Southeast Idaho Phosphate Resource Area

Phosphate Resource Area FACT SHEET

2026



KEY TERMS

Administrative Settlement Agreement/Order on Consent: A negotiated agreement between the party and a regulatory agency to address potential cleanup sites.

Consent Decree: A legal document executed between the lead agency and the company to formalize the remedial actions and schedule.

Groundwater: Water in the ground, found in different aquifer systems, throughout the region.

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

Permeable Reactive Barrier: A passive treatment technology that creates a chemically reductive environment to remove certain contaminants.

Proposed Plan: A brief summary of the alternatives studied to conduct the cleanup response for a site. The Proposed Plan, as well as the Remedial Investigation and Feasibility Study, form the basis for the lead agency's preferred alternative. It is made available for public comment.

Remedial Action: The actual construction phase based on the Remedial Design.

Record of Decision: The document issued by the regulatory agencies that explains the remedial actions that will be used to clean up the site.

Remedial Design: The phase following the Record of Decision when engineered drawings and detailed designs are developed for the remedial actions.

Remedial Investigation/Feasibility Study: Remedial Investigation 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 is the mechanism used for the development, screening, and detailed evaluation of alternative remedial actions.

Supplemental Investigation: Additional investigation, typically done after the initial Remedial Investigation/Feasibility Study, to collect more information on the site, address data gaps, or verify assumptions.

Surface Water: Bodies of water found on the surface of the earth.

Waste Rock: Rock that does not contain the ore that is being mined but likely has to be moved to reach the ore.

ACRONYM LIST

ASAOC/SOW – Administrative Settlement Agreement and Order on Consent (ASAOC)/Statement of Work (SOW)

BLM – Bureau of Land Management

CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act

CVF – Cross Valley Fill

DEQ – Department of Environmental Quality

EPA – U.S. Environmental Protection Agency

EMDSOU – East Mill Dump Sub-Operable Unit

ESD – Explanation of Significant Difference

FS – Feasibility Study

O&M – Operations and Maintenance

PRB – Permeable Reactive Barrier

RA – Remedial Action

RAWP – Remedial Action Work Plan

RD – Remedial Design

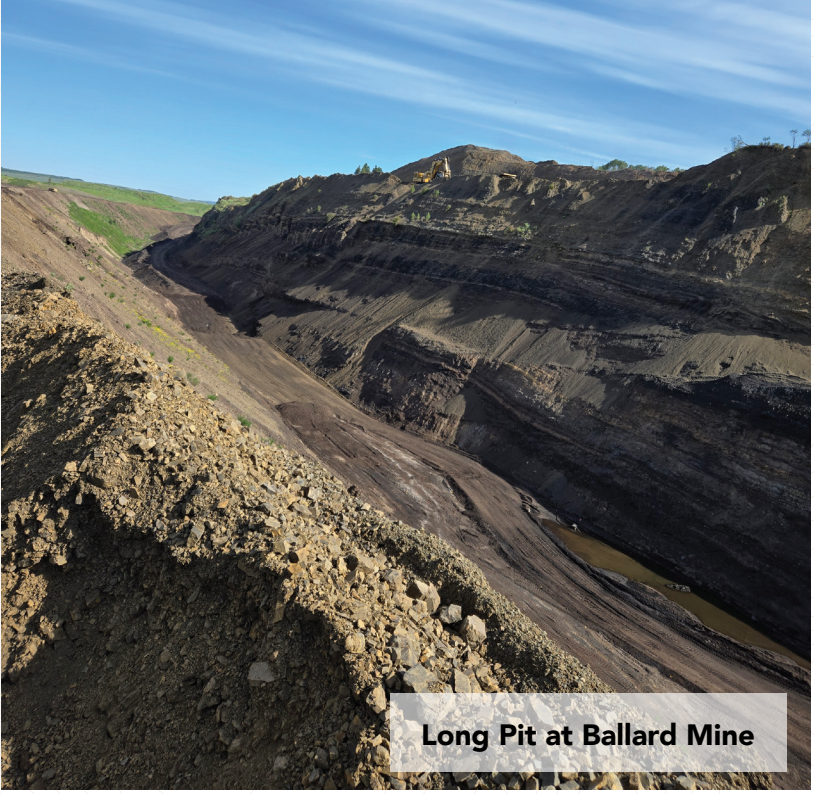
RI – Remedial Investigation

ROD – Record of Decision

Ruveon – Formerly P4 Production LLC

USFS – United States Forest Service

USFWS – U.S. Fish and Wildlife Service



Long Pit at Ballard Mine



Smoky Canyon Mine

OUR PHOSPHATE RESOURCE AREA

Mining has been an important industry in Southeastern Idaho's phosphate resource area, east of Soda Springs, since the early 20th century. As one of the country's major phosphate-producing regions, the area contributes millions of dollars of revenue to the state of Idaho in mining royalties and taxes, which are used to fund education and other local programs. Phosphate mining and manufacturing directly contribute thousands of industry jobs, millions of dollars in payroll and benefits, and millions to the gross state product every year.

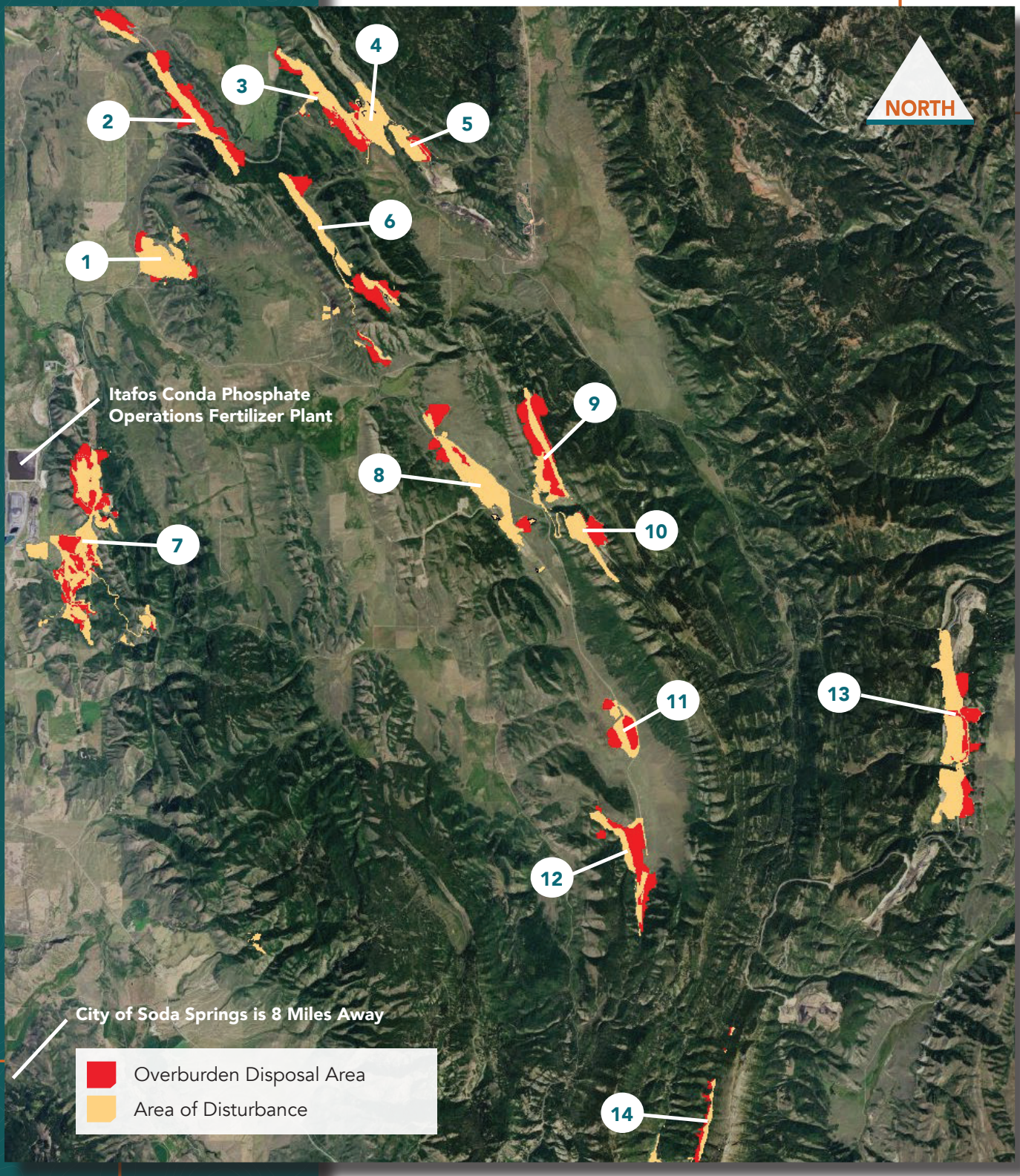
The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as well as state law, provide a framework to address adverse ecological consequences that arise from phosphate mining. For example, waste rock dumps and open pits can act as pathways that transport selenium and other contaminants to the environment through ground and surface water.

Cleanup investigations and planning, 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 (USFWS), are ongoing. These entities believe that public involvement produces better cleanup decisions and is always welcomed throughout the process. The agencies provide regular updates regarding cleanup progress at each mine site through this fact sheet and host a booth during the Caribou County Fair. Agencies and mining company representatives will be at the fair August 4-7 and invite you to stop by to learn more about mining and cleanup in the phosphate resource area.

For additional information, web addresses and contact information can be found on page 13 of this booklet.

The MINES

1. Ballard Mine
2. Henry Mine
3. Enoch Valley Mine
4. South-Central Rasmussen Ridge Mine
5. South Rasmussen Mine
6. Wooley Valley Mine
7. Conda/Woodall Mine
8. Dry Valley Mine
9. North Maybe Mine
10. South Maybe Mine
11. Champ Mine
12. Mountain Fuel Mine
13. Smoky Canyon Mine
14. Georgetown Canyon Mine



CERCLA REMEDIAL ACTION SITES

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

Ballard Mine

Active Status: Remedial Design (RD), Remedial Action (RA)

Over the past year, EPA and Ruveon have made important progress toward cleanup at the Ballard Mine. In September 2025, EPA signed an Explanation of Significant Differences (ESD) for Phase 1, which covers the eastern portion of the Site. The ESD documents a change to the engineered cover system identified in the 2019 Record of Decision (ROD), transitioning from an evapotranspiration cover to an enhanced cover designed primarily to reduce the amount of water that infiltrates through waste rock during spring snow melt. Reducing infiltration helps limit the movement of contaminants of concern - primarily selenium, arsenic, and cadmium - from waste rock to groundwater and surface water.

This change was a result of reassessment of cover performance during remedial design which found that the enhanced cover would more effectively reduce infiltration than an evapotranspiration cover during typical spring snowmelt and heavy snow-years, especially on east- and north-facing slopes (Phase 1 areas). Other components of the remedy documented in the 2019 ROD remain the same.

Accordingly, Ruveon submitted the Phase 1 100% Remedial Design package for the enhanced Phase 1 cover system in late 2024 and worked with EPA, the State, and the Tribes throughout 2025 to refine the design. The Remedial Action work plan (RAWP), which describes how the remedial action will be carried out, was submitted shortly after the Phase 1 100% Remedial Design.

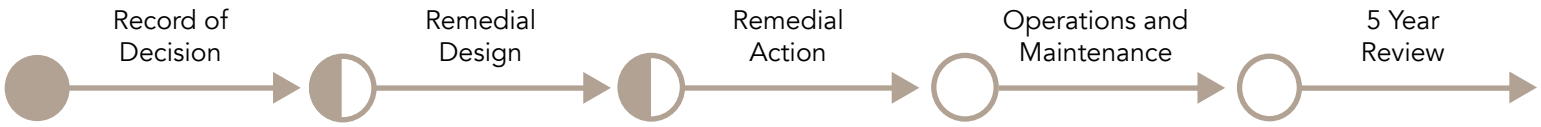
In the summer of 2025, Ruveon submitted a pre-remedy work plan that EPA approved on August 22, 2025. As part of that effort, Ruveon prepared soil-bentonite materials and built a small test pad on September 16, 2025, to verify construction methods and technical specifications prior to full-scale Remedial Action planned for spring 2026.

With EPA's approval of the Phase 1 100% Remedial Design in January 2026 and subsequent approval of the RAWP on March 6, 2026, Ruveon will begin Phase 1 construction of the enhanced cover on the eastern portion of the Site in spring 2026. EPA will continue to coordinate closely with the agencies and the Tribes and oversee implementation of the Remedial Action during the first construction season in 2026.

Ruveon also continued long-term monitoring, through collection of groundwater and surface water samples in spring and fall 2025. Results from those sampling events will be summarized in the 2025 Data Summary Report.

Phase 2 remains in the Remedial Design stage. The engineered cover design for Phase 2 will be refined in the near future.

Next Steps for Ballard Mine





Champ Mine

Active Status: Proposed Plan

Nu-West continued groundwater and surface water sampling. The Feasibility Study Report was approved in early 2026. The Proposed Plan is currently being drafted. A public comment period to garner community input on the Proposed Plan for Champ Mine is anticipated in late 2026.

Next Steps for Champ Mine

Remedial Investigation → Feasibility Study → Proposed Plan → Public Comment Period → Record of Decision → Remedial Design

Conda/Woodall Mountain Mine

Active Status: Site Investigation; Remedial Investigation (RI); Feasibility Study (FS)

Final approval of the Draft Final Feasibility Study for the Conda/Woodall Mountain Mine is expected in 2026. The Feasibility Study evaluated and selected preferred remedial actions for shallow and intermediate groundwater and surface water. Once the Feasibility Study is approved, work will begin to draft the Proposed Plan.

Next Steps for Champ Mine

Feasibility Study → Proposed Plan → Public Comment Period → Record of Decision → Remedial Design

Enoch Valley Mine

Active Status: Remedial Investigation (RI)

Several collaborative meetings took place in 2024 and Ruveon submitted a draft supplemental investigation work plan to EPA for review. The supplemental investigation work will provide data for further site characterization, supporting the development of the Remedial Investigation Report. This data will also play a key role in evaluating and refining remediation alternatives in the Feasibility Study. No progress was made in 2025.

Next Steps for Enoch Valley Mine

Remedial Investigation → Feasibility Study → Proposed Plan → Public Comment Period → Record of Decision



Henry Mine, North Pit

Georgetown Canyon Mine

Active Status: Feasibility Study (FS)

The Baseline Human Health and Ecological Risk Assessments were completed and approved in 2025. Work began on the Draft Feasibility Study, with the first draft expected early in 2026. Annual monitoring and reporting on site conditions, including surface water and groundwater quality, continues.

Did you know?

The first known report of mining related activity at the Georgetown Canyon Mine site was in 1909 with two underground tunnels, one about 125 feet long and the other less than 30 feet long.

Next Steps for Georgetown Canyon Mine

Baseline Risk Assessments → Feasibility Study → Proposed Plan → Public Comment Period → Record of Decision → Remedial Design

Henry Mine

Active Status: Feasibility Study (FS)

In 2024, the EPA, other agencies, and Tribes, along with Ruveon held several collaboration meetings to advance the work on the Feasibility Study at Henry Mine. No progress was made in 2025.

Next Steps for Henry Mine

Feasibility Study → Proposed Plan → Public Comment Period → Record of Decision → Remedial Design

Mountain Fuel Mine

Active Status: Proposed Plan

Nu-West continued groundwater and surface water sampling. The Feasibility Study Report was approved in early 2026. The Proposed Plan is currently being drafted. A public comment period to garner community input on the Proposed Plan for Mountain Fuel Mine is anticipated in late 2026.

Next Steps for Mountain Fuel Mine

Feasibility Study → Proposed Plan → Public Comment Period → Record of Decision → Remedial Design

North Dry Valley Mine

Active Status: Administrative Settlement Agreement and Order on Consent (ASAOC) and Statement of Work (SOW) Negotiations

The DEQ, BLM, and the Shoshone-Bannock Tribes are negotiating an Administrative Settlement Agreement and Order on Consent (ASAOC)/Statement of Work (SOW) for conducting a Remedial Investigation and Feasibility Study at the site with the FMC Corporation. It is anticipated that this agreement will be finalized in 2026 and work can begin to investigate the site.

Did you know?

The North Dry Valley mine was mined from the mid-1990s to the early 2000s. It supplied phosphate ore to the former FMC Elemental Phosphorus Plant west of Pocatello. The mining pits at North Dry Valley were backfilled as part of the mining reclamation process.

Next Steps for North Dry Valley Mine

ASAOC/SOW Negotiations → Remedial Investigation → Feasibility Study → Proposed Plan → Public Comment Period

North Maybe Mine

Active Status: Public Comment Period, Remedial Design (RD)

In 2025, Nu-West conducted field activities associated with the North Maybe Mine Remedial Investigation and Feasibility Study, including surface water and groundwater monitoring. Agencies signed a Consent Decree to implement the East Mill Dump Sub-Operable Unit (EMDSOU) Interim ROD in early 2026. Agencies are currently reviewing design documents for the EMDSOU remedy. Construction on the remedy at EMDSOU is anticipated to begin in the early summer of 2026. Agencies approved the Feasibility Study Report for the West Ridge Operable Unit in 2024. A Proposed Plan for the West Ridge Operable Unit is anticipated to be released for public comment in 2026.

Next Steps for West Ridge Operable Unit

Remedial Investigation → Feasibility Study → Proposed Plan → Public Comment Period → Record of Decision

Next Steps for East Mill Dump Sub-Operable Unit

Record of Decision → Remedial Design → Remedial Action → Operations and Maintenance → 5 Year Review



South Maybe Canyon Mine's capped and covered Cross Valley Fill, looking south.

Smoky Canyon Mine

Active Status: Record of Decision (ROD)

The ROD was finalized and signed on November 22, 2024. The selected remedy includes three elements: (1) treatment of surface water (Alternative 2b – Water Treatment at the Hoopes Water Treatment Plant, expanded to a 4,000 gallons per minute capacity), (2) treatment of alluvial groundwater (Alternative 2c – PRB Downgradient of Pole Canyon Overburden Disposal Area), and (3) source control for Wells Formation groundwater and surface water (Alternative 3c –Enhanced Dinwoody Covers over Target Areas). In January 2026, the US Department of Agriculture, Office of General Counsel received word from the Department of Justice that they have the greenlight to negotiate the Consent Decree with Simplot.

Did you know?

It would take a train 3.8 miles long, with 420 cars, to move the same amount of concentrated phosphate ore sent each week through the pipeline from Smoky Canyon to the Don Plant in Pocatello.

Next Steps for Smoky Canyon Mine

Record of Decision → Remedial Design → Remedial Action → Operations and Maintenance → 5 Year Review

South Maybe Canyon Mine (Maybe Creek Operable Unit)

Active Status: Remedial Investigation (RI)

Nu-West performed field activities at the site and continued operations and maintenance (O&M) activities on the Cross Valley Fill (CVF). Surface water concentrations of selenium measured near the CVF containment area have continued to decline by greater than 95% since cleanup work began. Remedial Investigation field work continued in Maybe Creek in 2025 (including soil, surface water, groundwater, and sediment sampling).

Next Steps for South Maybe Canyon Mine

Remedial Investigation → Feasibility Study → Proposed Plan → Public Comment Period → Record of Decision



Smoky Canyon Mine

STATE REMEDIAL ACTION SITES

These 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 Design (RD)

In 2025 interim O&M activities continued while mining progressed at the nearby Rasmussen Valley Mine. Major reclamation activities, currently under design, cannot occur until the mining haul road is taken out. The haul road was used to haul ore from the Rasmussen Valley Mine, which finished active mining in 2025. As reclamation work continues at the Rasmussen Valley Mine, the site focus will be on removing the haul road and finalizing design for the remediation activities. Annual monitoring and reporting on site conditions, including surface water and groundwater quality, occurred as required.

Next Steps for South Central Rasmussen Ridge Mine





Central Rasmussen Ridge Mine's reclaimed mine pit and haul road, looking north.

South Rasmussen Mine

Active Status: Remedial Action (RA), Operations and Maintenance

Ruveon completed groundwater and surface water sampling for groundwater Point of Compliance monitoring and permeable reactive barrier (PRB) operations monitoring. Ruveon also continued operation of the leachate collection system below the Horseshoe Overburden Area. An updated aquatic resources delineation was completed by Ruveon in 2025, the results of which will be compared to the previous delineation completed in 2009.

Interim monitoring completed since 2016 indicates that the constructed PRB is effective for reducing selenium and other contaminants of potential environmental concern in groundwater and surface water exiting the site, but additional steps may need to be taken to bring the site to full closure. Ruveon intends to work with Idaho DEQ in 2026 to complete a Revised Remedial Action Plan that will inform the processes for enhancing the Remedial Design and identifying potential additional Remedial Action measures for the site.

Ruveon will continue reclamation of the South Rasmussen Main Pit in collaboration with Itafos in 2026. Reclamation of the pit includes construction of an evapo-transpirative or "store and release" cover consisting of a 3-foot-thick layer of limestone overlain by a 2-foot-thick layer of alluvium/colluvium and 1.5-foot-thick layer of topsoil. Final reclamation of the pit is intended to provide protection of groundwater resources, site stabilization, and forage and cover benefits for wildlife.

Did you know?

As part of the Rasmussen Collaborative Alternative, overburden from the Rasmussen Valley Mine was used to partially backfill the open pit at South Rasmussen Mine. This alternative eliminated the need for a permanent external overburden pile at Itafos' Rasmussen Valley Mine.

Next Steps for South Rasmussen Mine





South Rasmussen Ridge Mine's reclaimed mine pit.

THE PHOSPHORIA SEA:
WHERE OCEAN CHEMISTRY BUILT A RESOURCE GIANT

The Phosphoria Sea represents one of the most significant phosphogenic systems in the geologic record, with lasting economic and environmental importance in southeastern Idaho.

Approximately 300 million years ago, during the Permian Period, the western margin of what is now North America—including present-day Idaho—was covered by a broad, shallow epicontinental sea known as the Phosphoria Sea. This basin developed along a passive continental margin near the paleoequator, where warm surface conditions prevailed within an arid to semiarid climate. The regional setting was influenced by relatively low tectonic activity, resulting in limited siliciclastic input. These factors produced a sediment-starved basin that favored the accumulation of chemically and biologically derived sediments such as phosphates, trace metals, and carbonate minerals.

A key feature of the Phosphoria Sea was the upwelling of cold, nutrient-rich waters along the continental margin. These upwelling currents—likely driven by persistent trade winds and ocean circulation patterns similar to modern eastern boundary systems—delivered a continuous supply of phosphorus and other nutrients into the photic zone. This nutrient influx fueled high primary productivity in surface waters despite the otherwise limited siliciclastic sediment supply. As marine organisms died, their remains settled to the seafloor, where nutrients and organic matter were incorporated into accumulating sediments.

Water-column stratification played a critical role in preserving the system's distinctive geochemical signature. Warm, oxygenated surface waters overlaid colder, denser bottom waters that were often oxygen-depleted or anoxic. Restricted circulation within the basin inhibited vertical mixing, allowing organic matter to accumulate and be preserved in bottom sediments. This stratified system promoted the formation of phosphorite deposits and organic-rich shales, particularly within the Meade Peak Member of the Phosphoria Formation.

The combination of equatorial climate, nutrient upwelling, sediment starvation, and persistent anoxia created an environment highly conducive to the concentration and preservation of phosphorus and trace elements such as selenium. As a result, the Phosphoria Sea represents one of the most significant phosphogenic systems in the geologic record, with lasting economic and environmental importance in southeastern Idaho.

Today, phosphate mining and processing in the region play a vital role in supporting local economies and agricultural productivity, contributing to regional economic stability now and for generations to come. When phosphate mining began, the environmental problems caused by selenium and other constituents wasn't well understood. Mining practices have evolved to mitigate these issues. Investigation and remediation at historic sites continues with progress being made every year.

Anoxia - oxygen starved or deficient

Paleoequator - the equator as it existed on earth in the geologic past

Phosphogenic - conditions conducive to the deposition of phosphorous in sedimentary rock

Siliciclastic - the breakdown of silica-containing continental rocks sending sand and gravel (quartz minerals) to the oceans as sediment through river systems



TODAY



280 MILLION YEARS AGO



Did you know?

The buzzsaw shark (Helicoprion) was likely the apex predator of the shallow marine environment that resulted in the resource area's rich phosphate ore. This shallow marine environment was home to many organisms and potentially supported a thriving population of buzzsaw sharks. Fossils of the jaws have been found, described, and are on display in several museums, including the Idaho Museum of Natural History in Pocatello.



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Smoky Canyon Mine



Caribou County Fair Booth



South Maybe Mine



Smoky Canyon Mine


Southeast Idaho Phosphate Resource Area