



# Mining Issues

EPA Region 9 Regional Tribal Operations Committee Meeting

April 20, 2023

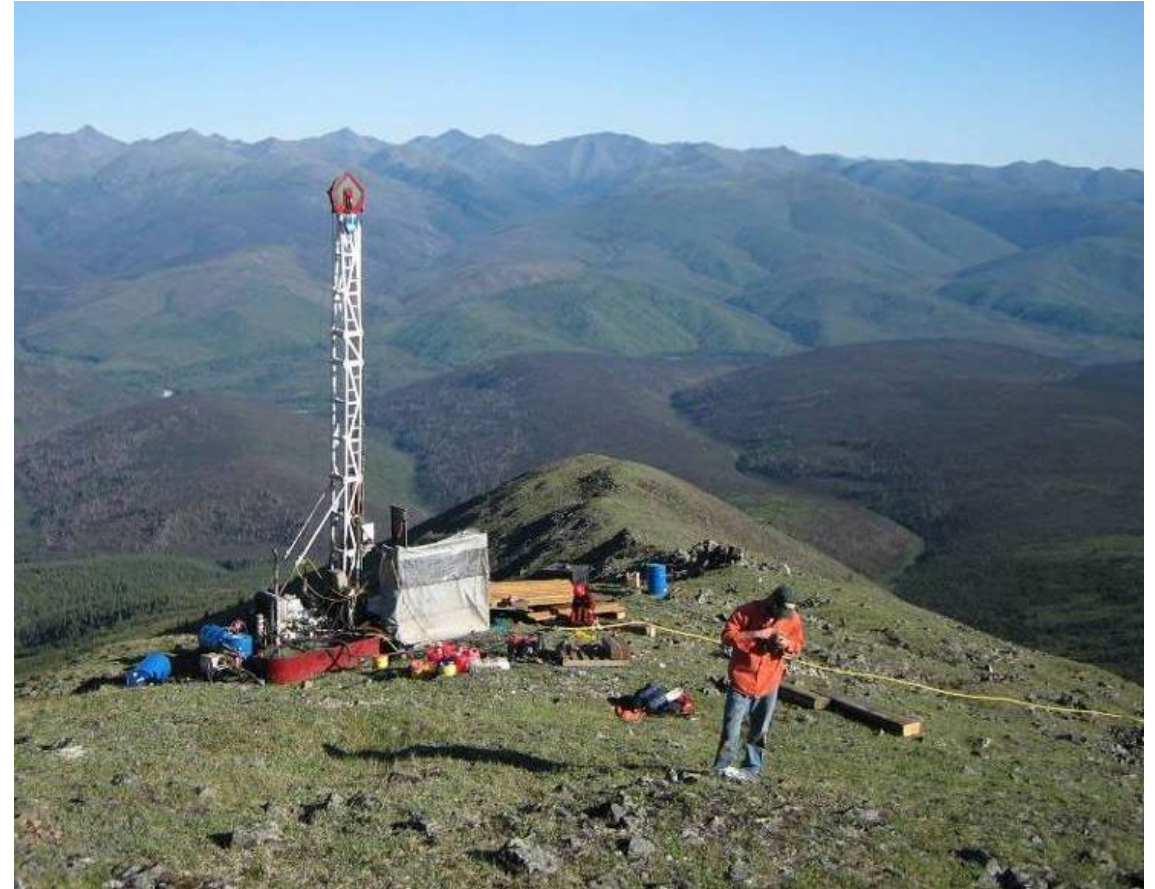
# Presentation Agenda

- Mine permitting process
- Critical minerals
- How tribes can be involved



# Major Steps in Mine Development

- Prospecting
- Claim staking
- Exploration
- Assessment of mineral potential & economic feasibility
- Mine development planning
- Environmental review and permitting
- Mine construction
- Mine operations (expansions & additional permitting)
- Closure and reclamation
- Post-closure management and maintenance



# Mine Permitting Process

- Permits, approvals, and consultations vary by type of mining activity and location
- And may be required by:
  - Federal agencies
  - State agencies
  - Local agencies
  - Tribal governments
- These permit processes may be conducted concurrently or sequentially

# Federal Laws That Apply to Mining


- Mining Laws on Federal land
  - US Bureau of Land Management (BLM) and US Forest Service mining regulations
- Environmental Review
  - National Environmental Policy Act (NEPA)
- Environmental Permits
  - Clean Water Act (CWA)
  - Clean Air Act (CAA)
  - Safe Drinking Water Act (SDWA)
  - Resource Conservation and Recovery Act (RCRA)

# National Environmental Policy Act (NEPA)

- When is NEPA review needed?
  - Certain projects on Federal land
  - Issuance of certain permits & approvals
- For mining projects these can include:
  - BLM decision on a mine plan of operation on BLM-managed land
  - Forest Service decision on a mine plan of operation on Forest Service-managed land
  - US Army Corps of Engineers decision on a Clean Water Act 404 permit application
  - Nuclear Regulatory Commission (NRC) decision on a radioactive source material license





# NEPA Process

- Level of analysis
  - Environmental Assessment
  - Environmental Impact Statement (EIS)
- Lead Federal agencies
  - BLM or Forest Service
  - US Army Corps of Engineers
- Cooperating agencies
  - Other federal agencies
    - EPA, US Fish & Wildlife Service, etc.
  - State agencies
    - Mining, environmental, fish & game
  - Local
  - Tribes

  
US Army Corps of Engineers

## Donlin Gold Project

### Final Environmental Impact Statement

*Village of Crooked Creek*  
*Native Village of Napaimute*  
*Native Village of Chuathbaluk*  
*Native Village of Aniak*  
*Knik Tribal Council*  
*Akiak Native Community*

CEPOA-RD  
P.O. Box 6898  
JBER, AK 99506-0898

April 2018

# Federal Consultations

- Federal consultations that occur during NEPA & permitting
  - Endangered Species Act
  - National Historic Preservation Act
  - Tribal consultation





# NEPA & EPA Role

- EPA is required to review and comment on Federal agencies EISs
- May participate as a cooperating agency
- EPA areas of focus and expertise
  - Surface water, groundwater, aquatic resources, wetlands
  - Air quality, climate change
  - Environmental justice
  - Tribal/Cultural
  - NEPA process



# Clean Water Act (CWA)

- CWA permits
  - CWA 404 permits for dredge and fill material
  - CWA 402 National Pollutant Discharge Elimination System (NPDES) permits for other pollutants (stormwater, wastewater)
  - CWA 401 certification



# CWA 404 Permits

- CWA 404 permits may be required for:
  - Fill in waters of the U.S. for roads, building pads, waste rock, tailings disposal facilities and dams, etc.
- Permits issued by the US Army Corps of Engineers except in delegated states (Michigan and New Jersey as of 2023)
- EPA role
  - Review 404 permit application public notices
  - Can prohibit or restrict the use of a site for fill discharges



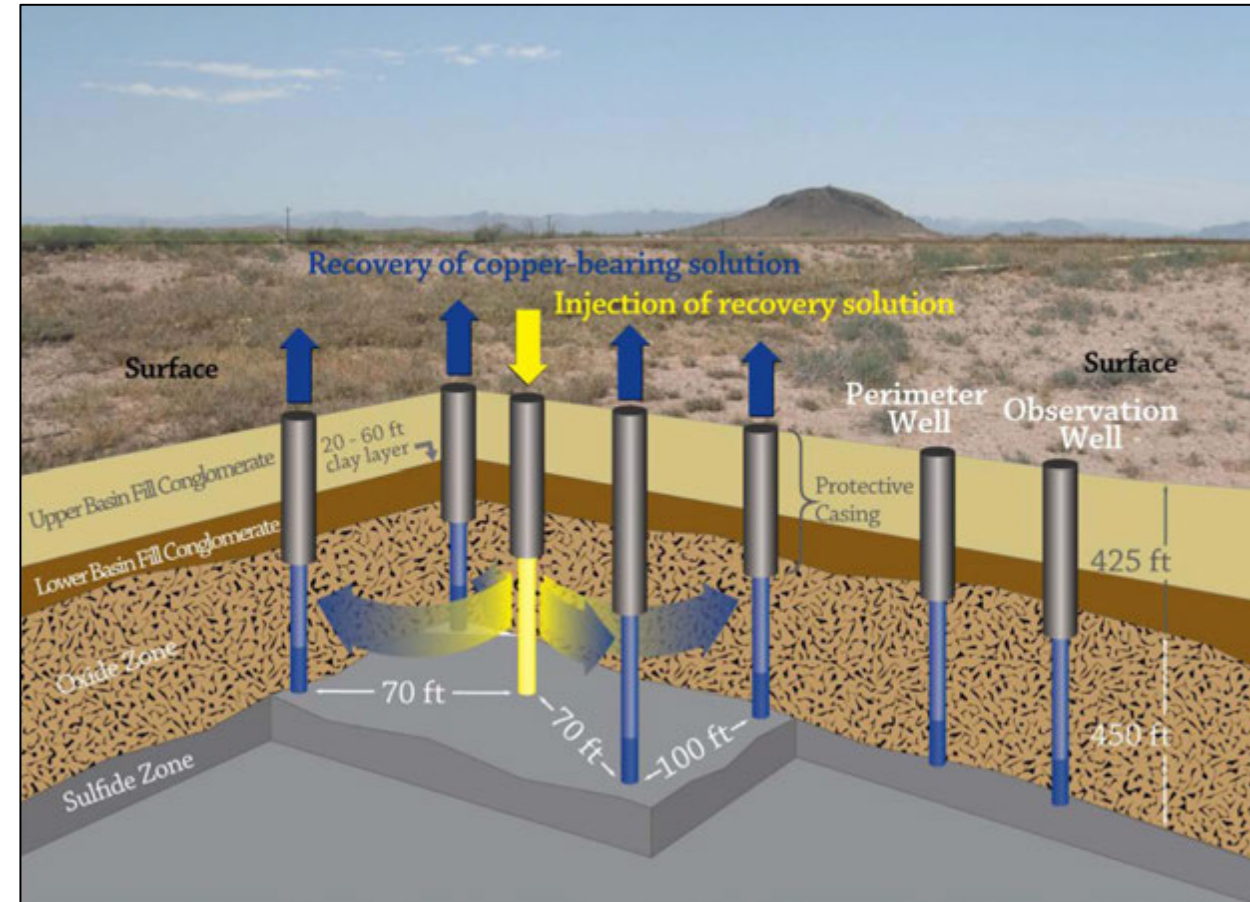
# CWA 402 NPDES Permits

- NPDES permits required at mining sites for discharges of
  - Sanitary wastewater
  - Stormwater
  - Mine contact water and process wastewater
- Permits issued by authorized states
- EPA role
  - Issues permits in unauthorized states (NM) and on tribal lands
  - Provides technical assistance, oversight in authorized states



# Safe Drinking Water Act – Underground Injection Control (UIC) Permits

- UIC permits may be required for
  - Underground disposal of wastewater
  - Underground mine tailings backfill
  - Copper and uranium in-situ extraction operations
- Permits issued by EPA or delegated states
- EPA role
  - Issues UIC permits in non-authorized states (e.g., AZ)
  - Oversight in delegated states



# Clean Air Act (CAA)

- CAA permits may be required for:
  - Emissions from power generation equipment
  - Crushing and processing
  - Dust
- Permits issued by authorized states
- EPA provides oversight and technical assistance



# RCRA

- RCRA regulates solid and hazardous wastes
- Mining waste rock and tailings are exempt from hazardous waste requirements and may be managed by states



# Federal Mining Laws



- BLM and Forest Service implement mining regulations on federal land that include:
  - Access to minerals
  - Approval of mine plans of operation
  - Approval of reclamation plans and financial assurance



# State Permits and Requirements

- States issue permits under federally authorized programs
  - CWA, CAA, SDWA, RCRA
- And under other programs
  - Groundwater
  - Solid waste
  - Mine plan approvals/permits
  - Reclamation plan
  - Tailings dam safety
  - Water rights
  - Fish habitat
  - Financial Assurance
- Some states have NEPA-like laws and develop EISs

1. California Environmental Policy Act (CEQA): NEPA-CEQA Handbook
2. Connecticut Environmental Policy Act (CEPA)
3. District of Columbia Environmental Policy Act of 1989 (DCEPA)
4. Georgia Environmental Policy Act (GEPA)
5. Hawaii Environmental Policy Act (HEPA)
6. Indiana Environmental Policy Act (IEPA)
7. Maryland Environmental Policy Act (MEPA)
8. Massachusetts Environmental Policy Act (MEPA)
9. Minnesota Environmental Policy Act (MEPA)
10. Montana Environmental Policy Act (MEPA)
11. New Jersey Executive Order 215 (EO 215)
12. New York State Environmental Quality Review Act (SEQRA)
13. New York City Environmental Quality Review (CEQR)
14. North Carolina State Environmental Policy Act (SEPA)
15. Puerto Rico Environmental Public Policy Act (EPPA)
16. South Dakota Environmental Policy Act (SDEPA)
17. Tahoe Regional Planning Compact (TRPC)
18. Virginia Environmental Impact Report Procedure (VAEIR)
19. Washington State Environmental Policy Act (SEPA)
20. Wisconsin Environmental Policy Act (WEPA)

**NEPA EIS Process**

- Mine Application/Plan
- Technical Reports
- Scoping
- Draft EIS
- Final EIS

**Record of Decision**

**Federal Processes**

- ✓ Mine Plan, Reclamation Plan & financial assurance (BLM/USFS)
- ✓ CWA 404 Permit (Corps or State)
- ✓ CWA 401 Certification
- ✓ SDWA UIC Permit (EPA or State)
- ✓ Tribal Consultation
- ✓ Endangered Species Act
- ✓ Essential Fish Habitat
- ✓ Historic Preservation

**Federal Permit, Certification, Approval**

**State Processes**

Federally authorized programs

- ✓ NPDES Permit
- ✓ CWA 401 Cert
- ✓ CAA Air Permit
- ✓ SDWA UIC Permit

Other State programs

- ✓ Mine permit or plan approval
- ✓ Waste Management
- ✓ Reclamation Plan
- ✓ Water Quantity/Rights
- ✓ Fish Habitat Permit
- ✓ Dam Safety Permit
- ✓ Financial Assurance

**State Permit, Certification, Approval**

**Local Processes**

- ✓ City
- ✓ County/Borough

**Mines in Indian County**

- ✓ Tribal Laws and Regs

**Planning, Permits, Approval**

# Mine Permitting Technical Challenges

- Large amounts of material moved and large surface areas impacted
- Operations can occur over long time frames
- Some mine components may need perpetual maintenance
  - Water management
  - Tailings dams
- It can be difficult to accurately predict
  - Acid rock drainage and metal leaching
  - Surface and groundwater flow changes
  - Time frames needed for water treatment
  - Cumulative impacts
  - How climate change will impact operations and closure

# Mine Permitting Process Challenges

- Numerous agencies and processes involved
- Balance between multiple land uses
- Fluctuating metals prices influence project feasibility



# Critical Minerals

- Executive Order 14017 America's Supply Chains (Feb 2021) called on Federal agencies to assess resilience of the critical minerals and electric vehicle battery supply chains
- Critical minerals are essential to the economic or national security of the U.S. and have a supply chain that is vulnerable to disruption

<https://www.usgs.gov/news/national-news-release/us-geological-survey-releases-2022-list-critical-minerals>

# What are critical minerals?

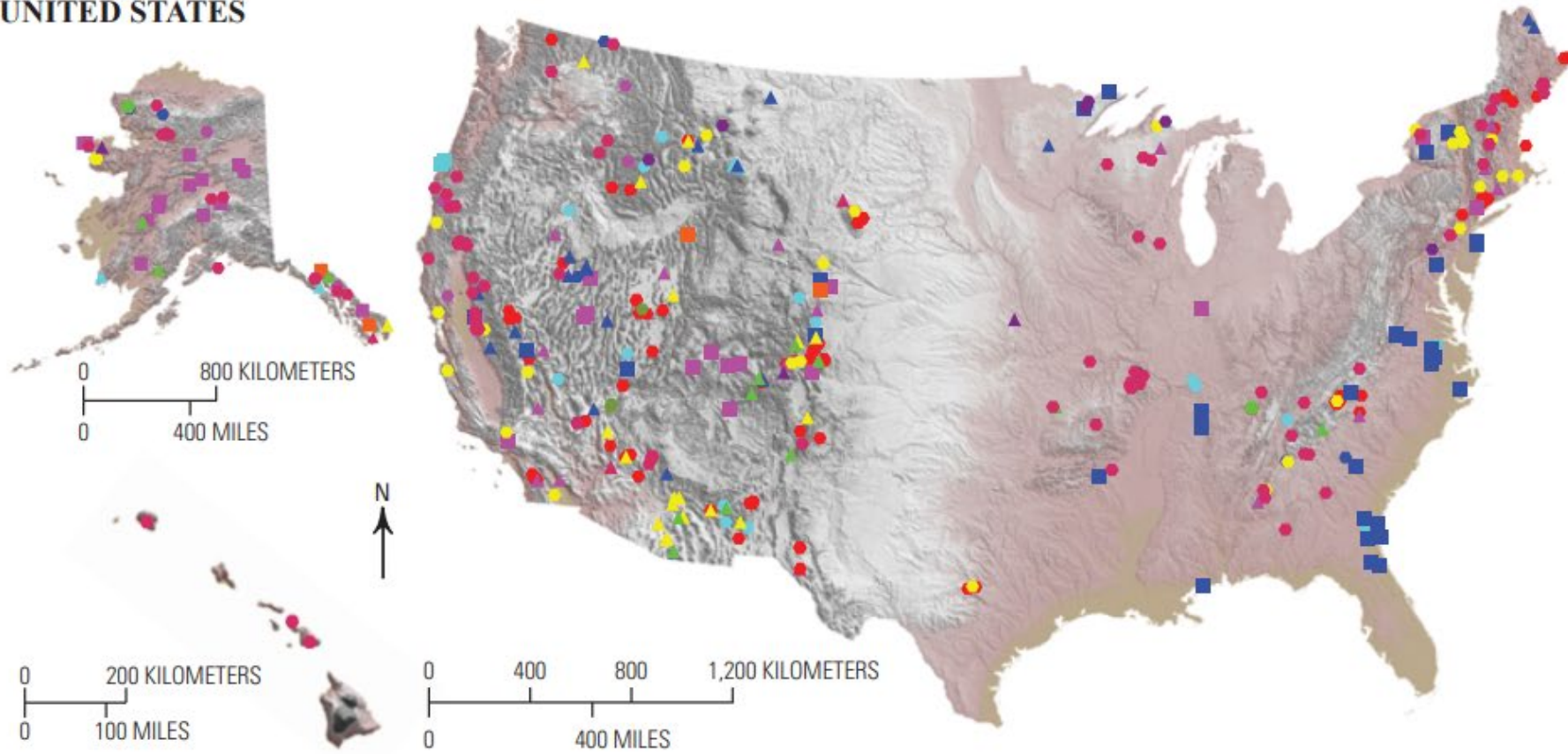
Critical minerals (2022): aluminium, antimony, arsenic, barite, beryllium, bismuth, cerium, cesium, chromium, cobalt, dysprosium, erbium, europium, fluorspar, gadolinium, gallium, graphite, hafnium, holmium, indium, lanthanum, lithium, lutetium, magnesium, manganese, neodymium, nickel, niobium, palladium, platinum, praseodymium, rhodium, rubidium, samarium, scandium, tantalum, tellurium, terbium, thulium, tin, titanium, vanadium, ytterbium, yttrium, zinc, zirconium

Green = battery minerals

Yellow = rare earth elements



## UNITED STATES



## EXPLANATION Critical Minerals

- |             |                           |
|-------------|---------------------------|
| ● Antimony  | ▲ Manganese               |
| ● Barite    | ▲ Niobium and Tantalum    |
| ● Beryllium | ▲ Platinum Group Elements |
| ● Cobalt    | ▲ Rare Earth Elements     |
| ● Fluorite  | ▲ Rhenium                 |
| ● Gallium   | ▲ Tellurium               |
| ● Germanium | ■ Tin                     |
| ● Graphite  | ■ Titanium                |
| ● Indium    | ■ Vanadium                |
| ▲ Lithium   | ■ Zirconium               |

**Figure 1.** Critical mineral resources in Australia, Canada, and the United States (Labay and others, 2017). Critical minerals support a broad range of industrial sectors and a diversity of high-tech industries important to global economies (see Primary Uses of Critical Minerals sidebar).

Base from National Oceanic and Atmospheric Administration ETOPO1 1 Arc-Minute Global Relief Model, 2017

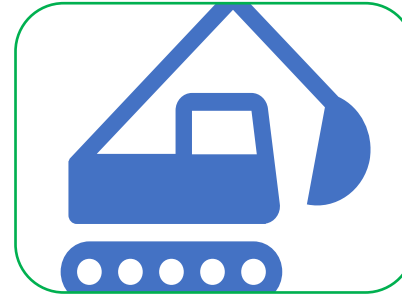
# Critical Minerals Whole-of-Government Actions



Recycling



Sustainability  
Standards



Recovery from  
Mine Wastes



Review and Update  
Mining Laws



Environmentally  
Responsible Mining



International



Engage  
Stakeholders



# Battery Recycling for Critical Minerals

- EPA to develop battery recycling best practices and battery labeling guidelines by Sept. 26, 2026
- Best practices to be implemented by states, tribes, local authorities
- Battery labeling guidelines for producers to promote recycling
- EPA had a request for information comment period and listening sessions in 2022

<https://www.epa.gov/infrastructure/battery-collection-best-practices-and-battery-labeling-guidelines>

# Domestic Mining Actions

- DOI Mining Reform Interagency Working Group (IWG)
- Permitting Action Plan
  - Critical Minerals Permitting IWG
- Specific critical minerals projects

## **Biden-Harris Principles for Mining**

*As the Biden-Harris Administration advances its critical minerals strategy, including expanding domestic production in a timely manner, we must ensure that our actions are conducted with strong environmental, sustainability, safety, Tribal consultation and community engagement standards so that the American public has confidence that the minerals and materials used in our electric vehicles, smartphones, solar panels and other technology are sourced under responsible social, environmental and labor standards and that the Administration wisely stewards our shared natural resources for Americans today and future generations.*

<https://www.doi.gov/sites/doi.gov/files/biden-harris-administration-fundamental-principles-for-domestic-mining-reform.pdf>

# DOI Mining Reform IWG

- DOI/USDA announced some initial recommendations to strengthen tribal involvement in mining on federal land
  - Inform tribes of exploration notices and mining proposals
  - Invite tribes to participate in pre-exploration or mining plan submittal meetings
  - Consult on reclamation plans and financial assurance
  - Make additional efforts to include tribes as NEPA cooperating agencies

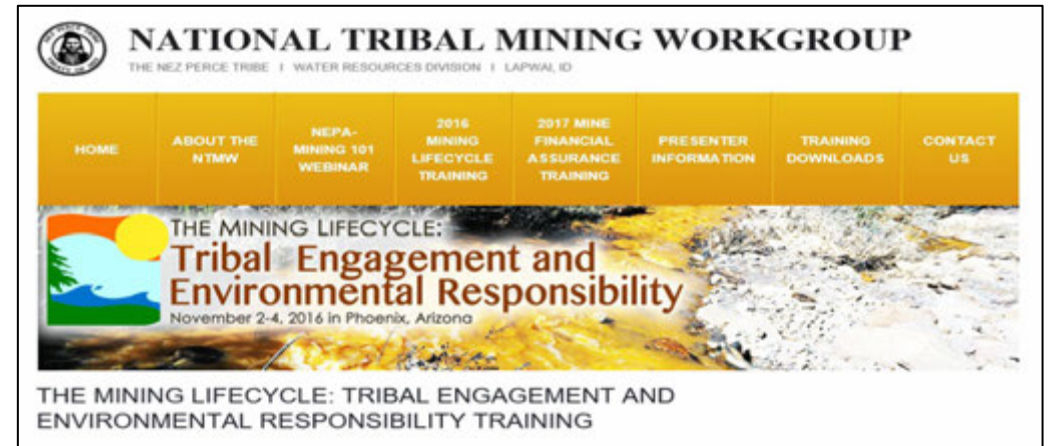
<https://www.doi.gov/pressreleases/departments-interior-agriculture-advance-mining-reforms-aimed-protecting-and>

# How Tribes Can Be Involved

- Government-to-government consultation
- NEPA cooperating agency involvement
- Request information/training from agencies on how to participate in permitting processes
- Maintain early and frequent contact with lead agency and project applicant
- Provide traditional knowledge
- Take agencies to see important resources
- Ask agencies or project applicant for mine site visits
- Participate in meetings and hearings
- Provide comments

# Resources

- Citizen's Guide to NEPA - [https://ceq.doe.gov/get-involved/citizens\\_guide\\_to\\_nepa.html](https://ceq.doe.gov/get-involved/citizens_guide_to_nepa.html)
- EPA R10 Mining Sourcebook - <https://www.epa.gov/smartsectors/mining-source-book>
- NEPA and Mining 101 (recorded webinar) - [https://clu-in.org/training/webinar/NEPAandMining101-1\\_051216/](https://clu-in.org/training/webinar/NEPAandMining101-1_051216/)
- EPA's EIS database (eNEPA) - <https://cdxapps.epa.gov/cdx-enepa-ll/public/action/eis/search?d-446779-p=1&d-446779-o=2&search=&d-446779-s=5&commonSearch=openComment#results>
- *Memorandum on Uniform Standards for Tribal Consultation* (November 30, 2022) - <https://www.whitehouse.gov/briefing-room/presidential-actions/2022/11/30/memorandum-on-uniform-standards-for-tribal-consultation/>
- Advisory Council on Historic Preservation's (ACHP) handbook on *Early Coordination With Indian Tribes During Pre-Application Processes* (2019) - [https://www.achp.gov/sites/default/files/documents/2019-10/EarlyCoordinationHandbook\\_102819\\_highRes.pdf](https://www.achp.gov/sites/default/files/documents/2019-10/EarlyCoordinationHandbook_102819_highRes.pdf) (includes recommendations for both tribes and federal agencies on actions that can be taken prior to initiating consultation)
- Funding: *Bipartisan Infrastructure Law Tribal Playbook* - <https://www.whitehouse.gov/wp-content/uploads/2022/05/Bipartisan-Infrastructure-Law-Tribal-Playbook-053122-.pdf>





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