REMOVAL ACTION COMPLETION REPORT
and
SITE CLOSURE REQUEST
for
TIMBERLINE @ AUBURN
Richardson Drive and Bell Road
Auburn, California

Prepared on behalf of:
Auburn Recreation District
123 Recreation Drive
Auburn, California 95063-5427

Prepared by:
Holdrege & Kull
792 Searls Avenue
Nevada City, California 95959

Project No. 3573A-02
July 29, 2009

HOLDREGE & KULL
CONSULTING ENGINEERS • GEOLOGISTS

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Placer County Health and Human Services
Environmental Health Services
3091 County Center Drive
Auburn, CA 95063

Attention: Jill Kearney

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: ***Removal Action Completion Report and Site Closure Request***

Dear Ms. Kearney:

Holdrege & Kull prepared this report to document the minor soil removal performed at the Auburn Recreation District property comprising Placer County Assessor's Parcel Number 051-210-099. Approximately twenty-nine cubic yards of soil were removed from the locations of two shallow excavations that are believed to be associated with past mine prospecting. The soil, which contained arsenic concentrations above site background levels, was disposed at a Class II solid waste facility.

Soil verification sampling and analysis, which was performed after the soil removal, detected arsenic concentrations within the range of site background levels. Accordingly, this report contains a request for no further action regarding characterization and mitigation of mine features identified at the proposed Timberline @ Auburn development. Thank you for your assistance in developing a feasible scope of mitigation for this site. If you require any additional information regarding the site characterization and soil removal action described in this report, please contact the undersigned.

Sincerely,

HOLDREGE & KULL

REGISTERED PROFESSIONAL ENGINEER JASON W. MUIR No. 60167 Exp. 12/09 STATE OF CALIFORNIA

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Jason W. Muir, C.E. 60167, G.E. 2697, R.B.P.
Principal Engineer

copies: 2 to Placer County Environmental Health Department / Attn: Jill Kearney
1 to Auburn Recreation District / Attn: Kahl Muscott
1 to Western Care Construction / Attn: John Margowski

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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
CHHSL	California Human Health Screening Level
H&K	Holdrege & Kull
mg/kg	Milligrams per kilogram
MSL	Mean sea level
PCEHS	Placer County Environmental Health Services
STLC	Soluble Threshold Limit Concentration
TTLC	Total Threshold Limit Concentration
USGS	United States Geological Survey

EXECUTIVE SUMMARY

Holdrege & Kull's (H&K's) removal action completion report presents:

- A summary of environmental site characterization;
- A summary of the removal action implemented at the site; and
- A summary of post-remedial soil verification sampling.

The proposed Timberline @ Auburn development (the site) is located 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 District (ARD). A recreational trail is to be constructed on the ARD parcel as part of the proposed Timberline @ Auburn development.

H&K identified shallow excavation near the eastern boundary of the ARD parcel, as summarized in H&K's *Preliminary Characterization of Abandoned Mine Features at Timberline @ Auburn* (July 22, 2008). Sampling and analysis of the excavation spoils and nearby native soil in March 2009 identified that arsenic concentrations in the excavation spoils exceeded site background levels. The moderately elevated arsenic levels are believed to occur naturally in the excavation spoils.

Based on a discussion of the site characterization and laboratory test results with Placer County Environmental Health Services (PCEHS), the excavation spoils were removed from the site to reduce the chance of future exposure to arsenic in soil. H&K oversaw the removal of the excavation spoils and performed post-removal soil verification sampling and analysis to document that soil containing elevated arsenic concentrations had been removed from the site.

1 SITE LOCATION AND DESCRIPTION

1.1 LOCATION

A site vicinity map is presented as Figure 1, and an aerial photograph of the site is presented as Figure 2. The site is located north of and adjacent to the northern terminus of Richardson Street, near Bell Road, in Auburn, Placer County, California. The 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 the ARD.

1.2 PHYSICAL SETTING

The 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.

The site is located in the northwest and southwest quarters of Section 29, Township 13 North, Range 8 East of the United States Geological Survey (USGS) Auburn quadrangle map (1981). Site elevations range from approximately 1345 to 1420 feet above mean sea level (MSL). Site vegetation includes oaks, manzanita, and grasses.

1.3 LAND USE

In general, the site is currently undeveloped. Trails crossing the site are used by local residents for recreation and exercise, on foot and with all-terrain vehicles (ATVs).

1.4 ADJACENT PROPERTY LAND USE

Parcels to the north, west and southwest of the site 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 and open space. Adjacent to the southern and southwestern site boundaries are parcels occupied by the DeWitt Center and residences.

1.5 PROPOSED IMPROVEMENTS

H&K understands that the proposed Timberline @ Auburn Development will include commercial and residential construction, paved roads and underground utilities. The 24-acre ARD parcel will be used for wetland mitigation, and will support a 6-foot wide meandering recreational trail.

1.6 SITE HISTORY

Historical records reviewed as part of H&K's 2008 investigation 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 for shallow prospecting pits near the eastern boundary of the ARD parcel. H&K (2008) describes the historical research and site history in additional detail.

1.7 SUMMARY OF PREVIOUS ASSESSMENT

H&K is aware of the following previous assessment documents:

- *Preliminary Characterization of Abandoned Mine Features at Timberline @ Auburn* (H&K, July 22, 2008); and
- *Archaeological and Historical Investigations for a Timberline at Auburn Wetland and Trails Project, Placer County* (PMC, March 2008).

2 SITE CHARACTERIZATION

H&K (2008) identified shallow excavations ("prospector pits" PP-1 through PP-5) near the eastern boundary of the 24-acre ARD parcel. Features PP-1 and PP-4 are located on the ARD parcel. Features PP-2, PP-3 and PP-5 are located off site to the east of the ARD parcel. The eastern boundary of the ARD parcel near the prospector pits was surveyed by a licensed surveyor, and the property boundary was marked in the field.

The prospector pits had gentle side slopes and were generally ten to fifteen feet in diameter and up to five feet deep at the center. Disturbed soil was present within the pits, and up to approximately 10 cubic yards of excavated soil was deposited around the perimeter of the pits. Photographs 1 through 4 depict features PP-1 and PP-4 prior to soil removal. No evidence of economic mining nor mineral extraction was observed during H&K's 2008 investigation.

H&K's supplemental site investigation was performed on March 17, 2009. The scope of the supplemental investigation was based on discussion of the project with representatives of the ARD, PCEHS and Western Care Construction Company on February 11, 2008. The investigation included:

- Sampling and analysis of the excavation spoils to characterize total metals concentrations in the spoils;
- Sampling and analysis of undisturbed native soil near the prospector pits to characterize background soil metals concentrations; and
- Advancing exploratory trenches into the base of the pits to evaluate soil/rock conditions and to determine whether the apparent prospector pits were associated with deeper mining excavation.

Soil conditions encountered in the exploratory excavations were described as sandy clay underlain by weathered rock. Undisturbed weathered rock was encountered at the base of the pits, confirming that past excavation was shallow. At locations adjacent to the prospector pits, the excavator met refusal on resistant rock at depths ranging from 4.0 to 5.5 feet below the ground surface.

- Exploratory trenches T-1 and T-2 were excavated at the base of prospector pits PP-1 and PP-4, respectively. Photographs 2 and 4 depict the exploratory trenches at the bases of the pits.

- Trench T-3 was advanced to a depth of 4.0 feet bgs at a location 40 feet southeast of feature PP-1. Soil samples were obtained from depths of 1.5 feet, 3.0 feet and 4.0 feet bgs.

- Trench T-4 was advanced to a depth of 5.5 feet bgs at a location 25 feet west of feature PP-1. Soil samples were obtained from depths of 3.0 feet, 4.5 feet and 5.5 feet bgs.

- Trench T-5 was advanced to a depth of 5.0 feet bgs at a location 45 feet north of feature PP-1. Soil samples were obtained from depths of 3.0 feet and 5.0 feet bgs.

2.1 HEALTH AND SAFETY

H&K field personnel were certified under Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910). Work was performed in accordance with a site safety plan.

2.2 SAMPLING METHODS

A Kubota KX121-3 track-mounted excavator was used to excavate the exploratory trenches and to facilitate sample collection. An H&K geologist recorded the soil conditions revealed in the exploratory trenches and obtained discrete soil samples.

Soil samples were obtained using a steel trowel, disposable plastic scoops and laboratory-supplied glass jars with Teflon-lined lids. Upon collection, the samples were immediately sealed and labeled with a unique sample number. New disposable plastic scoops were used for each sampling event. Pre-moistened towelettes were used to clean the steel trowel between sampling locations. Used sampling materials and personal protective equipment (e.g., spent decontamination towelettes, gloves and paper towels) were properly disposed off-site.

Samples were transported in a clean ice chest by courier to the analytical laboratory. Chain-of-custody documentation was maintained during sample collection, transport and analysis.

2.3 LABORATORY METHODS

Samples were analyzed by Excelchem Environmental Labs of Rocklin, California. Excelchem's Environmental Laboratory Accreditation Program (ELAP; California Department of Public Health) certificate number is 2119. Total metals concentrations

(CAM 17 Metals, California Code of Regulations, Title 22, Section 66261.24) were analyzed by Method 6010B (US Environmental Protection Agency Test Methods for Evaluating Solid Waste, Revised methods SW-486), except for mercury, which was analyzed by Method 7471A. Reporting limits and benchmark concentrations are listed in Table 1.

2.4 SAMPLING LOCATIONS AND ANALYSES

Sampling locations and analyses are summarized below. Sample locations are depicted on Figure 2. Photographs are presented in Appendix B.

- Sample PP1-S1 and PP4-S1 were obtained from the upper foot of excavation spoils associated with features PP-1 and PP-4, respectively, at the locations depicted in Figure 2. The volume of excavation spoils at the perimeter of the prospector pits was estimated to be less than ten cubic yards at each of the two locations. The samples were analyzed for the seventeen Title 22 metals.
- Eight samples of background soil were obtained from the three exploratory trenches excavated within 45 feet of features PP-1 and PP-4, at the locations depicted in Figure 2. The samples were analyzed for the metals of potential concern (arsenic and cadmium) identified in mine waste samples PP1-S1 and PP4-S1. Photos 6 and 7 depict background sample locations.

2.5 DATA PRESENTATION AND EVALUATION

Total metals data for mine waste are presented in Table 1. Total arsenic and cadmium data for background soil are presented in Table 2. The laboratory reports and chain of custody documentation are presented in Appendix C. Results are summarized below.

- Total arsenic in the prospector pit excavation spoils ranged from 31.4 to 55.8 milligrams per kilogram (mg/kg). These arsenic concentrations exceed the range of background arsenic concentrations detected in nearby undisturbed native soil, which ranged from less than one to 11.4 mg/kg.
- Total cadmium in the prospector pit excavation spoils ranged from 3.0 to 4.0 mg/kg. None of the cadmium concentrations detected in the excavation spoils exceeded the range of background cadmium concentrations detected in nearby undisturbed native soil, which ranged from 2.0 to 4.1 mg/kg.

- None of the other Title 22 metals concentrations detected in the prospector pit excavation spoils exceeded the corresponding California Human Health Screening Levels (CHHSLs) for residential soil, which are listed in Table 1.

Because arsenic in the prospector pit excavation spoils exceeded site background levels, arsenic was designated as a metal of potential concern.

3 SOIL REMOVAL ACTION

Removal of excavation spoils from the two prospector pits was performed on June 3 and June 25, 2009. The soil removal action included:

- Excavation of disturbed soil in and adjacent to the prospector pits.
- Stockpiling of the excavated soil adjacent to the pits and enveloped with plastic sheeting.
- Collection and analysis of verification soil samples at the base of the excavations.
- Transport of the excavated soil off site and disposal at a Class II solid waste facility.

H&K performed soil excavation and verification soil sampling on June 3, 2009. Photos 8 through 11 depict the soil excavation and temporary soil stockpiles. The excavation removed all loose prospector pit spoils within and adjacent to the prospector pits on the ARD property, and extended into the underlying native soil and/or weathered bedrock. Soil excavation did not extend beyond the property line at feature PP-4. Approximately 29 cubic yards of soil were excavated and stockpiled.

3.1 VERIFICATION SOIL SAMPLING AND ANALYSIS

Following the soil removal, four verification soil samples (PP1-CS1, PP1-CS2, PP1-CS3 and PP4-CS1) were obtained from native soil remaining in the excavation area. Sample locations are depicted on Figure 2. The sampling methods and laboratory methods described in Section 2 of this report were followed for the verification soil sampling.

Excelchem analyzed the verification soil samples for total arsenic by Method 6010B. Results are summarized in Table 3. The laboratory report and chain of custody documentation are presented in Appendix C.

Total arsenic concentrations detected in the verification soil samples ranged from 4.2 to 11.2 mg/kg. These results are considered adequate to satisfy the remedial action objective, as they are within the range of site background arsenic data, which range from less than one to 11.4 mg/kg.

3.2 SOIL DISPOSAL

Robinson Enterprises, Inc., an OSHA-certified contractor, loaded the excavated soil into three trucks. After loading, the soil was covered and transported to Ostrom Road Landfill, a Class II solid waste facility located in Wheatland, California. The waste manifests presented in Appendix D document that 37.54 tons of soil were disposed at the landfill.

3.3 SITE RESTORATION

Clean native soil was pushed into the prospector pits so that the resulting depressions were less than 4 feet below the ground surface. The ARD plans to perform additional backfill and erosion control upon regulatory approval of the removal action.

4 CONCLUSION AND REQUEST FOR NO FURTHER ACTION

Based on the site characterization findings, observation during the soil removal action, and the results of verification soil sampling and analysis, H&K's opinion is that the soil removal action successfully removed the arsenic-impacted prospector pit excavation spoils identified on the ARD property. Additionally, native soil and weathered rock were encountered at the base of the prospector pits, indicating that the pits are not associated with deeper mining excavation. Accordingly, on behalf of the ARD, H&K requests that the County of Placer make a no further action determination regarding characterization and mitigation of mine features identified on the ARD parcel and the associated Timberline @ Auburn development.

5 LIMITATIONS OF H&K's 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. H&K used our professional judgment and experience to arrive at the conclusions. Therefore, the conclusions are not to be considered scientific certainties.

H&K prepared and issued this report for the exclusive use of our client. 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.

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.

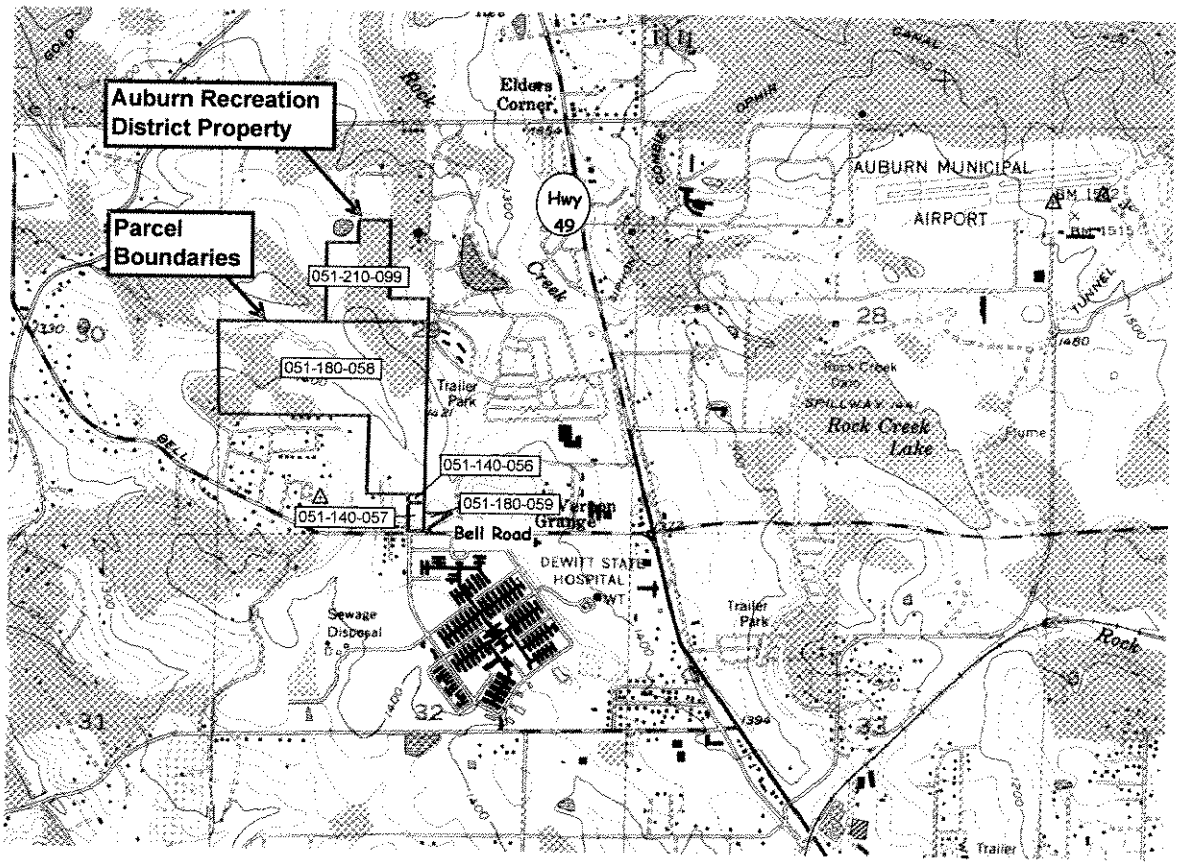
H&K's site observations only represent the site conditions at the time of our site reconnaissance. Therefore, the usability of information collected as part of this investigation may have a finite lifetime depending on the application and use being made of the data. A qualified environmental professional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

6 REFERENCES

Holdrege & Kull, 2008. Preliminary Characterization of Abandoned Mine Features at Timberline @ Auburn. July 22, 2008.

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

FIGURES



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

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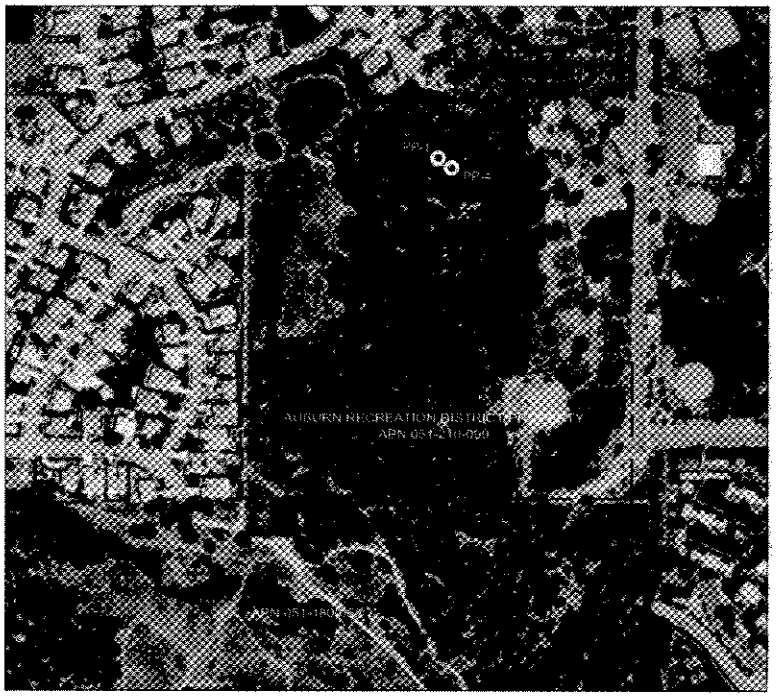
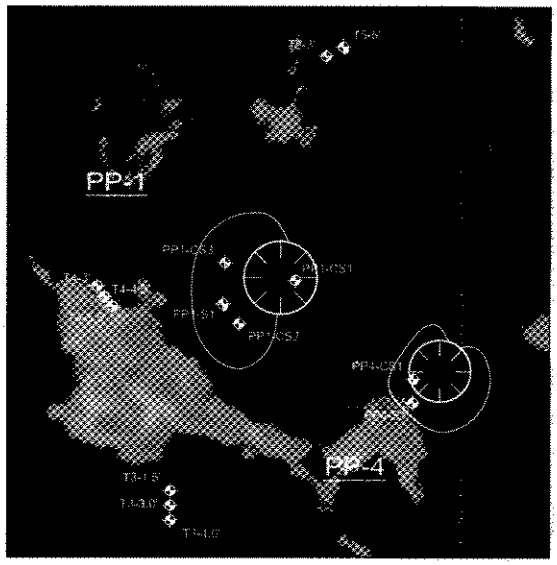
SITE VICINITY MAP
Auburn Recreation District Property - Timberline at Auburn
Auburn, Placer County, California

PROJECT NO. 3573A-02
FIGURE 1
JULY 2009



150 0 300
SCALE (FEET)

BASE MAP SOURCE: GOOGLE MAPS, 2009



10 0 20
SCALE (FEET)

LEGEND

PP-1 APPROXIMATE LOCATION OF MINE FEATURE

PP1-S1 APPROXIMATE LOCATION OF SOIL SAMPLE

3573A-02-FIG2

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SITE MAP
AUBURN RECREATION DISTRICT PROPERTY
AUBURN, CALIFORNIA

DRAWN BY: SLD	CHECKED BY: JWM
PROJECT NO.: 3573A-02	
DATE: JULY 2009	
FIGURE NO.: 2	