UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

April 24, 2017

Mr. Anthony R. Brown
Environmental Manager
Atlantic Richfield Company
4 Centerpointe Drive, LPR 4-435
La Palma, California 90623-1066

Re: Conditional approval of ARC request for Authorization to implement the proposed 2017 Surface Water Monitoring Program; Leviathan Mine Alpine County, California, dated April 7, 2017

Dear Mr. Brown:

EPA has completed its review of the April 7, 2017 ARC request for authorization to implement the proposed 2017 Surface Water Monitoring Program; Leviathan Mine Alpine County, California. This work was submitted to EPA pursuant to Administrative Order for Remedial Investigation and Feasibility Study, Leviathan Mine, Alpine County, California (CERCLA Docket No. 2008-18, June 23, 2008).

Background

ARC has conducted surface water monitoring under the On and Off Property Focused Remedial Investigation (FRI) Work Plans since 2012. Sampling consisted of monitoring at up to 30 locations. During 2014 and 2015 EPA approved ARC's request for reduced sampling due to continued drought conditions. Reduced sampling included sampling at four locations. In a May 6, 2016 letter, ARC expanded the number of monitoring locations to 30, and collected samples during three sampling events at each of the locations. The 2016 field season was the first year with approximately average or above precipitation since 2012.

On March 14, 2016, Surface Water ARC provided a "Technical Data Summary Report" (TDSR). ARC has stated that the surface water data collected through 2016 are adequate for the completion of the RI/FS and related human health and ecological risk assessments. EPA provided comments on the TDSR on February 8, 2017 for ARC to address.

ARC has been directed to incorporate EPA comments as part of a full complete and final robust Surface Water Characterization chapter in the Site Characterization, RI/FS report, and complete the baseline risk assessment for surface water.

EPA has completed its review of ARC's April 7, 207 request for authorization to implement the proposed 2017 Surface Water Monitoring Program. The surface water results that ARC proposes to collect from the 2017 sampling events will provide ongoing documentation of general trends under anticipated high-flow conditions.

ARC proposes to sample at on-property and off-property locations under three different conditions:

(1) high flow conditions in the spring prior to CUD and Delta Seep capture,
(2) when both treatment systems are operating and discharging, and
(3) during low flow conditions in the Fall.

Prior to 2014, two sampling events occurred during the treatment season. The two treatment sampling events have been consolidated into one event since 2014. ARC states that they have found that Surface water metal concentrations and water quality parameters from 2014-2016 do not appear to deviate substantially from results prior to 2014 during treatment.

In 2017, ARC proposes to sample at 30 sampling locations (24 on-property and 6 off-property) to assess metal concentrations and measure flow during high flow conditions (Sampling Event 1). The number of locations are reduced to 7 locations (4 on-property and 3 off property) during sampling events 2 and 3.

ARC argues that the rationale for reducing the sampling locations is based on results from 2016, an average flow/precipitation year, and the assumption that in 2017, when the snowpack has melted, surface water flows will recede to slightly above average or average flows. ARC argues that the reduced sampling locations will monitor overall temporal changes in surface water chemistry and mass loading, and confirm that 2017 surface water chemistry is similar to previous years.

EPA has completed its review, and provides the following comments:

1. **Source Sampling:** Please include 5 additional sampling locations. Please sample each of the surface water sources (CUD, DS, PUD, Adit, and Aspen Seep) during all sampling events. The ARC sampling should fully assess the contribution of these sources to Leviathan and Bryant Creeks and compare that data to previous year's conditions. These samples should be collected and evaluated using the same method, analytes and water quality parameters assessed for all other surface water monitoring locations.

2. **Assess Metal Contribution near Doud Creek:** Please include two additional sampling locations at SW-29 (Bryant Creek above Doud Creek) and SW-31 (Bryant Creek below Doud Creek) for all sampling events. In particular, please assess the increase in arsenic that has been observed in Bryant Creek at the vicinity of Doud Creek in previous years. Please provide EPA with the data of the field work completed in 2016 under Amendment 3: Supplemental Investigation of 2016 to the Off Property Workplan. ARC should include this data in their assessment.

3. **Missed Sampling Locations due to Unsafe Access Conditions:** ARC notes that some locations may not be accessible during a sampling event due to high flows that would make sample collection unsafe. Please clarify the plan for when sampling locations are considered unsafe to sample. EPA requests that ARC attempt to return to sample the location when safety improves and the conditions for the sampling event are present (i.e. prior to CUD and DS capture for Event 1, during treatment for Event 2, or during low flow Fall conditions for Event 3)

Conditional on ARC implementing these additional requests, EPA conditionally approves and directs ARC to commence with the 2017 surface water sampling.

ARC should provide preliminary sampling results and assessment of surface water data within 90 days of completion of the field sampling along with an assessment of the need for any additional data or sample collection during this very wet season. EPA may recommend additional sampling pending the results of those samples and/or to fill additional data gaps.

ARC shall include and assess all 2017 surfacewater data collected (including the additional sampling that EPA requests herein), in the Surfacewater Characterization chapter of the Site Characterization report due to EPA on December 31, 2017. Presentation of the data should also assess whether additional surface water sampling is recommended.

EPA appreciates Atlantic Richfield's efforts to begin the 2017 Surface Water Monitoring Program as early as possible during this very wet season.

If you have any questions, please feel free to contact me at (415) 972-3003 or deschambault.lynda@epa.gov

Sincerely,

Lynda Deschambault
Remedial Project Manager

Cc by electronic Email:
Michelle Hochrein, Washoe Tribe of Nevada and California
Douglas Carey, California Regional Water Quality Control Board, Lahontan Region
David Friedman, Nevada Department of Environmental Protection
Kenneth Maas, United States Forest Service
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