

***PRELIMINARY CHARACTERIZATION  
of  
ABANDONED MINE FEATURES  
at  
TIMBERLINE @ AUBURN  
Richardson Drive and Bell Road  
Auburn, California***

***Prepared for:  
Western Care Construction Company  
4020 Sierra College Boulevard, Suite 200  
Rocklin, California 95677***

***Prepared by:  
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***Project No. 3573-01  
July 22, 2008***

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Western Care Construction Company  
4020 Sierra College Blvd., Suite 200  
Rocklin, CA 95677

Attention: Mr. John Margowski

**Reference:** *Timberline @ Auburn*  
Richardson Drive and Bell Road  
APNs 051-080-059, 051-140-056, 57; 051-180-058; 051-210-099  
Auburn, California

**Subject:** *Preliminary Characterization of Abandoned Mine Features*

Dear Mr. Margowski:

Holdrege & Kull (H&K) prepared this report to summarize our preliminary characterization of abandoned mine features, associated with the former Green Emigrant Mine, historically mapped in the vicinity of the proposed Timberline @ Auburn development in Auburn, Placer County, California. H&K did not encounter evidence of the Green Emigrant Mine on the property; however, several apparently shallow exploratory excavations were observed near the northern property boundary of the 24-acre Auburn Area Recreation and Park District (ARD) property (APN 051-210-099, depicted on Figure 1). The results of H&K's preliminary characterization are intended to assist in determining whether the former Green Emigrant Mine was located on or near the subject property, and to address the potential for hazardous materials associated with abandoned mine features.

Please contact the undersigned if you have any questions regarding the site characterization or the conclusions and recommendations presented in this report.

Sincerely,

**HOLDREGE & KULL**

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copies: 3 to Western Care Construction / Attn: John Margowski

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## TABLE OF CONTENTS

LIST OF ACRONYMS .....	iv
1 INTRODUCTION .....	1
1.1 Purpose and Scope .....	1
1.2 Limitations and Exceptions of Assessment .....	1
1.3 Limiting Conditions and Methodology Used .....	2
2 BACKGROUND .....	2
2.1 Site Description .....	2
2.2 Proposed Improvements .....	3
2.3 Physical Setting .....	3
2.4 Site History .....	3
2.5 Land Use .....	5
2.6 Adjacent Property Land Use .....	5
2.7 Summary of Previous Assessments .....	5
3 INVESTIGATION ACTIVITIES .....	5
3.1 Scope of Assessment .....	5
3.1.1 Record Review .....	5
3.2 Field Explorations and Methods .....	6
4 EVALUATION AND PRESENTATION OF RESULTS .....	6
4.1 Abandoned Mine Features .....	6
5 DEVIATIONS FROM SCOPE OF SERVICES .....	7
6 CONCLUSIONS AND RECOMMENDATIONS .....	7
7 REFERENCES .....	9

### FIGURES

- Figure 1 Site Vicinity Map
- Figure 2 Site Map

### PHOTOGRAPHS

### **LIST OF ACRONYMS**

APN	Assessor's Parcel Number
ARD	Auburn Area Recreation and Park District
CDMG	California Department of Conservation, Division of Mines and Geology
H&K	Holdrege & Kull
MSL	Mean sea level
MRDS	Mineral Resources Data System
USGS	United States Geological Survey

## **1 INTRODUCTION**

At the request of Western Care Construction Company, Inc., Holdrege & Kull (H&K) conducted a preliminary characterization of abandoned mine features located in the vicinity of the proposed Timberline @ Auburn development in Auburn, Placer County, California. On June 3, 2008, Western Care Construction Company, Inc. authorized H&K to perform the scope of services outlined in H&K's May 27, 2008 "Proposal for Environmental Consultation Regarding the Former Green Emigrant Mine."

### **1.1 Purpose and Scope**

The purpose of our services was to attempt to identify evidence of mining features associated with the former Green Emigrant Mine on the subject property, and to address the potential for hazardous materials associated with on-site abandoned mine features.

Although arsenic, lead and other metals occur naturally within ore-bearing veins, they are often liberated from rock by mining and extraction processes and deposited at ground surface within stockpiles of mine waste. Mine waste stockpiles with elevated metals concentrations may require mitigation if they are characterized as hazardous to workers and other site visitors, or if they have the potential to affect water quality. Routine exposure to elevated metals concentrations in soil, if present, may present a potential health risk. Human exposure pathways generally include ingestion, dust inhalation and dermal contact. Additionally, if ore processing was performed, the possible presence of chemicals used to extract the ore could also be considered a potential concern.

H&K's services included historical research and site reconnaissance to identify evidence of abandoned mine features. Laboratory test results are not included in this report because evidence of the Green Emigrant mine was not identified on the property, and the identified mine features, as discussed in the report, generally appear to be located east of the property.

### **1.2 Limitations and Exceptions of Assessment**

The information provided in this report is not meant to be comprehensive, to identify all potential concerns, or to eliminate the risk associated with environmental conditions. We have used our professional judgment and experience to arrive at our conclusions. Therefore, our conclusions are not to be considered scientific certainties.

H&K prepared and issued this report for the exclusive use of our client. The information, conclusions and recommendations presented apply only to near-surface conditions observed during our site reconnaissance. H&K is not responsible for any other party's interpretations of the reported information.

H&K performed this work in accordance with present, regional, generally accepted standards of care. This report does not represent a legal opinion. No warranty, expressed or implied, including any implied warranty of merchantability or fitness for the purpose is made or intended in connection with the work.

The findings of this report are valid as of the present date. However, changes in the conditions of the property can occur with the passage of time. The changes may be due to natural processes or to the works of man, on the project site or adjacent properties. Changes in regulations, interpretations, and/or enforcement policies may occur at any time. Such changes may affect the extent of mitigation required.

### **1.3 Limiting Conditions and Methodology Used**

No environmental assessment can eliminate all uncertainty. Professional judgment and interpretation are inherent in the process and uncertainty is inevitable. Additional assessment may be able to reduce the uncertainty.

H&K's site observations only represent the site conditions at the time of our site reconnaissance. Therefore, the usability of information collected as part of this investigation may have a finite lifetime depending on the application and use being made of the data. A qualified environmental professional should evaluate whether the generated data are appropriate for any subsequent use beyond the original purpose for which it was collected.

## **2 BACKGROUND**

### **2.1 Site Description**

The project site is located north of and adjacent to the northern terminus of Richardson Street, near Bell Road in Auburn, Placer County, California. The Placer County Assessor's Parcel Numbers (APNs) for the approximately 120-acre site are 051-140-056 and -057, 051-180-058 and -059, and 051-210-099. The latter parcel is located north of the main project site, and is owned by Auburn Area Recreation and Park District (ARD). The property is located in the northwest and southwest quarters of Section 29; in Township 13 North, Range 8 East of the Auburn, California

quadrangle map (United States Geological Survey (USGS), 1953, photorevised 1981). Site elevations range from approximately 1345 to 1420 feet above mean sea level (MSL). Site vegetation includes oaks, manzanita, and grasses. Figure 1 is a site vicinity map showing the property location.

## **2.2 Proposed Improvements**

H&K understands that the project site will include commercial and residential construction, and associated underground utilities and paved roads. The 24 acre ARD parcel will be used for wetland mitigation creation and for a 6-foot wide decomposed granite trail.

## **2.3 Physical Setting**

The subject site is situated in the Sierra Nevada foothills physiographic province. Regional physiographic conditions generally consist of gently to moderately rolling terrain. Regional native vegetation typically includes mixed conifer and oak woodlands.

## **2.4 Site History**

H&K reviewed portions of the following documents pertaining to historic mining activities in the immediate vicinity of the subject property. Figure 2 depicts the approximate locations of the recorded mine locations, which are discussed below.

### Mineral Land Classification of Placer County, California

H&K reviewed the *Mineral Land Classification of Placer County, California* prepared by the California Department of Conservation, Division of Mines and Geology (CDMG) in 1995. Plates 3 and 7 of the publication depict the Green Emigrant Mine in the southwestern quarter of Section 29, Township 13 North, Range 8 East. The location depicted on the plates corresponds with a topographical irregularity near the center of the subject property, as shown on a grading plan prepared by Morton & Pitalo, Inc. The *Mineral Land Classification* publication references additional information regarding the Green Emigrant Mine contained in CDMG Bulletin 144 (1948, page 282) and the United States Geological Survey (USGS) 14<sup>th</sup> Annual Report, Part II (1893, page 249); however, H&K was unable to obtain these documents for review.

### Mineral Resources Data System

The USGS maintains a website (<http://tin.er.usgs.gov/mrds/>) that provides data sheets containing summary information for mines across California and the United States. Within the Timberline @ Auburn project site, the Mineral Resources Data System (MRDS) listed locations for the Green Emigrant (Record 10237224), Black Ledge (Record 10139944) and Black Lead (Record 10188687) mine sites. However, the data sheets indicated that coordinates were expected to have a location precision of within 500 meters.

### Resources of the Pacific Slope, A Statistical and Descriptive Summary

*Resources of the Pacific Slope, A Statistical and Descriptive Summary*, published in 1896 by J. Ross Browne, contained a brief description of the Green Emigrant Mine. According to the text, the Green Emigrant mine was located 3 miles northwest of Auburn, and was characterized by a 1,000-foot-long vein trending N65W and dipping 45 degrees to the east, along with other veins concentrated “at the top of the hill.” The mine was reportedly discovered in 1864, and yielded \$20,000 in the first two years of operation. At that time, the mine was being worked through a 225-foot-long tunnel.

### Mindat.org Website

H&K reviewed information at: <http://www.mindat.org/loc-85406.html>. The website contained an approximate geographic map location of the Green Emigrant Mine site (as depicted on Figure 2), and listed two additional text sources for information on the mine. One of the sources listed was the 32<sup>nd</sup> State Mineralogist Report, described below.

### California Journal of Mines and Geology, State Mineralogist's Report XXXII

H&K reviewed the *State Mineralogist's Report XXXII* (California State Division of Mines and Geology, 1936). According to this report, the Green Emigrant Mine was located four and a half miles north of Auburn and one-half mile west of the Grass Valley Highway, and was discovered in 1864. Additionally, the report states that a length of over 1,500 feet along the vein was mined through shallow cuts and shafts (none of which reportedly exceeded 30 feet in depth).

## Sacramento Folio—Areal Geology Map

The areal geology map included in the *Sacramento Folio, California* (USGS, 1894) depicts the Black Ledge vein in the vicinity of the Timberline @ Auburn site. This location is also depicted on Figure 2.

### **2.5 Land Use**

The project site is currently undeveloped, but trails on-site are used by local residents for ATVs, walking and/or exercise.

### **2.6 Adjacent Property Land Use**

To determine land use on adjacent properties, H&K visited the site and reviewed information on the Parcel Quest website ([www.parcelquest.com](http://www.parcelquest.com)). Parcels to the north, west and southwest of the subject property consist of single family residences. Parcels adjacent to the northeast corner of the site are occupied by a church, a school and the Auburn Regional Park. Adjacent to the eastern site boundary are parcels occupied by residences (apartment complexes), hospital property, and vacant property. Adjacent to the southern and southwestern site boundaries are parcels occupied by hospital property and residences (single family).

### **2.7 Summary of Previous Assessments**

H&K is not aware of previous assessments for hazardous materials. However, H&K reviewed a document by PMC of Rancho Cordova, California, entitled *Archaeological and Historical Investigations for a Timberline at Auburn Wetland and Trails Project, Placer County* (dated March 2008). This document identified a "Prospect Pit" possibly associated with former gold mining. The document stated that the pit measured approximately 15 feet in diameter and 4 feet in depth, and provided UTM coordinates for the location.

## **3 INVESTIGATION ACTIVITIES**

### **3.1 Scope of Assessment**

#### **3.1.1 Record Review**

H&K reviewed the following documents as a part of this investigation:

- *Mineral Land Classification of Placer County, California* (CDMG, 1995);

- *Resources of the Pacific Slope, A Statistical and Descriptive Summary* (J. Ross Browne, 1896);
- *State Mineralogist's Report XXXII* (California State Division of Mines and Geology, 1936);
- *Sacramento Folio Map* (United States Geological Survey, 1894); and
- MRDS summary files for the Green Emigrant, Black Ledge and Black Lead mine sites (USGS, 2008. Website: <http://tin.er.usgs.gov/mrds/>).
- *Archaeological and Historical Investigations for a Timberline at Auburn Wetland and Trails Project, Placer County* (PMC, 2008).

Results of the document review are summarized in the "Site History" section of this report.

### **3.2 Field Explorations and Methods**

H&K performed site reconnaissance on June 13, 2008. An H&K geologist used global positioning system (GPS) equipment to navigate by foot to reported former mine locations depicted on Figure 2. Sites investigated included the mapped locations of the Green Emigrant Mine provided by Mindat.org, MRDS, CDMG and the PMC report as described earlier. We also investigated the locations of the Black Lead and Black Ledge mine sites described in the MRDS.

## **4 EVALUATION AND PRESENTATION OF RESULTS**

### **4.1 Abandoned Mine Features**

Near the northeastern boundary of the 24 acre ARD parcel, H&K identified an approximate 10 cubic yard stockpile of excavation spoils adjacent to an apparent former mining excavation. This location is depicted as PP1 on Figure 2 and shown in Photo 1. The PP1 location appeared to correspond with the "Prospect Pit" described in the PMC report.

H&K identified two additional excavations approximately 50 feet east of PP1, depicted as PP2 and PP3 on Figure 2. Location PP2 was characterized by an approximately 5 to 10 cubic yard stockpile of excavation spoils and a shallow excavation measuring approximately 10 feet in diameter (Photo 2). Location PP3 was characterized by an

approximately 5 to 10 cubic yard stockpile of excavation spoils and a possible collapsed mine shaft measuring approximately 12 feet in diameter (Photo 3).

Approximately 80 feet south-southwest of PP3, H&K observed a shallow excavation; however, no excavation spoils were observed adjacent to the excavation. Figure 2 depicts this location as PP4.

H&K identified another excavation approximately 250 feet south of location PP4, depicted as PP5 on Figure 2 (Photo 4). Location PP5 was characterized by a minor cut/depression and an elongate stockpile (approximately 5 cubic yards) of excavation spoils.

H&K did not observe other evidence of mining-related features on the property during the site reconnaissance.

## **5 DEVIATIONS FROM SCOPE OF SERVICES**

Sampling and laboratory analysis are not included in our present scope as the identified mine features generally appear to be located east of the property.

The observed mining excavations and stockpiles of excavation spoils were marked in the field using a GPS unit. Because the identified features were not located by survey and the property boundary was not marked at the time of H&K's reconnaissance, the locations depicted on Figure 2 should be considered approximate.

## **6 CONCLUSIONS AND RECOMMENDATIONS**

H&K's site assessment was completed in general accordance with the scope of services presented in H&K's May 27, 2008 "Proposal for Environmental Consultation Regarding Abandoned Mine Features." Deviations from the proposed scope of services are discussed above in Section 5.

H&K reviewed historical records, which indicate that the former Green Emigrant Mine may be located on or near the subject property. However, the accuracy of the historical mine locations is generally considered to be low. H&K observed surface conditions on the property at the recorded mine locations, and did not encounter evidence of past mining activity, except as described below.

H&K observed small stockpiles of excavated soil and rock at areas PP1, PP2, PP3 and PP5. The excavations may be associated with past mining or prospecting activities. Although the locations of the identified features were not determined by survey, they generally appear to be located near and east of the ARD-owned property boundary.

Other than the stockpiles and excavations described above, evidence of past mining activity was not observed during the surface reconnaissance. H&K understands that no development is planned in the vicinity of the identified mine features; therefore, H&K does not recommend further action at this time regarding characterization or mitigation of the identified mine features with respect to the proposed development.

Mining excavations may present physical hazards and may not be suitable for support of structural improvements. Such excavations, if encountered on or near the property, should be addressed by a qualified geotechnical engineer. Physical closure of mine excavations, if determined appropriate, should be performed in accordance with recommendations from a qualified geotechnical engineer and with the approval of the County of Placer.

## **7 REFERENCES**

Browne, J. Ross, 1896, Resources of the Pacific Slope, A Statistical and Descriptive Summary.

California Division of Mines and Geology, 1936, Report XXXII of the State Mineralogist.

California State Mining Bureau, 1905, Register of Mines and Minerals for Eleven Sierra Nevada Counties, 1898-1905.

Holdrege & Kull, Proposal for Environmental Consultation Regarding Abandoned Mine Features, May 27, 2008.

Lindgren, Waldemar, 1894, Geologic Atlas of the United States: Sacramento Folio, California, U.S. Geological Survey Folio 5.

Parcel Quest, 2008, ParcelQuest website, available URL: <http://www.parcelquest.com>

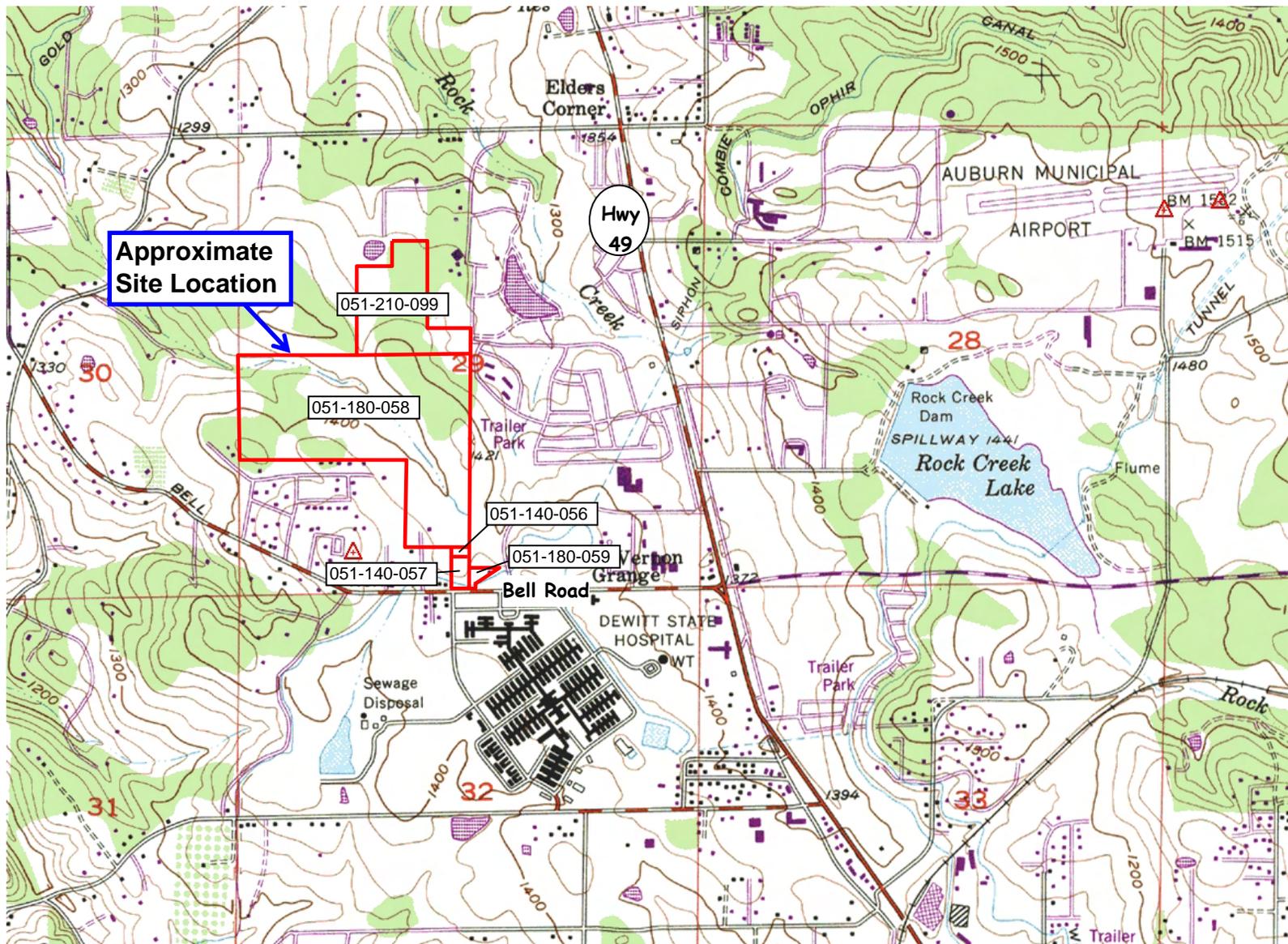
PMC, 2008, Archaeological and Historical Investigations for a Timberline at Auburn Wetland and Trails Project, Placer County.

United States Geologic Survey, 2008, Mineral Resources Data System (MRDS) website, summary files for the Green Emigrant, Black Ledge and Black Lead mines, available URL: <http://tin.er.usgs.gov/mrds/>

***FIGURES***

**Figure 1     Site Vicinity Map**

**Figure 2     Site Map**



SOURCE: MAPTECH, Terrain Navigator Pro, ver. 6.0 - USGS 7.5 minute topographic map, Auburn, California quadrangle, 1953, photorevised 1981.

**HK** HOLDREG & KULL  
CONSULTING ENGINEERS • GEOLOGISTS

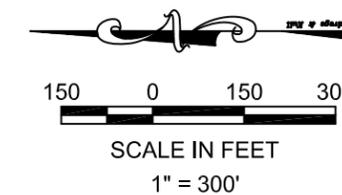
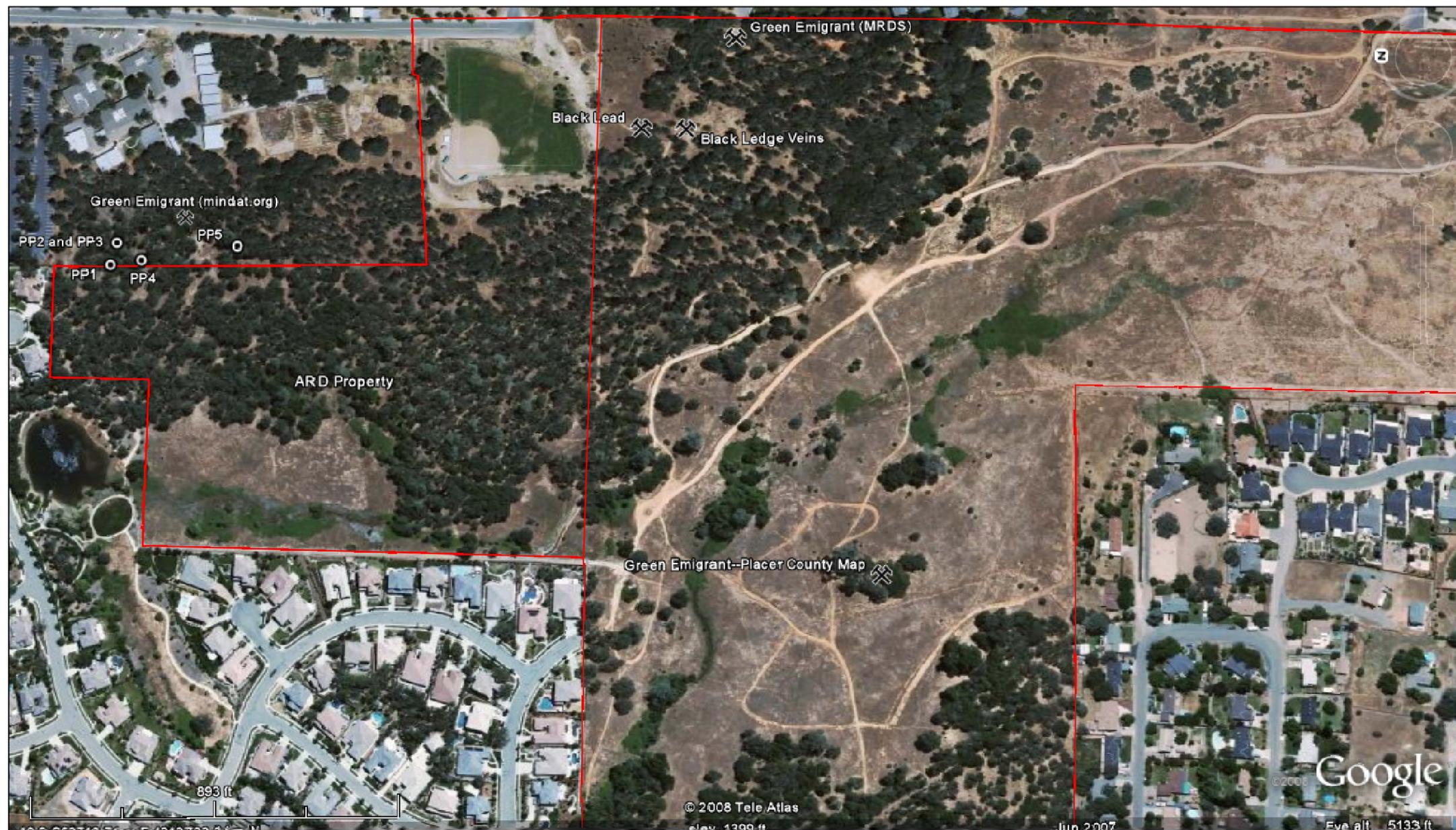
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**SITE VICINITY MAP**  
Timberline at Auburn  
Auburn, Placer County, California

PROJECT NO. 3573-01

**FIGURE 1**

JULY 2008



**LEGEND**

- PP1  APPROXIMATE MINE WASTE OR EXCAVATION AREA
-  HISTORICALLY MAPPED LOCATION OF FORMER MINE

BASE MAP SOURCE: GOOGLE MAPS, 2008.

3573-01-FIG2

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SITE MAP  
 TIMBERLINE @ AUBURN  
 AUBURN, CALIFORNIA

<i>DRAWN BY:</i> SLD	<i>CHECKED BY:</i> SLD
<i>PROJECT NO.:</i> 3573-01	
<i>DATE:</i> JULY 2008	
<i>FIGURE NO.:</i> 2	

***PHOTOGRAPHS***



Photo 1. PP1 location, or "Prospect Pit."



Photo 2. PP2 location.



Photo 3. PP3 location.



Photo 4. PP5 Location.