



Attached is a copy of the 2020 updated overview factsheet for phosphate mine site investigations and cleanup in southeast Idaho. The Idaho Department of Environmental Quality (DEQ), along with the U.S. Environmental Protection Agency (EPA) and the U.S. Forest Service (USFS) prepared this factsheet to outline the latest progress at each of the mine sites.

If you prefer to receive future information and updates via email, or if you would like to be removed from the mailing list, please contact Jordan Davies, jdavies@northwindgrp.com, 720.452.7379.



Phosphate Resource Area *Southeast Idaho Selenium Project* *August 2020*



Southeast Idaho is one of the world's major phosphate producing regions. Phosphate mining has been an important industry in the area since the early 20th century. In 2019, phosphate mining and manufacturing directly contributed an estimated 1,335 industry jobs, \$134.2 million in payroll and benefits, and \$545 million to the gross state product. Mining royalties and taxes continue to provide millions in revenue to the State of Idaho, which funds education and other local programs.*

The rapid death of tiny organisms such as algae and diatoms living in what was once a shallow sea approximately 250 million years ago created the presence of phosphate ore. The concentrated phosphorous in their bodies did not have time to dissolve back into the sea water. As a result, the

phosphate and other materials (for example, selenium) were trapped in the seabed shales, siltstones, and other sedimentary rocks that are mined today in this area.

Phosphate mining has resulted in some negative ecological consequences. Waste rock dumps and open pits act as pathways that can transport selenium and other contaminants to the environment through ground and surface water.

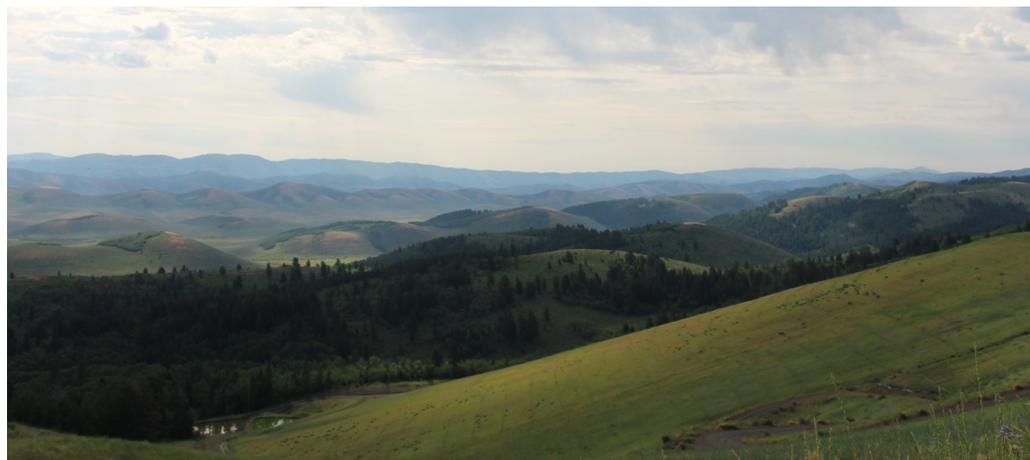
The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as well as state law, provides a framework to address these issues, which occur at some phosphate mines in the region. Additional investigations and planning for cleanup at mining sites are ongoing with oversight from the U.S. Environmental Protection Agency (EPA), U.S.

Forest Service (USFS), Idaho Department of Environmental Quality (DEQ), Bureau of Land Management (BLM), Shoshone-Bannock Tribes, and U.S. Fish and Wildlife Service (FWS).

The agencies, Tribes, and mining companies participating in the investigations welcome public involvement throughout the process because it produces better cleanup decisions. The agencies provide the latest updates about the progress at each of the mine sites at their booth during the Caribou County Fair and through this fact sheet, which contains contact information and website addresses for additional information.

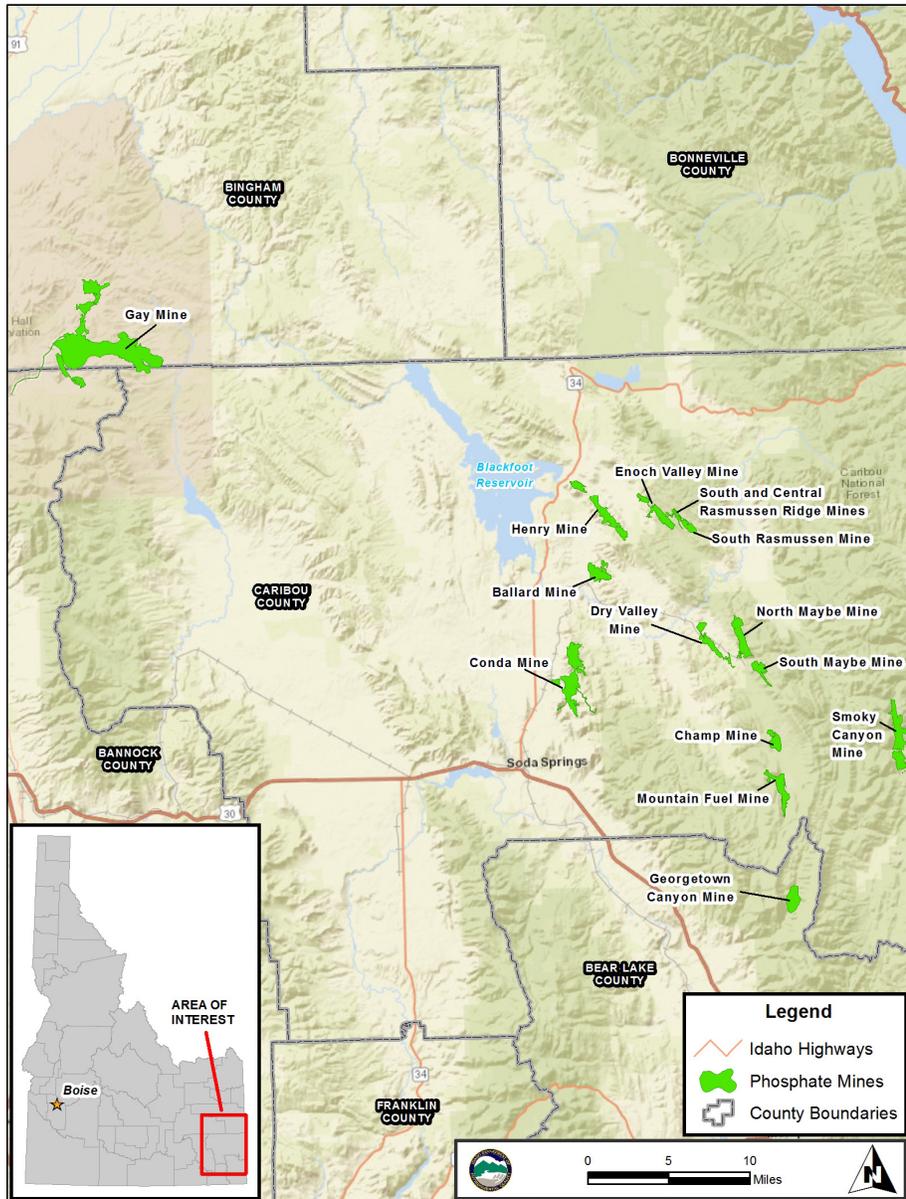
Selenium: A naturally occurring element that is an essential nutrient in small doses but which in high levels can cause adverse effects in humans and animals.

* 2019 Idaho Mining Association Direct Estimated Employment and gross state product.



Phosphate Cleanup Sites in Southeast Idaho

Key Terms



Phosphate cleanup sites in Southeast Idaho are highlighted in green.
The Blackfoot Reservoir is approximately 15 miles north of Soda Springs.

Administrative Settlement Agreement/Consent Order

A negotiated agreement of the parties involved to address potential cleanup sites.

Removal Action

A response to actual or threatened releases of a pollutant or contaminant that pose a threat to public health or the environment.

Overburden

A mining term for waste rock or soil overlying a mineral deposit.

Remedial Investigation /Feasibility Study

The Remedial Investigation (RI) is the mechanism for collecting data to characterize site conditions, determine the nature and extent of the waste and contamination, assess risk to human health and the environment, and conduct treatability testing, if needed. The Feasibility Study (FS) is the mechanism used for the development, screening, and detailed evaluation of alternative remedial actions.

Proposed Plan

A brief summary of the alternatives studied to conduct the remedial response for a site. The Proposed Plan, as well as the RI and FS, form the basis for the lead agency's preferred alternative. It is made available for public comment.

CERCLA Remedial Action Sites

Sites led by federal agencies, such as EPA, USFS, or with state co-leads where cleanup is governed by the method established by CERCLA to characterize the nature and extent of contamination and assess risks to evaluate potential remedial options.

Ballard, Enoch Valley, and Henry Mines

Active Status: Record of Decision for Ballard Mine issued, draft feasibility study submitted for Henry Mine, Enoch Valley Mine on hold.

2019 Update

EPA issued a Record of Decision for P4 Production's (now Bayer) Ballard Mine on October 1, completing the RI/FS process. The Record of Decision selected a final cleanup plan for this historic mine site that includes backfilling mine pits, constructing a cover system, treating contaminated groundwater

and seepage, and other elements. The Record of Decision could also accommodate recovery of phosphate ore from the site during implementation of the remedy.

In 2020, EPA expects to complete a Consent Decree (a legal agreement with P4/Bayer) for Remedial Design and Remedial Action. Following completion of the CD, P4 will prepare design documents. Because the remedy may include ore recovery during implementation, the Bureau of

Land Management will take steps to issue a phosphate mineral lease and approve a plan for ore recovery.

For the Henry Mine, a draft feasibility study was submitted for EPA review and consideration in October. In fall 2020, the agencies expect to complete the Feasibility Study (FS) and begin the remedy selection process by preparing a Proposed Plan.

Work at the Enoch Valley Mine is on hold.

Next Steps for Henry Mine:



A thunderstorm rolls across the Southeast Idaho Phosphate Resource Area.



Champ Mine

Active Status: Remedial Investigation, Ecological, Human Health, and Livestock Risk Assessments.

2019 Update

Field work conducted by Nu-West to support the Remedial Investigation, with groundwater and surface water sampling continued. Ecological, human health, and livestock risk assessments are under review by the Agencies.



Champ Mine Pit looking north.

Next Steps:



Conda/Woodall Mountain Mine

Active Status: Feasibility Study, Operations and Maintenance

2019 Update

Work continued on completing the Feasibility Study for the site. J.R. Simplot completed the Field-Scale Permeable Reactive Barrier (PRB) Pilot Study in 2019. After a full year of monitoring the seep treatment cells and PRB, a draft report was submitted in 2020. A final report is expected to be issued for the pilot study in 2021, following some supplemental

evaluation and monitoring conducted during summer 2020.

Snow fencing was installed on the waste pile to inhibit drifting of snow and reduce infiltration from the accumulated snow melt.

Operations and maintenance activities continued on the Pedro Creek Overburden Disposal Area Removal Action cover and associated water management features that were constructed during 2013-2015.



Simplot personnel sampling monitoring wells adjacent to the Permeable Reactive Barrier.

Next Steps:



Georgetown Canyon Mine

Active Status: Remedial Investigation

2019 Update

Surface water and groundwater were sampled during high-flow (May) and low-flow (September) events.

The Remedial Investigation Report was submitted in February. A major milestone will be achieved when this document is approved in 2020.



Georgetown Canyon Mine looking north along Snowdrift Mountain.

Next Steps:



Mountain Fuel Mine

Active Status: Remedial Investigation, Ecological, Human Health, and Livestock Risk Assessments

2019 Update

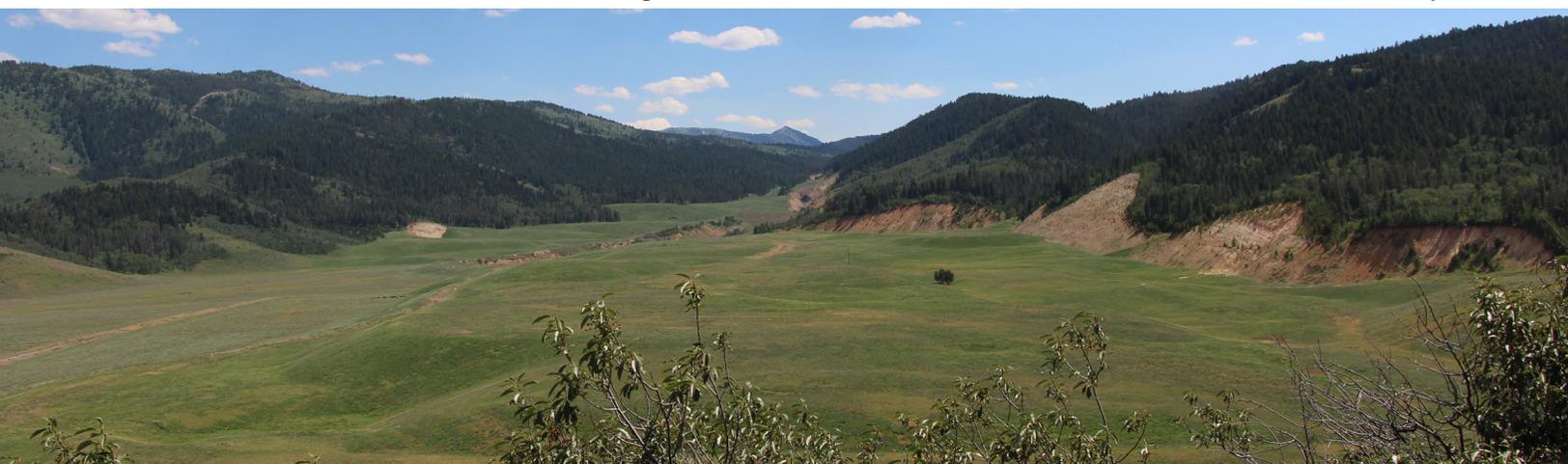
Field work conducted by NuWest to support the Remedial Investigation with groundwater and surface water sampling

continued. Ecological, human health, and livestock risk assessments are under review by the Agencies.

Next Steps:



Looking south, this is what the historical Mountain Fuel Mine site looks like today.



North Dry Valley Mine

Active Status: Administrative Settlement Agreement / Order on Consent

2019/Early 2020 Update

BLM and DEQ attorneys have been working on text for a draft Consent Order / Administrative Settlement Agreement and Order on Consent. DEQ is finalizing a Preliminary Assessment for the site.



Looking west across the historical North Dry Valley Mine.

North Maybe Mine

Active Status: Remedial Investigation / Feasibility Study

2019 Update

Nu-West conducted field activities associated with the North Maybe Mine Remedial Investigation / Feasibility Study (RI/FS) that included surface water and groundwater sampling. Nu-West is continuing work on the Focused FS for the East Mill Dump, as well as human health and ecological risk assessments for the site.



North Maybe Pit Lake.

Next Steps:



Smoky Canyon Mine

Active Status: Feasibility Study

2019 Update

In 2019, the J.R. Simplot Company's Smoky Canyon Mine optimized operation of its state-of-the-art Pilot Water Treatment Plant which uses advanced technologies (including Ultra Filtration, Reverse Osmosis and Fluidized Bed Reactors) to treat mining impacted spring or stream water. Water is pumped through the system at approximately 2,000 gallons per minute, and the system is currently removing 84 percent of the selenium contamination.

Did you know?

Since full scale operations began in December 2017 approximately 1.768 billion gallons of impacted spring or stream water have been treated and 1,815 pounds of selenium have been removed from the system.



An aerial view of the Pilot Water Treatment Plant at Smoky Canyon Mine, showing expansion associated with Phase II.

Next Steps:



South Maybe Canyon Mine

Active Status: Remedial Investigation, Ecological, Human Health, and Livestock Risk Assessments

2019 Update

Nu-West performed field activities at the site, including surface water

and groundwater sampling. Nu-West continued operations and maintenance activities on the Cross Valley Fill. Work on the human health and ecological risk assessments for the Open Pits Operable Unit at the site

continues. Maybe Creek continues to maintain a 95 percent reduction in contaminant concentrations after completion of the cap construction at the Cross Valley Fill.

Next Steps:



State Remedial Action Sites

Differ from CERCLA remedial action sites in that measures taken in response to degradation are in accordance with the Idaho Environmental Protection and Health Act (Idaho Code § 39101 et. seq.).

South Central Rasmussen Ridge Mine Area

Active Status: Remedial Action Plan, Remedial Design, and Remedial Action

2019 Update

DEQ and BLM have completed a review of the Draft Final Remedial Action Plan (DFRAP). According to the 2013 Consent Order, the DFRAP will go through a 30-day public comment period for input and possible changes prior to DEQ approval.

The current components of the DFRAP consist of:

- Completion of reclamation activities at the neighboring 2017/2018 closed North Rasmussen Ridge Mine in the No Name Creek Drainage.
- Re-establishing diverted surface water drainage back to the No Name Creek area.
- Reclamation of no longer needed haul roads and storm water retention ponds.

Proposed remedial actions in the South Fork Sheep Creek area include:

- A geosynthetic cover on the lower external South Dump drainage.
- Restoration/removal of five retention ponds capturing the water flow of the upper reaches.
- Institutional controls before and after construction of the remedy.
- Requests for site-specific criteria and site-specific points of compliance in the No Name Creek and the South Fork Sheep Creek Drainages.

Notice of public comment and instructions to provide comments to the DEQ were expected to be provided around July 1, 2020.



Wildflowers are present throughout the Phosphate Resource Area.

Next Steps:



South Rasmussen Mine

Active Status: Remedial Action and Remedial Monitoring

2019 Update

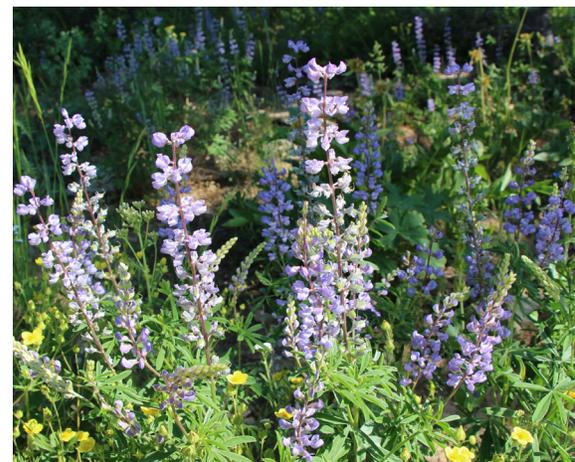
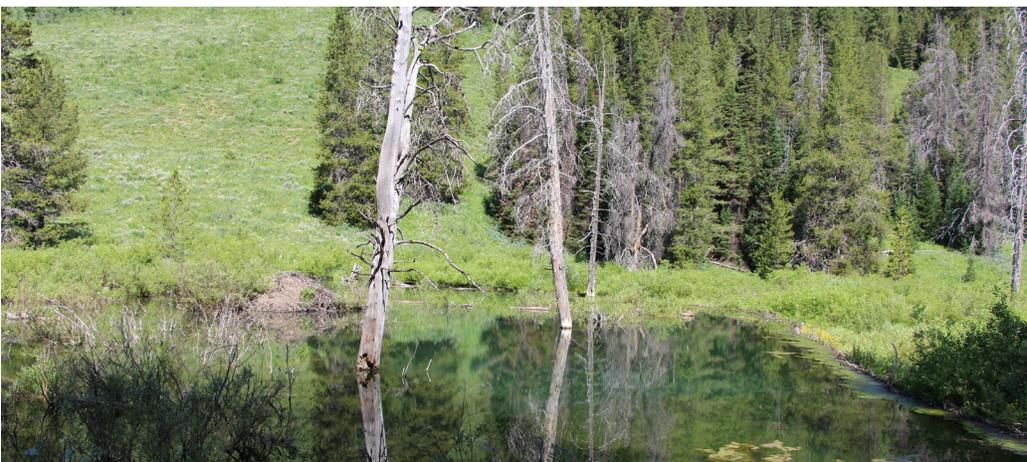
P4 (Bayer) continued monitoring the permeable reactive barriers and point of compliance wells. They also investigated sources of selenium found in groundwater in Watershed A. A tracer study to help determine possible sources of selenium in Wells Formation wells at the mine has been completed; however, no source has been identified. A pilot study is being considered to investigate allowing treated groundwater from the Horseshoe Overburden Area permeable reactive barrier to flow toward the upper reach of South Fork Sheep Creek. An Operations, Maintenance, and Monitoring Plan was approved by DEQ and finalized by P4.



PRB excavation backfilled with treatment media at South Rasmussen Mine Horseshoe Overburden Area.

Next Steps:





Contact Information

For more information, contact the following:

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Looking at the Pedro Creek area of the Conda Woodall Mine north of Soda Springs, Idaho.



Want to join the mailing list?

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