

Alternative 1 – No Action

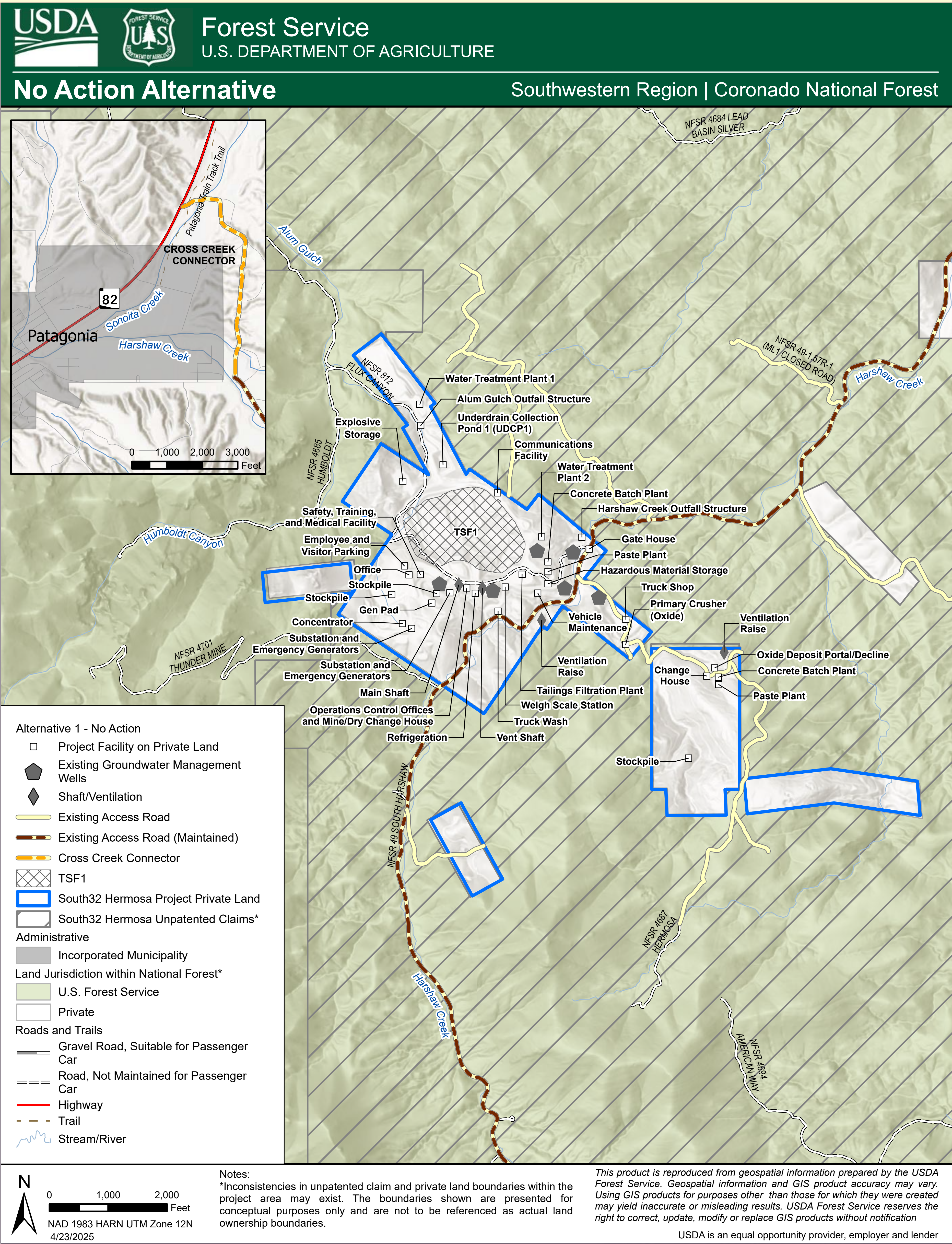
The No Action Alternative outlines what happens if the Proposed Action, or the other action alternative, is not approved by the Forest Service. Activities on private land, including ongoing mine operations subject to regulatory requirements of various state agencies, would continue. Alternative 1 – No Action would occur regardless of Forest Service approval, but analysis of its effects provides a reference for comparison of other alternatives.

Key components of Alternative 1 – No Action include:

- Access Route:** Continued use of National Forest System Road (NFSR) 49 (South Harshaw Road) and NFSR 58 (North Harshaw Road) and construction of a new mine access route (Cross Creek Connector) from State Route 82 to NFSR 58 (North Harshaw Road), based on public feedback requesting that mine traffic avoid the Town of Patagonia.
- Tailings Storage Facility:** Expansion of the existing tailings storage facility 1 on private land to accommodate tailings from sulfide ore mining.
- Power Source:** Power would be supplied through natural gas generators and the existing 13.2-kilovolt distribution line.
- Water Discharge Method:** Water management and treatment of groundwater and water collected in the underdrain collection pond 1 at two existing water treatment plants (WTP1 and WTP2), and discharge of pumped and treated water into Harshaw Creek and/or Alum Gulch.

The following additional activities on and beneath private land include:

- Mining and exploration
- Construction of two vertical shafts (a main shaft and a ventilation shaft) to access the sulfide orebody
- Construction of a decline with two vertical ventilation raises to access the oxide portion of the orebody
- Construction of an integrated remote operating facility (Centro) in the nearby town of Nogales, Arizona
- Construction of an oxide ore beneficiation facility on private land distal from the mine site—anticipated to be located in Arizona
- Mining of the sulfide and oxide ore using the long-hole open stope mining method—involves drilling a series of long vertical holes, blasting to fragment rock around the holes, hauling the mineralized rock for ore processing and the waste rock for underground or surface placement, and leaving behind an opening called a stope that would be re-filled with mine rock or tailings mixed with cemented paste backfill
- Mining would occur for up to approximately 10 years for the sulfide orebody and up to approximately 50 years for the oxide orebody

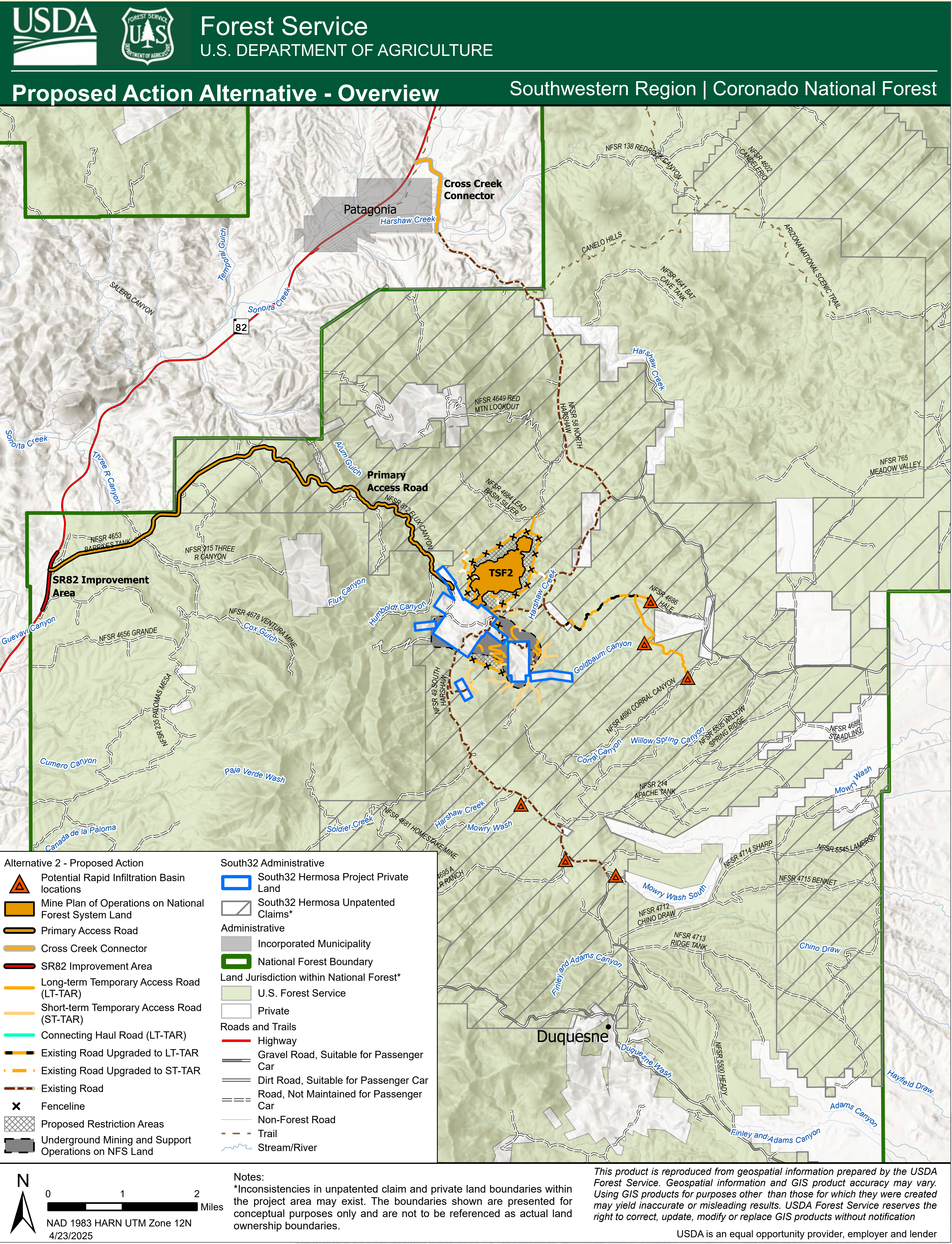


Alternative 2 – Proposed Action

The Proposed Action represents an expansion of exploration and mining operations from South32 Hermosa’s private land onto National Forest System (NFS) land. Activities described under Alternative 1 – No Action would continue in conjunction with activities proposed under Alternative 2 – Proposed Action. A project-specific amendment to the Coronado National Forest Land and Resource Management Plan would be required for this alternative.

Key components of Alternative 2 – Proposed Action include:

- Access Route:** A 7.6-mile Primary Access Road (PAR) would be constructed on NFS land and existing NFS roads would be upgraded. Approximately 4.7 miles of the PAR would be new construction.
- Tailings Storage Facility:** A new tailings storage facility (TSF2) and underdrain collection pond (UDCP2) would be constructed on NFS land.
- Power Source:** Power would be supplied through generators, compressed natural gas delivered by truck, and continued use of an existing 13.2-kilovolt electrical distribution line.
- Water Discharge Method:** Geotechnical and geophysical evaluation at six potential rapid infiltration basin (RIB) locations on NFS land, with selection of two locations for construction of RIBs to discharge treated water from water treatment plant 2.



The following additional operations would occur on and beneath NFS land:

- Up to 26 surface exploration drill pads on NFS land, with up to 10 holes drilled per pad
- An additional 17 surface drill pads within the footprint of TSF2 for the purposes of exploration and geotechnical investigation; and if necessary, to further verify the presence of minerals
- Underground mining and dewatering
- Installation of up to six surface wells for water management
- Installation of two monitoring wells near TSF2
- Construction of new distribution power lines to deliver power internally to mine infrastructure and groundwater management wells
- Construction of short- and long-term temporary access roads
- Restricted (fenced) areas for safety purposes—fenced areas would include the disturbed areas of some of the proposed action components
- Mining for the sulfide ore for up to 30 years, and up to 70 years for the oxide ore
- Reclamation and closure activities
- Long-term monitoring for at least 30 years following closure and reclamation, or until physical and geochemical stability has been achieved and revegetation goals have been met

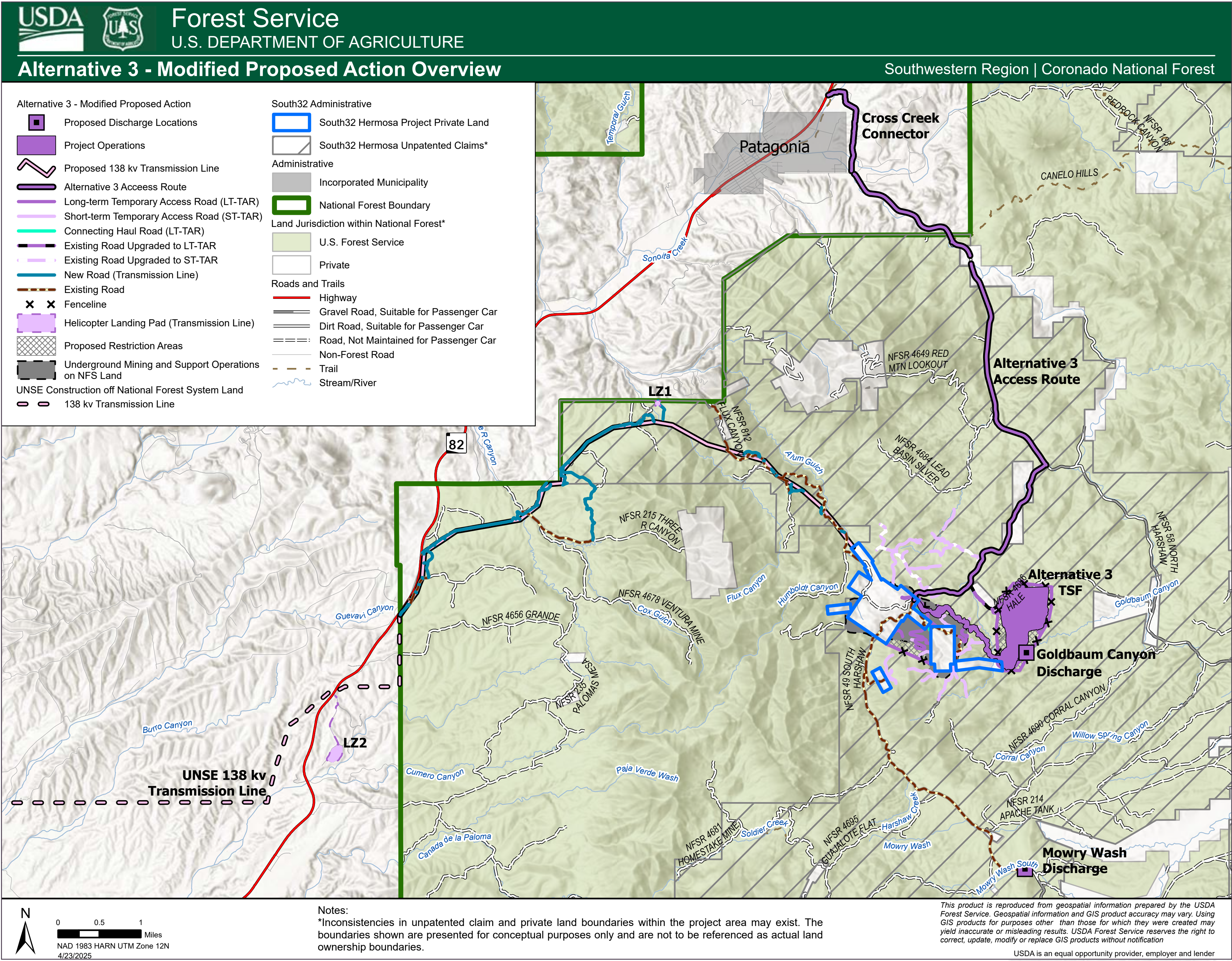


Alternative 3 – Modified Proposed Action

This alternative was developed in response to input received from scoping and collaboration with Cooperating and Participating Agencies. It represents a series of alternative options for how individual components of the Proposed Action on National Forest System (NFS) land could be located elsewhere, conducted differently, or otherwise changed to reduce impacts. Most of the facilities on NFS land proposed under Alternative 2 – Proposed Action would be part of this modified alternative. A project-specific amendment to the Coronado National Forest Land and Resource Management Plan would be required.

Four key changes under Alternative 3 – Modified Proposed Action include:

- 1. Access Route:** National Forest System Road (NFSR) 49 (South Harshaw Road), NFSR 58 (North Harshaw Road), and the Cross Creek Connector to avoid the Town of Patagonia would be used for the life of the mine. There would be no construction of the Primary Access Road as proposed in Alternative 2 – Proposed Action.
- 2. Tailings Storage Facility:** An alternate tailings storage facility (Alternative 3 TSF) would be constructed on NFS lands approximately 1 mile southeast of the location of TSF2 described in Alternative 2 – Proposed Action.
- 3. Power Source:** A new 138-kilovolt overhead transmission line segment would be constructed on NFS land by UNS Electric, Inc. (UNSE) to serve the project. The transmission line would also support service reliability for UNSE customers in the San Rafael Valley, Washington Camp, and Lochiel areas of southern Arizona.
- 4. Water Discharge Method:** Treated water from water treatment plant 2, including water from mine dewatering beneath NFS land, would be discharged directly into Goldbaum Canyon and Mowry Wash through discharge control structures on NFS land, in addition to the current discharge on private land into Harshaw Creek. No rapid infiltration basins would be constructed as described under Alternative 2 – Proposed Action.



The following additional operations would occur on and beneath NFS land:

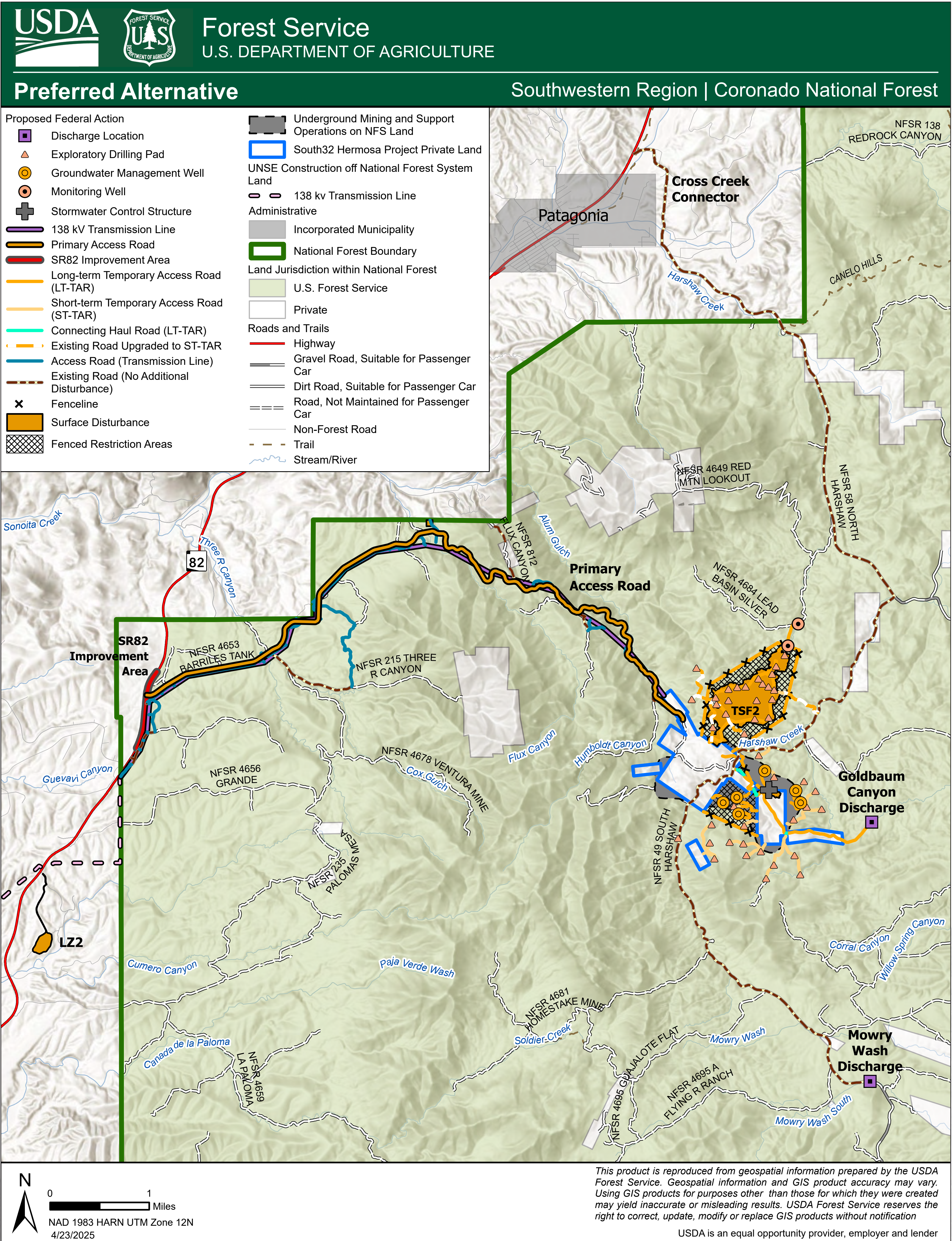
- Up to 43 surface exploration drill pads on NFS land, with up to 10 holes drilled per pad
- Up to 6 additional surface drill pads within the footprint of Alternative 3 TSF for the purposes of exploration and geotechnical investigation, and if necessary, to further verify the presence of minerals
- Underground mining and dewatering
- Installation of up to six surface wells for water management
- Installation of four monitoring wells near Alternative 3 TSF
- Improvements to NFSR 49 (South Harshaw Road) and NFSR 58 (North Harshaw Road) on NFS land and South32 Hermosa private land
- Construction of new distribution power lines to deliver power to mine infrastructure, and groundwater management locations
- Construction of short- and long-term temporary access roads
- Restricted (fenced) areas for safety purposes—fenced areas would include the disturbed areas of some of the modified proposed action components
- Construction of two helicopter landing zones (one on private land and one on NFS land) to support transmission line construction
- Geophysical and geotechnical investigation and soil testing to support final design and construction plans for the 138-kilovolt transmission line
- Mining for the sulfide ore for up to 30 years, and up to 70 years for the oxide ore
- Reclamation and closure activities
- Long-term monitoring for at least 30 years following closure and reclamation, or until physical and geochemical stability has been achieved and revegetation goals have been met



Preferred Alternative

The Responsible Official/Authorized Officer of the Coronado National Forest has identified the following preferred alternative, composed of components of Alternative 2 – Proposed Action and Alternative 3 – Modified Proposed Action. A project-specific amendment to the Coronado National Forest Land and Resource Management Plan would be required for the preferred alternative.

- Preferred Access Route:** The preferred alternative includes the proposed Primary Access Road instead of continued use of National Forest System Road (NFSR) 49 (South Harshaw Road), NFSR 58 (North Harshaw Road), and the Cross Creek Connector.
- Preferred Tailings Storage Facility:** The preferred alternative includes the proposed TSF2 and underdrain collection pond (UDCP) 2, instead of the Alternative 3 TSF and UDCP and their associated roads, drainage controls, and fencing.
- Preferred Power Source:** The preferred alternative includes the proposed 138-kilovolt overhead transmission line segment on National Forest System (NFS) land instead of the use of natural gas generators and compressed natural gas.
- Preferred Water Discharge Method:** The preferred alternative includes direct discharge of treated water from water treatment plant 2 into drainages instead of construction of two rapid infiltration basins on NFS land.
- Other Preferred Components:** The preferred alternative includes components common to Alternative 2 – Proposed Action and Alternative 3 – Modified Proposed Action, including aspects of underground mining, underground dewatering, the groundwater management program, the mineral exploration program, construction of both short-term and long-term temporary access roads for access to site facilities on NFS land, upgrades of existing NFS roads, installation of monitoring wells, and installation of fencing.



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