

September 23, 2021

Robertson's  
200 South Main Street, Suite 200  
Corona, California 92882

Attention: Ms. Christine Goeyvaerts  
P: 951-760-4241  
E: christineg@rrmca.com

Subject: Summary of Field Reconnaissance and Data Review  
Evidence of Mining Activity in the Cajalco Mining Area  
Riverside County, California  
Terracon Project No. CB215076

Dear Ms. Goeyvaerts:

This firm has prepared this letter summarizing our field reconnaissance of a 10-acre parcel (SE ¼ of Section 10, T4S, R6W, SBBM) and adjacent lands located north of Cajalco Road and east-southeast of Eagle Canyon Road and mined areas south of Cajalco Road. These areas of interest (AOI) are sequentially numbered on the enclosed figures for reference. We appreciate the opportunity to assist in providing assessment of these areas in relation to past mining activity.

Our scope of services, as authorized in the supplemental agreement dated June 3, 2021, included geologic field reconnaissance, review of available historical documents and aerial photographs, pertinent maps, and LiDAR data provided for our use, and preparation of this letter report documenting evidence of past mining in the subject areas. LiDAR data are described herein as 1) color and 2) 315, indicating gray-scale imagery with an artificial sun angle at 315 degrees azimuth.

Based on the Geologic map of the Lake Mathews 7.5' quadrangle, Riverside County, California by Morton, D.M., Weber, F.H., Diep, V.M., and Edwards-Howells, Ursula, U.S. Geological Survey Open-File Report OF-2001-479 dated 2002, the subject areas are underlain by crystalline bedrock units that include metasedimentary rocks, Estelle Mountain Volcanics, and Monzogranite. The terrain is hilly. Prominent rock outcrops are located in drainages that dissect the area. A Geologic Map indicating the AOIs is attached.

Features noted during our data review and field reconnaissance are numbered on the attached Site Maps (4 sheets) for reference. An Index Map showing the 4 map areas is also included. The following sections describe fourteen (14) features/areas addressed during ground-based observations and related data.

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Area 1: Consists of a hill top with rock outcrop. An access road approaches a pad excavated into the hilltop outcrop from the north. No improvements are present here. The pad suggests a potential drill hole location that was not utilized. This feature is visible on LiDAR (color) imagery. Mining use is not evident for this feature.

Area 2: An area exhibiting surface disturbance of original soils and vegetation. The disturbance is visible as light-colored ground in aerial image dated 1967. Prominent rock outcrops not present in this area; however, surface is weathered portion of Estelle Mtn. bedrock unit. The timing, the 1960s during the Corona Quarries tenancy, suggests possible mineral exploration. LiDAR imagery reveals ground disturbance and several roads traversing this area that are consistent with clay mining/exploration. An apparent trench-like feature or soil windrows are within the northern portion of Area 2. Mining use of this area is possibly related to surface-level exploration, including exploration for clay deposits. The disturbance post-dates construction of the MWD lower feeder line; however, it may be related to the feeder line or road maintenance.

Area 3: A north-south trending canyon bisects hillside terrain. We noted surface water and dense vegetation along the canyon bottom. A road cut, visible in 1931 aerial imager and LiDAR imagery and verified in the field, traverses along the west side of the canyon slope and turns westward to a former fill area in the drainage. Based on overlay of mineral occurrences from the Tin Mine Disturbances map by Compass Land Group, a tourmaline vein (tin ore source) is located within the northeastern portion of Area 3. LiDAR imagery reveals a trench feature in the bedrock ridge within Area 3. Ground observations of the trench confirm excavations along a northeast-trending dike (mineralized zone). The dike consists of a dark gray, coarse-grained intrusive vein within lighter-colored Estelle Mountain Volcanics. The dike is exposed along the trench with raised ground along the downhill side indicating excavation to expose previously buried portions of the dike. Along the southwestward continuation of this dike, we observed an excavated area with similar vein mineralization. This feature lies within Area 3. Comparison of hand samples collected at each dike locality indicates that the mineral composition of this dike is identical to a dike located north of Tin Mine Road and documented as a former tin mining location. The dike north of Tin Mine Road includes underground excavation of the dike (an adit) and a mine spoils pile at the canyon bottom. These features coincide with mining/mineralization features on the 'TIN MINE MAP'. Mining use of a portion of Area 3 is clear based on our assessment of aerial imagery, maps, and field observations. The road cut (1931 aerial) described previously trends northward toward the vicinity of the dike excavation within Area 3 and is interpreted to be consistent with access to this mining area.

Area 4: A north-south trending linear feature suggesting a trench. This is determined to be a long-lived erosion rill associated with a tank pad visible in aerial imagery dated 1967. Area

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4 is clearly defined in LiDAR (color and 315) imagery. Mining use is not indicated for this feature.

Area 5: A road cut providing access to a power pole. Visible in aerial imagery dated 1962. LiDAR (color and 315) imagery reveals both well-defined and subtle road-like features and ground disturbance east of this general area that are consistent with clay mining/exploration. In addition, a north-south trending lineament (LiDAR 315) formed along an apparent vegetational boundary suggests clearing/disturbance of the slopes west of the lineament. The lineament trends along the southward projection of a defined road. Based on location and timing, ground disturbance and roads may be associated with construction of the MWD lower feeder line or may be associated with small-scale exploration for surface clay resources. There are no clear spoils piles or other features indicative of intensive mining use.

Area 6: A road cut/dozer scrape path trending along a bedrock ridgeline. Visible in aerial imagery dated 2020 and LiDAR 315. Physically connects with the powerline access road network at its northern end. Extends southward to a drainage and area of apparent fill of Area 3. Clearly defined in LiDAR (color and 315) imagery. This feature is consistent with surface explorations for mining using a bulldozer to create shallow bedrock exposure along a transect and could be associated with a reported prior attempt to develop a quarry (Harlow Hill Development report (1984). Mining use/exploration is not determined, but is suggestive, for this area.

Area 7 (June 30 Area 1): This area is bisected by a modern mine access road and bounded along the south by Eagle Canyon Road. A substation/pump station occupies a ridgetop in the northeastern portion. Ground reconnaissance revealed a hilltop cut/scrape area, a likely fill area with 'two-track' road, and abandoned road within Area 7. The abandoned road was noted during ground reconnaissance and is overgrown but is visible as a lineament on aerial photos dated 1994. It is also visible on aeriels dated 1953 as a defined cut. The road appears to continue northward in 1953 imagery. This road is a possible side-hill prospect consistent with mining surface exploration - including known exploration for surface clay resources as described by Gray and others (1961) for the adjoining Section 16 of Township 4 South, Range 6 West - using a bulldozer to expose near-surface materials along a transect. The hilltop scrape and roadway are clearly defined in LiDAR (color and 315) imagery. In addition, two linear road-like features are visible in LiDAR (color and 315) imagery within the southwest portion of Area 7 and appear to be associated with power poles located near the terminus of each road. Outcrops within this area were described in the Harlow Hill Development Report (Locations 14a and 14b of map Harlow Hill report dated 1984) that states "rock apparently belonging to the Temescal Wash quartz latite porphyry and suitable for quarry operations crops out extensively". Based on the map included in the Harlow Hill Development report (1984), Area 7 is a documented mining exploration site. In addition, the

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presence of disturbed ground and abandoned roads dating from at least 1953 suggests earlier mining exploration associated with near-surface clay resources.

Area 8 (June 30 Area 2): An area of former structures with a hillside cistern (circular concrete basin) accessed from Cajalco Road. This area is littered with modern household debris, landscape trimmings and other end-dumped trash. Several concrete pads indicating the locations of former structures, now partially obscured by mature trees, were observed during the ground reconnaissance. Structures are visible at the pad locations in 1938 aerial imagery. A road extending up canyon beyond the structures is also visible in 1938 imagery. This road is also visible in 1931 aerial imagery, but structures are not clear. A trench-like feature below a bedrock outcrop was observed on the hillside west of the former structure area. The cistern and trench features are visible in aerial and LiDAR imagery (315). A spoils pile or other feature indicating substantial exploration were not observed below the trench. Clearly defined indications of mining at this location are not identified; however, the location of the structure pads, the associated cistern and canyon road suggest a temporal association with near-site activities during the 1930s or earlier, and may be remnants of known historic housing for public works employees associated with the construction of Cajalco Road.

Area 9 (June 30 Area 3): This area consists of a road network extending along the south and north sides of an east-west trending ridgeline with areas of past disturbance visible in aerial and LiDAR (color and 315) imagery. An overgrown trench excavation, observed during the ground reconnaissance and clearly visible in LiDAR (color) imagery, is located on a topographic saddle in the eastern portion. This trench - and a cleared area to the south - is first visible in 1959 aerial imagery. A road segment along the north side of the ridgeline first appears in the 1959 imagery and is now overgrown with mature shrubs. An earlier and more extensive road is visible along the south side of the ridgetop in aerial imagery dated 1931. Terrace deposits with rounded cobbles (a likely gravel/aggregate source) occupy the higher portion of the Area 9 ridgeline. A road extends from the ridgetop downslope to Cajalco Road (visible in LiDAR (color) and aerial imagery). A borrow area adjacent to Cajalco Road is located south of this area. A drill hole location identified by surface spoils and a mud pit was observed west of this area and is likely associated with mining exploration related to the Harlow Hill Report location HH-13. Based on the features observed in Area 9, we conclude that past mineral/materials resource explorations/use are associated with this area. These uses may include supplying materials for the construction of Cajalco Road and Cajalco dam as well as gravel and aggregate mining.

Area 10 (June 30 Area 4): This elongate area extends along hillsides flanking an east-west oriented drainage feature south of Cajalco Road. A roadcut extends along the south side of the drainage. An area of disturbance is located in the western portion (visible in LiDAR (color) imagery and aerial photographs). A subtle road/path-like feature on an isolated ridgeline observed during the ground reconnaissance is located at the eastern end of Area



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10 is visible in LiDAR (315) imagery and corresponds with the mining exploration location HH-11 as shown on the Harlow Hill Report map (Harlow Hill report 1984). This road/path is consistent with mining exploration using a bulldozer to expose near-surface materials. A vertical exposure of cemented gravel (possible terrace deposits) suggestive of gravel mining was noted during ground reconnaissance near the drainage bottom in the east-central portion of this Area 10. Mining exploration is clearly documented for Area 10 in the Harlow Hill Development report (1984). Possible additional disturbances associated with Area 10 include supplying materials for the construction of Cajalco Road and Cajalco dam, gravel and aggregate mining, and possible use by Liston Brick Co. to supply their local plant located on Cajalco Road.

The following sections address several AOIs located south of Cajalco Road identified and assessed with aerial and LiDAR imagery.

Area 11: This hillside area includes several trench features visible in aerial and LiDAR imagery. At least four (4) trenches are apparent. A subtle road feature trends northwesterly across Area 11 and is visible in aerial and LiDAR (315) imagery. These features are consistent with exploratory cuts and trenches created with a bulldozer and used in mining for exploration and/or resource extraction. This area is at the outer edge of the area of influence for either (i) the Cajalco Clay Pit or (ii) the existing Hubbs-Harlow Pit. Past mining uses of Area 11 are strongly indicated and are likely associated with known operations at the Hubbs-Harlow Quarry, Harlow Clay Pit, and-or Cajalco Clay Pit.

Area 12: This area includes several sinuous elongate trench excavations visible in aerial (1967) and LiDAR imagery. These excavations are consistent with mining explorations using a bulldozer. Area 12 is within the area of influence of the Hubbs-Harlow quarry. Reddish surface clay deposits are exposed in a modern roadcut approximately 600 feet west of this area suggesting a possible clay mining association. Alternatively, these trenches may be related to early phases of the ongoing aggregate/rip rap mining. In either case, mining use is clearly indicated for Area 12 and is likely associated with known operations at the Hubbs-Harlow Quarry, Harlow Clay Pit, and-or Cajalco Clay Pit.

Area 13: This area includes at least three trench excavations that are well-defined in aerial and LiDAR (315) imagery. The trenches trend subparallel to each other in a southwesterly direction. These trenches are consistent with mining surface explorations/excavations using a dozer. Area 13 is within the area of influence of the Hubbs-Harlow quarry. Mining use is strongly indicated for Area 13 and is likely associated with known operations at the Hubbs-Harlow Quarry, Harlow Clay Pit, and-or Cajalco Clay Pit.

Area 14: This area includes several east-west trending trench excavations that are well-defined in aerial and LiDAR (315) imagery. Area 14 is within the area of influence of the Hubbs-Harlow quarry. These trenches are consistent with mining surface explorations using

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a bulldozer. Disturbances within approximately 100 feet south of the Area 14 features first appear in aerial imagery dated 1952 and are likely associated with known operations at the Hubbs-Harlow Quarry, Harlow Clay Pit, and/or Cajalco Clay Pit. A north-south trending road bisects Area 14. Reddish clay deposits were photographed in a prominent cut located south of the Area 14 trenches in March 2013. Mining use is strongly indicated for Area 14.

We appreciate this opportunity to be of service and trust this letter provides the information required at this time. Should questions arise, please contact this firm at your convenience.

Sincerely,

**Terracon Consultants, Inc.**

John S. McKeown, E.G. 2396  
Senior Geologist

Jay J. Martin, E.G. 1529  
Principal Geologist

JMc/JJM:lb

Attachments:

References

Geologic Map

Index Map

Site Maps (4 sheets)

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### References

Compass Land Group, 2021, Pre-1966 Mining Operations & Activities, map dated June 2, 2021.

Compass Land Group, 2021, USGS Plate-3 Tin Mine Disturbances, map dated June 2, 2021.

Morton, D.M. and Miller, F.K., 2006, Geologic Map of the San Bernardino and Santa Ana 30x60 minute quadrangles, California, U.S. Geological Survey Open-File Report 2006-1217.

Saul, R.B., Gray, C.H., Jr., and Evans, J.R., 1961, Mines and Mineral Resources of Riverside County, California, California Division of Mines and Geology, unpublished, preliminary manuscript.

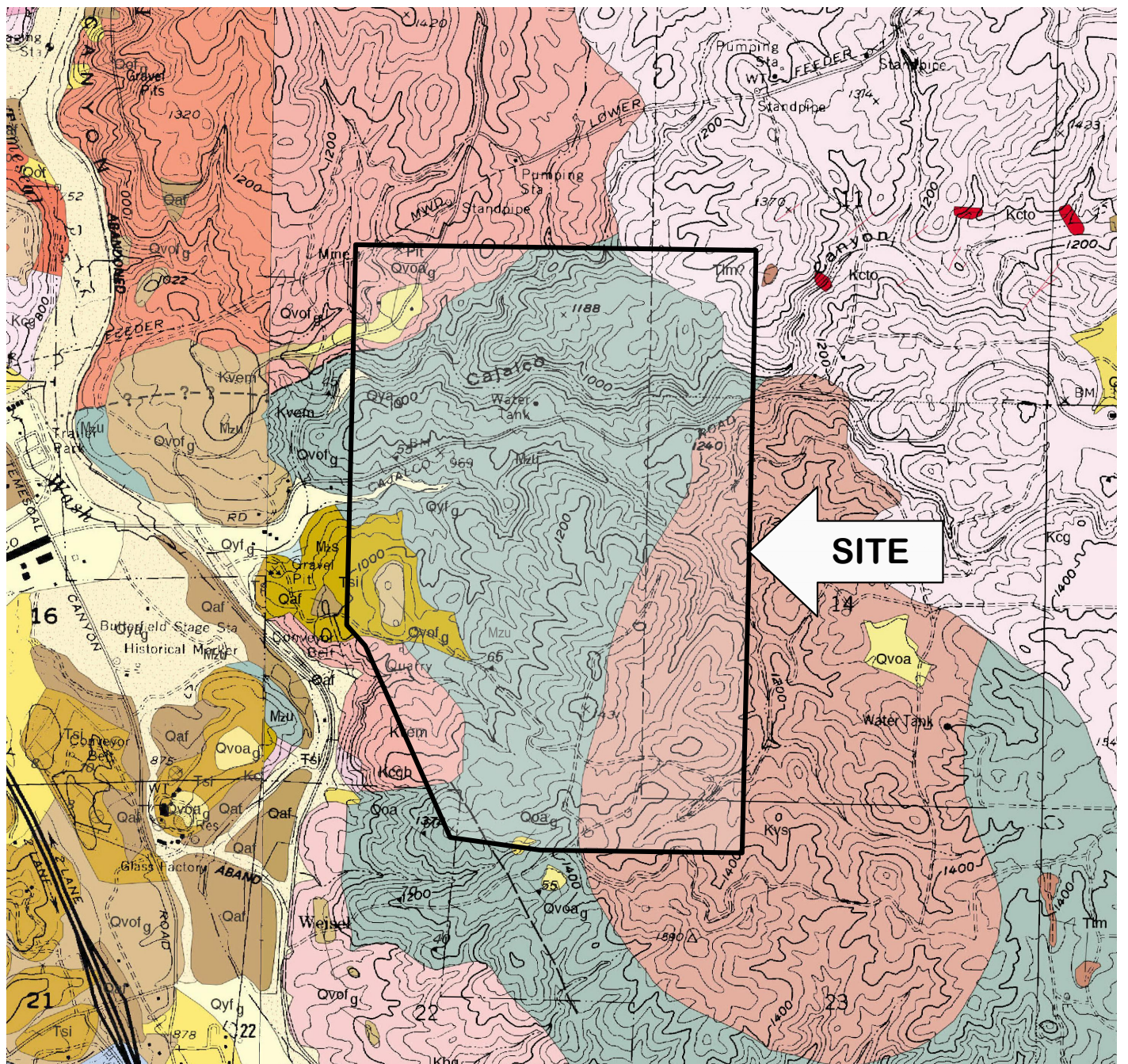
Zellmer, J.T., 1984, Harlow Hills Development, Quarry Rock and Talc Resource Study, Phase I Report, dated October 29, 1984.



**GEOLOGIC INDEX MAP**

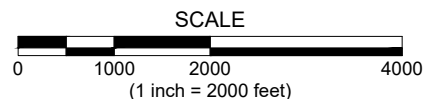
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**LEGEND (simplified):**

- Qyf** Young alluvial fan deposits (Holocene and late Pleistocene)
- Qya** Young axial channel deposits (Holocene and late Pleistocene)
- Qvof** Very old alluvial fan deposits (early Pleistocene)
- Tlm** Lake Mathews Formation (Miocene)
- Kcg** Monzogranite
- Kcqb** Granodiorite and gabbro, undifferentiated
- Kvem** Elstelle Mountain volcanics (Cretaceous)
- Kvs** Intermixed Estell Mountain volcanics and sedimentary rocks (Cretaceous?)
- Mzu** Metasedimentary rocks (Mesozoic)



- Strike and dip of bedding
- Fault, dotted were concealed
- Geologic Contact



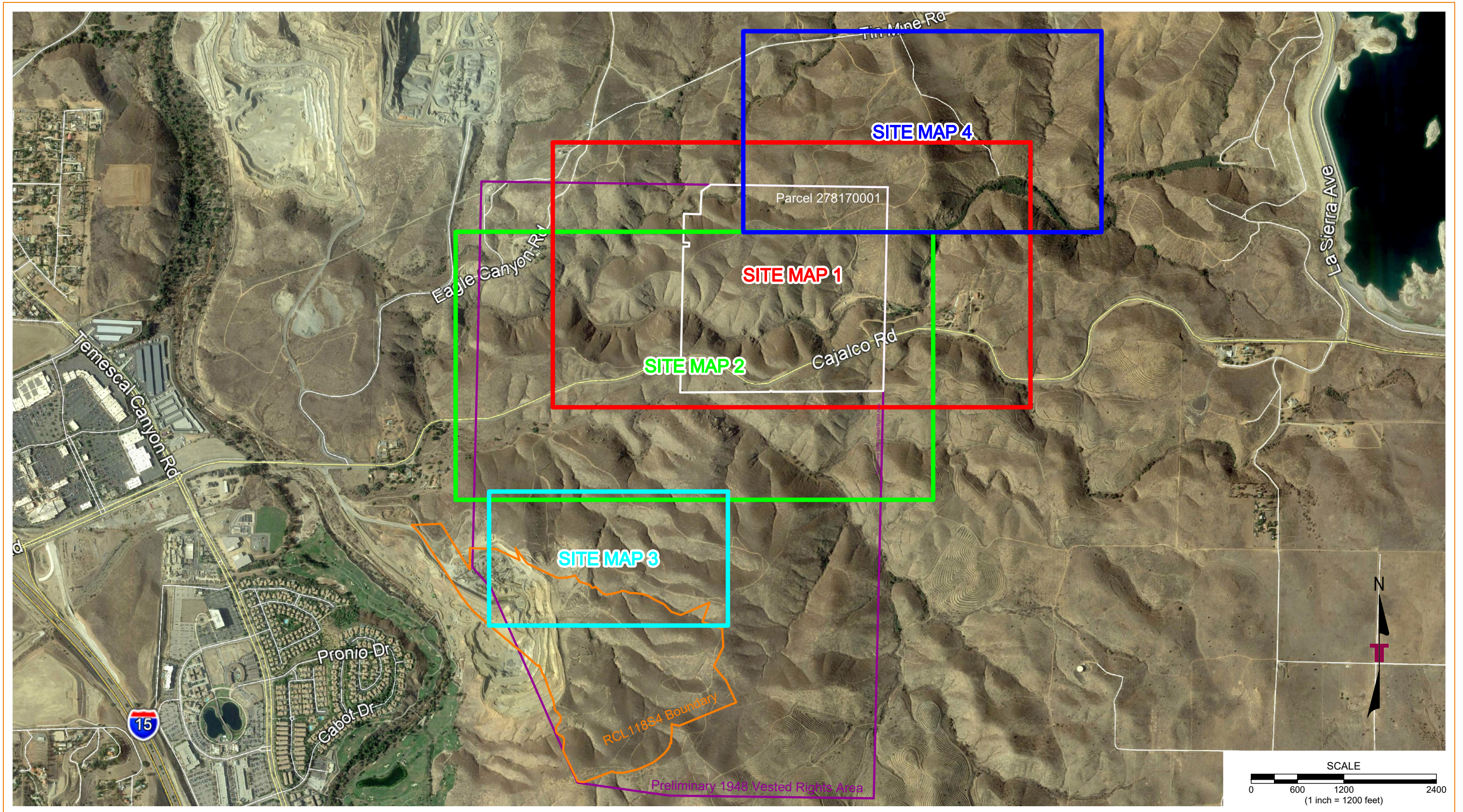
Base Maps: Morton and Weber, 2001, and Gray and others, 2002.



**INDEX MAP - FIELD RECONNAISSANCE OF FORMER MINING AREAS**

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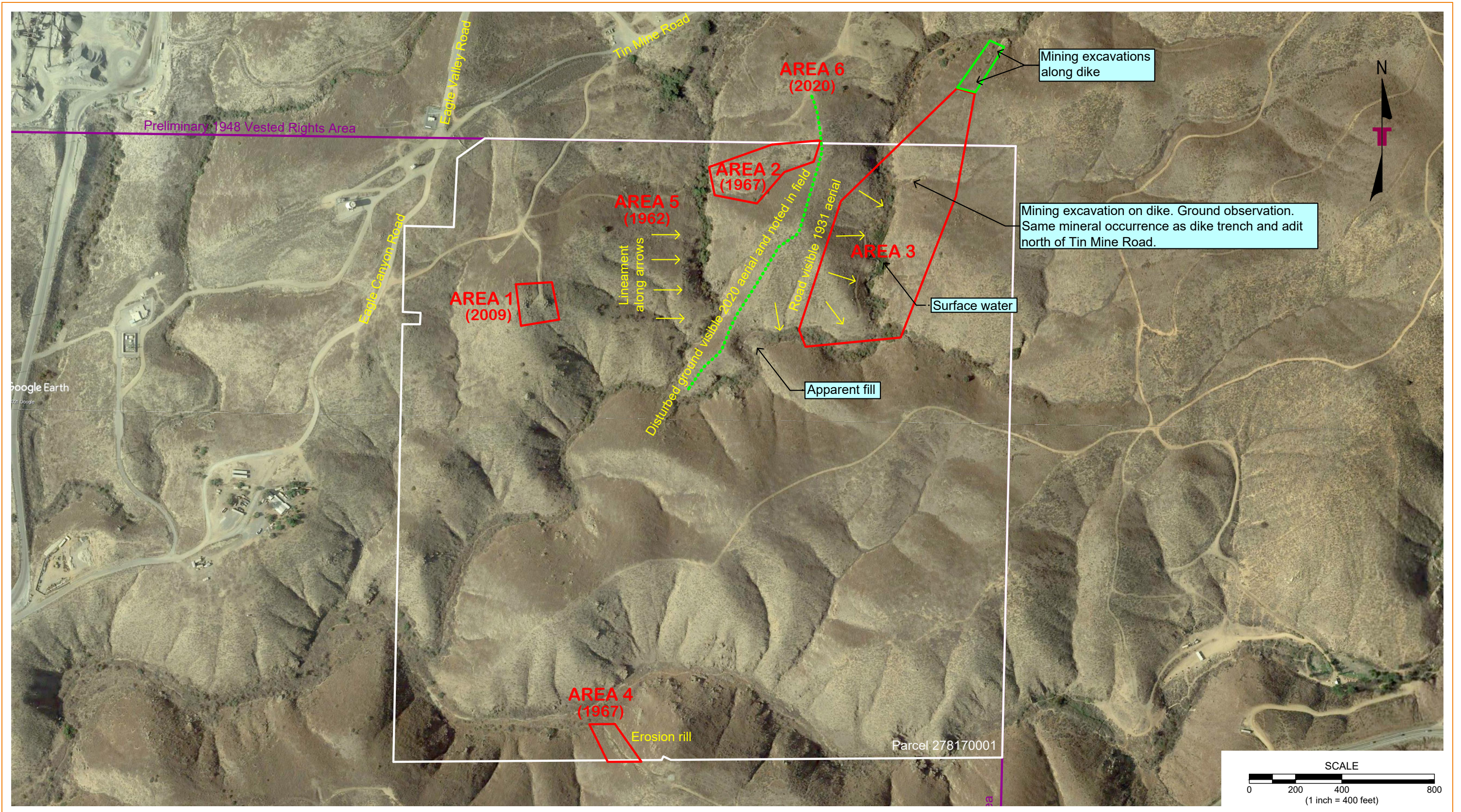




**SITE MAP 1 - FIELD RECONNAISSANCE OF FORMER MINING AREAS**

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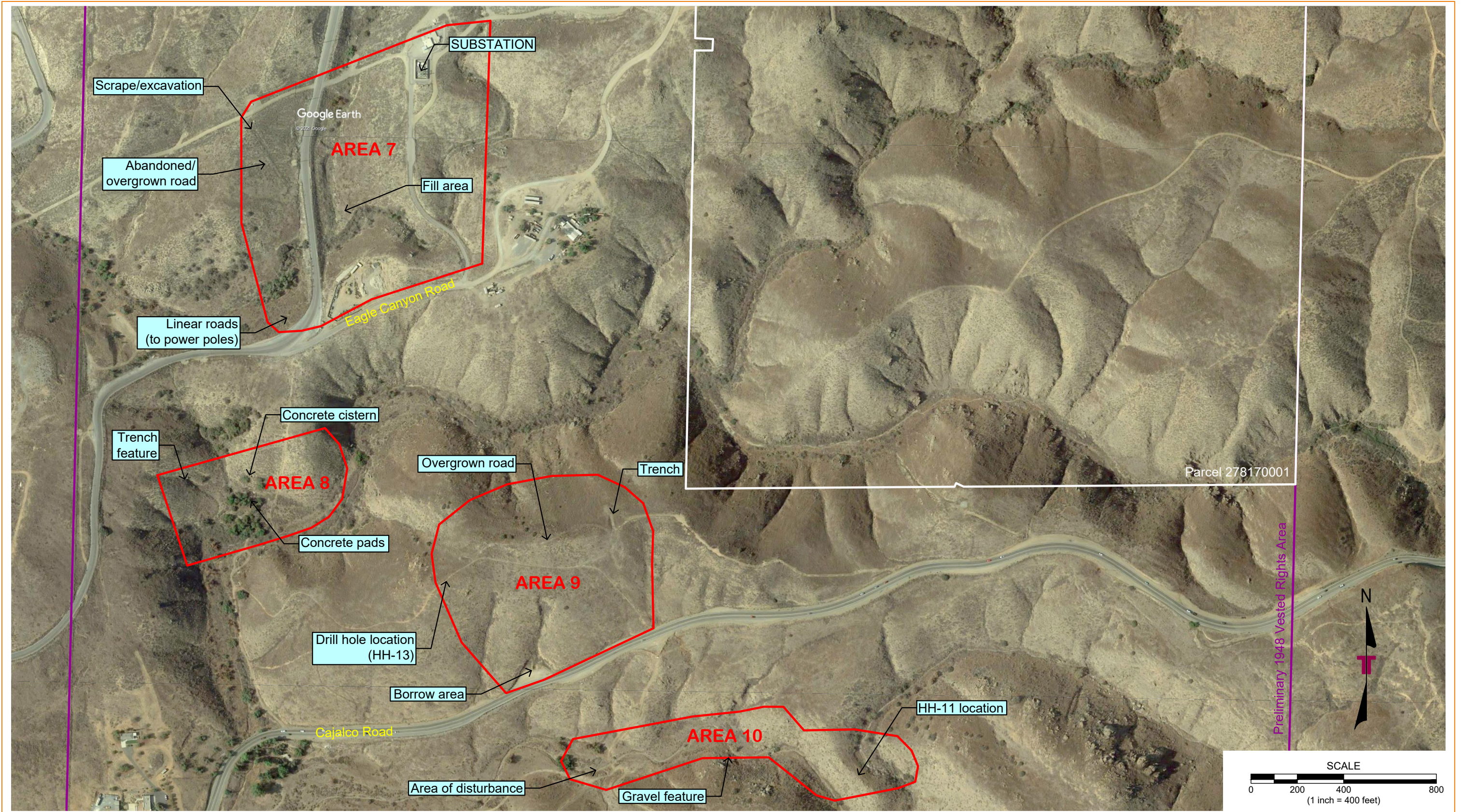




**SITE MAP 2 - FIELD RECONNAISSANCE OF FORMER MINING AREAS**

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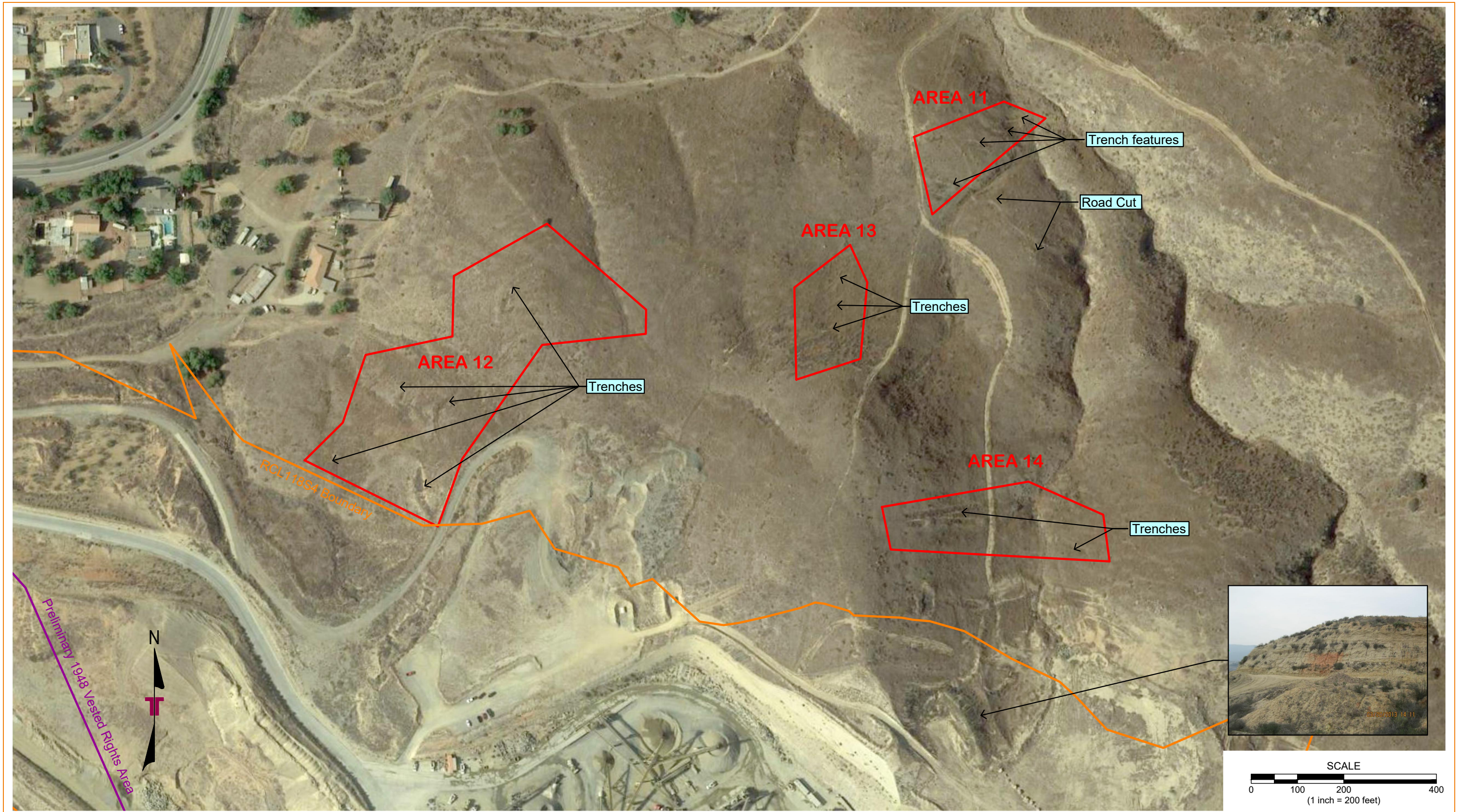




**SITE MAP 3 - FIELD RECONNAISSANCE OF FORMER MINING AREAS**

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**SITE MAP 4 - FIELD RECONNAISSANCE OF FORMER MINING AREAS**

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