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Re: 2025 Spring Migration Seasonal Report for Berkeley Pit Waterfowl Protection Plan

Mark Thompson

Loren Burmeister

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August 26, 2025

Mr. Jason Rappe
US EPA Region VIII, Montana Office
Federal Building
10 West 15th Street, Suite 3200
Helena, Montana 59626

Mr. Daryl Reed, State Project Officer
Montana Department of Environmental Quality
1225 Cedar Street
P.O. Box 200901
Helena, Montana 59620-0901

Re: 2025 Spring Migration Seasonal Report for Berkeley Pit Waterfowl Protection Plan

Dear Mr. Rappe and Mr. Reed:

Atlantic Richfield Company (Atlantic Richfield) and Montana Resources, LLC (MR) (collectively 'the Parties') submit this 2025 Spring Migration Seasonal Report to satisfy the requirements of the **Final Berkeley Pit Waterfowl Protection Plan** (Plan) dated August 4, 2021 which was approved by the Agencies on September 1, 2021.

If there are any questions concerning this seasonal report, please contact Loren Burmeister representing Atlantic Richfield at (406) 723-1826 or Mark Thompson representing MR at (406) 496-3211.

Submission of this report does not constitute a statement by Atlantic Richfield or MR concerning responsibility between them for any identified tasks or a statement by Atlantic Richfield or MR that any specific task is required to comply with any existing agreement.

On behalf of the Parties,



Mark Thompson
Vice President of Environmental Affairs
Montana Resources, LLC
600 Shields Avenue
Butte, MT 59701



Loren Burmeister,
Liability Manager
Remediation Management Services Company
An affiliate of Atlantic Richfield Company
317 Anaconda Road
Butte, MT 59701

Attachment: 2025 Spring Migration Seasonal Report

cc (email copy only):

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**Silver Bow Creek/Butte Area National Priority List Site
Butte Mine Flooding Operable Unit
Waterfowl Protection Plan
2025 Spring Migration Seasonal Report
Provided in August 2025**

INTRODUCTION

Atlantic Richfield Company (Atlantic Richfield) and Montana Resources, LLC (MR) (collectively ‘the Parties’) submit this 2025 Spring Migration Seasonal Report to satisfy the requirements of the **Final Berkeley Pit Waterfowl Protection Plan** (Plan) dated August 4, 2021, which was approved by the Agencies on September 1, 2021.

The following report is a summary of waterfowl protection efforts and additional measures outlined in the Plan that were conducted during the Spring 2025 seasonal reporting period.

MIGRATION MONITORING & COMMUNICATION; OBSERVATION & HAZING PROGRAM

Migration Monitoring & Communication

The Plan includes monitoring migration activities and weather conditions, with the subsequent classification of observation and hazing status. To this end, the Parties employ a professional meteorologist to provide weather forecasts during migration seasons, as well as seasonal temperature and precipitation trends, as appropriate.

The Parties formed a migration monitoring group composed of select contractors with direct expertise in ecological monitoring and migration trends, in coordination with select Waterfowl Advisory Committee (WAC) members. This group closely monitors migration movements through information provided via Global Positioning System (GPS) telemetry datasets and online sources (e.g., www.ebird.org), communicates with wildlife agencies and refuges in the Pacific Flyway and conducts on-the-ground surveys of regional water bodies. Other environmental factors, such as open water (e.g., not frozen) and snow cover, are tracked to aid in migration monitoring. Weekly update emails are generated to justify the appropriate selection of observation and hazing classifications and to further inform waterfowl protection personnel at the Berkeley Pit (Pit). These weekly update emails are sent out to the Agencies and others involved in waterfowl protection efforts during the migration seasons.

Observation Program

Observations of the Pit for waterfowl protection efforts continued during both the non-migration period (i.e., January 1 to February 28) and the spring migration period (i.e., March 1 to May 31) in compliance with the Plan. This spring, the Parties continued to successfully implement a flowchart-based observation protocol, the background of which was described in detail in Request for Changes (RFCs) *RFC-Berkeley Pit WPP-2024-01* (approved by the Agencies on February 6, 2024) and revised with *RFC-Berkeley Pit WPP-2024-02* (approved by the Agencies on September 4, 2024). The flowchart uses waterfowl migration forecasting and the presence of waterfowl on the Pit to determine the observation frequencies and hazing strategies. Tables 1 and 2 below summarize the relevant observation data.

During the Spring 2025 migration season, the Parties continued to use migration forecasts to guide hazing status classification. Forecasts made each week categorized each day of the upcoming week with color codes according to projected migration activity (i.e., baseline, increased, considerable, and major

migration). The forecasts were accurate and helped establish hazing status at the Pit throughout the migration season and guide the use of the flowchart. In addition to migration activity predictions, the weekly forecast document a breakdown of species by percentage which were observed at the Pit during the timeframe of each specific forecast. These breakdowns were derived from Pit data from 2018 through 2024. The weekly document is a simple and effective way to communicate migration trends and predictions to waterfowl protection personnel and others and will continue to be utilized for future waterfowl protection efforts.

Waterfowl Protection Efforts

During the spring reporting period, 5,012 waterfowl were observed at the Pit: 109 during the non-migration period and 4,903 during the Spring migration period. There were seven mortalities observed during the spring reporting period, which resulted in a 99.9% success rate for deterring and/or hazing waterfowl from the Pit during the reporting period. This is consistent with long-term hazing success rates (see Table 2 herein compared to Appendix A in the Plan).

Passive and Active Waterfowl Deterrents

The Parties continued to document the deterrence of waterfowl from landing on the Pit. To do so, site personnel are trained to identify and record waterfowl that are deterred from ever landing on the water. A checkbox is included on the Hazing Logs to aid in recording the number and species, when possible, of deterred birds. The primary passive deterrents at the Pit are the Phoenix Wailers and propane cannons; however, the hand-held lasers, indirect rifle shots, aerial drones, bullhorn, and other measures (e.g., vocalizations, vehicle horns, fireworks) may also be used to successfully deter incoming birds from landing. A summary of the reporting period's waterfowl observations, including a count of deterred waterfowl, is available in Table 1 below.

Table 1. Monthly Waterfowl Observation Summary for Spring 2025

	Month	Observations	Total Waterfowl ¹	Mortalities	Deterred ²
	January	94	9	0	0
	February	91	100	1	0
Spring Migration	March	120	694	4	58
	April	133	2831	2	17
	May	110	1378	0	22

¹ Indicates the total number of waterfowl observed to have landed or attempted to land on the Pit surface.

² Indicates the total number of waterfowl observed as being deterred from landing on the Pit surface.

Table 2. Waterfowl Observation and Success Rate Summary for Spring 2025

Time-frame	Observations	Total Waterfowl	Mortalities	Success Rate ³
Non-Migration Season Totals	185	109	1	99.1%
Spring Migration Season Totals	363	4903	6	99.9%
Annual Totals (Through May)	548	5012	7	99.9%

³ Indicates the total number of waterfowl successfully leaving the Pit.

REPORTING AND NOTIFICATION

During the migration period, the Parties, through the migration monitoring group and/or the WAC, continue to provide the Agencies with weekly update emails that summarize current migration conditions, recommendations on hazing level status, and documentation of relevant species of concern that may utilize the Pit.

Monthly waterfowl protection reports detailing observation and hazing, and other relevant activities were submitted to the Agencies on the following dates:

- *January 2025 Berkeley Pit Migratory Waterfowl Protection Monthly Report* on February 24, 2025;
- *February 2025 Berkeley Pit Migratory Waterfowl Protection Monthly Report* on March 27, 2025;
- *March 2025 Berkeley Pit Migratory Waterfowl Protection Monthly Report* on April 29, 2025;
- *April 2025 Berkeley Pit Migratory Waterfowl Protection Monthly Report* on May 29, 2025;
and
- *May 2025 Berkeley Pit Migratory Waterfowl Protection Monthly Report* on June 26, 2025.

ADAPTIVE MANAGEMENT

Waterfowl Advisory Committee (WAC)

The Parties continue to engage an independent advisory group (i.e., WAC) to coordinate with and to advise the Parties and Agencies on waterfowl protection issues and the effectiveness of the Plan(s) moving forward.

The WAC met twice during the reporting period. Meetings were held on February 25 and May 20 to discuss site updates and provide regional waterfowl observations. In addition, both meetings included discussion related to proposed changes for incorporation into the forthcoming Plan update.

Evaluation of Protection Efforts, Technology, and Site Conditions

The Parties continue to evaluate the current protection efforts and consider new technologies and evolving site conditions. The information gained from site experience is shared between the Parties and the WAC to assess for potential improvements to the Waterfowl Protection Program. These assessments take place both internally amongst the Parties and during WAC meetings. New developments in waterfowl hazing and deterrent technologies are also discussed in these meetings. For the 2025 spring season, no major developments or advancements of technology were completed. Current technologies (i.e., USVs) were utilized and maintained with minor updates.