

**Resolution Copper Project and Land Exchange
Environmental Impact Statement**

USDA Forest Service
Tonto National Forest
Arizona

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(Update #1 February 26, 2018)

Process Memorandum to File

Mine Life Phase Durations

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Purpose of Process Memorandum

The purpose of this process memorandum is to provide consistent time frames for each of the three mine phases—(1) construction, (2) operations, and (3) closure and reclamation—and the overall mine life as described for the proposed action in the “General Plan of Operations” (GPO). At this time, these time frames and mine life are applicable to all action alternatives. If necessary, time frames and mine life specific to an action alternative may be developed in the future. The term “mine year” is defined as a year after the final record of decision (ROD) has been signed and the final GPO has been approved.¹ The primary source for these time frames is table 1.8-1 of the GPO.²

Overall Mine Life: 51 to 56 years after ROD and final GPO approval, depending on duration of closure and reclamation phase

Construction Phase: Mine years 1 through 9

The construction phase would begin after the final ROD has been issued and a final GPO is approved by the Tonto National Forest. Some construction activities are already occurring on private lands because they are not subject to this National Environmental Policy Act (NEPA) review or because other federal/state/local oversight and/or have already obtained any required federal/state/local permits for the activities (e.g., deepening Mine Shaft 9). The overall construction phase would have a duration of up to 9 years; however, the construction of the filter plant and loadout facility would be completed at approximate mine year 2. Construction activities at the tailings storage facility during the construction phase would include site preparation (e.g., roads, admin building, soil stockpiling); however, it is important to note that the construction of the tailings storage facility would continue throughout the entire mine life while tailings are being produced and, for certain action alternatives, while the facilities are concurrently reclaimed. Section 3.3.10.7 in the GPO provides details on the tailings storage facility construction phases for the proposed action.

Operations Phase: Mine years 6 through 46

The operations phase would begin before the construction phase is complete because ore processing facilities would be operational at approximate mine year 6. All main facilities will be functioning for the full 40-year duration of the operations phase. The operations phase duration assumes that an interim shutdown would not occur. Should an interim shutdown occur, modification of the mine life and remaining mine phase durations would be dependent on the extent and duration of the interim shutdown.

Closure and Reclamation Phase: Mine years 46 through 51 to 56

Closure would occur at mine year 46 and reclamation activities would occur at the main facilities for a duration of 5 to 10 years. The GPO states that this time frame will be “further refined during the NEPA process,” so this time frame could change. Reclamation activities are not relegated to occur during this phase; some reclamation activities will occur concurrently during construction and operations phases. Post-closure monitoring would continue after the closure and reclamation phase is completed.

¹ Should construction implementation be substantially delayed after the GPO has been approved by the Forest Service (for example, by litigation), the trigger for tracking mine years will be reviewed and updated by the Forest Service.

² Multiple versions of the GPO exist. See process memo titled “History of Revisions to General Plan of Operations” (Project Record #0000995) for full details. The version of the GPO in question is dated May 9, 2016 (Project Record #0000802).

Other Time Frames:

Pre-Decision Activities: Throughout the GPO, activities are described that are either currently occurring or will occur on private lands prior to the final ROD and final GPO approval. Examples of these activities include underground geology characterization studies, rehabilitating mine shafts, and conducting baseline studies, all of which are either authorized by previous NEPA decisions, or do not require federal approval. The GPO states defines this time frame as the 5 years prior to the final ROD and final GPO approval; in reality this time frame is concurrent with preparation of the environmental impact statement.

Subsidence (from ITASCA Consulting Group assessment): A subsidence analysis completed in July 2017 by ITASCA Consulting Group updated the original subsidence analysis provided in appendix E of the GPO. Surface break through would be expected to occur approximately 6 years after commercial mining starts (approximately mine year 12). Subsidence in the Caved Rock Zone and Fracture Zone would continue through operations and generally stop widening and deepening at mine year 47. Subsidence would continue indefinitely within the Continuous Subsidence Zone, but would not be visibly noticeable.

Water Supply: Annual water use will vary throughout the life of the mine as described in section 3.6 of the GPO and summarized in the June 5, 2017 (revised October 9, 2017), process memo titled “Summary of Mine Water Balance and Sources.” For the purposes of estimating total water use, years with similar water use were lumped together into the general phases to reflect construction/startup, operations, and ramp down of operations/mine closure. The majority of water use for construction will occur during mine years 1 through 7. The majority of water use for operations will occur during mine years 8 through 36. As operations ramp down and ore production decreases, water use will decrease. This occurs in mine years 37 through 45.

Update #1- Alternatives Portfolios:

Resolution Copper was requested to cross check the information in this memo and to provide clarification regarding the timing terminology and timeframes that Resolution Copper and their consultants use in the GPO and supporting documentation. On February 8, 2018, Resolution Copper provided clarification on mine phase terminology and time frames in their documents, per the attached schedule. Note that Resolution uses the term “mine year” for the production phase only. The EIS will continue to use the mine phases and “mine years” identified above in this memo. The following information is intended to help clarify mine phase terminology that authors may encounter in Resolution Copper’s documents. In summary, Resolution Copper uses the following mine phases and timeframes:

Mine Phase	Sub-phase	Description	Years
Care and Maintenance/Baseline	None	Now through Final ROD (anticipated in 2020)	2017-2020
Construction	None	Starts at ROD, no ore production, site preparation/started dam construction	2021-2027
Production		Start of ore production.	2028-2068
	First Ore	Mine Year 1	2028
	Ramp Up	Mine Year 2 through 7	2029-2034

	Full Production	Mine Year8 through 31	2035-2058
	Ramp Down	Mine Year 32 through 41	2059-2068
Closure	None	Cessation of ore production.	2069

