitoring results and a map showing the monitoring locations.

Please note that the SC-PUMP sample is a sample of the source water from the seepage collection system.

Please let me know if you have any questions.

Thanks
Mark

BARRICK

HOMESTAKE

**Mark Tieszen**
Closure Manager

Homestake & Richmond Hill
11457 Bobtail Gulch St.
Central City, SD 57754

Tel: 605-722-4680



# Homestake Mining Company

## Plan Map of Area Affected by 6–14–25 Seepage Collection Spill

GGSW–18
Check Dam #4

36 Inch CMP

GG Check Dam 3

GGSW–17
Check Dam #3

GGSW–16
Check Dam #2

Grizzly Gulch Creek

GGSW–15
Check Dam #1

GG Check Dam 1

GG Creek Top

Road #11

0 50 100

1 INCH = 100 FEET

Sample Site

VALVE HOUSE

30" CMP

SPILL AFFECTED AREA

SEEPAGE COLLECTION BUILDING

5 Shaft Borehole MH
Rim Elev=5065.96

Seepage Return Line

UPPER SEEPAGE COLLECTION VAULT

SDSTA
LOT 1A
5 Shaft

Road #10

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: SC-PUMP
Sampled: 06/16/25 at 11:40 AM
by Eric Eisner
Sample Matrix: Water

Lab ID#: 20250617201
Received: 06/16/25 at 03:50 PM
by Greg McDougall
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst | Date |
|---|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | | |
| Electrical Conductivity | 2800 | µmhos/cm | 1 | 0.168 | 5.00 | SM 2510B | JAM | 06/17/25 |
| Hardness | 1310 | mg/L | 1 | | | SM 2340 B | TMN | 06/18/25 |
| Total Dissolved Solids | 2360 | mg/L | 100ml | 12.7 | 50.0 | SM 2540 C | IBS | 06/17/25 |
| **Non-Metallics** | | | | | | | | |
| Bicarbonate | 92.4 | mg/L | 1 | 0.598 | 10.0 | SM 2320 B | JAM | 06/16/25 |
| Chloride (Cl-) | 12.5 | mg/L | 1 | 0.163 | 0.500 | SM 4500-Cl E | BLL | 06/17/25 |
| Cyanide, Total | 3.49 | mg/L | 100 | | | Kelada 01 | TMN | 06/17/25 |
| Cyanide, WAD | 0.228 | mg/L | 20 | 0.013 | 0.200 | Kelada 01 | TMN | 06/17/25 |
| Nitrogen, Ammonia (NH3) | 5.58 | mg/L | 10 | 0.064 | 0.500 | Timberline-001 | IBS | 06/17/25 |
| Nitrogen, Nitrate (NO3) | 0.393 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL | 06/17/25 |
| Sulfate (SO4) | 1670 | mg/L | 40 | 24.3 | 400 | SM 4500-SO4 E | BLL | 06/17/25 |
| Thiocyanate | 31.4 | mg/L | 50 | 1.30 | 5.00 | ASTM D4193 | GRT | 06/17/25 |
| **Metals - Dissolved** | | | | | | | | |
| Arsenic (As) | 0.075 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA | 06/17/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA | 06/17/25 |
| Calcium (Ca) | 308 | mg/L | 6 | 0.293 | 6.00 | SM 3111 B | GRT | 06/17/25 |
| Chromium (Cr) | < 0.001 | mg/L | 10 | 0.000109 | 0.001 | EPA 200.8 DRC | TNA | 06/17/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA | 06/17/25 |
| Iron (Fe) | 22.5 | mg/L | 100 | 0.149 | 0.500 | EPA 200.8 | TNA | 06/18/25 |
| Lead (Pb) | < 0.0010 | mg/L | 10 | 0.00015 | 0.0010 | EPA 200.8 | TNA | 06/17/25 |
| Magnesium (Mg) | 131 | mg/L | 3 | 0.208 | 1.50 | SM 3111 B | GRT | 06/17/25 |
| Mercury (Hg) | < 0.0002 | mg/L | 1 | 0.000045 | 0.0002 | EPA 245.1 | GRT | 06/18/25 |
| Nickel (Ni) | 0.071 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA | 06/17/25 |
| Potassium (K) | 48.4 | mg/L | 9 | 0.486 | 4.50 | SM 3111 B | GRT | 06/17/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA | 06/17/25 |
| Silver (Ag) | < 0.001 | mg/L | 10 | 0.000074 | 0.001 | EPA 200.8 | TNA | 06/17/25 |
| Sodium (Na) | 177 | mg/L | 7 | 1.64 | 7.00 | SM 3111 B | GRT | 06/17/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA | 06/17/25 |
| **Metals - Total** | | | | | | | | |
| Arsenic (As) | 0.100 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA | 06/17/25 |

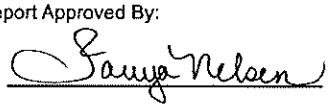
Report of Analysis for: **HOMESTAKE MINE** Sample Site: **SC-PUMP**



| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Metals - Total** | | | | | | | |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 06/17/25 |
| Chromium (Cr) | < 0.001 | mg/L | 10 | 0.000109 | 0.001 | EPA 200.8 DRC | TNA 06/17/25 |
| Copper (Cu) | 0.010 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Iron (Fe) | 30.1 | mg/L | 100 | 0.149 | 0.500 | EPA 200.8 | TNA 06/18/25 |
| Lead (Pb) | < 0.0010 | mg/L | 10 | 0.00015 | 0.0010 | EPA 200.8 | TNA 06/17/25 |
| Mercury (Hg) | < 0.0002 | mg/L | 1 | 0.000045 | 0.0002 | EPA 245.1 | GRT 06/18/25 |
| Nickel (Ni) | 0.078 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Silver (Ag) | < 0.0010 | mg/L | 10 | 0.000074 | 0.0010 | EPA 200.8 | TNA 06/17/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 06/17/25 |
| **Anion - Cation Balance** | | | | | | | |
| Anions | 36.6 | meq/L | 1 | | | Calculation | TMN 06/18/25 |
| Anion - Cation Balance | -1.72 | % | 1 | | | Calculation | TMN 06/18/25 |
| Cations | 35.4 | meq/L | 1 | | | Calculation | TMN 06/18/25 |

**Notes:**
RUSH

Report Approved By:



Report Approved On: 6/19/2025 8:12:58 AM

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: GG Check Dam 1
Sampled: 06/16/25 at 11:00 AM by Eric Eisner
Sample Matrix: Water

Lab ID#: 20250617203
Received: 06/16/25 at 03:50 PM by Greg McDougall
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

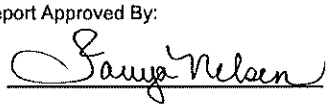
| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst | Date |
|---|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | | |
| Electrical Conductivity | 639 | µmhos/cm | 1 | 0.168 | 5.00 | SM 2510B | JAM | 06/17/25 |
| Hardness | 321 | mg/L | 1 | | | SM 2340 B | TMN | 06/18/25 |
| Total Dissolved Solids | 428 | mg/L | 100ml | 12.7 | 50.0 | SM 2540 C | IBS | 06/17/25 |
| **Non-Metallics** | | | | | | | | |
| Bicarbonate | 95.2 | mg/L | 1 | 0.598 | 10.0 | SM 2320 B | JAM | 06/16/25 |
| Chloride (Cl-) | 2.90 | mg/L | 1 | 0.163 | 0.500 | SM 4500-Cl E | BLL | 06/17/25 |
| Cyanide, Total | 0.054 | mg/L | 1 | | | Kelada 01 | TMN | 06/17/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN | 06/17/25 |
| Nitrogen, Ammonia (NH3) | < 0.050 | mg/L | 1 | 0.006 | 0.050 | Timberline-001 | IBS | 06/17/25 |
| Nitrogen, Nitrate (NO3) | 0.332 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL | 06/17/25 |
| Sulfate (SO4) | 236 | mg/L | 5 | 3.03 | 50.0 | SM 4500-SO4 E | BLL | 06/17/25 |
| Thiocyanate | 1.94 | mg/L | 2 | 0.052 | 0.200 | ASTM D4193 | GRT | 06/17/25 |
| **Metals - Dissolved** | | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA | 06/18/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA | 06/18/25 |
| Calcium (Ca) | 75.6 | mg/L | 3 | 0.146 | 3.00 | SM 3111 B | GRT | 06/17/25 |
| Chromium (Cr) | < 0.001 | mg/L | 10 | 0.000109 | 0.001 | EPA 200.8 DRC | TNA | 06/18/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA | 06/18/25 |
| Iron (Fe) | < 0.050 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA | 06/18/25 |
| Lead (Pb) | < 0.0010 | mg/L | 10 | 0.00015 | 0.0010 | EPA 200.8 | TNA | 06/18/25 |
| Magnesium (Mg) | 32.1 | mg/L | 1 | 0.069 | 0.500 | SM 3111 B | GRT | 06/17/25 |
| Mercury (Hg) | < 0.0002 | mg/L | 1 | 0.000045 | 0.0002 | EPA 245.1 | GRT | 06/18/25 |
| Nickel (Ni) | < 0.005 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA | 06/18/25 |
| Potassium (K) | 4.68 | mg/L | 1 | 0.054 | 0.500 | SM 3111 B | GRT | 06/17/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA | 06/20/25 |
| Silver (Ag) | < 0.001 | mg/L | 10 | 0.000074 | 0.001 | EPA 200.8 | TNA | 06/18/25 |
| Sodium (Na) | 8.98 | mg/L | 1 | 0.234 | 1.00 | SM 3111 B | GRT | 06/17/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA | 06/18/25 |
| **Metals - Total** | | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA | 06/17/25 |

Report of Analysis for: **HOMESTAKE MINE** Sample Site: **GG Check Dam 1**

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Metals - Total** | | | | | | | |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 06/17/25 |
| Chromium (Cr) | < 0.001 | mg/L | 10 | 0.000109 | 0.001 | EPA 200.8 DRC | TNA 06/17/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Iron (Fe) | 0.071 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA 06/17/25 |
| Lead (Pb) | < 0.0010 | mg/L | 10 | 0.00015 | 0.0010 | EPA 200.8 | TNA 06/17/25 |
| Mercury (Hg) | < 0.0002 | mg/L | 1 | 0.000045 | 0.0002 | EPA 245.1 | GRT 06/18/25 |
| Nickel (Ni) | 0.005 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Silver (Ag) | < 0.0010 | mg/L | 10 | 0.000074 | 0.0010 | EPA 200.8 | TNA 06/17/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 06/17/25 |
| **Anion - Cation Balance** | | | | | | | |
| Anions | 6.58 | meq/L | 1 | | | Calculation | TMN 06/18/25 |
| Anion - Cation Balance | 2.53 | % | 1 | | | Calculation | TMN 06/18/25 |
| Cations | 6.92 | meq/L | 1 | | | Calculation | TMN 06/18/25 |

**Notes:**
RUSH

Report Approved By:



Report Approved On: 6/20/2025 10:30:08 AM

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: GG Check Dam 3
Sampled: 06/16/25 at 10:45 AM by Eric Eisner
Sample Matrix: Water

Lab ID#: 20250617204
Received: 06/16/25 at 03:50 PM by Greg McDougall
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | |
| Electrical Conductivity | 637 | µmhos/cm | 1 | 0.168 | 5.00 | SM 2510B | JAM 06/17/25 |
| Hardness | 331 | mg/L | 1 | | | SM 2340 B | TMN 06/18/25 |
| Total Dissolved Solids | 392 | mg/L | 100ml | 12.7 | 50.0 | SM 2540 C | IBS 06/17/25 |
| **Non-Metallics** | | | | | | | |
| Bicarbonate | 112 | mg/L | 1 | 0.598 | 10.0 | SM 2320 B | JAM 06/16/25 |
| Chloride (Cl-) | 1.34 | mg/L | 1 | 0.163 | 0.500 | SM 4500-Cl E | BLL 06/17/25 |
| Cyanide, Total | 0.040 | mg/L | 1 | | | Kelada 01 | TMN 06/17/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN 06/17/25 |
| Nitrogen, Ammonia (NH3) | < 0.050 | mg/L | 1 | 0.006 | 0.050 | Timberline-001 | IBS 06/17/25 |
| Nitrogen, Nitrate (NO3) | 0.059 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL 06/17/25 |
| Sulfate (SO4) | 235 | mg/L | 5 | 3.03 | 50.0 | SM 4500-SO4 E | BLL 06/17/25 |
| Thiocyanate | 0.700 | mg/L | 1 | 0.026 | 0.100 | ASTM D4193 | GRT 06/17/25 |
| **Metals - Dissolved** | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 06/17/25 |
| Calcium (Ca) | 81.2 | mg/L | 3 | 0.146 | 3.00 | SM 3111 B | GRT 06/17/25 |
| Chromium (Cr) | < 0.001 | mg/L | 10 | 0.000109 | 0.001 | EPA 200.8 DRC | TNA 06/17/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Iron (Fe) | < 0.050 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA 06/17/25 |
| Lead (Pb) | < 0.0010 | mg/L | 10 | 0.00015 | 0.0010 | EPA 200.8 | TNA 06/17/25 |
| Magnesium (Mg) | 31.1 | mg/L | 1 | 0.069 | 0.500 | SM 3111 B | GRT 06/17/25 |
| Mercury (Hg) | < 0.0002 | mg/L | 1 | 0.000045 | 0.0002 | EPA 245.1 | GRT 06/18/25 |
| Nickel (Ni) | < 0.005 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Potassium (K) | 5.12 | mg/L | 1 | 0.054 | 0.500 | SM 3111 B | GRT 06/17/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Silver (Ag) | < 0.001 | mg/L | 10 | 0.000074 | 0.001 | EPA 200.8 | TNA 06/17/25 |
| Sodium (Na) | 4.97 | mg/L | 1 | 0.234 | 1.00 | SM 3111 B | GRT 06/17/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 06/17/25 |
| **Metals - Total** | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA 06/18/25 |

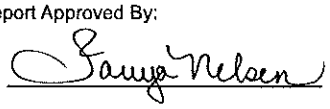
Report of Analysis for: **HOMESTAKE MINE** Sample Site: **GG Check Dam 3**



| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Metals - Total** | | | | | | | |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 06/18/25 |
| Chromium (Cr) | < 0.001 | mg/L | 10 | 0.000109 | 0.001 | EPA 200.8 DRC | TNA 06/18/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA 06/18/25 |
| Iron (Fe) | 0.056 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA 06/18/25 |
| Lead (Pb) | < 0.0010 | mg/L | 10 | 0.00015 | 0.0010 | EPA 200.8 | TNA 06/18/25 |
| Mercury (Hg) | < 0.0002 | mg/L | 1 | 0.000045 | 0.0002 | EPA 245.1 | GRT 06/18/25 |
| Nickel (Ni) | < 0.005 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA 06/18/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA 06/20/25 |
| Silver (Ag) | < 0.0010 | mg/L | 10 | 0.000074 | 0.0010 | EPA 200.8 | TNA 06/18/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 06/18/25 |
| **Anion - Cation Balance** | | | | | | | |
| Anions | 6.77 | meq/L | 1 | | | Calculation | TMN 06/18/25 |
| Anion - Cation Balance | 1.38 | % | 1 | | | Calculation | TMN 06/18/25 |
| Cations | 6.96 | meq/L | 1 | | | Calculation | TMN 06/18/25 |

**Notes:**
RUSH

Report Approved By:



Report Approved On: 6/20/2025 10:30:08 AM

MIDCONTINENT
TESTING LABORATORIES, INC.

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com



Sample Site: GG Creek Top
Sampled: 06/16/25 at 11:20 AM by Eric Eisner
Sample Matrix: Water

Lab ID#: 20250617202
Received: 06/16/25 at 03:50 PM by Greg McDougall
Account: W1028 - HOMESTAKE MINE

ERIC EISNER
HOMESTAKE MINING COMPANY
11457 BOBTAIL GULCH STREET
CENTRAL CITY, SD 57754

| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst | Date |
|---|---|---|---|---|---|---|---|---|
| **Physical Properties** | | | | | | | | |
| Electrical Conductivity | 217 | µmhos/cm | 1 | 0.168 | 5.00 | SM 2510B | JAM | 06/17/25 |
| Hardness | 97.9 | mg/L | 1 | | | SM 2340 B | TMN | 06/18/25 |
| Total Dissolved Solids | 117 | mg/L | 100ml | 12.7 | 50.0 | SM 2540 C | IBS | 06/17/25 |
| **Non-Metallics** | | | | | | | | |
| Bicarbonate | 86.3 | mg/L | 1 | 0.598 | 10.0 | SM 2320 B | JAM | 06/16/25 |
| Chloride (Cl-) | 0.950 | mg/L | 1 | 0.163 | 0.500 | SM 4500-Cl E | BLL | 06/17/25 |
| Cyanide, Total | < 0.010 | mg/L | 1 | | | Kelada 01 | TMN | 06/17/25 |
| Cyanide, WAD | < 0.010 | mg/L | 1 | 0.00067 | 0.010 | Kelada 01 | TMN | 06/17/25 |
| Nitrogen, Ammonia (NH3) | < 0.050 | mg/L | 1 | 0.006 | 0.050 | Timberline-001 | IBS | 06/17/25 |
| Nitrogen, Nitrate (NO3) | 0.164 | mg/L | 1 | 0.009 | 0.050 | SM 4500-NO3 F | BLL | 06/17/25 |
| Sulfate (SO4) | 36.1 | mg/L | 1 | 0.607 | 10.0 | SM 4500-SO4 E | BLL | 06/17/25 |
| Thiocyanate | < 0.100 | mg/L | 1 | 0.026 | 0.100 | ASTM D4193 | GRT | 06/17/25 |
| **Metals - Dissolved** | | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA | 06/17/25 |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA | 06/17/25 |
| Calcium (Ca) | 18.6 | mg/L | 1 | 0.049 | 1.00 | SM 3111 B | GRT | 06/17/25 |
| Chromium (Cr) | < 0.001 | mg/L | 10 | 0.000109 | 0.001 | EPA 200.8 DRC | TNA | 06/17/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA | 06/17/25 |
| Iron (Fe) | < 0.050 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA | 06/17/25 |
| Lead (Pb) | < 0.0010 | mg/L | 10 | 0.00015 | 0.0010 | EPA 200.8 | TNA | 06/17/25 |
| Magnesium (Mg) | 12.5 | mg/L | 1 | 0.069 | 0.500 | SM 3111 B | GRT | 06/17/25 |
| Mercury (Hg) | < 0.0002 | mg/L | 1 | 0.000045 | 0.0002 | EPA 245.1 | GRT | 06/18/25 |
| Nickel (Ni) | < 0.005 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA | 06/17/25 |
| Potassium (K) | 1.55 | mg/L | 1 | 0.054 | 0.500 | SM 3111 B | GRT | 06/17/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA | 06/17/25 |
| Silver (Ag) | < 0.001 | mg/L | 10 | 0.000074 | 0.001 | EPA 200.8 | TNA | 06/17/25 |
| Sodium (Na) | 2.73 | mg/L | 1 | 0.234 | 1.00 | SM 3111 B | GRT | 06/17/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA | 06/17/25 |
| **Metals - Total** | | | | | | | | |
| Arsenic (As) | < 0.005 | mg/L | 10 | 0.0004 | 0.005 | EPA 200.8 | TNA | 06/17/25 |

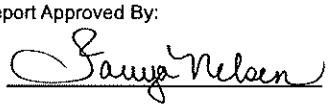
Report of Analysis for: **HOMESTAKE MINE** Sample Site: **GG Creek Top**



| Parameter | Result | Units | DF | MDL | PQL | Method | Analyst/Date |
|---|---|---|---|---|---|---|---|
| **Metals - Total** | | | | | | | |
| Cadmium (Cd) | < 0.001 | mg/L | 10 | 0.00041 | 0.001 | EPA 200.8 | TNA 06/17/25 |
| Chromium (Cr) | < 0.001 | mg/L | 10 | 0.000109 | 0.001 | EPA 200.8 DRC | TNA 06/17/25 |
| Copper (Cu) | < 0.005 | mg/L | 10 | 0.00047 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Iron (Fe) | 0.288 | mg/L | 10 | 0.015 | 0.050 | EPA 200.8 | TNA 06/17/25 |
| Lead (Pb) | < 0.0010 | mg/L | 10 | 0.00015 | 0.0010 | EPA 200.8 | TNA 06/17/25 |
| Mercury (Hg) | < 0.0002 | mg/L | 1 | 0.000045 | 0.0002 | EPA 245.1 | GRT 06/18/25 |
| Nickel (Ni) | < 0.005 | mg/L | 10 | 0.00045 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Selenium (Se) | < 0.005 | mg/L | 10 | 0.00048 | 0.005 | EPA 200.8 | TNA 06/17/25 |
| Silver (Ag) | < 0.0010 | mg/L | 10 | 0.000074 | 0.0010 | EPA 200.8 | TNA 06/17/25 |
| Zinc (Zn) | < 0.050 | mg/L | 10 | 0.004 | 0.050 | EPA 200.8 | TNA 06/17/25 |
| **Anion - Cation Balance** | | | | | | | |
| Anions | 2.20 | meq/L | 1 | | | Calculation | TMN 06/18/25 |
| Anion - Cation Balance | -2.09 | % | 1 | | | Calculation | TMN 06/18/25 |
| Cations | 2.11 | meq/L | 1 | | | Calculation | TMN 06/18/25 |

**Notes:**
RUSH

Report Approved By:



Report Approved On: 6/19/2025 8:12:58 AM

**Photos provided by:**
**Homestake & Richmond Hill**
**11457 Bobtail Gulch St.**
**Central City, SD  57754**



**Top of Grizzly Gulch Creek – Fe staining**



**Top of Grizzly Gulch Creek – Fe staining**



**Headwaters of Grizzly Gulch Creek – Fe staining**



**Flow subsurface between headwaters and check dam no. 1 – Fe staining**



**Check Dam No.1**



**Check Dam No. 1**



**Check Dam 2**



**Between Check Dam 2 and 3**



**Check Dam 3**



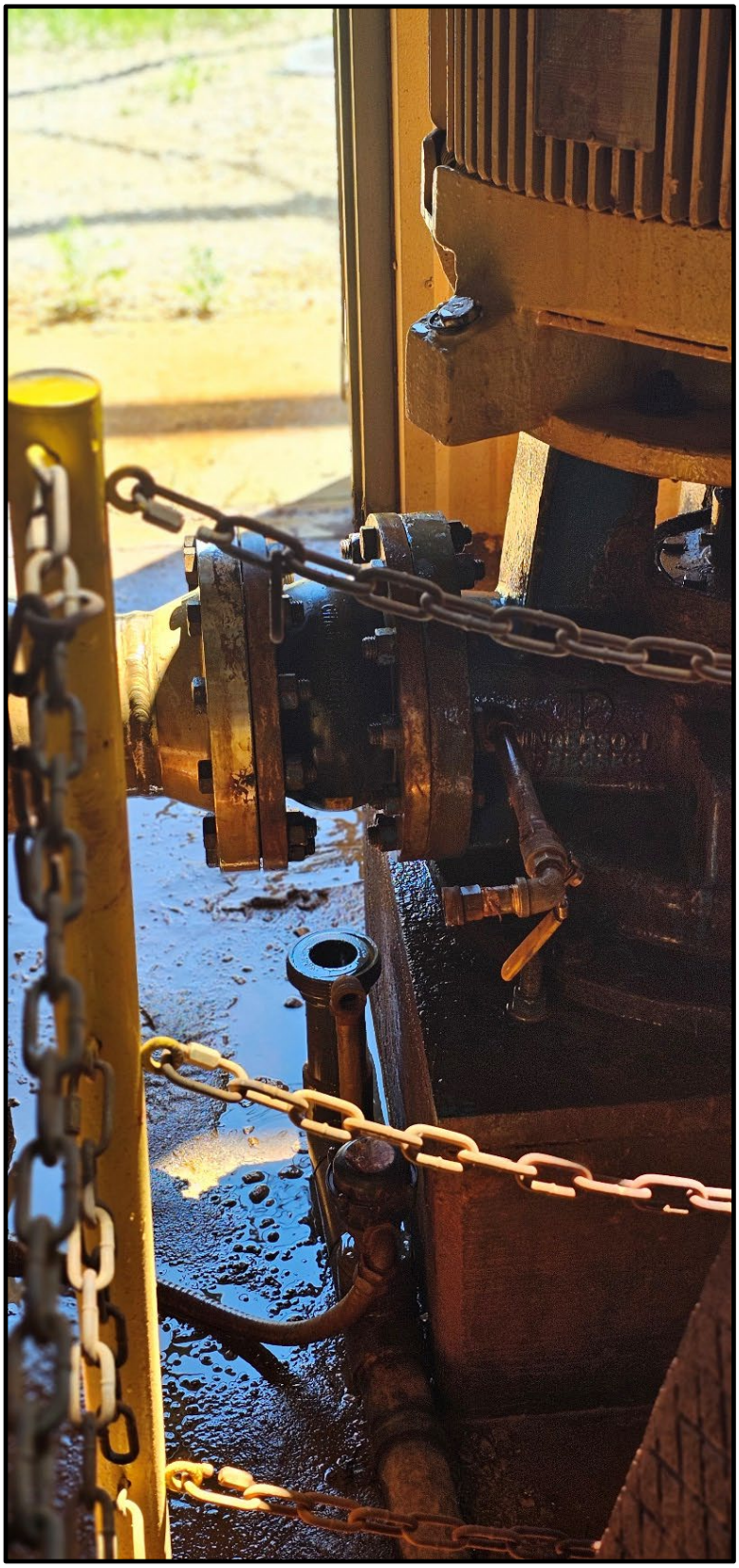
**Check Dam 4**



**Flow S & W of seepage building**



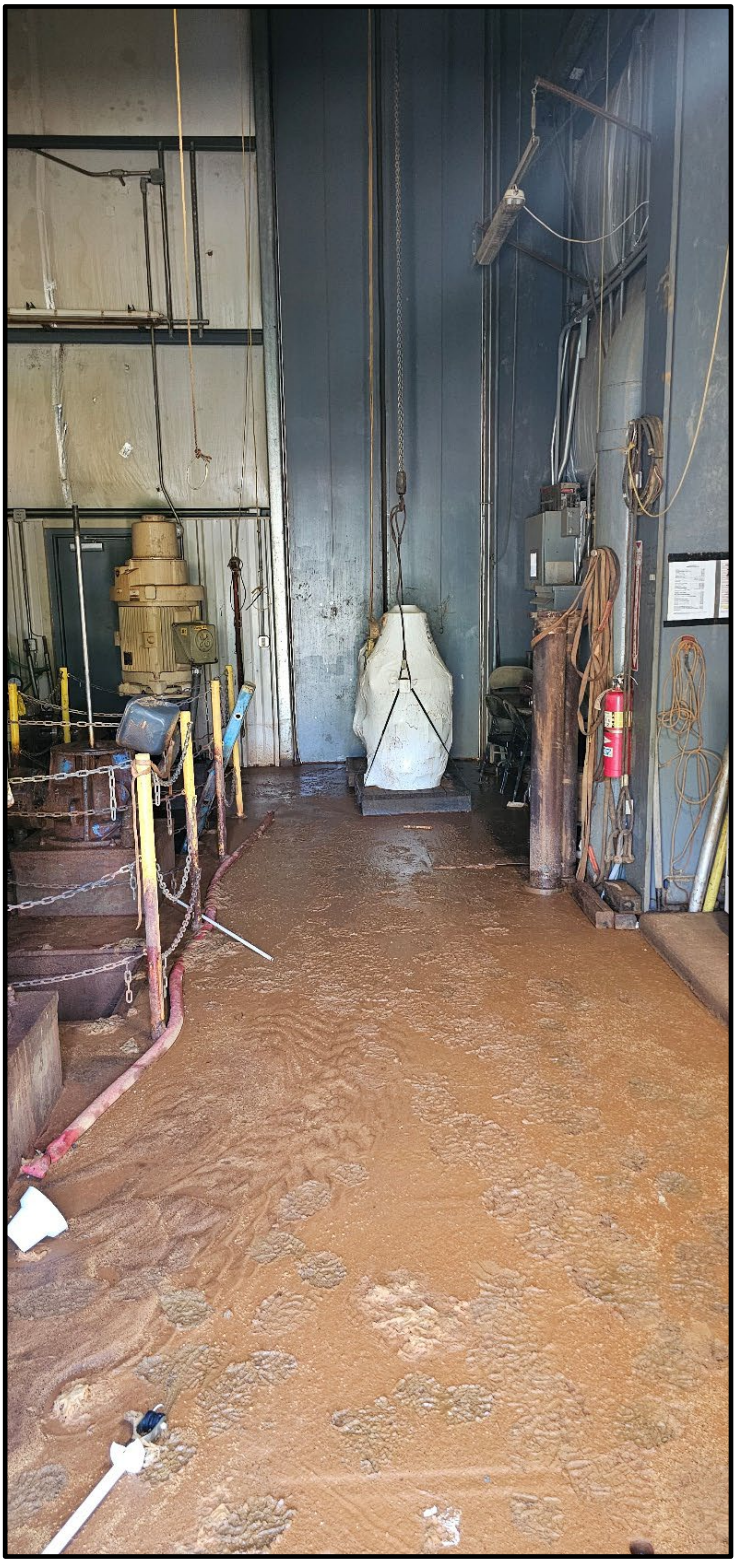
**Flow on access road**



**Pump 1 expansion Joint**



**Expansion Joint damage**



**Seepage building floor**