

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

USDA Forest Service  
Tonto National Forest  
Arizona

August 6, 2018

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## **Process Memorandum to File**

### **Socioeconomics Resource Analysis: Assumptions; Methodology Used; Relevant Regulations, Laws, and Guidance; and Key Documents**

This document is deliberative and is prepared by the third-party contractor in compliance with the National Environmental Policy Act and other laws, regulations, and policies to document ongoing process and analysis steps. This document does not take the place of any Line Officer's decision space related to this project.

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## Revision History

| Date     | Personnel     | Revisions Made   |
|----------|---------------|--|
| 08/06/18 | Emily Newell  | Process memorandum created.  |
| 10/29/18 | Emily Newell  | Revisions to memorandum title, revision history table added, edits to purpose of process memorandum section, references and key documents section added. |
| 11/15/18 | Emily Newell  | Edits to references cited, laws and regulations table.   |
| 11/20/18 | Emily Newell  | Additional laws and regulations from socioeconomic technical report.   |
| 01/14/19 | Emily Newell  | Ready for project manager review.  |
| 8/4/19   | Emily Newell  | Update process memo for draft environmental impact statement section.  |
| 12/30/20 | Chris Garrett | Final update for consistency prior to final environmental impact statement release.  |

## Purpose of Process Memorandum

In order to provide a concise and accessible summary of resource impacts, certain detailed information has not been included directly in the environmental impact statement (EIS). The purpose of this process memorandum is to describe additional supporting resource information in detail. The socioeconomics section of chapter 3 of the EIS includes brief summaries of the information contained in this process memorandum. This process memorandum covers four basic topics:

- Resource analysis area
- Analysis methodology
- Regulations, laws, and guidance
- References and key documents

## Detailed Information Supporting Environmental Impact Statement Analysis

### Resource Analysis Area

The socioeconomic analysis focused primarily on the region informally known as the “Copper Triangle,” which encompasses the location of the proposed mine, and most closely examined potential effects in the town of Superior, which is the closest community. Other communities within the Copper Triangle include the Queen Valley Census Designated Place (CDP), Cutter CDP, city of Globe, town of Hayden, town of Kearny, town of Miami, San Carlos CDP, Bylas CDP, Peridot CDP, Top-of-the-World CDP, and town of Winkelman. Although most of the Copper Triangle is located in Pinal

and Gila Counties, Maricopa County was also included in the socioeconomic analysis because a substantial portion of the workforce for the proposed mine would be expected to commute from the Phoenix Metropolitan Area. Pima County is farther from the proposed mine and unlikely to be substantially affected by construction or operations but was included in the regional economic impact analysis (see section 3.13.4 of the final EIS) based on information indicating that suppliers in Pima County would likely provide goods and services to support mining activity.

### **Analysis Methodology**

Modeling design. Due to limitations in zone improvement plan (ZIP) code–level data and the Economic Impact Analysis for Planning (IMPLAN) modeling system, assessing impacts at these varied levels of geography required the development and use of multiple IMPLAN models.

- **County-based model.** Effects across the broader study area were assessed using a county-based model. Direct effects would occur in Pinal County. The Pinal County model was linked to models for Gila County, Maricopa County, Pima County, and Graham County using IMPLAN’s multiregional input-output (MRIO) analysis capability. This allowed BBC Research and Consulting (BBC) to estimate trade flows between these counties. Aggregate results for the broader study area were obtained by exporting the results from each county’s model and summing them in Microsoft Excel.
- **ZIP code–based model.** Estimating more localized economic effects required the development and use of two models based on ZIP code–level geography. The MRIO capability of estimating trade flows between different areas is not available at the ZIP code level, due to limitations on ZIP code–level data and the corresponding inability to estimate trade flows between ZIP codes; however, IMPLAN does recommend a strategy for creating approximate MRIO analysis to estimate trade flows between areas using ZIP code data. BBC employed that strategy as follows:
  - Initially, a model was created for Superior alone, using the ZIP code that encompasses the town, and an impact analysis was run for that geography.
  - A model was then created that also included the other ZIP codes within the Copper Triangle, and the same impact analysis was run on that geography.
  - By subtracting the results from the first run from the results from the second run, it was possible to estimate the impacts on the remainder of the Copper Triangle (net of Superior).
  - By comparing the results from the second run to the results for Pinal and Gila Counties from the county-based model, the approximate effects in the non–Copper Triangle portions of those two counties could be estimated.

Full detail on analysis methodology for socioeconomics is available in “Socioeconomics Technical Report” (BBC Research and Consulting 2018), and the version updated for the final EIS (BBC Research and Consulting 2020).

## Regulations, Laws, and Guidance

Mining operations are subject to a wide range of Federal, State, and local requirements. Table 1 provides a summary of socioeconomic laws, regulations, policies, and plans at the Federal, State, and local level.

**Table 1. Socioeconomic laws, regulations, policies, and plans at the Federal, State, and local level**

| <b>Laws, Ordinances, Regulations, and Standards</b>  | <b>Description</b>  | <b>Applicability</b>  |
|--|---|---|
| U.S. Forest Service (Forest Service) "Economic and Social Analyses Handbook" (Forest Service Handbook 1909.17) | Provides guidelines to be used to evaluate socioeconomic impacts that may result from policy, program, plan, or project decisions on National Forest System lands.  | Socioeconomic impacts as a result of the land exchanges and Resolution Copper Project General Plan of Operations are analyzed in this EIS.  |
| Tonto National Forest Land Management Plan   | Provides comprehensive management direction for resources on National Forest System lands. This includes plan direction for management, protection, and uses of Tonto National Forest. Monitoring conditions on the Tonto National Forest ensures projects are done in accordance with plan direction and identify conditions that might require a change in the forest plan. | One of the purposes of the forest plan is to be responsive to changing conditions of land and other resources and to changing social and economic demands of the American people.   |
| Chapter 1970, Social and Economic Evaluation (Forest Service Manual 1970.1)                                    | Directs how economic and social analyses should be conducted to aid Forest Service decision making.   | Economic and social analyses performed as part of preparation of this EIS will follow direction by chapter 1970.1 of the Forest Service Manual.   |
| Longitudinal Employer-Household Dynamics Program   | Provides new dynamic information on workers, employers, and jobs with state-of-the-art confidentiality protections and no additional data collection burden.  | Produces new, cost-effective, public-use information combining Federal, State, and Census Bureau data on employers and employees, providing the Forest Service with detailed local information about their economies so they may make an informed decision. |

| <b>Laws, Ordinances, Regulations, and Standards</b>             | <b>Description</b>  | <b>Applicability</b>   |
|---|---|--|
| Arizona Revised Statutes (ARS) Section 42-17151, Property Taxes | Property taxes paid by Resolution Copper Mining LLC (Resolution Copper) on the mine itself. | Resolution Copper property taxes will be paid to Pinal County and other entities with property taxes authority of Resolution Copper's landholdings. Property taxes represent the single largest source of new government revenues from the proposed mining operations.   |
| ARS Title 42, Chapter 5, Article 5, Severance Taxes             | Severance taxes paid by Resolution Copper.  | Severance taxes would be paid to the State of Arizona, with a portion shared to local governments based on income. As an operating mine, Resolution Copper would have the responsibility to pay severance taxes, producing substantial revenue for the State of Arizona.   |
| ARS Section 43-1101 et seq., Corporate Income Taxes             | Corporate income taxes paid by Resolution Copper.   | Corporate income taxes would be paid by Resolution Copper to the State of Arizona, with a portion shared to cities based on population through Urban Revenue Sharing Fund. Corporate income taxes are estimated to provide \$1.7 billion in revenues to the State of Arizona over its anticipated life.  |
| ARS Title 42, Chapter 5, Article 1, Transaction Privilege Taxes | Sales taxes paid by Resolution Copper.  | Transaction privilege taxes would be paid to local governments and the State of Arizona, with a portion of the State revenues shared to local governments based on population. Transaction privilege taxes are the other primary source of local government revenues. These taxes may be levied against some of the purchases of goods by Resolution Copper as well as purchases by employees of the mine and employees whose jobs would be indirectly supported by the mine's activities. |
| ARS Section 43-1011, et seq., Employee Income Taxes             | Income taxes paid by Resolution Copper employees.   | Employees of Resolution Copper would be subject to state income tax, to be paid to the State of Arizona, with a portion shared to cities based on population through Urban Revenue Sharing Fund.   |
| ARS Title 42, Chapter 11, Article 1, Employee Property Taxes    | Property taxes paid by Resolution Copper employees.   | Employees residing within Arizona would be subject to property taxes, to be paid to the jurisdictions in which the employees reside. Employee property taxes represent the final major source of government revenues related to the proposed mine.   |

## Key Documents and References Cited for Socioeconomics

The following list is meant to highlight key process or analysis documents available in the project record. It should not be considered a full list of all available documentation considered within this process memorandum or the EIS analysis.

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