FREEPORT-McMoRan

Freeport-McMoRan Chino Mines Company
P.O. Box 10
Bayard, NM 88023

Sherry Burt-Kested
Manager, Environmental Services
Telephone: 575-912-5927
e-mail: sburtkes@fmi.com

May 5, 2021

Certified Mail #70182290000117918161

Ms. Rebecca Roose, Director
Water Protection Division
New Mexico Environment Department
P.O. Box 5469
Santa Fe, New Mexico 87502

Dear Ms.Roose:

Re: Apache Tejo Wash Assessment Report
Smelter Tailing Soils Investigation Unit – Chino AOC

Freeport-McMoRan Chino Mines Company (Chino) submits under separate cover the *Assessment Report for the Apache Tejo Wash, Smelter Tailing Soil Investigation Unit (STSIU)* under the Chino Administrative Order on Consent (AOC). This report is provided in response to the New Mexico Environment Department (NMED) request for a ground survey of the drainage in a letter dated September 22, 2009. A draft assessment, with informal review by the NMED, has been in place while access issues to private property were addressed in order to finalize the report. This report was submitted today to Mr. David Mercer.

Please contact Ms. Pam Pinson at (575) 912-5213 with any questions or comments concerning this assessment report.

Sincerely,

Sherry Burt-Kested
Manager, Environmental Services

SBK:pp
20210503-001

c: (via email)
Joseph Fox, NMED
David Mercer, NMED
Petra Sanchez, US EPA
Mike Steward, FCX

REPORT

ASSESSMENT REPORT FOR APACHE TEJO WASH

Smelter/Tailing Soil Investigation Unit

Submitted to:

Freeport-McMoRan Chino Mines Company
99 Santa Rita Mine Road
Vanadium, New Mexico 99023

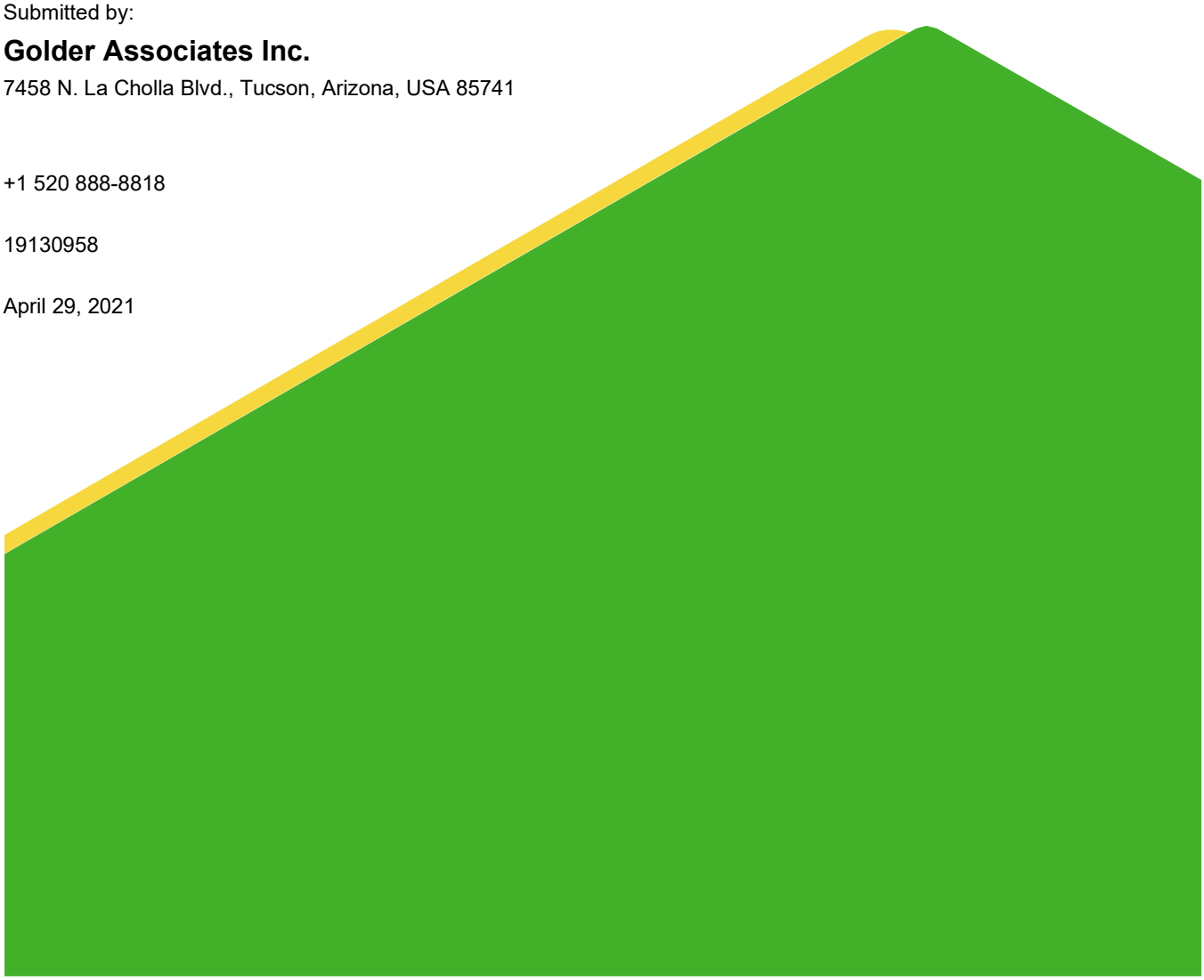
Submitted by:

Golder Associates Inc.
7458 N. La Cholla Blvd., Tucson, Arizona, USA 85741

+1 520 888-8818

19130958

April 29, 2021



Distribution List

Pam Pinson, Freeport-McMoRan Chino Mines Co. - pdf and source files

Michael Steward, Freeport-McMoRan Inc. - pdf

New Mexico Environmental Department - pdf, 3 hard copies

Table of Contents

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

Freeport-McMoRan Chino Mines Company (Chino) became aware of potential historical releases from the Chino tailing impoundments to Apache Tejo Wash in approximately 2004. Chino retained Golder Associates (Golder) in late 2004 to inspect the wash, and in 2005 and 2006 to characterize potentially impacted materials along the wash. In mid-2009, Chino and New Mexico Environment Division (NMED) staff visited a portion of Apache Tejo Wash. NMED subsequently requested the following work in a letter dated September 22, 2009:

> *"Please submit an IRA Work Plan to NMED for review. The Work Plan should include a section describing potential remedial alternatives (i.e., cover in-place, consolidate onto existing tailing pile, etc.) to address tailing removal and the selection of the best alternative. Also include a ground survey of the entire Apache Tejo drainage system, adjacent to the tailing ponds and extending to Whitewater Creek, to determine if other deposits of tailing exist that might recontaminate the proposed IRA area or groundwater."*

In 2009, Chino constructed a headcut control structure at the southwest corner of the Big Berm (Figure 1) to prevent headcutting into contained tailings. Chino has also kept NMED informed of progress on land status issues. In January 2020, Golder conducted a follow-up inspection of selected areas of Apache Tejo Wash to document current conditions.

1.1 Purpose and Scope

The purpose of this Assessment Report is to document completion of the NMED request for a "ground survey" of the entire Apache Tejo drainage system. The "ground survey" includes historical information, as well as reconnaissance results and property ownership information. The "ground survey" covers the entire wash from the Chino tailing impoundments to Whitewater Creek, including two tributaries to Apache Tejo Wash. This Assessment Report goes beyond the "ground survey" and presents characterization data for tailing and other materials along the wash. These data are interpreted with respect to the potential for exposure and the potential for re-release to other media, including groundwater.

1.2 Organization of This Report

This report is organized into six sections and three appendices as follows:

- Section 1.0 Introduction describes the purpose, scope, and organization of the report
- Section 2.0 Preliminary Evaluation presents the background and setting, 2004 reconnaissance findings, and property ownership
- Section 3.0 Materials Characterization compiles characterization data for the Big Berm tailing and the channel sediment
- Section 4.0 2020 Site Inspection Follow-up summarizes a follow-up site inspection and photograph comparison of Apache Tejo Wash performed in January and February 2020
- Section 5.0 Assessment summarizes the potential for exposure and re-release to other media
- Section 6.0 References lists references cited in the report
  - Appendix A contains the laboratory data for the Big Berm samples;
  - Appendix B contains the laboratory data for the channel samples
  - Appendix C contains a photograph comparison for selected sites along Apache Tejo Wash over time

2.0 PRELIMINARY EVALUATION

This section describes the background and setting, reconnaissance, and property ownership.

2.1 Background and Setting

The Apache Tejo Wash is located to the west and south of the Chino Tailing Ponds (Figure 1). Its headwaters lie near the south edge of the Town of Hurley. The wash then runs adjacent to the west perimeter of the Chino Tailing Ponds, past the Apache Tejo well field, and under Highway 180. From there, the wash traverses open rangeland until it joins Whitewater Creek where both Apache Tejo Wash and Whitewater Creek abut the railroad. Apache Tejo Wash has two tributaries, both of which are located to the east of the main stem and have their headwaters near the Chino Tailing Ponds. The lengths of these watercourses in the Apache Tejo Wash system are:

- Main stem – 58,000 feet
- Tributary 1 – 12,000 feet
- Tributary 2 – 20,000 feet

Recent groundwater elevation data are sparse along Apache Tejo Wash; however, to the east in Lower Whitewater Creek, groundwater flow directions typically mimic the surface flow directions. Figure 2 shows the groundwater elevations and general direction of groundwater flow near the Apache Tejo Wash. The direction of groundwater flow is generally to the south/southeast.

Recharge to the hydrogeologic system in the vicinity of the Apache Tejo Wash occurs by infiltration along drainages during times of surface runoff, by groundwater discharge from the underlying and surrounding bedrock, and possibly by infiltration of precipitation. Groundwater discharges to the south as underflow (groundwater flow through the Gila Conglomerate). The hydraulic conductivity of the Gila Conglomerate is considered moderate, with a geometric mean from updated hydraulic testing data from within the area south of the tailing of approximately 6.0 feet per day (ft/d). Recent alluvium, located at shallow depth, principally along the channels, has a much higher hydraulic conductivity relative to the Gila Conglomerate; however, the recent alluvium generally lies above the water table, which varies from approximately 60 feet below ground surface (ft bgs) southeast of Hurley, to over 150 ft bgs south of Pond 7 (Golder 2008).

Only one monitoring well (i.e., Stark Test Well #6) is available in the vicinity of Apache Tejo Wash and it is located off-channel approximately ½ mile to the southwest of the confluence of the main stem and Tributary 2 (Figure 2). Groundwater quality data are available from sampling events in 1997, 2009, and 2020 (Table 1). These data indicate circumneutral pH, low total dissolved solids and low sulfate. Most metals were non-detect and were below New Mexico groundwater standards. Iron exceeded the New Mexico groundwater standard for domestic water supply in a 2009 sampling event, but this is an outlier or error because iron was not detected in the samples collected in 1997 or 2020. Although the cause will remain unknown this many years later, the elevated iron level in 2009 may have been due to insufficient purge volume or sampling handling.

Land use in the vicinity of Apache Tejo Wash consists of mining (i.e., tailing ponds, pipelines) and ranching. There are only two residences along the wash: the first located at the Apache Tejo well field on the east side of the channel, and the second located near the intersection of Highway 180 and the Airport Road on the west side of the channel (aka, “Edwards Ranch”). Chino owns both of these properties and leases Edwards Ranch to tenants. Chino also maintains a water supply pipeline from the Lower Whitewater Creek well field to the west of Apache Tejo Wash (Figure 1). Chino staff stated that Edwards Ranch is supplied with domestic water from the

Chino water supply pipeline. Chino staff also stated that the residence on the east side of Highway 180 is no longer available for residential use.

The older Chino Tailing Ponds have historically released tailing to Apache Tejo Wash, but the number and duration of occurrences is uncertain. Figure 3 shows Apache Tejo Wash circa 1935, and what may be tailing leaving the west side of the ponds into the wash. Later, Chino constructed a berm in Apache Tejo Wash at the southwest corner of Tailing Pond C. Since that time and until completion of tailings reclamation in 2013, Chino inspected and maintained this berm under its Storm Water Pollution Prevention Plan. The berm was removed as part of closure of the tailing ponds by 2012, and storm water now reports to Apache Tejo Wash.

2.2 Reconnaissance Findings

Reconnaissance was conducted in two steps. In 2004, Golder visited the reaches most likely to have historical accumulations of impacted materials based on inspection of aerial photographs. In 2005, the remaining portions of Apache Tejo Wash were visited, except for a short portion at the downstream end (below Station 8) where rattlesnakes in the Sacaton grass made walking unsafe due to lack of visibility. Section 4.0 discusses follow-up reconnaissance of this area in 2020 during the non-snake season. Reconnaissance consisted of walking the channel, digging shallow holes for observation, and taking notes and photographs. The reconnaissance identified six accumulations of impacted materials, including five areas of tailings accumulations and one area stained and ferricrete-cemented sediments. They were assigned convenient names based on local features but were also identified by stationing in thousands of feet from the zero station where Apache Tejo Wash joins Lower Whitewater Creek. From upstream to downstream, the historical areas of impact (Figure 4) along the main stem of Apache Tejo Wash are:

- **Training Berm (Sta. 53.0 to 51.2).** The channel is incised at this location and a row of surface tailing is present on the top of the east bank. The tailing appears to have been removed from the channel, and they may have been intended to direct side runoff into the wash and protect some nearby buildings. A driveway and culvert at the downstream end may also have created backwater conditions that allowed tailing deposition. The tailing is not covered by recent sediment and vegetation is sparse, possibly due to residual acidity from the tailings and/or movement of sand during high winds.
- **Willow Thicket (Sta. 51.0 to 49.0).** The channel is broad and shallow at this location and the tailing are present in a thick grove of willows that were watered by occasional overflows from Chino's water tanks for the Apache Tejo well field. The tailing is partially covered by recent sediment and vegetation.
- **Edwards Berm/Road (Sta. 47.0 to 46.0).** The channel is broad and shallow at this location and the tailing apparently accumulated behind culverts in the former driveway from Highway 180 to the ranch. A headcut has formed at the downstream end of the accumulation where the culverts washed out some years ago. There is also a row of surface tailing along the east side of the area that appears to have been removed from the channel and may have been intended to act as a berm. The tailing accumulation is covered with recent sediment and vegetation, except for the row of tailing on the east bank where vegetation is sparse.
- **Former Stock Tank (Sta. 36.8).** What appears to be a former stock tank, now breached, contains tailing and iron-stained sediment upstream. The tailing accumulation has been dissected by flow and is partially covered by recent sediment and vegetation.
- **Big Berm (Sta. 32.8 to 32.5).** This is the largest accumulation of tailing along the wash. The accumulation was formed by a berm that may have been constructed as part of a Civilian Conservation Corps range improvement project in the 1930s. A headcut is present at the southwest corner of the berm and sediment

stained by percolating solutions is visible in its banks. The headcut has not breached the accumulation, however, and a grade control structure was placed in the headcut in 2009. A small area of surface tailing is present on the east bank. The accumulation is covered by recent sediment and vegetated, except for the small area of surface tailing.

- **Southern Headcuts (Sta. 23.0 to 21.0).** Two headcuts start on the west bank of the wash, opposite from the mouth of Tributary 2, and extend upstream into a large overbank. The sides of the headcuts show buried stained sediment, ferricrete, and manganocrete, but have naturally been covered by several feet of sediment that is visibly clean and vegetated.

In between the accumulations in the main stem, most of the bed and banks are covered by recent, visibly cleaner sediment. However, intermittent areas of stained sediment, ferricrete, and manganocrete are visible in the channel banks but these intermittent areas have naturally been covered by sediment that is visibly clean and vegetated. Similar impacts are present in the channel bed in some locations beneath approximately 1 to 2 feet of visibly clean sediment, as observed in hand-dug holes.

The two tributaries were generally free of visual impacts. Some tailing was observed at the upstream end of Tributary 1 adjacent to the Chino Tailing Ponds and some stained sediment was observed just upstream of its confluence with the main stem, presumably caused by backwater from the main stem. No impacts were observed in Tributary 1 between these two points. In Tributary 2, no impacts were observed except at its confluence with the main stem where backwater likely resulted in some stained sediment. Notably, an active stock pond at Sta. 5.5 on Tributary 2 (a possible location for accumulation) did not exhibit any tailing or stained sediment.

To summarize the findings of the reconnaissance, Apache Tejo Wash contains tailing and sediment stained by solutions, although in most locations these releases are covered by recent, cleaner sediment. It is inferred from the thickness of the overlying layer of cleaner sediment that the releases are decades old. The extent of releases along Apache Tejo Wash is considerably less and inferred to be older than the impacts along Lower Whitewater Creek, as documented in the Hanover/Whitewater Creek Remedial Investigation (Golder 2000) and Chino Mine Site-Wide Stage 1, Task 1 Addendum (Golder 2016).

2.3 Property Ownership

Private and public entities own land along Apache Tejo Wash (Figure 5). The private landowners are primarily Chino and the LT Ranch, although there are a few smaller ranch owners with parcels along the wash. The public land managers are the State of New Mexico and the U.S. Bureau of Land Management.

3.0 MATERIALS CHARACTERIZATION

This section summarizes the two materials characterization efforts that Chino has undertaken. The first sampling event in early 2006 used backhoe test pits to characterize the nature and extent of tailing at the Big Berm. The second sampling event in late 2006 used hand-dug pits to characterize the nature of potentially affected materials along the length of the wash.

3.1 Big Berm Tailing

The “Big Berm” is an accumulation of tailing behind a berm constructed across Apache Tejo Wash (Figure 6). It was named the Big Berm out of convenience, as it is the largest historical accumulation along the wash. The berm is approximately 15 feet high and constructed of what appears to be local earthen fill. In addition to the accumulation of tailing upstream of the berm, tailing was visible on the surface of the slope to the east of the Big

Berm. The purpose of the investigation was to estimate the lateral and vertical extent of tailing, to characterize the chemical nature of the tailing, and to identify potential impacts to adjacent sediment.

3.1.1 Data Collection

This section summarizes the sampling that Golder performed between March 7 and March 16, 2006 at the Big Berm site. The investigation targeted the area of tailing accumulation behind the berm, the surface tailing on the slope to the east, and stained sediment immediately downstream of the berm. The field activities included mapping of the surface conditions via visual observations and subsurface conditions via test pits, as well as test pit description and sample collection.

Seventy-one test pits were excavated to visually delineate the extent of tailing and potentially impacted materials (Figure 6). Test pit locations were distributed based on the judgment of the field geologist to provide sufficient coverage to map the lateral and vertical extent of tailing and the stained downstream sediment. Composite and grab samples were collected during test pit excavation. Test pit logs are included in Appendix A.

The materials encountered were classified to document the range of visible variability, although these visible classes do not necessarily translate to chemical differences.

A total of 22 samples from 12 test pits were analyzed to represent the material types and positions:

Material Type	Relative Position	Number of Samples
Sediment	Overlying	3
	Underlying	6
Tailings	Surface	1
	Buried	5
Stained Sediment (Downstream of Berm)	Not Classified	7

Materials encountered upstream of the berm included overlying sediment, buried tailing, and underlying sediment. Sediment overlying the buried tailing was a mixture of tailing and sediment deposited by water in a layer from 1 to 2 feet thick. While the overlying sediment was mixed with weathered tailing, it was distinct from the buried tailing in that it was brown, contained roots, reacted with hydrochloric acid (HCl), and supported vegetation. The lateral extent of the overlying sediment correlates with the visual change in vegetation in the aerial photograph in Figure 6. Buried tailing was identifiable by texture, bedding, oxidation staining, and lack of organic materials. Buried tailing was approximately 4 feet thick at the upstream extent of the accumulation, thickening to up to 9 feet thick near the berm. Underlying sediment consisted of pre-existing alluvium below the buried tailing.

Surface tailing on the slope to the east of the Big Berm area was visually identifiable as an area of dune sand. While the tailing was mixed to some degree with windblown soil and supported some grasses and yucca plants, the material was clearly discernable as tailing by its texture and slightly orange color compared to surrounding and underlying materials. The surface tailing can be seen on Figure 6 with the shape of a white barchan dune, implying a windblown origin. The surface tailing was up to 2.5 feet thick.

Stained sediment was encountered to the southwest (i.e., downstream) of the berm (Figure 6). Iron and manganese staining was observed in zones above and below caliche layers in the headcuts and test pits. Although the stained sediment was buried, it is exposed in the sidewalls of the headcuts. For this reason, the stained sediment associated with the Big Berm was not classified with respect to position.

Laboratory analysis consisted of paste pH/paste electrical conductivity (paste pH/EC), acid base accounting (ABA), neutralization potential (NP), total metals, and leachable metals (although not every sample was assigned every analysis). Test pit identification numbers, sample depths, material types/positions, and analyses performed are summarized in Table 2. SVL Analytical (SVL) of Kellogg, Idaho analyzed the samples. Appendix A contains the laboratory data packages.

3.1.2 Results

This section presents the results for paste pH/EC, ABA, NP, total metals, and leachable metals testing. All samples were subjected to paste pH/EC. Based on these results and the test pit logs, a subset of samples were selected to represent the various materials encountered and advanced to ABA, NP, and total metals testing (Table 2). Two samples of buried tailing were also subjected to leachable metals testing with the Synthetic Precipitation Leaching Procedure (SPLP). Based on the visual observations, these two samples represented unmixed tailing and were therefore considered to be worst case with respect to the potential for metals leaching from tailing.

3.1.2.1 Acid Base Accounting and Paste pH/EC

Results of paste pH/EC testing are listed in Table 3. Paste pH results for overlying sediment and downstream stained sediment ranged from 7.2 to 7.9 standard units (su). Paste pH results for underlying sediment ranged from 5.9 to 7.7 su. Paste pH for buried and surface tailing ranged from 4.4 to 7.7 su. EC ranged from 0.13 to 2.71 milliSiemens (mS) with the higher values associated with buried tailing and underlying stained sediment.

ABA and NP results are presented in Table 4. Figures 7 through 9 provide graphical analysis of the results. In accordance with the Prediction Manual for Drainage Chemistry from Sulfidic Geologic Materials (MEND 2009), the following screening criteria were used to classify samples in terms of their potential to generate acid rock drainage (ARD):

ARD Potential	Screening Criterion	Comments
PAG	ANP/AGP < 1	Likely to generate acidity unless sulfide minerals are non-reactive
Uncertain	1 < ANP/AGP < 2	Neither clearly acid generating nor acid consuming
non-PAG	ANP/AGP > 2	Acid consuming, low acid generation potential

Notes:
ANP = acid neutralization potential
AGP = acid generation potential
ARD = Acid Rock Drainage
PAG = Potentially ARD Generating
Non-PAG = Non-Potentially ARD Generating

The material classifications based on MEND (2009) are shown in Table 4. Based on ANP/AGP ratios, of the nine samples analyzed, one buried tailing sample was classified as Potentially Acid Generating (PAG). The other eight samples were classified as Not Potentially Acid Generating (non-PAG). Figure 7 shows ANP values versus AGP values. Also included are the linear expressions of the ARD criteria (MEND 2009). Figure 8 plots pyritic sulfur content against paste pH. The majority of the samples are circumneutral with low sulfide contents ranging from less than 0.01% to 0.6%.

Note that for the tailing sample classified as PAG (TP-2 3 to 5 feet), the sulfide sulfur content is so low (0.04%) that acid generation through oxidation is considered unlikely. The low values for paste pH likely reflect past reactivity, which may have resulted in formation of oxidation products, such as jarosites, that contain stored acidity, which is released when they dissolve.

Figure 9 graphically compares paste pH to NP. This graph includes five additional samples from sediment underlying the buried tailing that were analyzed for paste pH and NP. The graph indicates that overlying, underlying, and stained sediment generally had higher paste pH and the potential to neutralize acid. Conversely, tailing had lower paste pH and little potential to neutralize acid.

3.1.2.2 Total Metals

Total metals analysis results are listed in Table 5. Metals concentrations in the tailing are generally similar to or lower than concentrations in the overlying, underlying, and stained sediment. Underlying sediment and stained sediment are higher in manganese and iron concentrations than tailing and overlying sediment, as would be expected based on staining and mixing observed in the field. Table 5 also compares total metals concentrations for the Big Berm to NMED issued Pre-Feasibility Study Remedial Action Criteria (pre-FS RAC) for the Smelter and Tailing Soils Investigation Unit (S/TSIU) (NMED 2011). Concentrations in tailings and sediment for all metals are well below their Human Health Risk Pre-FS RAC.

Table 5 also compares total metals concentrations to NMED pre-FS RAC for ecological risk (NMED 2011). Copper concentrations for the Big Berm are well below the Ecological Risk pre-FS RAC for ground-feeding birds. The pre-FS RAC for vegetation is based on cupric ion activity [pCu2+] when copper concentrations in soil are greater than or equal to 327 mg/kg (a value determined to be background by NMED); therefore, Table 5 includes a screen against this value in order to identify samples to evaluate for pCu. Three samples had copper concentrations higher than 327 mg/kg (i.e., TP-2 0-2 feet, TP-8 0-2 feet and TP 8 4-6 feet).

Table 6 compares cupric ion activity [pCu2+] for the three samples with copper concentrations greater than 327 mg/kg to NMED pre-FS RAC for vegetation (NMED 2011). A relationship between the paste pH and total copper concentrations was developed by Newfields (2008) to predict the available copper (predicted pCu^{2+}), and predicted pCu^{2+} may be compared to the pre-FS RAC of ≥5 (i.e., a value <5 is an exceedance). Two equations are presented in Newfields (2008), one applicable to “all locations” and one specific to the “ephemeral drainage.

- All locations: 3.28+(1.12 x pH)-(0.64 x ln[Cutot]
- Ephemeral drainage: -0.56+(1.32 x pH)-(0.18 x ln[Cutot]

The calculated predicted pCu2+ for the three samples collected at the Big Berm were greater than the pCu^{2+} pre-FS RAC and, therefore, the pCu^{2+} is acceptable for all locations.

3.1.2.3 Leachable Metals

Leachable metals results, as measured via SPLP, are presented in Table 7. Silver, arsenic, beryllium, cadmium, cobalt, chromium, mercury, lithium, nickel, lead, and selenium were below detection limits in leachate from the two

samples of tailing analyzed. Iron, copper, and zinc were detected at low levels. These two samples of tailing represented presumed worst case conditions, as previously mentioned in the introductory paragraph of Section 3.1.2. Overall leaching behavior of the tailing would be somewhat less than these two samples.

3.1.3 Interpretations

The extent of the buried and surface tailing is delineated on Figure 10. Tailing thickness, areas, and volumes are listed for each material. The buried tailing comprised approximately 7 acres (ac) and 37,500 cubic yards (cy), while the surface tailing was smaller at 1.8 ac and 5,700 cy. The buried tailing was approximately 4 feet thick at the upstream extent of the accumulation, thickening to up to 9 feet thick near the berm. The surface tailing to the east of the Big Berm was up to 2.5 feet thick. The buried tailing is covered by a layer of mixed weathered tailing and sediment which is approximately 1 to 2 feet thick and well vegetated. Cross-sections through both areas are shown on Figures 11 through 13.

The extent of impacts to the sediment underlying the buried tailing upstream of the berm was variable. In some test pits, the underlying material appeared visually unaffected and in others, the underlying sediment was visually impacted. Visual impacts include yellow/orange and dark grey staining by iron and manganese precipitates, respectively. The horizontal extent of visual impacts to underlying sediment is expected to mirror the surface footprint of the buried tailing (Figure 10).

The extent of the stained sediment downstream of the berm was less well defined by the test pits (Figure 6). Vertically, the stained sediment was present in zones above and below caliche layers in the headcuts. Test pits were excavated up to 10 feet deep, and stained sediment was present in thin zones to that depth in most pits. Horizontally, staining decreased in thickness and frequency with distance from the berm, which suggests the downstream sediment was stained by lateral seepage through the berm.

Chemical characterization of the buried and surface tailing indicated that it will not generate acid by sulfide oxidation now or in the future. However, paste pH values indicated that residual soluble acidity is present in both the buried and surface tailing. This is consistent with the fact that iron was detected in leachate at low levels from the tailing during SPLP testing. The lack of sulfides and the presence of soluble acidity indicates that the tailing is near the end stage of weathering. The SPLP results for the buried tailing show that metals other than iron have a low potential to leach, similarly suggesting that the tailing may be near the end stage of weathering. Given that the underlying sediment contains significant neutralizing potential, seepage of the residual acidity is likely to have been neutralized in the vadose zone and metals have been attenuated.

The sediment overlying the buried tailing also does not contain sulfide-related acidity or residual soluble acidity. While visually clean and supporting vegetation, however, the overlying sediment does contain some elevated metals concentrations, which may be related more to upstream conditions than the underlying tailing.

Elevated metals in the Big Berm samples include copper concentrations that are below the pre-FS RACs for Human Health Risk and Ecological Risk (ground-feeding birds). Three samples had copper concentrations above background that warranted evaluation of pCu2+ for potential risk to vegetation. The calculated predicted pCu2+ for these three samples was acceptable when compared to the pCu2+ Pre-FS RAC for vegetation.

The stained sediment downstream of the berm does not have the potential for sulfide oxidation, but as with the tailing, the stained sediment has some residual soluble acidity. This soluble acidity has been, and is likely to continue to be, neutralized by the surrounding sediment, that sources mainly from the Gila Conglomerate, which has neutralizing potential. Visual observation of iron and manganese precipitates in the vadose zone downstream

of the berm in the intermittent caliche layers indicate that iron, manganese, and perhaps other metals have precipitated in circumneutral pH environments.

3.2 Channel Sediment

The purpose of the investigation was to evaluate the nature of the potentially affected materials in the bed and banks of the wash. Although the extent was not specifically addressed by this investigation, the potentially affected materials did not appear to be thick around and under the channel based on the hand-dug pits.

3.2.1 Data Collection

This section summarizes the October 2006 sampling and analysis that Golder performed between October 8 and 9, 2006. The investigation targeted surface and near surface materials between the Chino Tailing Ponds (Sta. 58) and the Southern Headcuts (Sta. 21). The field activities included sample collection from hand-dug holes and sample description.

Eleven holes were dug by hand to collect samples (Figure 14). Sample locations were selected on the judgment of the field staff to represent the various materials observed. Point (a.k.a. grab) samples were collected. Sample descriptions are included in Appendix B.

The materials encountered were classified to document the range of visible variability, although these visible classes do not necessarily translate to chemical differences. A total of 24 samples from 11 locations were collected to represent the material types and positions:

Material Type	Relative Position	Number of Samples
Sediment	Overlying	10
	Underlying	1
Tailings	Surface	4
	Buried	5
Stained Sediment	Overlying	2
	Underlying	2

The above terms derived from the observations while sampling. The sediment consisted of unconsolidated sands and gravels originating from the watershed and reworked by water. The tailing were a uniform particle size (i.e., clay to sand), multi-colored depending on the degree of weathering (yellowish to whitish to orangish), and sometimes thinly banded. The stained sediment had the same visual characteristics as unstained sediment, but with added reddish and blackish coatings of iron and manganese, respectively. The terms overlying and underlying refer to the relative vertical sequence of sediment or stained sediment layers above or below a tailing layer at a particular location. If multiple layers were not present or not sampled, then the position was classified as buried or surface.

Laboratory analysis consisted of paste pH/EC, ABA, total metals, and leachable metals (although not every sample was assigned every analysis). Sample identification numbers, sample depths, material types/positions,

and analyses performed are summarized in Table 8. SVL of Kellogg, Idaho analyzed the samples. Appendix B contains the laboratory data packages.

3.2.2 Results

This section presents the results for paste pH/EC, ABA, total metals, and leachable metals testing. All samples were subjected to paste pH/EC and ABA testing. Based on these results and the sample descriptions, a subset of samples were selected to represent the various materials encountered and advanced to total and leachable metals (i.e., SPLP) testing (Table 8).

3.2.2.1 Acid Base Accounting and Paste pH/EC

Results of paste pH/EC testing are listed in Table 9. Paste pH ranged from 4.6 to 8.6 su, the majority of which were circumneutral. Paste EC ranged from 0.24 to 5.15 mS, with an average of 1.62 mS.

ABA results are presented in Table 10. Figures 15 through 17 provide graphical analysis of the results. The results were classified in accordance with screening criteria based on MEND (2009), as previously presented in Section 3.1.2.1.

Based on ANP/AGP ratios alone (Table 9), the majority of the 24 samples analyzed (i.e., 17 samples), regardless of type or position, were classified as non-PAG. Of the other samples, two sediment and four tailing samples were classified as PAG. One other tailings sample was classified as having an uncertain potential to generate ARD. Figure 15 shows ANP versus AGP values. Also included are the linear expressions of the ARD criteria. Figure 16 relates pyritic sulfur content to the paste pH graphically. The majority of the samples are circumneutral with low sulfide contents ranging from 0.01% to 0.26%. One sediment sample and one tailing sample had pH values of 4.64 and 5.04, but also have very low sulfide contents of 0.04% and 0.08%, respectively, indicating that acid generation through oxidation is considered unlikely. The low values for paste pH likely reflect past reactivity, which may have resulted in formation of oxidation products, such as jarosites, that contain stored acidity, which is released when they dissolve. Note that of the six samples classified as PAG, 5 were east of Highway 180 adjacent to active tailings operations.

Figure 17 graphically compares paste pH to NP. The graph indicates that the overlying sediment generally had a higher potential to neutralize acid (i.e., higher NP and paste pH) than the tailing or stained sediment.

3.2.2.2 Total Metals

Total metals analysis results are listed in Table 11. The results from two paired overlying sediment and underlying tailing (AT-1006-01 and -03; AT-1006-07 and -08) suggests that overlying sediment, when not stained, generally had lower metals concentrations than the underlying tailing. However, the stained sediment has similar concentrations as tailing, regardless of position, and had the highest arsenic values. Table 11 also compares total metals concentrations to the NMED issued Pre-FS RAC (NMED 2011). Concentrations in tailings and sediment for all metals are below their Human Health Risk Pre-FS RAC except for arsenic which exceeds the Pre-FS RAC in one stained sediment sample (i.e., AT-1006-16).

Table 11 also compares total metals concentrations to NMED pre-FS RAC for ecological risk (NMED 2011). Copper concentrations in channel sediments are well below the Ecological Risk pre-FS RAC for ground-feeding birds. The pre-FS RAC for vegetation is based on cupric ion activity [pCu2+] when copper concentrations in soil are greater than or equal to 327 mg/kg (a value determined to be background by NMED); therefore, Table 11 includes a screen against this value in order to identify samples to evaluate for pCu. Only three samples had copper concentrations higher than 327 mg/kg (i.e., AT-1006-02, AT-1006-03, and AT-1006-13).

Table 12 compares cupric ion activity [pCu2+] for the three samples with copper concentrations greater than 327 mg/kg to NMED pre-FS RAC for vegetation (NMED 2011). A relationship between the paste pH and total copper concentrations was developed by Newfields (2008) to predict the available copper (predicted pCu^{2+}), and predicted pCu^{2+} may be compared to the pre-FS RAC ≥5 (i.e., a value <5 is an exceedance). Two equations are presented in Newfields (2008), one applicable to “all locations” and one specific to the “ephemeral drainage.

- All locations: 3.28+(1.12 x pH)-(0.64 x ln[Cutot]
- Ephemeral drainage: -0.56+(1.32 x pH)-(0.18 x ln[Cutot]

The calculated predicted pCu2+ for the three channel samples were equal to or greater than the pCu^{2+} pre-FS RAC and, therefore, the pCu^{2+} is acceptable for all locations.

3.2.2.3 Leachable Metals

Leachable metals results, as measured via SPLP, are presented in Table 13. Silver, arsenic, boron, beryllium, cadmium, cobalt, chromium, mercury, lithium, molybdenum, nickel, lead, and selenium were generally below detection limits regardless of material type or position. Aluminum, boron, copper, iron, manganese and zinc were detected in most or all samples regardless of material type or position.

3.2.3 Interpretations

Chemical characterization of the overlying sediment (whether stained or not) showed that it was generally not acid generating. The underlying sediment (whether stained or not) generally had slightly more potential to generate acid than the overlying sediment, presumably representing seepage from tailing into the underlying materials. The overlying sediment had a higher potential to neutralize acid, as well as generally higher paste pH, than the tailing or underlying sediment. The tailing (whether buried or surface) had a mixed potential to generate acid, with some samples exhibiting no potential to generate acid and others potentially acid generating. Staining, or the lack thereof, did not influence the potential to generate acid. Overall, these results suggest the tailing is proceeding to the end stage of weathering and some tailing is already at the end stage. In addition, the recent, incoming sediment is providing some degree of containment over the underlying materials.

Elevated metals in the channel sediments include copper concentrations that are below the pre-FS RACs for Human Health Risk and Ecological Risk (ground-feeding birds). Three samples had copper concentrations above background that warranted evaluation of pCu2+ for potential risk to vegetation. The calculated predicted pCu2+ for these three samples was acceptable when compared to the pCu2+ Pre-FS RAC for vegetation.

Figure 18 shows trends with distance downstream for selected ABA results (i.e., sulfur forms), selected total metals (i.e., copper, iron, manganese), and selected leachable metals (i.e., copper, iron, manganese). The sulfide represents the original acid producing minerals and the sulfate represents how much of the original sulfide has oxidized. Both sulfur forms decreased with distance downstream, which is inferred to represent the pattern from the original deposition of the tailing solids some 50 to 80 years ago. The total iron and manganese concentrations appear to increase with distance downstream, although there are some high iron values upstream. The leachable metals concentrations seem to increase with distance downstream. This pattern in total and leachable metals is inferred to represent remnant recalcitrant minerals upstream (with the converse depletion in the leachable forms), flushing of metals in dissolved form downstream, and subsequent downstream precipitation of metals in iron hydroxide coatings on particles.

Overall, chemical characterization indicates a geochemically maturing system with weathered original source materials but redistribution of constituents in dissolved form. Given that there have been no releases for many

years, the incoming runoff and sediment from the watershed would be mixing with the original materials, with constituents in dissolved form possibly moving downstream faster than constituents in particulate form.

4.0 FOLLOW-UP FIELD INSPECTION

Two follow-up inspections were performed, one by Golder in 2020 and one by Chino staff in 2020.

The purpose of the 2020 follow-up site inspection was to revisit areas previously identified as having tailings accumulations or stained soils and identify changes such as erosion, headcutting, aggradation, and changes in vegetation. Two Golder staff familiar with the site performed the inspection.

Golder performed the site inspection January 8 and 9, 2020 of the Apache Tejo Wash north of the Highway 180 from Sta. 55 north of the Training Berm to Edwards Ranch (Sta. 50), the Former Stock Tank (Sta. 37), the Big Berm (Sta. 33) and the Southern Headcuts (Sta. 24). No additional sampling was performed during the follow-up inspection.

Golder staff photographed channel conditions along Apache Tejo Wash on five occasions from 2004 to 2020. In addition, aerial images from 1935, 1974, 1996, and 2016 were compiled. Appendix C presents a comparison of photographs and aerial images over time to evaluate changes along Apache Tejo Wash. Overall interpretations are as follows with detailed interpretations presented in the appendix:

- **Channel.** Significant changes to the channel over time were not observed in most locations.
- **Tailings accumulations.** Volunteer revegetation increased over time at the tailings accumulations. As shown in Appendix C, the 1935 aerial photograph show the accumulation areas described in this report free of significant tailings deposits. The next aerial photograph available (1974), shows the Willow Thicket, Edwards Ranch, Former Stock Tank, and the Big Berm to have unvegetated tailings accumulations that appear to have been deposited in one event, or possibly a few clustered events. Aerial photographs taken after 1974 show the accumulations progressively being revegetated with volunteer vegetation.
- **Headcuts:** At Edwards Ranch and the Big Berm, headcuts were largely stable in recent years. At the southern-most headcuts, the originally observed headcut was stable but another headcut in the main stem of the wash has developed and migrated upstream in recent years.

Overall, the potential for redistribution of metals in historic mine materials appears to be decreasing over time, although headcut migration may continue in selected areas.

During second follow-up field inspection, Chino staff visited the downstream reach in March 2021. No tailings or staining were observed between Station 9 and Station 8. The confluence of Apache Tejo Wash and Lower Whitewater Creek is located just south of Station 8. Downstream of Station 8, the Lower Whitewater Creek Distributary Area (Figure 4) has incorporated Apache Tejo Wash into its system. This area has been defined as:

- **Lower Whitewater Creek Distributary Area (Stations 0 to 8) –** The confluence of Apache Tejo Wash and Lower Whitewater Creek has some surface tailing in the channel and surrounding area that have been deposited by wind and runoff from the Lower Whitewater Creek Distributary Area. Chino has characterized the Distributary Area under Stage 1 reporting for site-wide abatement (Golder 2016).

5.0 ASSESSMENT

This section assesses the potential for tailing to be re-released or contaminants to migrate, as well as the potential for human and ecological exposure to contaminants. The potential for re-release or migration is

evaluated with respect to groundwater, surface water, sediment, and air. The potential for human and ecological exposure is evaluated with respect to the NMED issued Pre-FS RAC for the Smelter and Tailings Soils Investigation Unit (NMED 2011).

The potential for constituents to infiltrate to groundwater is low. The tailing in the channel and the Big Berm generally showed little to no potential to generate acid or leach metals, in part being decades old and thus close to the end of sulfide weathering. The depth to groundwater is on the order of 100 feet along the wash, and the vadose zone is comprised of alluvium and Gila Conglomerate with neutralizing potential. In addition, groundwater quality from a well downstream of the Big Berm meets NM standards (Table 1), except for a 2009 sample where the iron concentration of 3.5 mg/l exceeded the standard for domestic water supply. However, this iron exceedance did not occur in a 1997 sample (non-detect) nor a 2020 sample (also non-detect), suggesting that the 2009 value of 3.5 mg/l was an outlier or error.

There is limited potential to re-release constituents to surface water because recent, cleaner sediment has covered much of the historical tailing along the wash, with the exception of a few accumulations near the tailings operations north of Highway 180, and an accumulation near the former Stock Tank at Sta. 37. Clean sediment will continue to enter the channel over time. Although the metals are generally not leachable from the tailings and sediments upgradient of the Southern Headcuts, there is evidence of downstream legacy impacts of metals in dissolved form, based on soil staining and the occurrence of particles coated or cemented with iron and manganese in the banks of the headcuts area near Sta. 23. However, the wash is ephemeral, there are no receiving water bodies except for an active stock tank on Tributary 2, and the surrounding soils have neutralizing capacity due to the presence of carbonates. As previously noted in Section 2.2, neither this stock tank nor Tributary 2 upstream of it were visually affected.

Aerial photographs bracket the tailings release to the Apache Tejo Wash to between 1935 and 1974. Since 1974, aerial photographs and site inspections indicated that the tailings accumulations have been progressively stabilized with volunteer vegetation. There is localized potential to re-release constituents to sediment at the headcuts where tailing and stained sediment are exposed and being eroded. Scour of surface sediments during large future storm events is possible; however, mixing of the scoured surface sediments and tailings with downstream sediments would dilute the materials and further attenuate the constituents. Headcuts were present at Edwards Ranch, Big Berm, and the Southern Headcuts in early 2009. With the exception of the Big Berm, the headcuts appeared stable. Chino installed a grade control structure across the headcut at the Big Berm in May 2009, to prevent upstream migration into the buried tailing contained behind the berm.

There is negligible potential to re-release constituents via wind because there is little surface tailing. The limited tailing present is partially vegetated and without long upwind fetches of barren ground, both of which reduce the potential for wind erosion. In addition, exposed areas of surface tailing are surrounded by carbonate soils that are being mixed with the tailing by inflowing sediment and by wind deposition.

All of the samples of tailings and sediments upgradient of the Southern Headcuts have concentrations below the Pre-FS RAC for human health. The Southern Headcuts sediment samples (AT-1006-16 and AT-1006-23) from the stream banks have concentrations of arsenic above human health Pre-FS RAC. The potential for human exposure is low because receptors are few, exposure duration is limited, and the area is secured by fences and locked gates. Land use consists of ranching and mining. Receptors are adult workers who are present only sporadically and for short time periods. These receptors include ranchers maintaining water tanks and fences, and mine workers inspecting and maintaining pipelines. These activities occur on the uplands and not in the wash where exceedances are localized at a limited number of sites.

All samples of tailings and sediments have concentrations of copper below the Pre-FS RAC for ecological risk to ground-feeding birds. Three Big Berm samples and three channel samples had copper concentrations above background and warranted evaluation of pCu2+ for potential risk to vegetation. The calculated predicted pCu2+ for these six samples was acceptable when compared to the pCu2+ Pre-FS RAC for vegetation.

No further action, other than visual inspections, is recommended for the tailings accumulations and sediments, given the advanced degree of weathering of the tailing, the limited potential for human and ecological exposure, and the containment by recent sediment and recovery of natural revegetation. Documented visual inspections of the headcuts will be performed annually after the monsoon season until requirements are established in the Record of Decision. If additional evaluation of the potential to affect groundwater is warranted it will be addressed by site-wide abatement under Discharge Plan DP-1340.

Signature Page

Golder Associates Inc.

Jen Pepe
Senior Engineer

Kent R. Johnejack, PE
Principal/Program Leader

JP/KJ/rm

https://golderassociates.sharepoint.com/sites/118951/project files/6 deliverables/rev1 april 2021 final revised assessment report/19130958-r-rev1-a-t assessment report-20210429.docx

6.0 REFERENCES

Golder. (Golder Associates Inc.). 2000. Administrative Order on Consent – Phase 1 Remedial Investigation Report – Hanover/Whitewater Creeks Investigation Units. Prepared for Chino Mines Company. May 25.

Golder. 2008. Chino Mines – Sitewide Stage 1 Abatement Final Investigative Report, Volume 1. Prepared for Chino Mines Company, Hurley, New Mexico. July 17.

Golder. 2016. Chino Mine Site-Wide Stage 1 Task 1 Addendum: Surface Water and Vadose Zone Investigations Characterization of the Distributary Area on Lower Whitewater Creek Prepared for Chino Mines Company, Vanadium New Mexico, (Golder Project Number 043-2551-004) March 29.

MEND. (New Mexico Environment Department). 2009. Prediction Manual for Drainage Chemistry from Sulfidic Geologic Materials. MEND Report 1.20.1. Mining Environment Neutral Drainage Program, Natural Resources Canada. December 2009. Price. 1997.

Newfields. 2008. Ecological Risk Assessment for the Hanover/Whitewater Creeks Investigation Unit. Prepared for New Mexico Environment Department, November 2008.

NMED. 2011. Pre-Feasibility Remedial Action Criteria, Smelter and Tailings Soils Investigation Unit. NMED letter to Chino Mines Company, March 3.

Tables

Table 1: Existing Groundwater Quality Data in the Vacinity of Apache Tejo Wash

Sample ID	Sample Date	Field Measurements		Metals/Metalloids (Total Recoverable)																						Major Ions							Non-metallics						
		Temperature	EC	Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Ni	Se	SiO_2	Ag	Sr	Tl	U	Zn	Ca	Mg	Na	K	Cl	F	SO_4^{2-}	Nitrate (as N)	Nitrite (as N)	Hardness (as $CaCO_3$)	Alkalinity	TDS	EC	pH
		(°F)	(umhos/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L as $CaCO_3$)	(mg/L)	mhos/c	(su)
NM GW Standard for Human Health		**NS**	**NS**	**NS**	**NS**	**0.1**	**1.0**	**NS**	**0.01**	**0.05**	**NS**	**NS**	**NS**	**0.05**	**NS**	**0.002**	**NS**	**0.05**	**NS**	**0.05**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**1.6**	**NS**	**10**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**
Other NM GW Standard for Domestic Water Supply		**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**1.0**	**1.0**	**NS**	**0.2**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**10.0**	**NS**	**NS**	**NS**	**NS**	**250**	**NS**	**600**	**NS**	**NS**	**NS**	**NS**	**1,000**	**NS**	**6-9**
Other NM GW Standard for Irrigation Use		**NS**	**NS**	**5.0**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**0.2**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**
Starks 6 Test Well	8/1/1997[a]	74	340	0.016	---	---	<0.250	---	---	---	---	---	<0.050	---	<0.020	---	---	---	16.2	---	0.170	---	---	---	35.0	14.4	38.5	4.04	9.90	0.99	49.4	0.72	---	144*	144	345*	---	7.65
	6/29/2009[b]	---	---	---	<0.020	<0.025	0.055	<0.002	<0.002	<0.006	---	0.012	**3.5**	<0.0075	0.098	<0.0002	<0.01	<0.040	65.1	<0.005	---	<0.015	---	0.011	47.2	16.3	28.6	---	9.63	1.02	46.3	0.8	0.135	185	---	319	---	8.08
	10/05/2020[b]	---	347	<0.08	---	<0.025	0.0137	<0.002	<0.002	<0.006	<0.006	<0.01	<0.1	<0.0075	<0.008	---	<0.01	<0.04	---	<0.005	---	---	<0.001	<0.01	31.5	9.8	28.9	1.95	8.24	0.288	27.8	---	---	---	---	239	380	7.96

Notes:
°F = degrees fahrenheit
umhos/cm = micromhos per centimeter
mg/L = milligrams per liter
mg/L as $CaCO_3$ = milligrams per liter as calcium carbonate
su = standard units (at a temperature of 21° C)
NS = No standard
*denotes a value calculated by the laboratory
a = Sample collected by Schumaker and Associates, Albuquerque
b = Sample collected by Chino Mines
Bold = Exceeds at least one standard

Table 2: Big Berm Samples and Testing

Test Pit ID	Sample Depth (ft bgs)	Visual Material Type	Position	Paste pH/EC	Acid Base Accounting	Neutralization Potential	Total Metals[-a-]	SPLP[-a-]
TP-2	0-2	Sediment	Overlying	x	x	---	x	---
TP-2	3-5	Tailing	Buried	x	x	---	x	x
TP-2	5-6	Sediment	Underlying	x	x	---	x	---
TP-2	8-10	Sediment	Underlying	x	---	x	---	---
TP-8	0-2	Sediment	Overlying	x	x	---	x	---
TP-8	2-4	Tailing	Buried	x	x	---	x	x
TP-8	4-6	Sediment	Underlying	x	x	---	x	---
TP-8	8-10	Sediment	Underlying	x	---	x	---	---
TP-9	0-2	Sediment	Overlying	x	---	---	---	---
TP-9	4-5	Tailing	Buried	x	---	---	---	---
TP-9	7-8	Sediment	Underlying	x	---	---	---	---
TP-14	2-5	Tailing	Buried	x	---	---	---	---
TP-14	7-10	Tailing	Buried	x	---	---	---	---
TP-36	0-1	Tailing	Surface	x	x	---	x	---
TP-36	2-3	Sediment	Underlying	x	---	x	---	---
TP-55	3-4	Stained Sediment	NA	x	x	---	x	---
TP-56	6	Stained Sediment	NA	x	---	---	---	---
TP-67	7-8	Stained Sediment	NA	x	x	---	x	---
TP-68	9-10	Stained Sediment	NA	x	---	---	---	---
TP-69	0-2	Stained Sediment	NA	x	---	---	---	---
TP-71	2-3	Stained Sediment	NA	x	---	---	---	---
TP-73	2-4	Stained Sediment	NA	x	---	---	---	---

Note:

ft bgs = feet below ground surface

EC = electrical conductivity

[-a-] Total metals and leachable metals analyzed include Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Li, Mn, Mo, Na, Ni, Se, Pb, and Zn.

SPLP = Synthetic Precipitation Leaching Procedure

--- denotes not analyzed

NA = Not applicable. Stained sediment was sampled downstream of the berm in an area with no tailings accumulation.

Table 3: Big Berm Paste pH/EC Results

Test Pit	Sample Depth (ft bgs)	Visual Material Type	Position	Paste EC (mS)	Paste pH (su)
TP-2	0-2	Sediment	Overlying	0.66	7.33
TP-2	3-5	Tailing	Buried	1.7	4.46
TP-2	5	Sediment	Underlying	1.53	6.72
TP-2	8-10	Sediment	Underlying	2.06	6.97
TP-8	0-2	Sediment	Overlying	0.74	7.62
TP-8	2-4	Tailing	Buried	0.42	6.25
TP-8	4-6	Sediment	Underlying	1.96	5.85
TP-8	8-10	Sediment	Underlying	1.91	7.13
TP-9	0-2	Sediment	Overlying	0.41	7.2
TP-9	4-5	Tailing	Buried	0.29	7.74
TP-9	7-8	Sediment	Underlying	0.58	7.58
TP-14	2-5	Tailing	Buried	2.57	6.83
TP-14	7-10	Tailing	Buried	2.71	4.47
TP-36	0-1	Tailing	Surface	0.13	4.87
TP-36	2-3	Sediment	Underlying	0.33	7.74
TP-55	3-4	Stained Sediment	NA	0.22	7.73
TP-56	6	Stained Sediment	NA	0.16	7.87
TP-67	7-8	Stained Sediment	NA	0.84	7.59
TP-68	9-10	Stained Sediment	NA	1.3	7.64
TP-69	0-2	Stained Sediment	NA	0.19	7.9
TP-71	2-3	Stained Sediment	NA	0.32	7.77
TP-73	2-4	Stained Sediment	NA	0.82	7.93

Notes:
EC = electrical conductivity
ft bgs = feet below ground surface
mS = milliSiemens
su = standard units
NA = Not Analyzed

Table 4: Big Berm Acid Base Accounting Results

Sample Name	Sample Depth (ft bgs)	Visual Material Type	Position	Paste pH [-a-]	ABA Results				Sulfur				ARD Potential
					Net Neutralizing Potential	ANP/AGP	AGP	ANP	Unidentifiable	Sulfide	Sulfate	Total	
				(su)	($tCaCO_3$/kt)		($tCaCO_3$/kt)	($tCaCO_3$/kt)	%	%	%	%	
Test Pit Samples													
TP-2	0-2	Sediment	Surface	7.33	19.3	11.2	1.9	21.2	0.4	0.06	0.05	0.15	non-PAG
TP-2	3-5	Tailing	Buried	4.46	-1	0.23	1.3	< 0.3	0.05	0.04	0.46	0.55	PAG
TP-2	5	Sediment	Underlying	6.72	15.9	54	0.3	16.2	< 0.01	0.01	0.01	0.02	non-PAG
TP-2	8-10	Sediment	Underlying	6.97	NA	NA	NA	11.5	NA	NA	NA	NA	Not Classified
TP-8	0-2	Sediment	Overlying	7.62	54.7	183	< 0.3	55	< 0.01	< 0.01	< 0.01	< 0.01	non-PAG
TP-8	2-4	Tailing	Buried	6.25	6.9	12.5	0.6	7.5	0.05	0.02	0.2	0.27	non-PAG
TP-8	4-6	Sediment	Underlying	5.85	21.2	71.7	< 0.3	21.5	< 0.01	< 0.01	0.04	0.04	non-PAG
TP-8	8-10	Sediment	Underlying	7.13	NA	NA	NA	24	NA	NA	NA	NA	Not Classified
TP-36	0-1	Tailing	Surface	4.87	1.6	2.78	0.9	2.5	0.05	0.03	0.17	0.25	non-PAG
TP-36	2-3	Sediment	Underlying	7.74	NA	NA	NA	175	NA	NA	NA	NA	Not Classified
TP-55	3-4	Stained Sediment	Not Applicable	7.73	20.2	68.3	< 0.3	20.5	< 0.01	< 0.01	< 0.01	< 0.01	non-PAG
TP-67	7-8	Stained Sediment	Not Applicable	7.59	12.2	41.7	< 0.3	12.5	< 0.01	< 0.01	0.01	0.01	non-PAG

Notes:
ABA = acid base accounting
ANP = acid neutralizing potential
AGP = acid generating potential - calculated based on sulfide sulfur
su = standard units
tCaCO3/kt = tons calcium carbonate per kiloton of sediment
PAG = Potentially Acid Rock Drainage Generating
non-PAG = Not Potentially Net Acid Rock Drainage Generating
< = concentration less than detection limit
[-a-] Saturated paste pH
[-b-] Classified as "likely to generate acid" based on ANP/AGP ratio, but sample does not contain sufficient sulfide content to generate acid.
NA = not analyzed

Table 5: Big Berm Total Metals Results

Test Pit	Sample Depth (ft bgs)	Visual Material Type	Position	Ca (mg/kg)	K (mg/kg)	Na (mg/kg)	Ag (mg/kg)	Al (mg/kg)	As (mg/kg)	B (mg/kg)	Ba (mg/kg)	Be (mg/kg)	Cd (mg/kg)	Co (mg/kg)	Cr (mg/kg)	Cu (mg/kg)	Fe (mg/kg)	Hg (mg/kg)	Li (mg/kg)	Mn (mg/kg)	Mo (mg/kg)	Ni (mg/kg)	Pb (mg/kg)	Se (mg/kg)	Zn (mg/kg)
Pre-FS RAC Human Health Risk (HHR)				---	---	---	---	---	28	---	---	---	70	---	---	5000	100,000	---	---	---	---	---	---	---	---
Pre-FS RAC Ecological Risk (plants)*				---	---	---	---	---	---	---	---		---	---	---	327	---	---	---	---	---	---	---	---	---
Pre-FS RAC Ecological Risk (ground-feeding birds)				---	---	---	---	---	---	---	---	---	---	---	---	1600	---	---	---	---	---	---	---	---	---
Test Pit Samples																									
TP-2	0-2	Sediment	Overlying	6,810	1,410	65	< 0.5	6,200	5.5	< 4	420	0.47	0.32	8.64	10.4	**389**	17,800	< 0.033	6.1	332	25.6	8.3	11.1	< 4	123
TP-2	3-5	Tailing	Buried	3,140	1,170	68	< 0.5	3,060	< 2.5	< 4	170	< 0.2	< 0.2	2.75	4.99	254	14,000	< 0.033	2.1	57.4	32	3.1	5.4	< 4	38.8
TP-2	5	Sediment	Underlying	6,420	2,950	64	< 0.5	12,900	2.8	< 4	141	0.92	0.46	9.94	16.6	73.7	24,700	< 0.033	12.1	571	2.52	14.8	17.9	< 4	77.6
TP-8	0-2	Sediment	Overlying	21,600	1,740	74	< 0.5	8,840	10.4	< 4	544	0.79	0.73	10.8	12.9	**356**	19,600	< 0.033	9.6	481	5.82	12.5	14.8	< 4	221
TP-8	2-4	Tailing	Buried	1,340	926	60	< 0.5	2,990	< 2.5	< 4	217	< 0.2	< 0.2	3.95	5.29	150	15,600	< 0.033	2	89.7	31.4	3.2	6.1	< 4	43
TP-8	4-6	Sediment	Underlying	9,390	1,580	76	< 0.5	14,900	6.7	< 4	280	1.07	0.67	21.1	17.3	**731**	23,700	< 0.033	21.3	1,370	2.77	18.9	11	< 4	219
TP-36	0-1	Tailing	Surface	1,060	871	< 50	< 0.5	2,870	3.1	< 4	215	0.22	< 0.2	4.47	5.03	234	12,200	< 0.033	2.1	126	27.3	3.8	6.1	< 4	54.3
TP-55	3-4	Stained Sediment	Not Applicable	9,900	2,560	80	< 0.5	17,200	8.1	4.1	271	1.08	0.65	16.9	18.9	60.9	27,900	< 0.033	23.5	1,130	2.72	20.1	18.7	< 4	159
TP-67	7-8	Stained Sediment	Not Applicable	6,510	1,790	68	1.31	10,200	15.7	< 4	284	1.77	0.73	10.2	15.7	48.3	30,200	< 0.033	10.3	1,510	1.68	11.5	19.8	< 4	308

Notes:

* Pre-FS RAC for plants is based on cupric ion activity (pCu2+) when copper concentrations in soil are greater than or equal to 327 mg/kg (a value determined by the New Mexico Environmental Department (2011) to be background)

BOLD indicates a copper concentration in soil to identify samples to evaluate for pCu2+

--- no criteria exists for this constituent

Table 6: Big Berm Predicted Cupric Ion Activity

Test Pit	Sample Depth (ft bgs)	Visual Material Type	Position	Paste pH	Cu	pCU2+	pCU2+
				(mg/kg)	(mg/kg)	All Locations	Ephemeral Drainage
Pre-FS RAC Ecological Risk (plants)				---	327	5	5
Test Pit Samples							
TP-2	0-2	Sediment	Overlying	7.33	389	8	8
TP-8	0-2	Sediment	Overlying	7.62	356	8	8
TP-8	4-6	Sediment	Underlying	5.85	731	6	6

Notes:

Pre-FS RAC approved by New Mexico Environment Department of Environmental Quality (NMED 2011)

Calculated predicted cupric ion activities (pCu2+) equal to or greater than the Pre-FS RAC indicated a lack of potential toxicity

--- no criterion exists for this parameter

Table 7: Big Berm SPLP Results

Test Pit	Sample Depth (ft bgs)	Visual Material Type	Postion	Ca (mg/L)	K (mg/L)	Na (mg/L)	Ag (mg/L)	Al (mg/L)	As (mg/L)	B (mg/L)	Ba (mg/L)	Be (mg/L)	Cd (mg/L)	Co (mg/L)	Cr (mg/L)	Cu (mg/L)	Fe (mg/L)	Hg (mg/L)	Li (mg/L)	Mn (mg/L)	Mo (mg/L)	Ni (mg/L)	Pb (mg/L)	Se (mg/L)	Zn (mg/L)
TP-2	3-5	Tailing	Buried	12.1	1.78	5.93	<0.0050	0.88	<0.025	0.059	0.0234	<0.0020	<0.0020	<0.0060	<0.0060	0.042	1.22	<0.00020	<0.005	0.008	0.123	<0.010	<0.008	<0.040	0.013
TP-8	2-4	Tailing	Buried	3.87	<0.50	4.48	<0.0050	0.75	<0.025	0.063	0.0249	<0.0020	<0.0020	<0.0060	<0.0060	0.027	2.86	<0.00020	<0.005	<0.004	0.0113	<0.010	<0.008	<0.040	0.012

Notes:
ft bgs = feet below ground surface
mg/L = milligrams per liter

Table 8: Channel Samples and Testing

Sample ID	Station ID (thousands of feet)	Visual Material Type	Position	Paste pH/EC	Acid Base Accounting	Total Metals[-a-]	SPLP[-a-]
AT-1006-01	56.0	Sediment	Underlying	x	x	---	---
AT-1006-02	56.0	Sediment	Overlying	x	x	x	x
AT-1006-03	56.0	Tailing	Buried	x	x	x	x
AT-1006-04	53.0	Tailing	Buried	x	x	---	---
AT-1006-05	51.0	Tailing	Buried	x	x	---	---
AT-1006-06	51.0	Sediment	Overlying	x	x	---	---
AT-1006-07	46.0	Sediment	Overlying	x	x	x	x
AT-1006-08	46.0	Tailing	Buried	x	x	x	x
AT-1006-09	46.0	Stained Sediment	Underlying	x	x	---	---
AT-1006-10	47.0	Tailing	Surface	x	x	---	---
AT-1006-11	40.0	Tailing	Buried	x	x	---	---
AT-1006-12	40.0	Sediment	Overlying	x	x	x	x
AT-1006-13	37.0	Tailing	Surface	x	x	x	x
AT-1006-14	37.0	Stained Sediment	Underlying	x	x	---	---
AT-1006-15	32.5	Sediment	Overlying	x	x	x	x
AT-1006-16	32.5	Stained Sediment	Overlying	x	x	x	x
AT-1006-17	32.5	Tailing	Surface	x	x	x	x
AT-1006-18	32.5	Sediment	Overlying	x	x	x	x
AT-1006-19	27.0	Sediment	Overlying	x	x	x	x
AT-1006-20	27.0	Sediment	Overlying	x	x	---	---
AT-1006-21	24.5	Sediment	Overlying	x	x	x	x
AT-1006-22	24.5	Tailing	Surface	x	x	---	---
AT-1006-23	24.5	Stained Sediment	Overlying	x	x	x	x
AT-1006-24	23.0	Sediment	Overlying	x	x	x	x

Notes:

[-a-] Total metals and leachable metals analyzed include Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Li, Mn, Mo, Na, Ni, Se, Pb, and Zn.

SPLP = Synthetic Precipitation Leaching Procedure

--- denotes not analyzed

Table 9: Channel Paste pH/EC Results

Sample ID	Station ID (thousands of feet)	Visual Material Type	Position	Paste EC (mS)	Paste pH (su)
AT-1006-01	56.0	Sediment	Underlying	2.2	4.6
AT-1006-02	56.0	Sediment	Overlying	2.19	8.4
AT-1006-03	56.0	Tailing	Buried	0.83	6.8
AT-1006-04	53.0	Tailing	Buried	2.79	7.2
AT-1006-05	51.0	Tailing	Buried	2.79	6.6
AT-1006-06	51.0	Sediment	Overlying	5.15	7.7
AT-1006-07	46.0	Sediment	Overlying	2.78	7.8
AT-1006-08	46.0	Tailing	Buried	3.14	7.5
AT-1006-09	46.0	Stained Sediment	Underlying	0.34	7.5
AT-1006-10	47.0	Tailing	Surface	2.62	7.1
AT-1006-11	40.0	Tailing	Buried	0.4	7.9
AT-1006-12	40.0	Sediment	Overlying	0.31	8.0
AT-1006-13	37.0	Tailing	Surface	3.09	5.0
AT-1006-14	37.0	Stained Sediment	Underlying	2.91	7.6
AT-1006-15	32.5	Sediment	Overlying	0.28	8.1
AT-1006-16	32.5	Stained Sediment	Overlying	0.28	8.0
AT-1006-17	32.5	Tailing	Surface	0.39	7.8
AT-1006-18	32.5	Sediment	Overlying	1.31	7.5
AT-1006-19	27.0	Sediment	Overlying	0.26	8.0
AT-1006-20	27.0	Sediment	Overlying	0.24	7.5
AT-1006-21	24.5	Sediment	Overlying	0.76	7.5
AT-1006-22	24.5	Tailing	Surface	1.63	7.3
AT-1006-23	24.5	Stained Sediment	Overlying	1.91	8.0
AT-1006-24	23.0	Sediment	Overlying	0.36	7.9

Notes:

EC = electrical conductivity

mS = milliSiemens

su = standard units

Table 10: Channel Acid Base Accounting Results

Sample ID	Station ID (thousands of feet)	Visual Material Type	Position	Paste pH [-a-]	ABA Results				Sulfur				Material Classification
					Net Neutralizing Potential	ANP/AGP	AGP	ANP	Unidentifiable	Sulfide	Sulfate	Total	
				(su)	($tCaCO_3$/kt)		($tCaCO_3$/kt)	($tCaCO_3$/kt)	%	%	%	%	
Channel Samples													
AT-1006-01	56.0	Sediment	Underlying	4.64	-1.15	0.12	1.30	< 0.30	0.02	0.04	0.27	0.33	PAG
AT-1006-02	56.0	Sediment	Overlying	8.44	-0.75	0.17	0.90	< 0.30	0.02	0.03	0.27	0.32	PAG
AT-1006-03	56.0	Tailing	Buried	6.76	0.10	1.08	1.30	1.40	0.03	0.04	0.12	0.19	Uncertain
AT-1006-04	53.0	Tailing	Buried	7.17	-5.50	0.32	8.10	2.60	0.09	0.26	0.64	0.99	PAG
AT-1006-05	51.0	Tailing	Buried	6.58	-1.75	0.08	1.90	< 0.30	0.09	0.06	0.48	0.63	PAG
AT-1006-06	51.0	Sediment	Overlying	7.72	173	1,153	< 0.30	173	< 0.01	< 0.01	0.15	0.16	non-PAG
AT-1006-07	46.0	Sediment	Overlying	7.83	84.9	284	0.30	85.2	< 0.01	0.01	0.21	0.23	non-PAG
AT-1006-08	46.0	Tailing	Buried	7.51	14.9	8.84	1.90	16.8	< 0.01	0.06	0.31	0.38	non-PAG
AT-1006-09	46.0	Stained Sediment	Underlying	7.48	6.00	3.40	2.50	8.50	0.01	0.08	< 0.01	0.08	non-PAG
AT-1006-10	47.0	Tailing	Surface	7.08	-5.15	0.03	5.30	< 0.30	0.08	0.17	0.25	0.5	PAG
AT-1006-11	40.0	Tailing	Buried	7.92	8.70	10.7	0.90	9.60	< 0.01	0.03	0.08	0.12	non-PAG
AT-1006-12	40.0	Sediment	Overlying	8.03	33.1	37.8	0.90	34	0.04	0.03	< 0.01	0.02	non-PAG
AT-1006-13	37.0	Tailing	Surface	5.04	-2.35	0.06	2.50	< 0.30	0.08	0.08	0.69	0.85	PAG
AT-1006-14	37.0	Stained Sediment	Underlying	7.59	7.80	3.79	2.80	10.6	0.01	0.09	0.03	0.13	non-PAG
AT-1006-15	32.5	Sediment	Overlying	8.10	15.0	88.7	< 0.30	15.1	0.01	< 0.01	0.01	0.02	non-PAG
AT-1006-16	32.5	Stained Sediment	Overlying	8.03	11.1	6.05	2.20	13.3	< 0.01	0.07	< 0.01	< 0.01	non-PAG
AT-1006-17	32.5		Surface	7.81	9.05	61.3	< 0.30	9.20	< 0.01	< 0.01	0.01	< 0.01	non-PAG
AT-1006-18	32.5	Sediment	Overlying	7.46	6.30	3.86	2.20	8.50	< 0.01	0.07	< 0.01	0.04	non-PAG
AT-1006-19	27.0	Sediment	Overlying	7.97	17.3	58.7	0.30	17.6	0.01	0.01	0.01	0.03	non-PAG
AT-1006-20	27.0	Sediment	Overlying	7.54	16.2	109	< 0.30	16.3	< 0.01	< 0.01	0.03	0.03	non-PAG
AT-1006-21	24.5	Sediment	Overlying	7.50	116	773	< 0.30	116	< 0.01	< 0.01	< 0.01	< 0.01	non-PAG
AT-1006-22	24.5	Tailing	Surface	7.27	300	2,000	< 0.30	300	< 0.01	< 0.01	< 0.01	< 0.01	non-PAG
AT-1006-23	24.5	Stained Sediment	Overlying	7.95	12	83	< 0.30	12.4	< 0.01	< 0.01	0.01	0.01	non-PAG
AT-1006-24	23.0	Sediment	Overlying	7.88	19.8	13.4	1.60	21.4	0.07	0.05	0.05	0.17	non-PAG

Notes:
ABA = acid base accounting
ANP = acid neutralizing potential
AGP = acid generating potential - calculated based on sulfide sulfur
PAG = Potentially Acid Rock Drainage Generating
non-PAG = Not Potentially Net Acid Rock Drainage Generating
su = standard units
tCaCO3/kt = tons calcium carbonate per kiloton of sediment
< = concentration less than detection limit
[-a-] Saturated paste pH

Table 11: Channel Samples Total Metals Results

Sample ID	Station ID (thousands of feet)	Visual Material Type	Position	Ca (mg/kg)	K (mg/kg)	Na (mg/kg)	Ag (mg/kg)	Al (mg/kg)	As (mg/kg)	B (mg/kg)	Ba (mg/kg)	Be (mg/kg)	Cd (mg/kg)	Co (mg/kg)	Cr (mg/kg)	Cu (mg/kg)	Fe (mg/kg)	Hg (mg/kg)	Li (mg/kg)	Mn (mg/kg)	Mo (mg/kg)	Ni (mg/kg)	Pb (mg/kg)	Se (mg/kg)	Zn (mg/kg)
Pre-FS RAC Human Health Risk (HHR)				---	---	---	---	---	28	---	---	---	70	---	---	5000	100,000	---	---	---	---	---	---	---	---
Pre-FS RAC Ecological Risk (plants)*				---	---	---	---	---	---	---	---		---	---	---	327	---	---	---	---	---	---	---	---	---
Pre-FS RAC Ecological Risk (ground-feeding birds)				---	---	---	---	---	---	---	---	---	---	---	---	1600	---	---	---	---	---	---	---	---	---
Channel Samples																									
AT-1006-01	56.0	Sediment	Underlying	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-02	56.0	Sediment	Overlying	19,200	1,260	161	0.134	8,010	< 2.5	< 4	113	0.51	< 0.2	9.42	37.5	**464**	19,600	< 0.033	8	528	8.7	8.1	31.1	< 0.3	84.4
AT-1006-03	56.0	Tailing	Buried	8,470	1,540	88	0.176	8,950	5.3	8	138	0.65	< 0.2	7.77	45.1	**582**	82,600	< 0.033	5.4	628	19.8	< 1	34	0.47	106
AT-1006-04	53.0	Tailing	Buried	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-05	51.0	Tailing	Buried	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-06	51.0	Sediment	Overlying	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-07	46.0	Sediment	Overlying	39,800	2,840	115	0.731	13,300	10.6	7	909	1.19	< 0.2	7.06	35.4	62.8	21,200	0.043	14.7	402	2.5	12.8	21.9	< 0.3	358
AT-1006-08	46.0	Tailing	Buried	11,200	1,090	235	0.458	12,300	25	8	2,320	1.39	< 0.2	7.23	42.5	90.7	57,100	< 0.033	12.5	295	3.1	< 1	27.2	< 0.3	530
AT-1006-09	46.0	Stained Sediment	Underlying	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-10	47.0	Tailing	Surface	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-11	40.0	Tailing	Buried	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-12	40.0	Sediment	Overlying	20,800	995	200	0.219	8,140	7.1	5	630	0.78	< 0.2	6.54	34.8	102	20,700	< 0.033	8.8	529	3.1	8.1	12.2	< 0.3	156
AT-1006-13	37.0	Tailing	Surface	6,290	2,010	166	0.313	6,070	5.3	< 4	560	0.39	< 0.2	6.14	46.1	**461**	21,400	< 0.033	4.5	186	31.1	2.5	8.76	1.52	94.8
AT-1006-14	37.0	Stained Sediment	Underlying	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-15	32.5	Sediment	Overlying	11,600	1,320	123	0.252	9,730	5.9	5	172	0.94	< 0.2	9.88	49.8	82.6	43,300	< 0.033	9	871	4.7	3.9	20.5	< 0.3	136
AT-1006-16	32.5	Stained Sediment	Overlying	11,100	1,380	176	0.247	10,200	***30.1***	5	546	1.06	< 0.2	15.6	31.1	60.3	48,700	< 0.033	10.3	2630	3.5	6.8	16	< 0.3	158
AT-1006-17	32.5	Tailing	Surface	7,120	2,020	115	1.06	11,300	< 2.5	< 4	218	1.51	< 0.2	6.65	32.2	34	15,200	< 0.033	11.2	804	1.5	10.5	17.7	< 0.3	283
AT-1006-18	32.5	Sediment	Overlying	7,470	1,930	138	0.309	14,200	5.3	< 4	166	1.12	< 0.2	11.1	34.7	42.1	28,100	< 0.033	16.5	761	2.3	10.8	17.5	< 0.3	151
AT-1006-19	27.0	Sediment	Overlying	12,900	1,400	279	0.263	9,430	9.3	< 4	581	0.8	0.58	10.4	47.1	174	57,000	< 0.033	9.3	739	4.8	22.4	21.8	< 0.3	152
AT-1006-20	27.0	Sediment	Overlying	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-21	24.5	Sediment	Overlying	30,700	2,470	138	0.358	13,200	5.4	< 4	264	0.87	0.52	8.75	25.2	29.1	20,300	< 0.033	13	446	2.8	16	16.7	< 0.3	168
AT-1006-22	24.5	Tailing	Surface	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-23	24.5	Stained Sediment	Overlying	12,400	1,670	325	0.267	11,700		< 4	508	0.82	0.72	12.8	33.7	41.5	48,300	< 0.033	13.8	1360	3.7	28.1	16.1	< 0.3	127
AT-1006-24	23.0	Sediment	Overlying	11,100	1,180	241	0.24	10,500	6.5	< 4	180	0.58	< 0.2	7.84	35	41.7	26,100	< 0.033	10.4	510	4.2	16.8	16.8	< 0.3	120

Notes:

* Pre-FS RAC for plants is based on cupric ion activity (pCu2+) when copper concentrations in soil are greater than or equal to 327 mg/kg (a value determined by the New Mexico Environmental Department (2011) to be background)

BOLD indicates a copper concentration in soil to identify samples to evaluate for pCu2+

BOLD ITALICS indicates an arsenic concentration greater than the Pre-FS Human Health Risk

--- denotes not analyzed or no criterion exists for this constituent

Table 12: Channel Samples Predicted Cupric Ion Activity

Test Pit	Station Number (Thousands of Feet)	Visual Material Type	Position	Paste pH	Cu	pCU2+	pCU2+
				(mg/kg)	(mg/kg)	All Locations	Ephemeral Drainage
Pre-FS RAC Ecological Risk (plants)				---	327	5	5
Test Pit Samples							
AT-1006-02	56.0	Sediment	Overlying	8.44	464	9	9
AT-1006-03	56.0	Tailing	Buried	6.76	582	7	7
AT-1006-13	37.0	Tailing	Surface	5.04	461	5	5

Notes:

Pre-FS RAC approved by New Mexico Environment Department of Environmental Quality (NMED 2011)

Calculated predicted cupric ion activities (pCu2+) equal to or greater than the Pre-FS RAC indicated a lack of potential toxicity

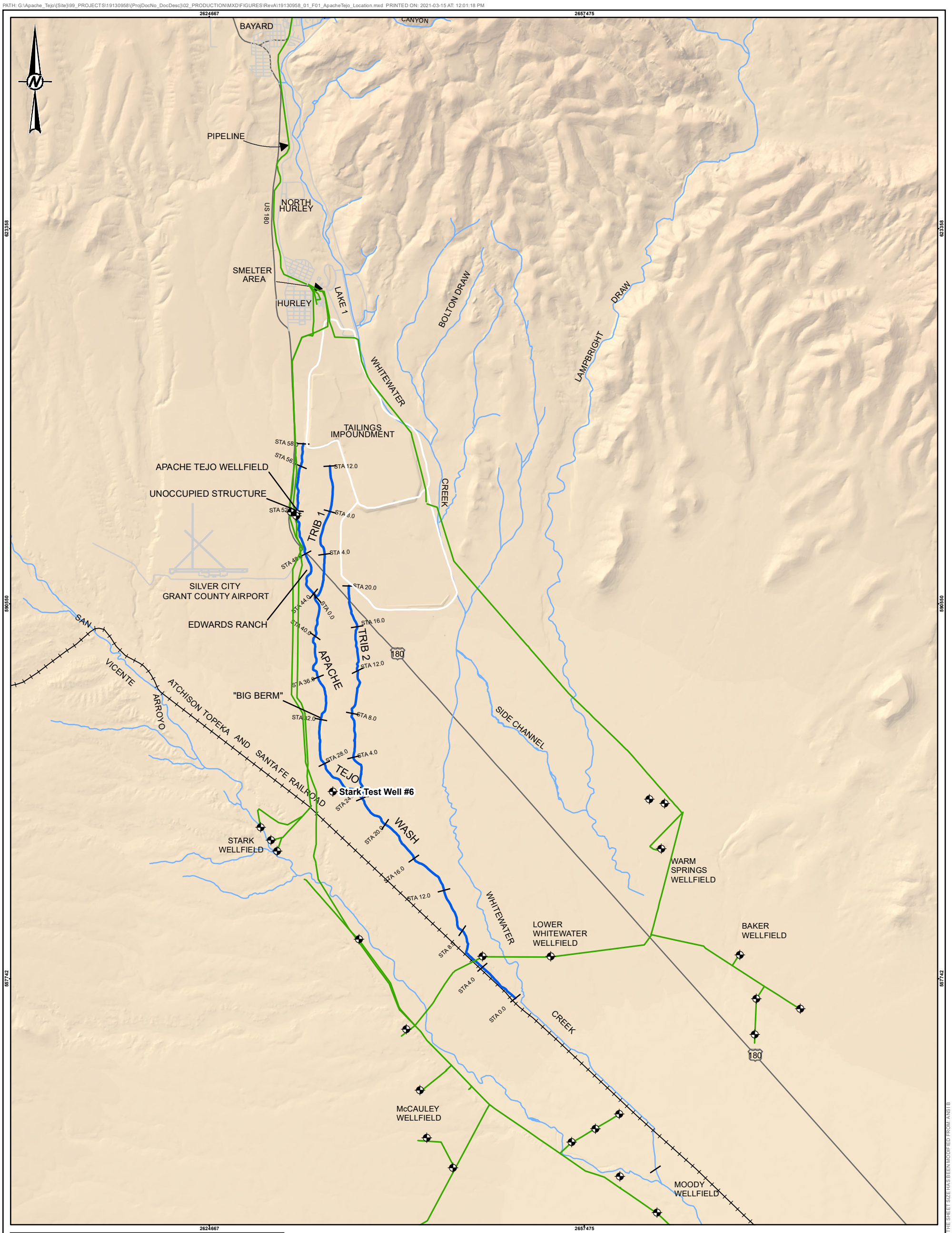
--- no criterion exists for this parameter

Table 13: Channel SPLP Results

Sample ID	Station ID (thousands of feet)	Visual Material Type	Position	Ca	K	Na	Ag	Al	As	B	Ba	Be	Cd	Co	Cr	Cu	Fe	Hg	Li	Mn	Mo	Ni	Pb	Se	Zn
				(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
AT-1006-01	56.0	Sediment	Underlying	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-02	56.0	Sediment	Overlying	10.8	1.62	2.78	< 0.0001	0.44	< 0.025	< 0.04	0.0062	< 0.002	< 0.002	< 0.006	< 0.006	0.0249	0.34	< 0.0002	< 0.02	0.0067	< 0.008	< 0.01	< 0.0075	< 0.003	< 0.01
AT-1006-03	56.0	Tailing	Buried	13.2	1.31	1.62	< 0.0001	0.24	< 0.025	< 0.04	0.0193	< 0.002	< 0.002	< 0.006	< 0.006	0.0154	0.35	< 0.0002	< 0.02	0.0083	< 0.008	< 0.01	< 0.0075	< 0.003	< 0.01
AT-1006-04	53.0	Tailing	Buried	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-05	51.0	Tailing	Buried	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-06	51.0	Sediment	Overlying	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-07	46.0	Sediment	Overlying	121	2.96	1.86	< 0.0001	< 0.03	< 0.025	< 0.04	0.0424	< 0.002	< 0.002	< 0.006	< 0.006	0.0048	< 0.06	< 0.0002	< 0.02	< 0.004	0.023	< 0.01	< 0.0075	< 0.003	< 0.01
AT-1006-08	46.0	Tailing	Buried	81.1	1.09	4.92	< 0.0001	0.07	< 0.025	< 0.04	0.0357	< 0.002	< 0.002	< 0.006	< 0.006	0.0014	< 0.06	< 0.0002	< 0.02	< 0.004	< 0.008	< 0.01	< 0.0075	< 0.003	< 0.01
AT-1006-09	46.0	Stained Sediment	Underlying	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-10	47.0	Tailing	Surface	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-11	40.0	Tailing	Buried	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-12	40.0	Sediment	Overlying	8.69	2.11	3.3	< 0.0001	0.36	< 0.025	< 0.04	0.0529	< 0.002	< 0.002	< 0.006	< 0.006	0.0055	0.35	< 0.0002	< 0.02	0.0073	< 0.008	< 0.01	< 0.0075	< 0.003	< 0.01
AT-1006-13	37.0	Tailing	Surface	151	8.89	1.65	< 0.0001	0.1	< 0.025	< 0.04	0.036	< 0.002	< 0.002	0.0208	< 0.006	1.27	< 0.06	< 0.0002	< 0.02	0.49	< 0.008	0.014	< 0.0075	< 0.003	0.159
AT-1006-14	37.0	Stained Sediment	Underlying	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-15	32.5	Sediment	Overlying	8.33	2.19	5.37	0.00033	1.76	< 0.025	0.05	0.019	< 0.002	< 0.002	< 0.006	< 0.006	0.0221	1.45	< 0.0002	< 0.02	0.0412	< 0.008	< 0.01	< 0.0075	< 0.003	0.017
AT-1006-16	32.5	Stained Sediment	Overlying	8.25	1.27	3.97	< 0.0001	0.32	< 0.025	< 0.04	0.0165	< 0.002	< 0.002	< 0.006	< 0.006	0.0015	0.44	< 0.0002	< 0.02	0.0067	< 0.008	< 0.01	< 0.0075	< 0.003	< 0.01
AT-1006-17	32.5	Tailing	Surface	8.32	1.19	10.9	< 0.0001	3.39	< 0.025	< 0.04	0.0154	< 0.002	< 0.002	< 0.006	< 0.006	0.0062	2.53	< 0.0002	< 0.02	0.0186	< 0.008	< 0.01	< 0.0075	< 0.003	0.051
AT-1006-18	32.5	Sediment	Overlying	19.6	1.51	1.9	< 0.0001	0.31	< 0.025	< 0.04	0.0307	< 0.002	< 0.002	< 0.006	< 0.006	0.0016	0.18	< 0.0002	< 0.02	< 0.004	< 0.008	< 0.01	< 0.0075	< 0.003	< 0.01
AT-1006-19	27.0	Sediment	Overlying	8.1	2.42	5.59	< 0.0001	2.52	< 0.025	< 0.04	0.0306	< 0.002	< 0.002	< 0.006	< 0.006	0.0359	2.22	< 0.0002	< 0.02	0.0424	< 0.008	< 0.01	< 0.0075	< 0.003	0.023
AT-1006-20	27.0	Sediment	Overlying	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-21	24.5	Sediment	Overlying	16.5	1.88	3.12	< 0.0001	0.67	< 0.025	< 0.04	0.0458	< 0.002	< 0.002	< 0.006	< 0.006	0.0028	0.45	< 0.0002	< 0.02	0.0055	< 0.008	< 0.01	< 0.0075	< 0.003	< 0.01
AT-1006-22	24.5	Tailing	Surface	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AT-1006-23	24.5	Stained Sediment	Overlying	20.4	1.2	5.86	< 0.0001	0.06	< 0.025	< 0.04	0.0591	< 0.002	< 0.002	< 0.006	< 0.006	< 0.001	0.08	< 0.0002	< 0.02	< 0.004	< 0.008	< 0.01	< 0.0075	< 0.003	< 0.01
AT-1006-24	23.0	Sediment	Overlying	7.67	2.48	3.8	< 0.0001	1.36	< 0.025	< 0.04	0.0268	< 0.002	< 0.002	< 0.006	< 0.006	0.0053	1.13	< 0.0002	< 0.02	0.0199	< 0.008	< 0.01	< 0.0075	< 0.003	0.012

Notes:
mg/L = milligrams per liter
--- denotes not analyzed

Figures



LEGEND

- Surveyed Reaches of the Active Channel
- Chino Water Supply Wells
- Chino Water Supply Pipeline

0 1 2
1:96,000 MILES

REFERENCE(S)
1. SERVICE LAYER CREDITS:

CLIENT
Freeport-McMoRan
Chino Mines Company

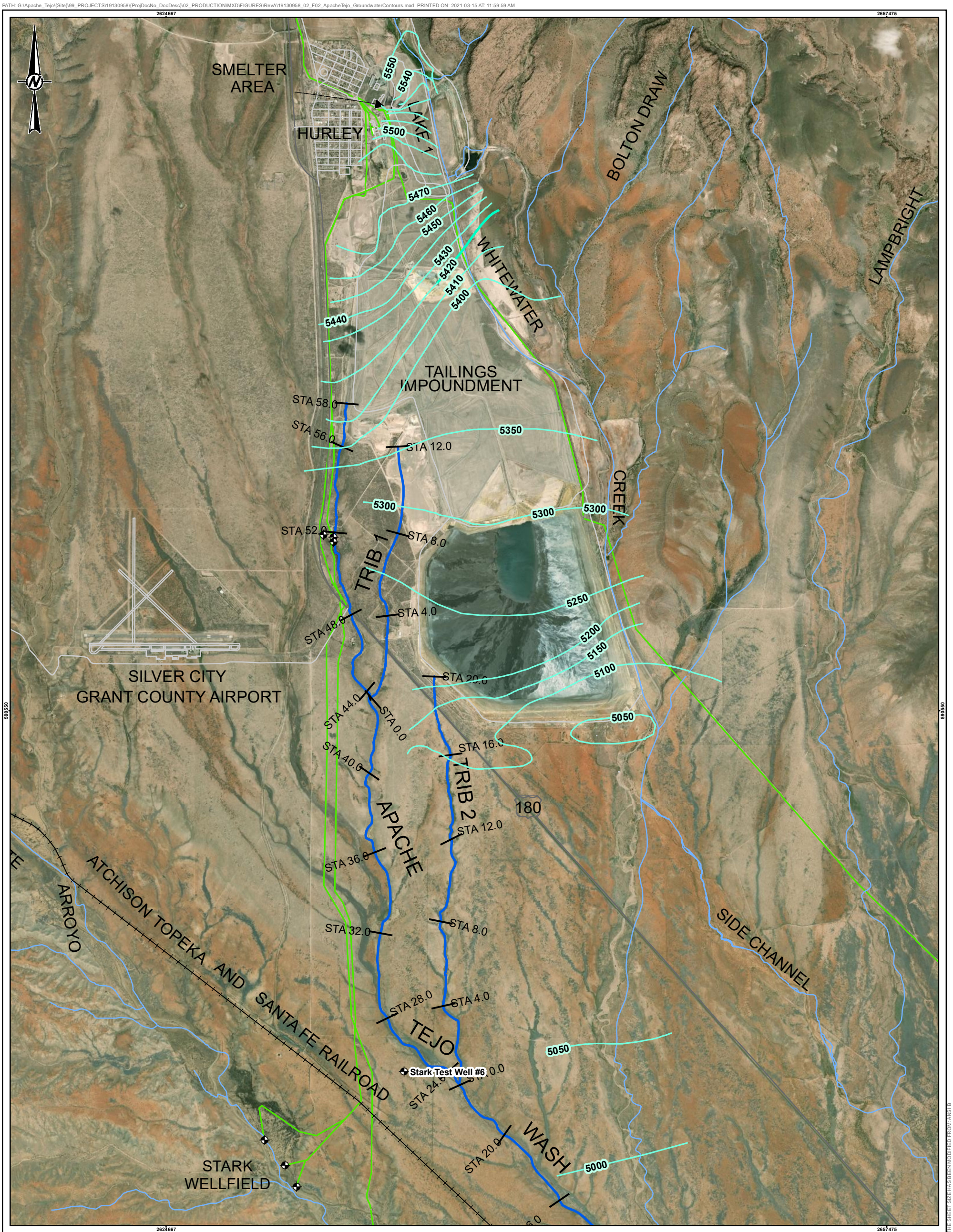
PROJECT
ASSESSMENT REPORT FOR APACHE TEJO WASH

TITLE
APACHE TEJO WASH LOCATION MAP

CONSULTANT
GOLDER

YYYY-MM-DD	2021-04-29
DESIGNED	HJ
PREPARED	HJ
REVIEWED	JP
APPROVED	KJ

PROJECT NO.	PHASE	REV.	FIGURE
19130958	-	1	1



LEGEND

- Groundwater Elevation Contour
- Surveyed Reaches of the Active Channel
- Chino Water Supply Wells
- Chino Water Supply Pipeline

0 1 2

1:50,000 MILES

NOTE(S)

1. GROUNDWATER CONTOURS REPRESENT 2009 DATA.

REFERENCE(S)

1. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

CLIENT
Freeport-McMoRan
Chino Mines Company

PROJECT
ASSESSMENT REPORT FOR APACHE TEJO WASH

TITLE
GROUNDWATER CONTOUR MAP

CONSULTANT
GOLDER

YYYY-MM-DD	2021-04-29
DESIGNED	HJ
PREPARED	HJ
REVIEWED	JP
APPROVED	KJ

PROJECT NO.	PHASE	REV.	FIGURE
19130958	-	1	2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

0

CLIENT
Freeport-McMoRan
Chino Mines Company

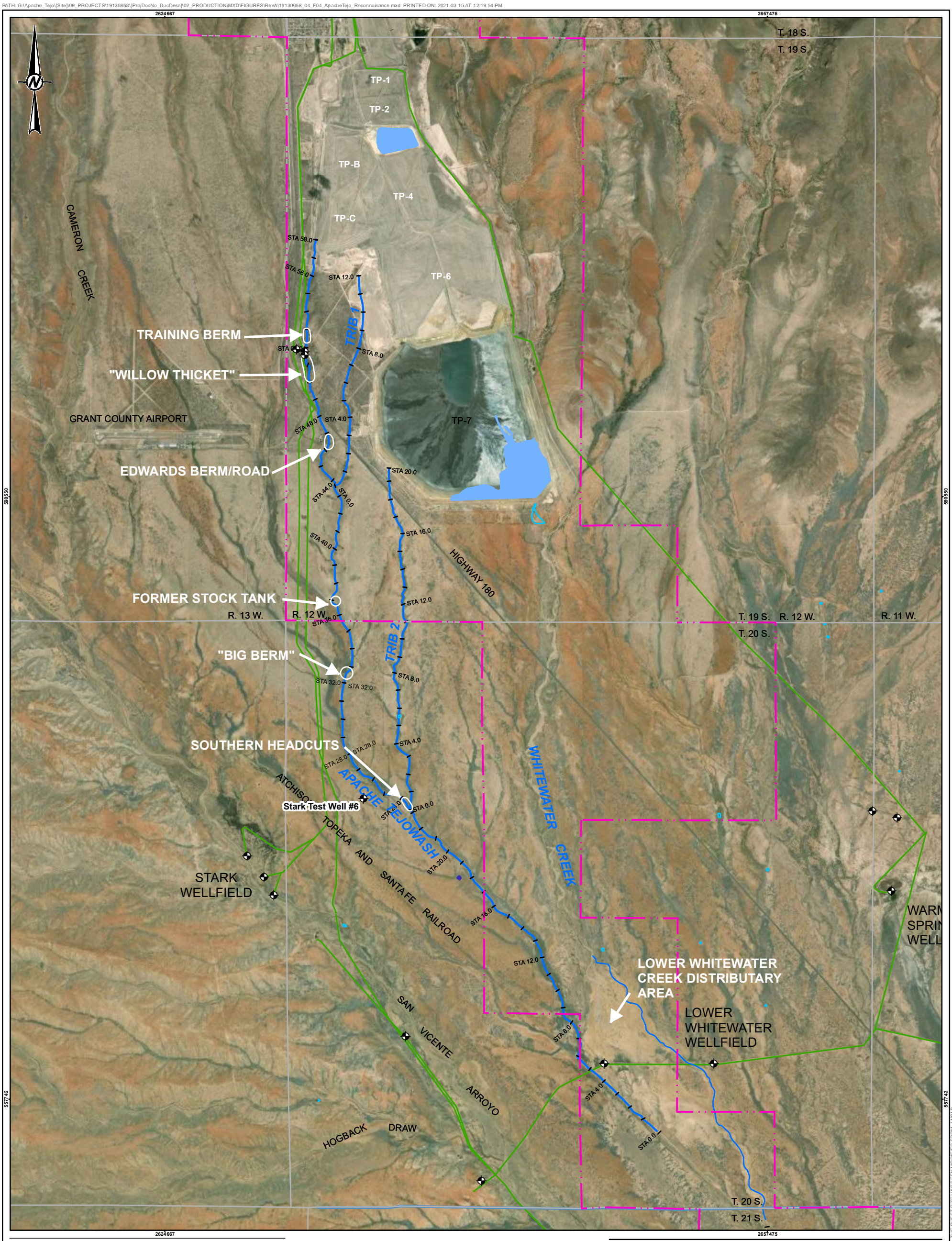
PROJECT
ASSESSMENT REPORT FOR APACHE TEJO WASH

TITLE
APACHE TEJO WASH AND VICINITY IN 1935

CONSULTANT
GOLDER

YYYY-MM-DD	2021-04-29
DESIGNED	HJ
PREPARED	HJ
REVIEWED	JP
APPROVED	KJ

PROJECT NO.	PHASE	REV.	FIGURE
19130958	-	1	3



LEGEND

- Chino Water Supply Wells
- Start/End of Reconnaissance
- AOC Boundary
- Surveyed Reaches of the Active Channel
- Contour (10 ft)
- Chino Water Supply Pipeline

0 1 2
1:60,000 MILES

REFERENCE(S)
1. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

CLIENT
Freeport-McMoRan
Chino Mines Company

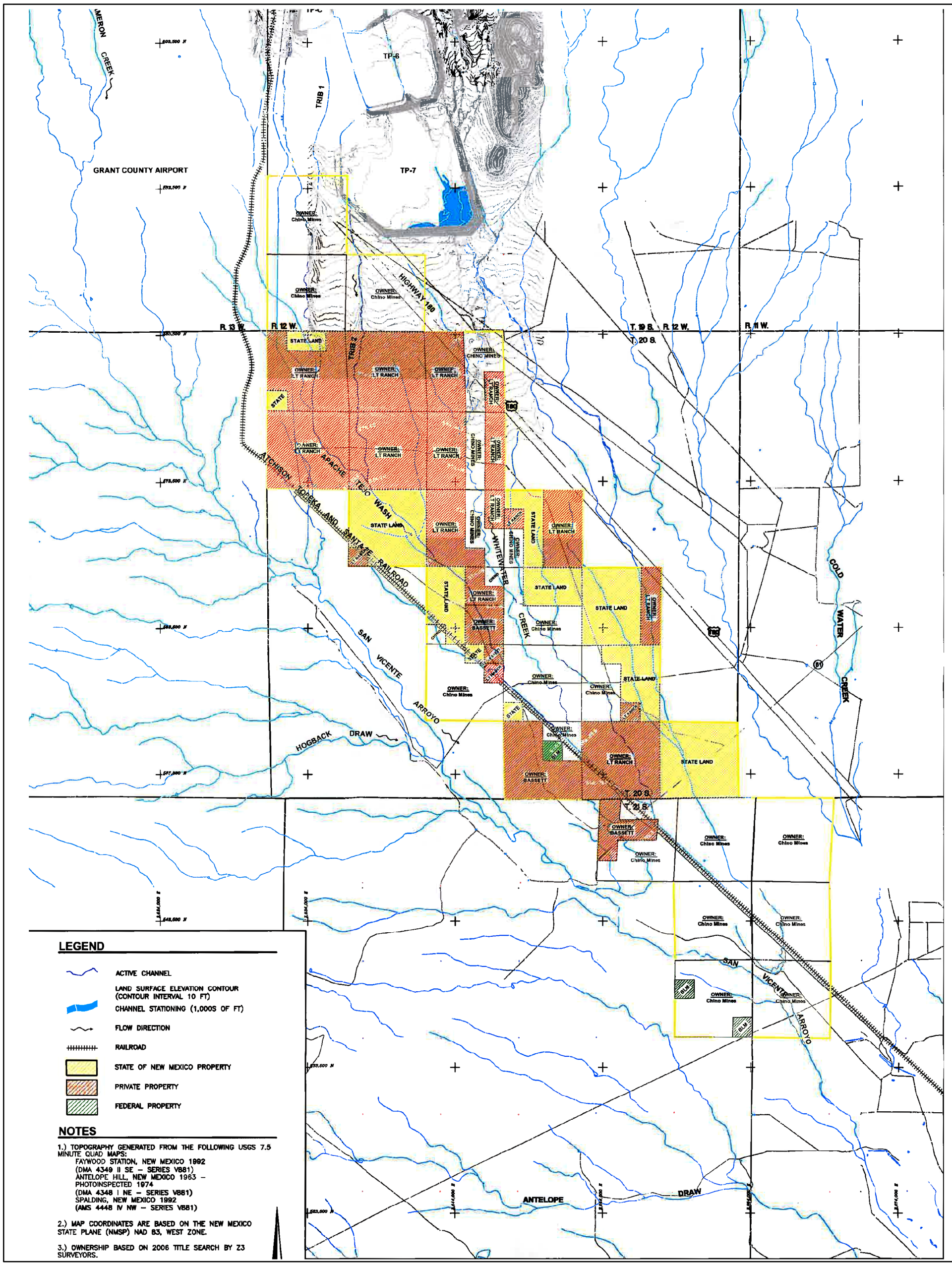
PROJECT
ASSESSMENT REPORT FOR APACHE TEJO WASH

TITLE
RECONNAISSANCE OF TEJO WASH

CONSULTANT
GOLDER

YYYY-MM-DD	2021-04-29
DESIGNED	HJ
PREPARED	HJ
REVIEWED	JP
APPROVED	KJ

PROJECT NO.	PHASE	REV.	FIGURE
19130958	-	1	4



CLIENT
Freeport-McMoRan
Chino Mines Company

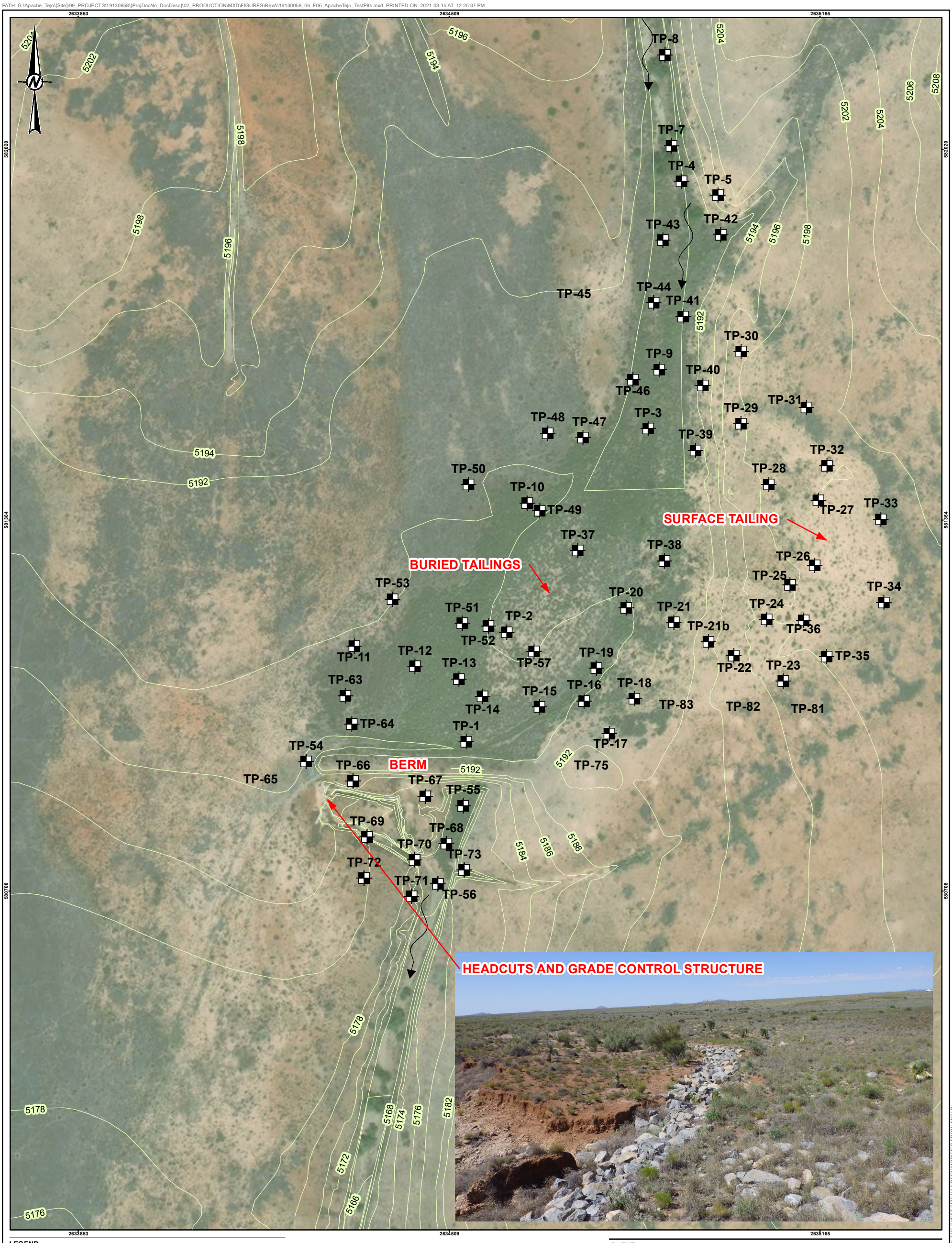
PROJECT
ASSESSMENT REPORT FOR APACHE TEJO WASH

TITLE
PROPERTY OWNERSHIP (2012) ALONG APACHE TEJO WASH

CONSULTANT
GOLDER

YYYY-MM-DD	2021-04-29
DESIGNED	HJ
PREPARED	HJ
REVIEWED	JP
APPROVED	KJ

PROJECT NO.	PHASE	REV.	FIGURE
19130958	-	1	5



LEGEND

- Test Pit Location
- Direction of Surface Water Flow
- Contour

0 100 200
FEET

REFERENCE(S)
1. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

CLIENT
Freeport-McMoRan
Chino Mines Company

PROJECT
ASSESSMENT REPORT FOR APACHE TEJO WASH

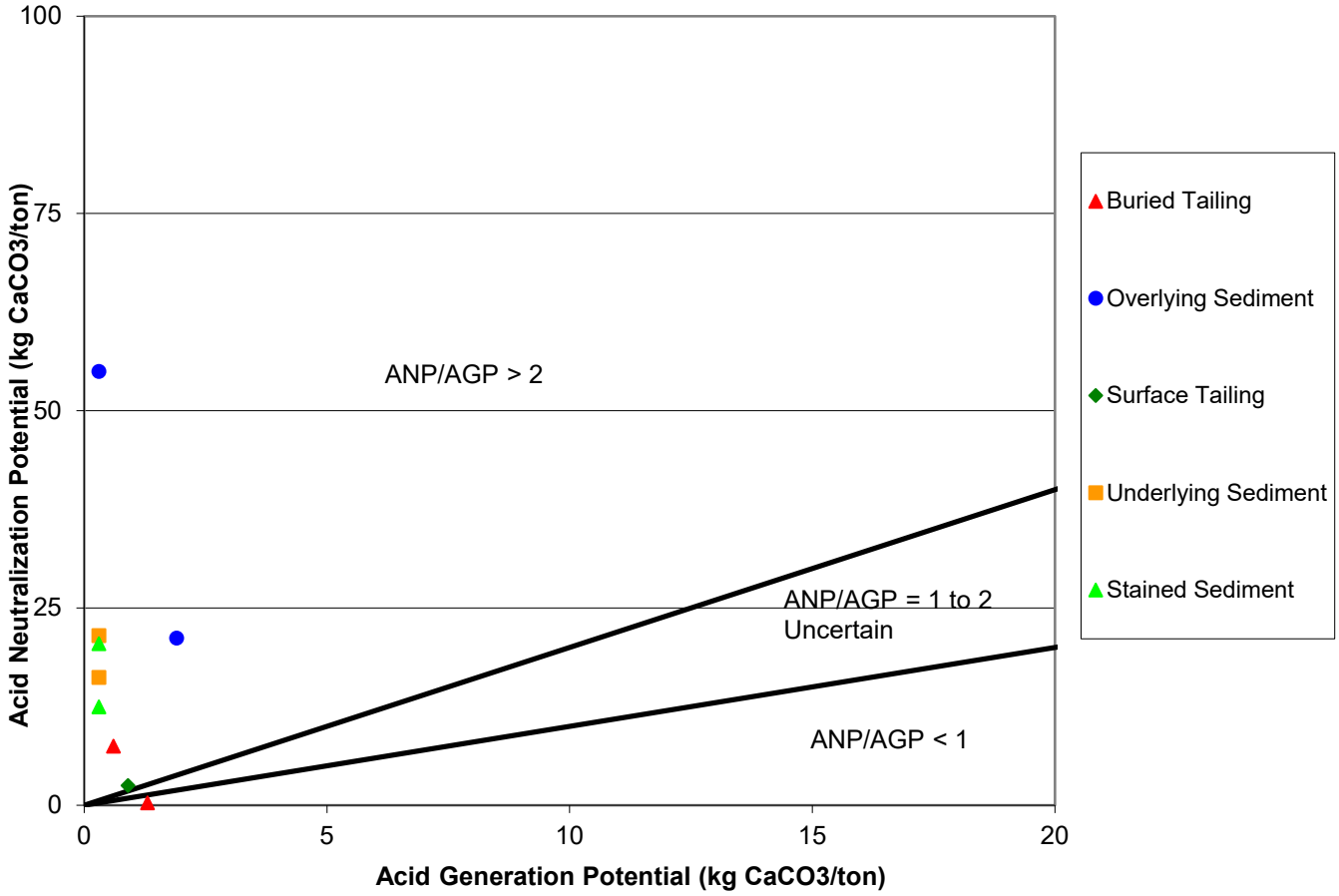
TITLE
BIG BERM TEST PIT LOCATIONS

CONSULTANT
GOLDER

YYYY-MM-DD	2021-04-29
DESIGNED	HJ
PREPARED	HJ
REVIEWED	JP
APPROVED	KJ

PROJECT NO.	PHASE	REV.	FIGURE
19130958	-	1	6

Big Berm
Acid Neutralization Potential (ANP) vs Acid Generation Potential (AGP)



CLIENT
Freeport-McMoRan
Chino Mines Company

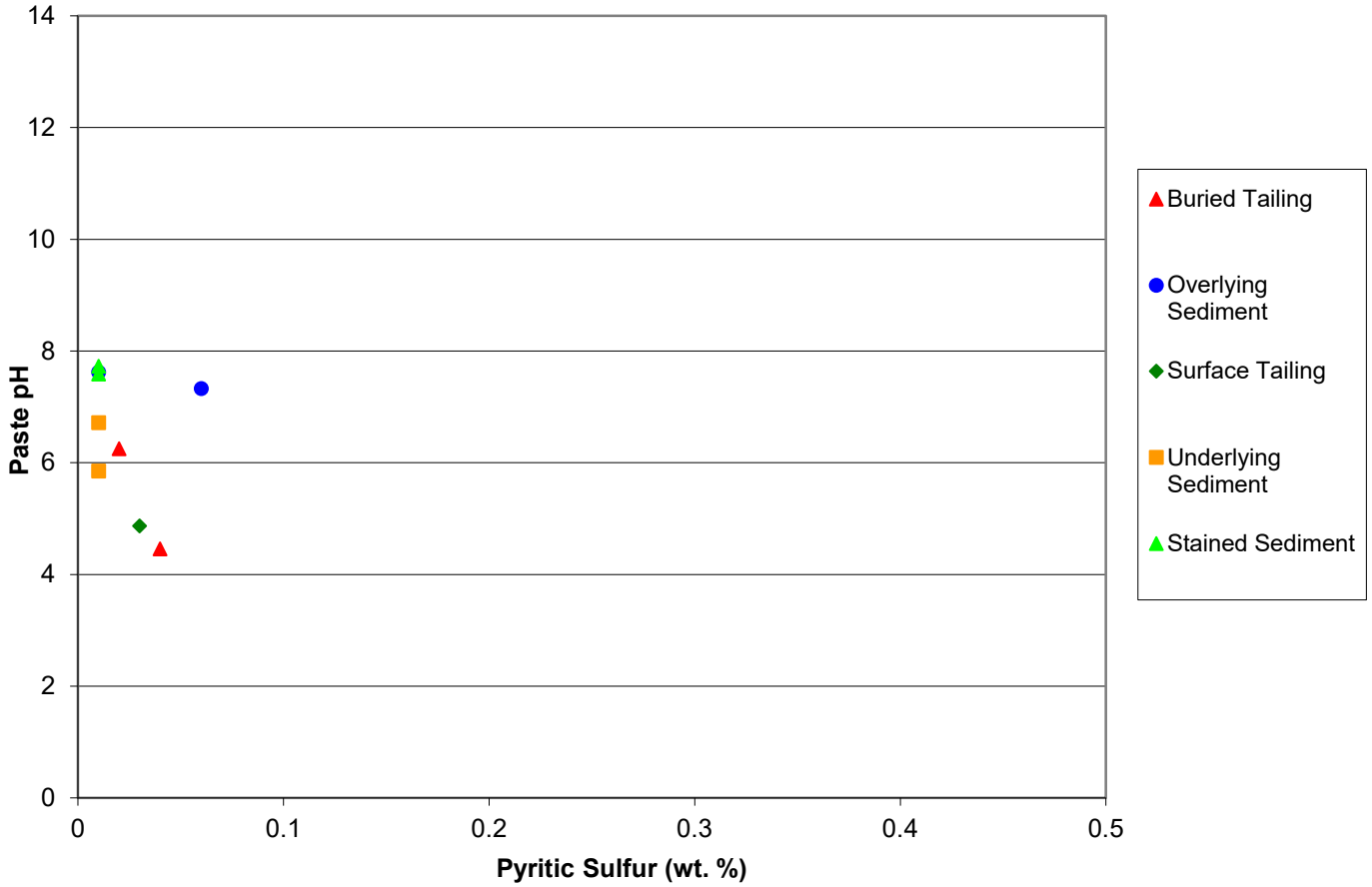
CONSULTANT
GOLDER

PROJECT
APACHE TEJO ASSESSMENT REPORT
GRANT COUNTY, NEW MEXICO

TITLE
BIG BERM ACID NEUTRALIZATION POTENTIAL VS. ACID GENERATION POTENTIAL

PROJECT NO.	PHASE	REV.	FIGURE
19130958	--	1	7

Big Berm
Paste pH vs Sulfide Sulfur



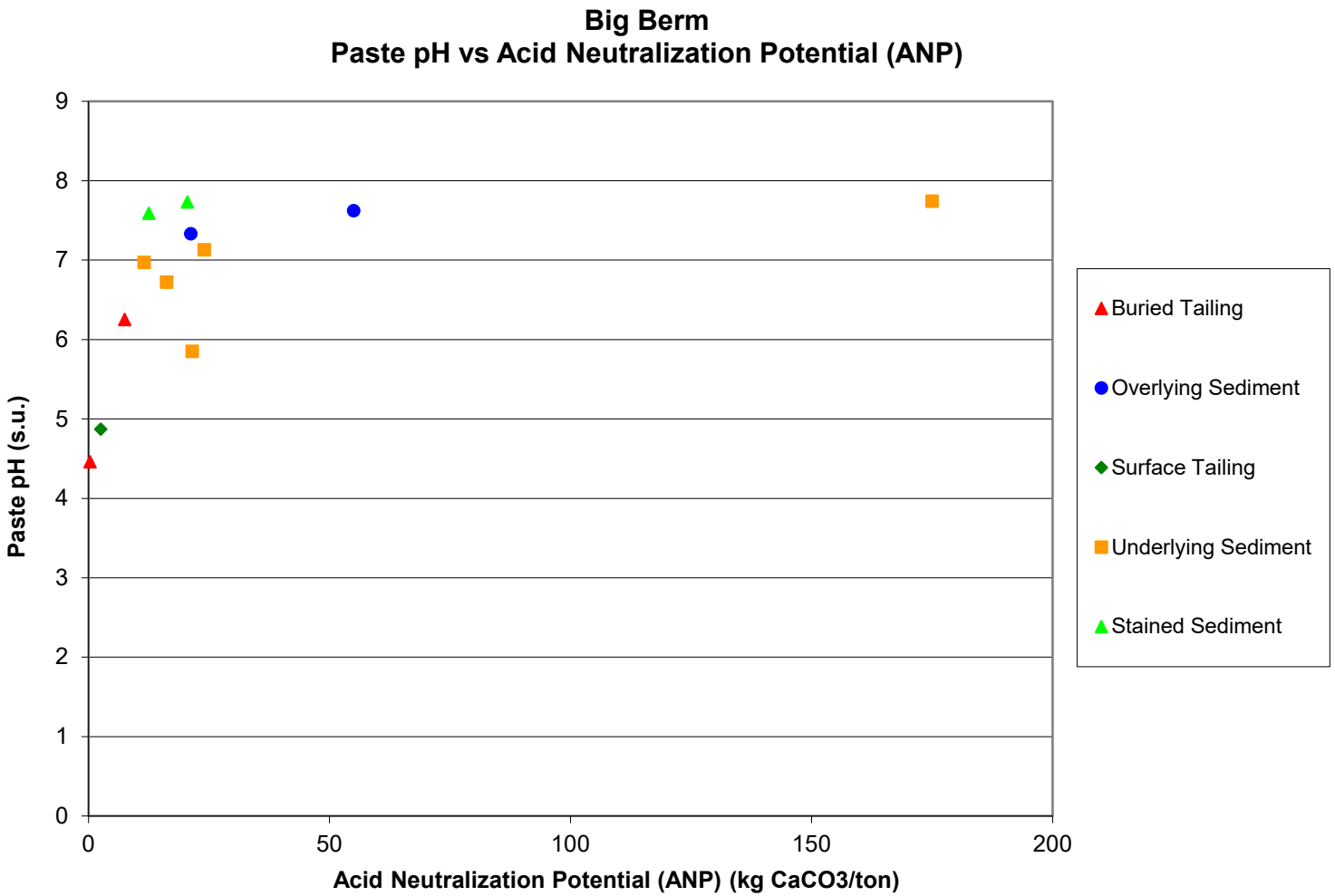
CLIENT
Freeport-McMoRan
Chino Mines Company

CONSULTANT
GOLDER

PROJECT
APACHE TEJO ASSESSMENT REPORT
GRANT COUNTY, NEW MEXICO

TITLE
BIG BERM PASTE pH VS. SULFIDE SULFUR

PROJECT NO.	PHASE	REV.	FIGURE
19130958	--	1	8



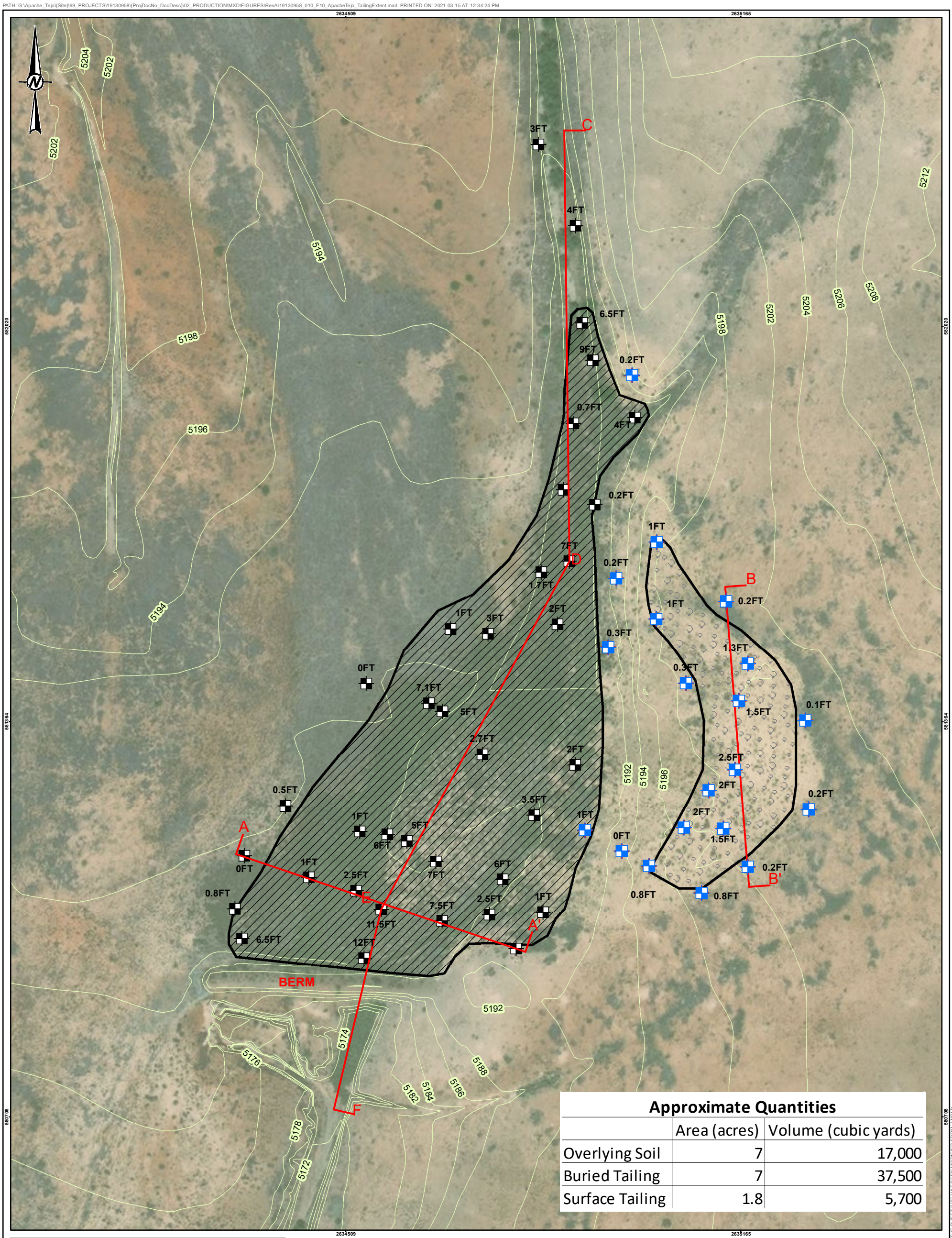
CLIENT
Freeport-McMoRan
Chino Mines Company

CONSULTANT
GOLDER

PROJECT
APACHE TEJO ASSESSMENT REPORT
GRANT COUNTY, NEW MEXICO

TITLE
BIG BERM PASTE PH VS. ACID NEUTRALIZATION POTENTIAL

PROJECT NO.	PHASE	REV.	FIGURE
19130958	--	1	9



Approximate Quantities

	Area (acres)	Volume (cubic yards)
Overlying Soil	7	17,000
Buried Tailing	7	37,500
Surface Tailing	1.8	5,700

LEGEND

- Buried Tailing Thickness
- Wind Blown Tailing Thickness
- Buried Tailing
- Surface Tailing
- Cross Section Location
- Contour

0 100 200 FEET

REFERENCE(S)

1. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

CLIENT
Freeport-McMoRan
Chino Mines Company

PROJECT
ASSESSMENT REPORT FOR APACHE TEJO WASH

TITLE
BIG BERM TAILING EXTENT

CONSULTANT
GOLDER

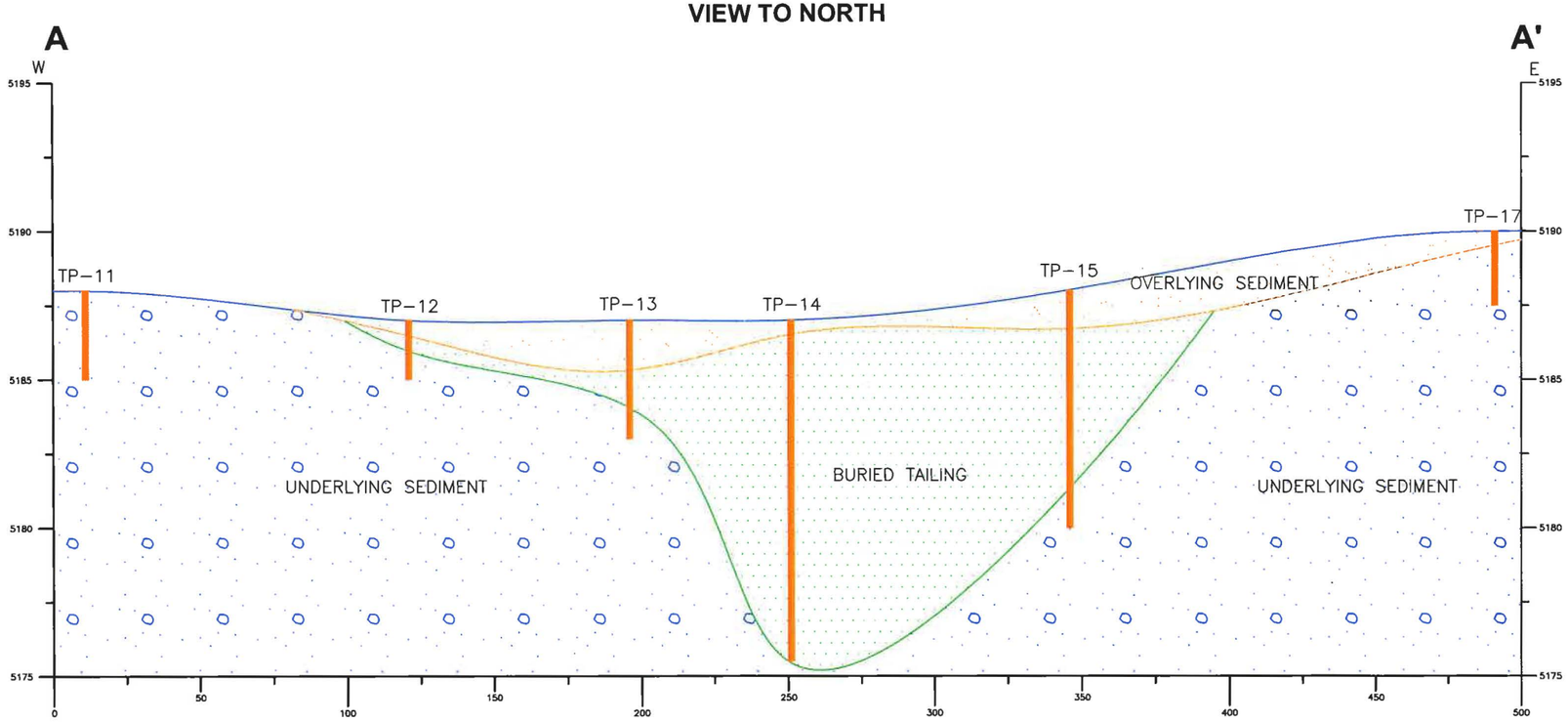
YYYY-MM-DD	2021-04-29
DESIGNED	HJ
PREPARED	HJ
REVIEWED	JP
APPROVED	KJ

PROJECT NO.	PHASE	REV.	FIGURE
19130958	-	1	10

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
0

CROSS SECTION A-A'

VIEW TO NORTH



5 0 5
SCALE 1" to 5' FEET
VERTICAL SCALE

50 0 50
SCALE 1" to 50' FEET
HORIZONTAL SCALE

NOTES

1.) ELEVATIONS ARE APPROXIMATE.

2.) VERTICAL EXAGGERATION = 10.

CLIENT
Freeport-McMoRan
Chino Mines Company

CONSULTANT
GOLDER

YYYY-MM-DD	2021-03-15
DESIGNED	HJ
PREPARED	HJ
REVIEWED	JP
APPROVED	KJ

PROJECT
ASSESSMENT REPORT FOR APACHE TEJO WASH

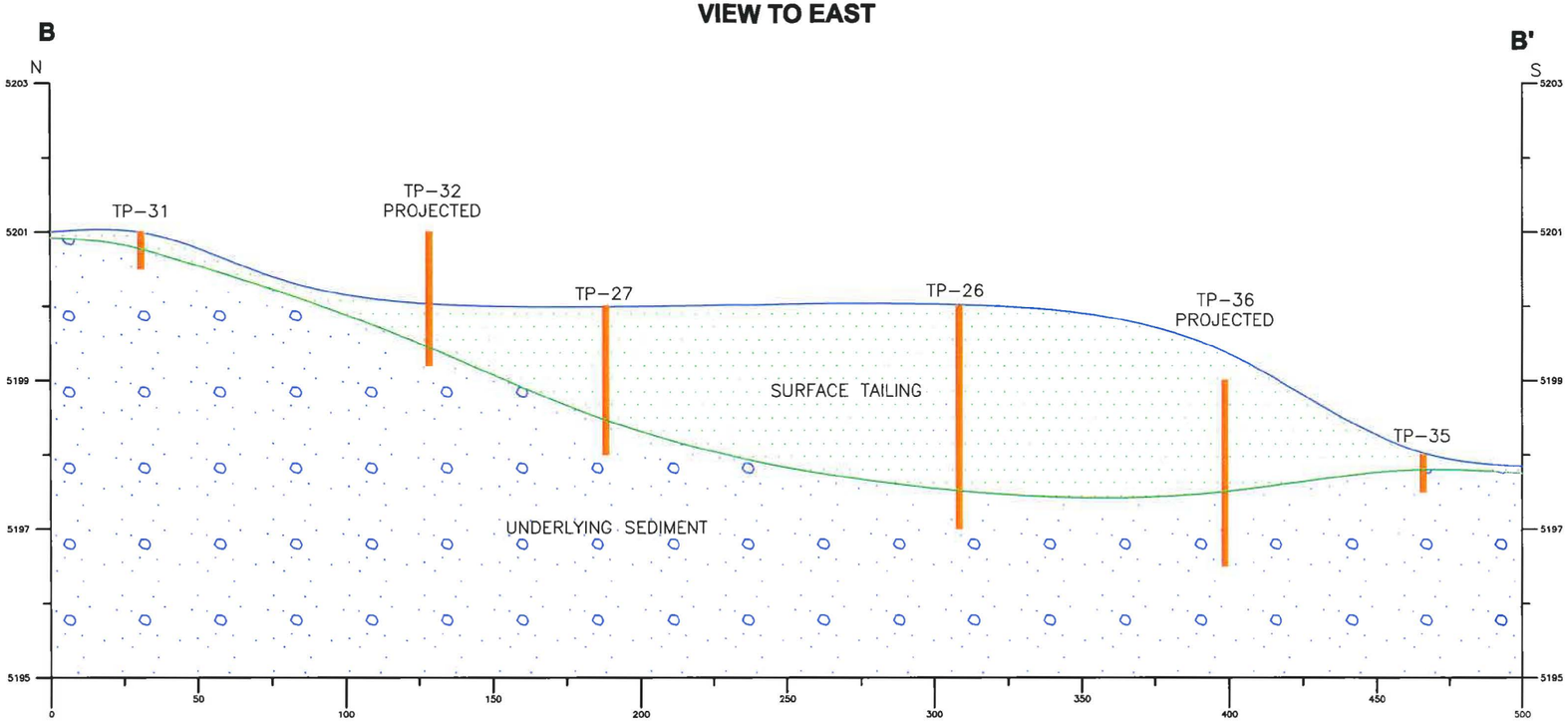
TITLE
BIG BERM CROSS-SECTION A-A'

PROJECT NO.	PHASE	REV.	FIGURE
19130958	-	1	11

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: G:\Apache_Tejo\(Site)\99_PROJECTS\19130958\ProjDocNo_DocDate\02_PRODUCTION\MXD\FIGURES\Rev-A\19130958_011_F11_Apache Tejo_XSection_A.mxd PRINTED ON: 2021-03-15 AT: 12:37:49 PM

CROSS SECTION B-B'
VIEW TO EAST



2 0 2
SCALE 1" to 2' FEET
VERTICAL SCALE

50 0 50
SCALE 1" to 50' FEET
HORIZONTAL SCALE

NOTES

1.) ELEVATIONS ARE APPROXIMATE.

2.) VERTICAL EXAGGERATION = 25.

CLIENT
Freeport-McMoRan
Chino Mines Company

CONSULTANT
GOLDER

YYYY-MM-DD	2021-03-15
DESIGNED	HJ
PREPARED	HJ
REVIEWED	JP
APPROVED	KJ

PROJECT
ASSESSMENT REPORT FOR APACHE TEJO WASH

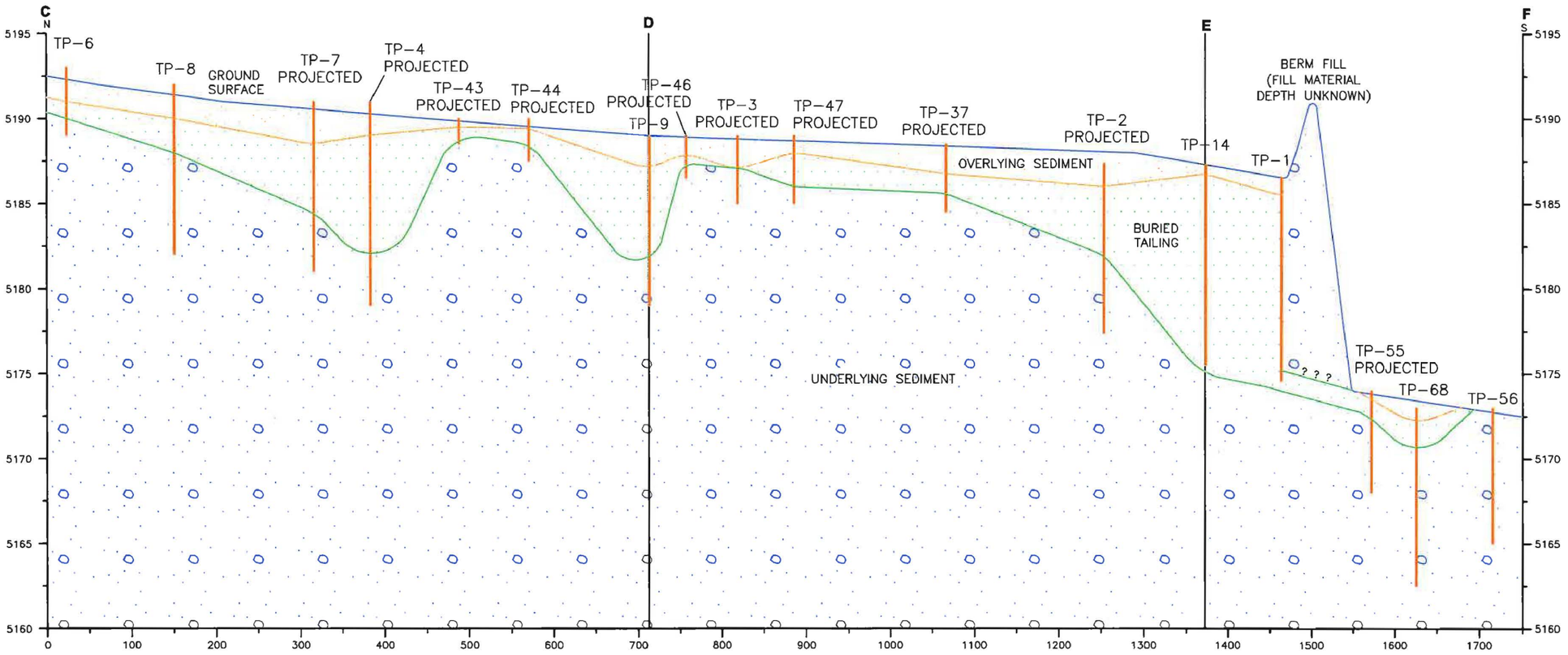
TITLE
BIG BERM CROSS-SECTION B-B'

PROJECT NO.	PHASE	REV.	FIGURE
19130958	-	1	12

0 1in
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: G:\Apache_Tejo\(Site)\99_PROJECTS\19130958\(Proj)DocNo_DocDesc\02_PRODUCTION\MXD\FIGURES\Rev\A119130958_012_F12_ApacheTejo_XSection_B.mxd PRINTED ON: 2021-03-15 AT: 12:38:13 PM

CROSS SECTION C-D-E-F
VIEW TO EAST



7.5 0 7.5
SCALE 1" to 75' FEET
VERTICAL SCALE

150 0 150
SCALE 1" to 150' FEET
HORIZONTAL SCALE

NOTES

1.) ELEVATIONS ARE APPROXIMATE.

2.) VERTICAL EXAGGERATION = 20.

CLIENT
Freeport-McMoRan
Chino Mines Company

CONSULTANT
GOLDER

YYYY-MM-DD	2021-03-15
DESIGNED	HJ
PREPARED	HJ
REVIEWED	JP
APPROVED	KJ

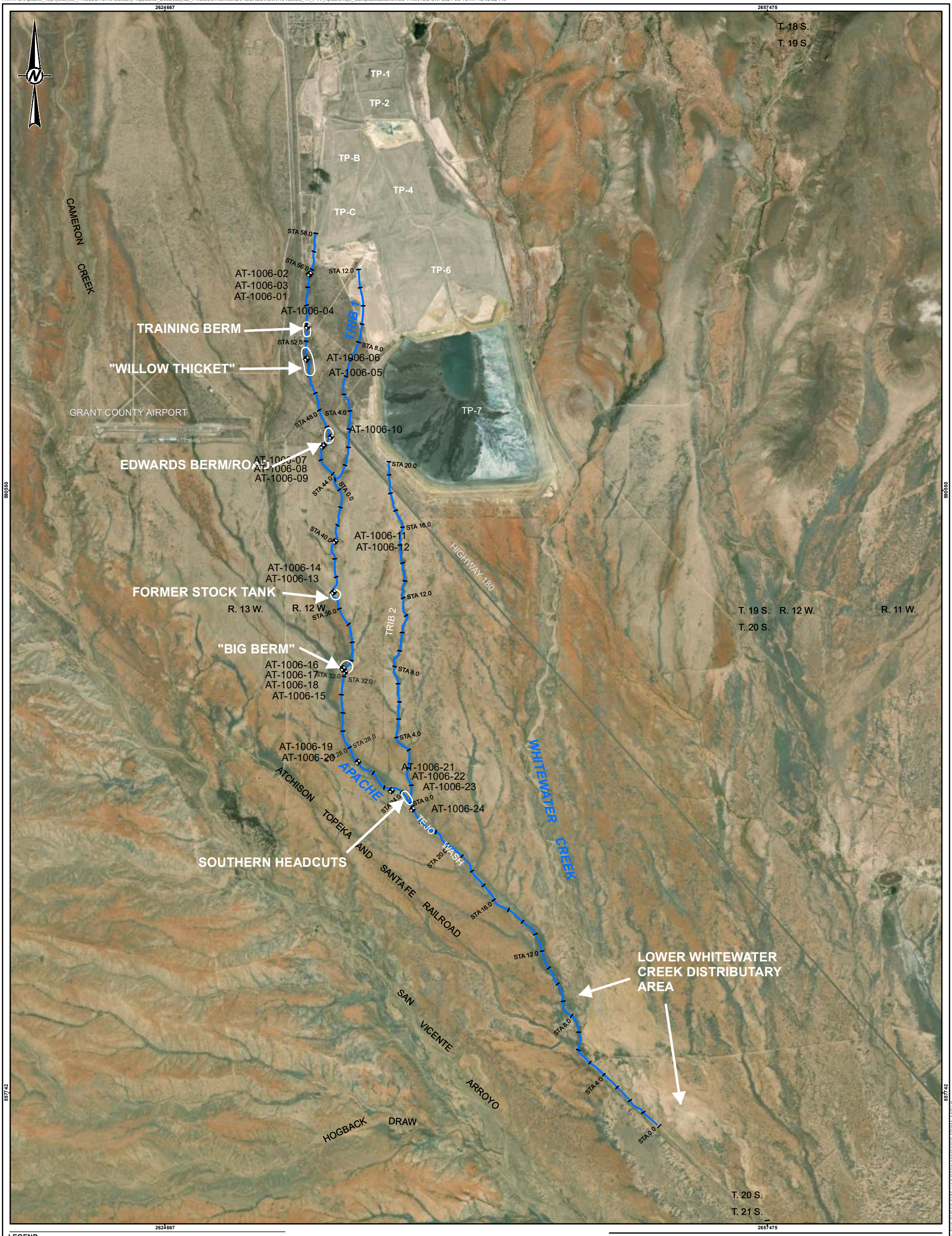
PROJECT
ASSESSMENT REPORT FOR APACHE TEJO WASH

TITLE
BIG BERM CROSS-SECTION C-C'

PROJECT NO.	PHASE	REV.	FIGURE
19130958	-	1	13

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: G:\Apache_Tejo\(Site)\99_PROJECTS\19130958\ProjDocNo_DocDesc\02_PRODUCTION\MXD\FIGURES\Rev\A19130958_013_F13_ApacheTejo_XSection_C.mxd PRINTED ON: 2021-03-15 AT: 12:38:45 PM



LEGEND

Sediment Sample Location
AT-1006-03

0 1 2
1:60,000 MILES

REFERENCE(S)
1. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

CLIENT
Freeport-McMoRan
Chino Mines Company

PROJECT
ASSESSMENT REPORT FOR APACHE TEJO WASH

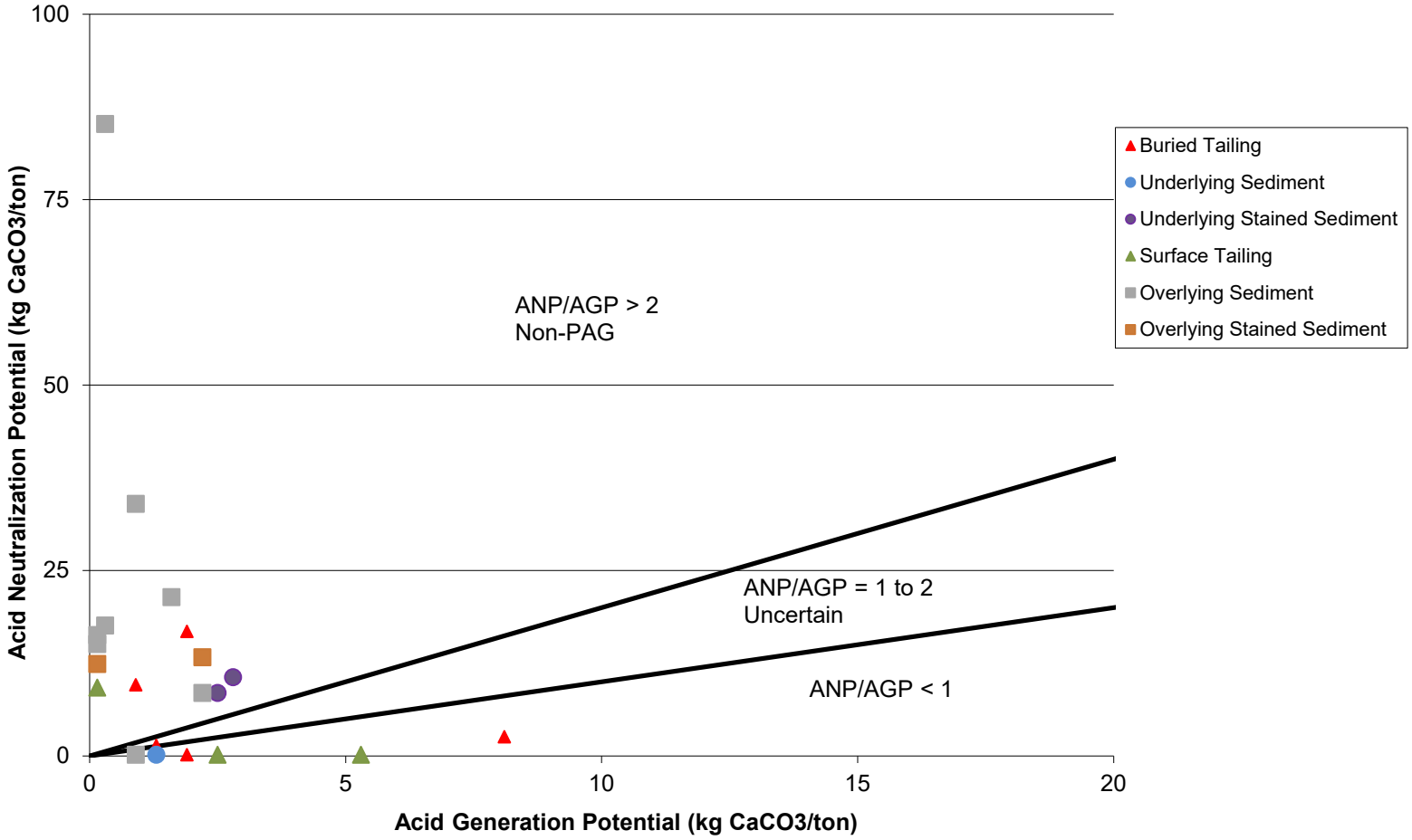
TITLE
CHANNEL SAMPLE LOCATIONS

CONSULTANT
GOLDER

YYYY-MM-DD	2021-03-15
DESIGNED	HJ
PREPARED	HJ
REVIEWED	JP
APPROVED	KJ

PROJECT NO.	PHASE	REV.	FIGURE
19130958	-	0	14

Channel Solids Samples
Acid Neutralization Potential (ANP) vs Acid Generation Potential (AGP)



CLIENT
Freeport-McMoRan
Chino Mines Company

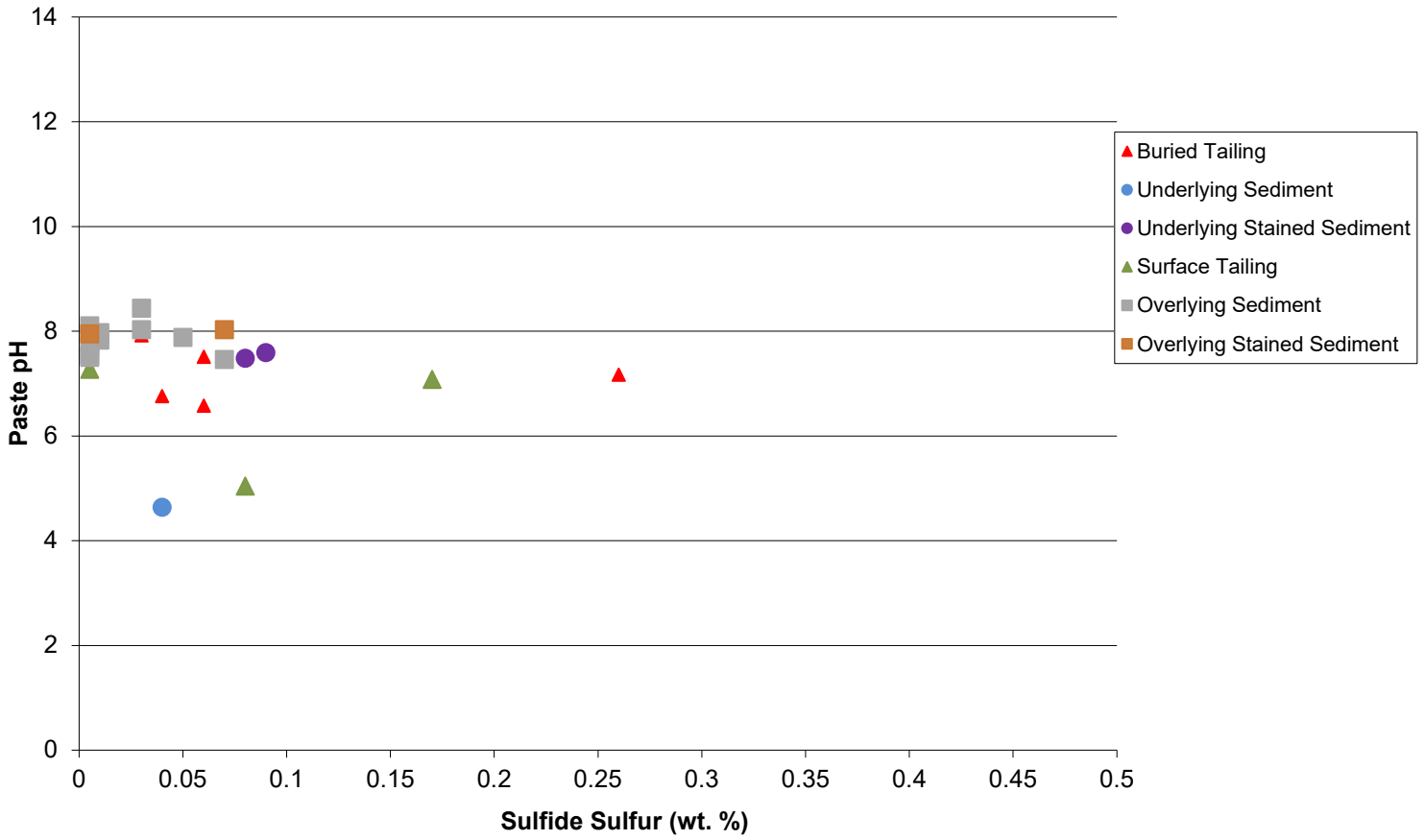
CONSULTANT
GOLDER

PROJECT
APACHE TEJO ASSESSMENT REPORT
GRANT COUNTY, NEW MEXICO

TITLE
CHANNEL ACID NEUTRALIZATION POTENTIAL VS. ACID GENERATION POTENTIAL

PROJECT NO.	PHASE	REV.	FIGURE
19130958	--	1	15

Channel Solids Samples
Paste pH vs Sulfide Sulfur



CLIENT
Freeport-McMoRan
Chino Mines Company

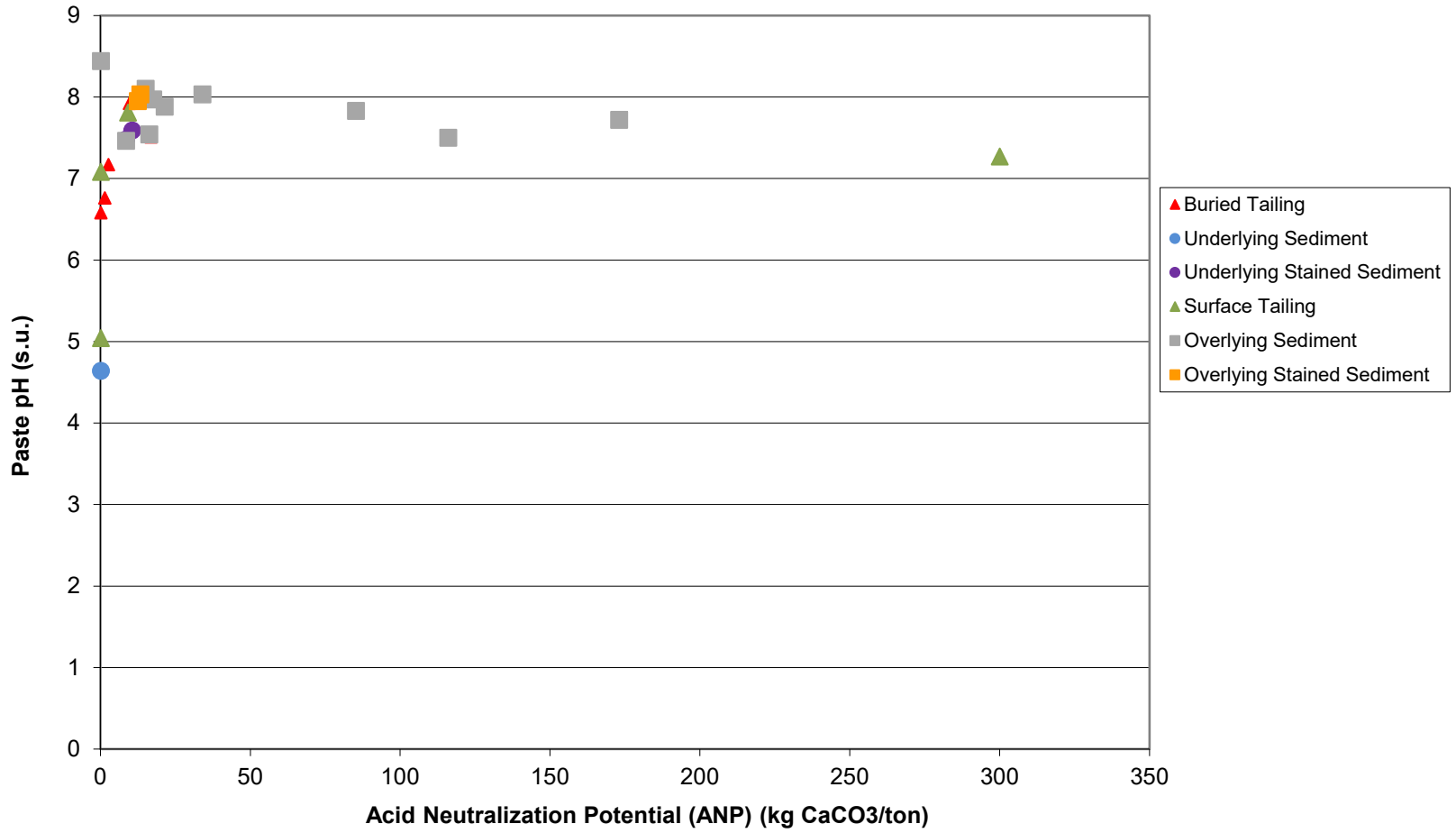
CONSULTANT
GOLDER

PROJECT
APACHE TEJO ASSESSMENT REPORT
GRANT COUNTY, NEW MEXICO

TITLE
CHANNEL PASTE pH VS. SULFIDE SULFUR

PROJECT NO.	PHASE	REV.	FIGURE
19130958	--	1	16

Channel Solids Samples
Paste pH vs Acid Neutralization Potential (ANP)



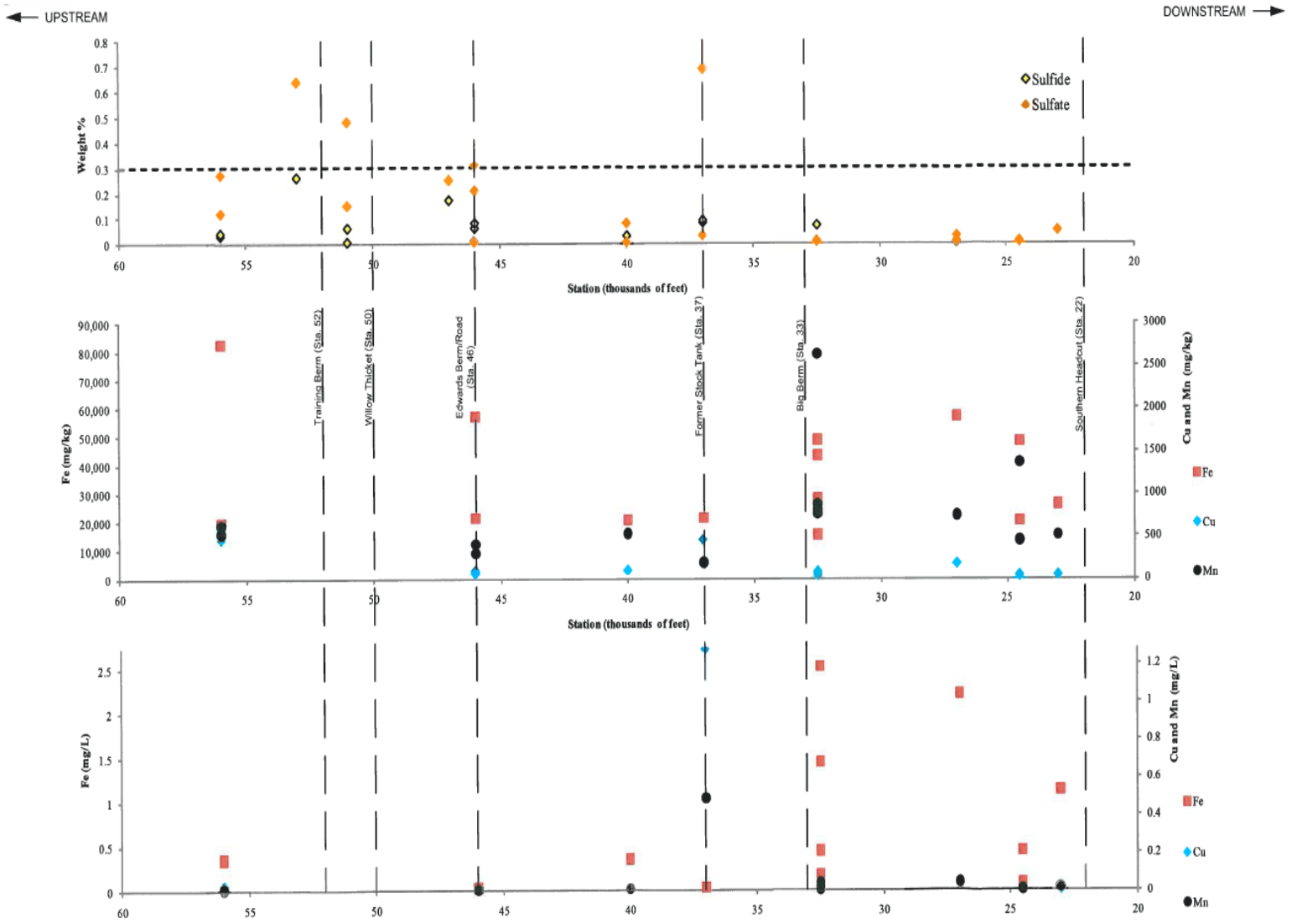
CLIENT
Freeport-McMoRan
Chino Mines Company

CONSULTANT
GOLDER

PROJECT
APACHE TEJO ASSESSMENT REPORT
GRANT COUNTY, NEW MEXICO

TITLE
CHANNEL PASTE pH VS. ACID NEUTRALIZATION POTENTIAL

PROJECT NO.	PHASE	REV.	FIGURE
19130958	--	1	17



CLIENT
Freeport-McMoRan
Chino Mines Company

PROJECT
APACHE TEJO ASSESSMENT REPORT
GRANT COUNTY, NEW MEXICO

CONSULTANT
GOLDER

TITLE
TRENDS WITH DISTANCE DOWNSTREAM IN THE CHANNEL

PROJECT NO.	PHASE	REV.	FIGURE
19130958	--	1	18

APPENDIX A

Big Berm Characterization Data

APPENDIX A-1
SAMPLING AND ANALYSIS

Appendix A1 – Big Berm Sampling and Analysis

This appendix summarizes the field data collection and laboratory analyses performed for the Big Berm area. A one-time sampling event was conducted between March 7, 2006 and March 16, 2006 by Jeff Clark of the Golder Associates, Inc. (Golder) Tucson, Arizona office. Seventy-one test pits were excavated to visually delineate the extent of tailings and impacted soils. A total of 22 samples were collected from 12 test pits:

- Surface tailing – 1 sample,
- Buried tailing – 5 samples,
- Overlying sediment – 3 samples,
- Underlying sediment – 6 samples, and
- Stained sediment (downstream of the berm) – 7 samples.

A description of the sample types and sampling rationale is presented in Section 3.1 of the main text of this report. Test pit locations are shown on Figure 6 of the main text. Test pits were excavated using a rubber-tired backhoe operated by James Hamilton Construction Company under contract to Chino Mines Company.

Samples were either grab or composite samples collected from the pit wall or the backhoe bucket. All samples were collected by hand (using disposable nitrile gloves) directly into 1-gallon Ziploc™ bags and stored in an iced cooler pending shipment to the laboratory. The project number, sample number, date, and sampler's initials were written on the outside of each sample bag. Samples were stored in coolers, on ice, until shipment to the laboratory. All samples were shipped under chain of custody.

Samples were selected judgmentally in the field, based on visual identification of tailing accumulations, overlying and underlying sediment, and downstream sediment. Sample locations were mapped using an aerial photograph and verified using a handheld GPS unit. Each test pit location was photographed, described and sketched in field notes. Test pit logs are included in Appendix A2.

Samples were analyzed by SVL Analytical of Kellogg, Idaho for:

- Paste pH by ASA Monograph 9.
- Paste Electrical Conductivity by ASA Monograph 9.
- Acid Base Accounting (ABA) and sulfur forms by the Modified Sobek method.
- Total Metals Analysis by SW-846 Method 3050/6010B
- Synthetic Precipitation Leaching Procedure (SPLP) by Unites States Environmental Protection Agency Method 1312.

Samples were air dried and crushed to 3/8-inch according to SPLP Method 1312. A sub-sample was then pulverized to -160 mesh (approximately 0.09 millimeters) for ABA testing. Total metals analysis was performed on the bulk sample as received.

Total metals and SPLP analysis included aluminum, arsenic, boron, barium, beryllium, calcium, cadmium, cobalt, chromium, copper, iron, mercury, lead, lithium, manganese, molybdenum, nickel, potassium, selenium, silver, sodium, and zinc. Table A1 lists the laboratory methods and practical quantitation limits. Laboratory data packages are compiled in Appendices A3 and A4.

Table A-1: List of Constituents and Practical Quantitation Limits for Total Metals and SPLP Analysis

Analyte	Total Metals		SPLP	
	Analytical Method	Practical Quantitation Limit (mg/kg)	Analytical Method	Practical Quantitation Limit (mg/L)
Aluminum (Al)	6010B	3	6010B	0.03
Arsenic (As)	6010B	2.5	6010B	0.025
Barium (Ba)	6010B	0.2	6010B	0.002
Beryllium (Be)	6010B	0.2	6010B	0.002
Boron (B)	6010B	4	6010B	0.04
Cadmium (Cd)	6010B	0.2	6010B	0.002
Calcium (Ca)	6010B	4	6010B	0.04
Chromium (Cr)	6010B	0.6	6010B	0.006
Cobalt (Co)	6010B	0.6	6010B	0.006
Copper (Cu)	6010B	1	6010B	0.001
Iron (Fe)	6010B	6	6010B	0.06
Lead (Pb)	6010B	0.75	6010B	0.0075
Lithium (Li)	6010B	0.5	6010B	0.005
Manganese (Mn)	6010B	0.4	6010B	0.004
Mercury (Hg)	7471A	0.033	7470A	0.0002
Molybdenum (Mo)	6010B	0.8	6010B	0.008
Nickel (Ni)	6010B	1	6010B	0.01
Potassium (K)	6010B	50	6010B	0.5
Selenium (Se)	6010B	4	6010B	0.003
Silver (Ag)	6010B	0.5	6010B	0.0001
Sodium (Na)	6010B	50	6010B	0.5
Zinc (Zn)	6010B	1	6010B	0.005

Notes:

SPLP = Synthetic Precipitation Leaching Procedure

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

APPENDIX A-2

TEST PIT LOGS

TEST PIT LOG: TP-1

Client: Chino Mines **Date:** 3/7/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610052 **E:** 0770283

Lithology:

Depth	*USCS*	*Description*
0 - 1 ft.	SM	loose, pale yellowish brown, very fine to medium SAND, little to some fines, dry, no HCl reaction, rootlets, (weathered tailings). 85% Sand, 15% fines. Coarse: round to sub-round. Fines: non-plastic.
1 - 9 ft.	SP	compact, pale yellowish orange, very fine to medium SAND, trace fines, dry, no HCl reaction, (tailings). 95% Sand, 5% fines. Coarse: round to sub-round. Fines: non-plastic.
9 - 9.2 ft.	CL	firm, moderate brown, fine to coarse, SANDY CLAY, little fine to coarse gravel, little oversize, damp, weak HCl reaction (alluvium). 10% Oversize, 15% Gravel, 25% Sand, 50% fines. Coarse: round. Fines: moderate plasticity.
9.2 - 12 ft.	CH	soft, medium gray to pale yellowish brown, SILTY CLAY, trace fine sand, moist, no HCl reaction (possible tailings/alluvium). 5% Sand, 95% fines. Coarse: round. Fines: moderate to high plasticity.

TEST PIT LOG: TP-2

Client: Chino Mines **Date:** 3/7/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610112 **E:** 0770303

Lithology:

Depth	*USCS*	*Description*
0 - 1 ft.	SP	loose, pale yellowish brown, very fine to medium SAND, little to some fines, dry, no HCl reaction, rootlets, (weathered tailings). 90% Sand, 10% fines. Coarse: round to sub-round. Fines: non-plastic
1 - 5 ft.	SP	compact, pale yellowish brown to pale yellowish orange, very fine to medium SAND, trace fines, dry, no HCl reaction, (tailings). 90-95% Sand, 5-10% fines. Coarse: round to sub-round. Fines: non-plastic.
5 - 10 ft.	CL	firm, moderate brown to moderate reddish brown, SILTY CLAY, and fine to coarse sand, some fine to coarse gravel, some oversize, moist, weak HCl reaction, grades coarser with depth, (alluvium). 15% Oversize, 15% Gravel, 35% Sand, 35% fines. Coarse: round to sub-round. Fines: low plasticity.

TEST PIT LOG: TP-3

Client: Chino Mines **Date:** 3/7/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610224 **E:** 0770376

Lithology:

Depth	*USCS*	*Description*
0 - 2 ft.	SP	loose, pale yellowish brown, very fine to medium SAND, trace fines, dry, weak HCl reaction, rootlets, (weathered tailings). 95% Sand, 5% fines. Coarse: round to sub-round. Fines: non-plastic.
2 - 4 ft.	SW	loose, grayish orange, fine to coarse SAND, little to some fine to coarse gravel, trace oversize, trace fines, dry, no HCl reaction (alluvium). 5% Oversize, 15% Gravel, 75% Sand, 5% fines. Coarse: sub-round. Fines: low plasticity.

TEST PIT LOG: TP-4

Client: Chino Mines **Date:** 3/7/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610358 **E:** 0770390

Lithology:

Depth	*USCS*	*Description*
0 - 2.2 ft.	SW	loose to compact, pale yellowish brown, fine to coarse SAND, some fine to coarse gravel, trace oversize, trace fines, dry, weak HCl reaction, rootlets, (weathered tailings). Grades coarser with depth. 5% Oversize, 15% Gravel, 75% Sand, 5% fines. Coarse: round to sub-round. Fines: non-plastic
2.2 - 9 ft.	SP	compact, very thinly bedded, dark yellowish orange, very fine to medium SAND, trace fines, dry, no HCl reaction, (tailings). 95% Sand, 5% fines. Coarse: round to sub-round. Fines: non-plastic.
9 - 12 ft.	SC	dense, moderate brown, fine to coarse, SAND, some fine to coarse gravel, little to some oversize, some fines, damp, weak HCl reaction (alluvium). 15% Oversize, 25% Gravel, 30% Sand, 30% fines. Coarse: round. Fines: moderate plasticity.

TEST PIT LOG: TP-5

Client: Chino Mines **Date:** 3/7/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610351 **E:** 0770410

Lithology:

Depth	*USCS*	*Description*
0 - 0.2 ft.	SP	loose, dark yellowish orange, very fine to medium SAND, dry, no HCl reaction, (tailings). 100% Sand. Coarse: round to sub-round.
0.2 - 2 ft.	SP	dense, moderate brown with white, fine to coarse SAND and GRAVEL, some fines, dry, strong HCl reaction, with caliche (alluvium). 35% Gravel, 45% Sand, 20% fines. Coarse: round to sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-6

Client: Chino Mines **Date:** 3/7/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610356 **E:** 0770466

Lithology:

Depth	*USCS*	*Description*
0 - 1.5 ft.	SW	loose, pale yellowish brown, fine to coarse SAND, little to some fine to coarse gravel, trace fines, dry, strong HCl reaction, rootlets, (alluvium with tailings). Pinches out to west. 15% Gravel, 80% Sand, 5% fines. Coarse: sub-round.
1.5 - 3 ft.	SP	compact, dark yellowish orange, very fine to medium SAND, trace fines, dry, no HCl reaction, (tailings). Pinches out to west. 95% Sand, 5% fines. Coarse: round. Fines: non-plastic.
3 - 4 ft.	SP	dense, moderate brown with white, fine to coarse SAND and GRAVEL, some fines, dry, strong HCl reaction, with caliche (tailings). 5% Oversize, 25% Gravel, 45% Sand, 25% fines. Coarse: round to sub-round. Fines: low plasticity.

TEST PIT LOG: TP-7

Client: Chino Mines **Date:** 3/7/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610384 **E:** 0770377

Lithology:

Depth	*USCS*	*Description*
0 - 2.5 ft.	SW	loose, pale yellowish brown, very fine to medium SAND, little to some fine to coarse gravel, trace fines, dry, weak HCl reaction, rootlets, (alluvium with tailings). 15% Gravel, 80% Sand, 5% fines. Coarse: round to sub-round.
2.5 - 6.5 ft.	SP	compact, pale yellowish orange, very fine to medium SAND, little fines, dry, no HCl reaction, (tailings). 90% Sand, 10% fines. Coarse: round to sub-round. Fines: low-plasticity.
6.5 - 9 ft.	SC/SW	dense, dark reddish brown, fine to coarse, SAND, some fine to coarse gravel, trace oversize, damp, weak HCl reaction (alluvium). 5% Oversize, 20% Gravel, 55% Sand, 20% fines. Coarse: round. Fines: low plasticity.
9 - 10 ft.	SC/SW	dense, moderate brown, fine to coarse, SAND, some fine to coarse gravel, trace oversize, damp, weak HCl reaction (alluvium). 5% Oversize, 20% Gravel, 55% Sand, 20% fines. Coarse: round. Fines: low plasticity.

TEST PIT LOG: TP-8

Client: Chino Mines **Date:** 3/7/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610426 **E:** 0770381

Lithology:

Depth	*USCS*	*Description*
0 - 2 ft.	SW	loose, pale yellowish brown, very fine to medium SAND, little to some fine to coarse gravel, trace fines, dry, weak HCl reaction, rootlets, (alluvium with tailings). Grades coarser with depth. 25% Gravel, 60% Sand, 15% fines. Coarse: round to sub-round. Fines: low-plasticity.
2 - 4 ft.	SP	compact, pale yellowish orange, very fine to medium SAND, trace fines, dry, no HCl reaction, (tailings). 95% Sand, 5% fines. Coarse: round to sub-round.
4 - 8 ft.	SW	dense, dark reddish brown, fine to coarse, SAND, some fine to coarse gravel, little oversize, little fines, dry, weak HCl reaction, stained, (alluvium). 15% Oversize, 25% Gravel, 50% Sand, 10% fines. Coarse: round. Fines: moderate-plasticity.
8 - 10 ft.	SW	dense, dark reddish brown, fine to coarse, SAND, some fine to coarse gravel, little oversize, little fines, dry, weak HCl reaction, (alluvium). 15% Oversize, 25% Gravel, 50% Sand, 10% fines. Coarse: round. Fines: moderate-plasticity.

TEST PIT LOG: TP-9

Client: Chino Mines **Date:** 3/7/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610381 **E:** 0770256

Lithology:

Depth	*USCS*	*Description*
0 - 2 ft.	SW	loose, pale yellowish brown, very fine to medium SAND, little to some fine to coarse gravel, trace fines, dry, weak HCl reaction, rootlets, (alluvium with tailings). Grades coarser with depth. 25% Gravel, 60% Sand, 15% fines. Coarse: round to sub-round. Fines: low-plasticity.
2 - 4 ft.	SP	compact, grayish orange, thinly bedded, very fine to medium SAND, little fines, dry, no HCl reaction, (tailings). 90% Sand, 10% fines. Coarse: round to sub-round Fines: low-plasticity.
4 - 6 ft.	CL	stiff, dusky brown, blocky, SILTY CLAY, little fine to coarse sand, damp, weak HCl reaction (alluvium). 10% Sand, 90% fines. Coarse: round. Fines: moderate plasticity.
6 - 10 ft.	SW/SC	dense, dark reddish brown to moderate brown, fine to coarse SAND and GRAVEL, some oversize, little fines, moist, no HCl reaction (alluvium). 15% Oversize, 25% Gravel, 45% Sand, 15% fines. Coarse: round. Fines: low-plasticity.

TEST PIT LOG: TP-10

Client: Chino Mines **Date:** 3/7/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610182 **E:** 0770312

Lithology:

Depth	*USCS*	*Description*
0 - 2 ft.	CL	firm, pale yellowish brown, very fine to medium SILTY CLAY and SAND, dry, weak HCl reaction, rootlets, (alluvium with tailings). 25% Gravel, 60% Sand, 15% fines. Coarse: round. Fines: low-plasticity.
2 - 7 ft.	ML/CL	firm, yellowish gray, very thinly bedded, CLAYEY SILT, little to some fine sand, moist, no HCl reaction, (tailings). 10-15% Sand, 85-90% fines. Coarse: round. Fines: low to moderate plasticity.
7 - 7.1 ft.	SM	compact, dark yellowish orange, very thinly bedded, SILTY SAND, moist, no HCl reaction (tailings). 75% Sand, 25% fines. Coarse: round. Fines: low plasticity.
7.1 - 10 ft.	ML	firm, olive gray, thinly bedded, CLAYEY SILT, trace fine sand, moist, no HCl reaction (lacustral). 5% Sand, 15% fines. Coarse: round. Fines: low to moderate plasticity.

TEST PIT LOG: TP-11

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610102 **E:** 0770221

Lithology:

Depth	*USCS*	*Description*
0 - 3 ft.	SM	stiff, moderate brown, fine to coarse SILTY SAND, trace fine to coarse gravel, dry, moderate to strong HCl reaction, (alluvium). Grades coarser with depth. Caliche at three feet. 10% Gravel, 60% Sand, 30% fines. Coarse: sub-rounded. Fines: moderate plasticity.

TEST PIT LOG: TP-12

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610092 **E:** 0770254

Lithology:

Depth	*USCS*	*Description*
0 - 0.5 ft.	SM	loose, pale yellowish brown, very fine to medium SILTY SAND, dry, strong HCl reaction, rootlets, (alluvium with tailings). 80% Sand, 20% fines. Coarse: round to sub-round. Fines: low plasticity.
0.5 - 1 ft.	SM	compact, moderate yellowish brown to grayish orange, very fine to medium SAND, little fines, dry, weak HCl reaction, rootlets, (tailings). 85% Sand, 15% fines. Coarse: round to sub-round. Fines: low plasticity.
1 - 2 ft.	SC	dense, moderate brown, fine to coarse CLAYEY SAND, little fine to coarse gravel, damp, moderate to strong HCl reaction, grades coarser with depth, (alluvium). 10% Gravel, 60% Sand, 30% fines. Coarse: round to sub-round. Fines: low plasticity.

TEST PIT LOG: TP-13

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610086 **E:** 0770278

Lithology:

Depth	*USCS*	*Description*
0 - 1.7 ft.	SM	loose, pale yellowish brown, fine to medium SAND, little to some fines, dry, weak HCl reaction, rootlets, (alluvium with weathered tailings). 80% Sand, 20% fines. Coarse: round to sub-round. Fines: low plasticity.
1.7 - 2.2 ft.	ML	firm, yellowish gray, SILT, some fine sand, dry, no HCl reaction (tailings). 20% Sand, 80% fines. Coarse: round. Fines: low plasticity.
2.2 - 2.5 ft.	SP	loose, grayish orange, fine to medium SAND, little fines, dry, no HCl reaction (tailings). 90% Sand, 10% fines. Coarse: round. Fines: low plasticity.
2.5 - 4.0 ft.	SC	compact/stiff, semi-cohesive, moderate brown, fine to medium CLAYEY SAND, little fines, dry, no HCl reaction (tailings). 90% Sand, 10% fines. Coarse: round. Fines: low plasticity.

TEST PIT LOG: TP-14

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610077 **E:** 0770291

Lithology:

Depth	*USCS*	*Description*
0 - 0.5 ft.	SP	compact, pale yellowish brown, fine to medium SAND, little fines, dry, weak HCl reaction, rootlets, (weathered tailings). 90% Sand, 10% fines. Coarse: round to sub-round. Fines: low plasticity.
0.5 - 7 ft.	SP	compact, very thinly bedded, grayish yellow to moderate yellowish brown, very fine to medium SAND, trace fines, dry, no HCl reaction, (tailings). 95% Sand, 5% fines. Coarse: round.
7 - 10 ft.	ML	firm, varved, medium gray and orange, CLAYEY SILT, trace fine sand, moist, no HCl reaction (tailings/possible alluvium). Iron staining. 5% Sand, 95% fines. Fines: moderate plasticity.
10 - 11.5 ft.	ML	firm, varved, medium gray and orange, CLAYEY SILT, some fine sand, moist, no HCl reaction (tailings/possible alluvium). Iron staining. 25% Sand, 75% fines. Fines: moderate plasticity.

TEST PIT LOG: TP-15

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610072 **E:** 0770322

Lithology:

Depth	*USCS*	*Description*
0 - 1.3 ft.	SP	loose, pale yellowish brown, fine to medium SAND, trace fines, dry, weak HCl reaction, rootlets, (weathered tailings). 95% Sand, 5% fines. Coarse: round to sub-round. Fines: low plasticity.
1.3 - 5 ft.	SP	compact, very thinly bedded, grayish yellow to moderate yellowish brown, very fine to medium SAND, trace fines, dry, no HCl reaction, (tailings). 90% Sand, 10% fines. Coarse: round.
5 - 7.5 ft.	ML	firm, varved, medium gray and orange, CLAYEY SILT, trace fine sand, moist, no HCl reaction (tailings/possible alluvium). Iron staining. 5% Sand, 95% fines. Fines: low plasticity.
7.5 - 8 ft.	CL	firm, moderate brown to dusky brown, CLAYEY SILT, trace fine to coarse sand, moist, no HCl reaction (alluvium). 5% Sand, 75% fines. Fines: moderate plasticity.

TEST PIT LOG: TP-16

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610076 **E:** 0770346

Lithology:

Depth	*USCS*	*Description*
0 - 0.5 ft.	SP	loose, pale yellowish brown, fine to medium SAND, little fines, dry, weak HCl reaction, rootlets, (weathered tailings). 90% Sand, 10% fines. Coarse: round. Fines: low plasticity.
0.5 - 2.5 ft.	SP	compact, dark yellowish orange, very fine to medium SAND, trace fines, dry, no HCl reaction, rootlets, (tailings). 95% Sand, 5% fines. Coarse: round.
2.5 - 3.5 ft.	SC	compact, moderate brown, fine to coarse CLAYEY SAND, dry, no HCl reaction, rootlets, (alluvium). 95% Sand, 5% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-17

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610059 **E:** 0770360

Lithology:

Depth	*USCS*	*Description*
0 - 2.5 ft.	SP	loose, pale yellowish brown, fine to medium SAND, little fines, dry, weak HCl reaction, rootlets, tailings in upper six inches, (alluvium). 90% Sand, 10% fines. Coarse: round. Fines: low plasticity.

TEST PIT LOG: TP-18

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610078 **E:** 0770373

Lithology:

Depth	*USCS*	*Description*
0 - 1 ft.	SP	loose, pale yellowish brown, fine to medium SAND, trace fines, dry, no HCl reaction, rootlets, (tailings). 95% Sand, 5% fines. Coarse: round.
1 - 2 ft.	SW	dense, moderate reddish brown, fine to coarse, SAND, trace fine to coarse gravel, some fines, dry, strong HCl reaction, (alluvium). 5% Gravel, 65% Sand, 30% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-19

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610094 **E:** 0770352

Lithology:

Depth	*USCS*	*Description*
0 - 1.5 ft.	SM	loose, pale yellowish brown, very fine to medium SAND, some fines, dry, no HCl reaction, rootlets, (weathered tailings). 80% Sand, 20% fines. Coarse: round. Fines: low-plasticity.
1.5 - 6 ft.	SP	compact, dark yellowish orange, thinly bedded, very fine to medium SAND, trace fines, dry, no HCl reaction, (tailings). 95% Sand, 5% fines. Coarse: round.
6 - 7 ft.	SC	dense, moderate brown to dusky brown, CLAYEY SAND, trace fine to coarse gravel, damp, strong HCl reaction (alluvium). 5% Gravel, 70% Sand, 25% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-20

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610127 **E:** 0770367

Lithology:

Depth	*USCS*	*Description*
0 - 1.3 ft.	SM	loose, pale yellowish brown, very fine to medium SAND, some fines, dry, no HCl reaction, rootlets, (weathered tailings). 80% Sand, 20% fines. Coarse: round. Fines: low-plasticity.
1.3 - 3.5 ft.	SP	compact, dark yellowish orange, thinly bedded, very fine to medium SAND, trace fines, dry, no HCl reaction, (tailings). 95% Sand, 5% fines. Coarse: round.
6 - 7 ft.	SC	dense, moderate brown to dusky brown, CLAYEY SAND, trace fine to coarse gravel, damp, strong HCl reaction (alluvium). 5% Gravel, 70% Sand, 25% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-21

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610102 **E:** 0770221

Lithology:

Depth	*USCS*	*Description*
0 - 1 ft	SP	loose, dark yellowish brown, medium SAND, dry, no HCl reaction, (tailings). 100% Sand. Coarse: rounded.
1 - 2 ft.	SM	compact, pale yellowish brown, fine to medium SILTY SAND, trace fine to coarse gravel, dry, strong HCl reaction, rootlets, (alluvium). 5% Gravel, 70% Sand, 25% fines. Coarse: sub-round. Fines: low plasticity.

TEST PIT LOG: TP-21b

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610110 **E:** 0770412

Lithology:

Depth	*USCS*	*Description*
0 - 1 ft.	SM	compact, dark reddish brown, fine to coarse SILTY SAND, dry, strong HCl reaction, rootlets, (alluvium). 80% Sand, 20% fines. Coarse: sub-round. Fines: low plasticity.

TEST PIT LOG: TP-22

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610103 **E:** 0770426

Lithology:

Depth	*USCS*	*Description*
0 - 0.8 ft	SP	loose, dark yellowish brown, medium SAND, dry, no HCl reaction, (tailings). 100% Sand. Coarse: rounded.
0.8 - 1.8 ft.	SM	compact, dark reddish brown, fine to coarse SILTY SAND, dry, strong HCl reaction, rootlets, (alluvium). 80% Sand, 20% fines. Coarse: sub-round. Fines: low plasticity.

TEST PIT LOG: TP-23

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610090 **E:** 0770453

Lithology:

Depth	*USCS*	*Description*
0 - 0.8 ft	SP	loose, dark yellowish brown, medium SAND, dry, no HCl reaction, (tailings). 100% Sand. Coarse: rounded.
0.8 - 1.2 ft.	SC	stiff, dark reddish brown, fine to coarse CLAYEY SAND, trace fine to coarse gravel, dry, strong HCl reaction, rootlets, (alluvium). 5% Gravel, 70% Sand, 25% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-24

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610123 **E:** 0770443

Lithology:

Depth	*USCS*	*Description*
0 - 2 ft	SP	loose, dark yellowish brown, medium SAND, dry, no HCl reaction, (tailings). 100% Sand. Coarse: rounded.
2 - 2.5 ft.	SC	stiff, dark reddish brown, fine to coarse CLAYEY SAND, trace fine to coarse gravel, dry, strong HCl reaction, rootlets, (alluvium). 5% Gravel, 70% Sand, 25% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-25

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610142 **E:** 0770455

Lithology:

Depth	*USCS*	*Description*
0 - 0.2 ft	SP	loose, dark yellowish brown, medium SAND, dry, no HCl reaction, (tailings). 100% Sand. Coarse: rounded.
0.2 - 0.5 ft.	SC	stiff, dark reddish brown, fine to coarse CLAYEY SAND, trace fine to coarse gravel, dry, strong HCl reaction, rootlets, (alluvium). 5% Gravel, 70% Sand, 25% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-26

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610153 **E:** 0770468

Lithology:

Depth	*USCS*	*Description*
0 - 2.5 ft	SP	loose, dark yellowish brown, medium SAND, dry, no HCl reaction, (tailings). 100% Sand. Coarse: rounded.
2.5 - 3 ft.	SC	stiff, dark reddish brown, fine to coarse CLAYEY SAND, trace fine to coarse gravel, dry, strong HCl reaction, rootlets, (alluvium). 5% Gravel, 70% Sand, 25% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-27

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610453 **E:** 0770188

Lithology:

Depth	*USCS*	*Description*
0 - 1.5 ft	SP	loose, dark yellowish brown, medium SAND, dry, no HCl reaction, (tailings). 100% Sand. Coarse: rounded.
1.5 - 2 ft.	SC	stiff, dark reddish brown, fine to coarse CLAYEY SAND, trace fine to coarse gravel, dry, strong HCl reaction, rootlets, (alluvium). 5% Gravel, 70% Sand, 25% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-28

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610196 **E:** 0770469

Lithology:

Depth	*USCS*	*Description*
0 - 0.3 ft	SP	loose, dark yellowish brown, medium SAND, dry, no HCl reaction, (tailings). 100% Sand. Coarse: rounded.
0.3 - 1 ft.	SC	stiff, dark reddish brown, fine to coarse CLAYEY SAND, trace fine to coarse gravel, dry, strong HCl reaction, rootlets, with caliche (alluvium). 5% Gravel, 70% Sand, 25% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-29

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610228 **E:** 0770426

Lithology:

Depth	*USCS*	*Description*
0 - 1 ft	SP	loose, dark yellowish brown, medium SAND, dry, no HCl reaction, (tailings). 100% Sand. Coarse: rounded.
1 - 1.3 ft.	SC	stiff, dark reddish brown, fine to coarse CLAYEY SAND, trace fine to coarse gravel, dry, strong HCl reaction, rootlets, with caliche (alluvium). 5% Gravel, 70% Sand, 25% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-30

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610267 **E:** 0770425

Lithology:

Depth	*USCS*	*Description*
0 - 1 ft	SP	loose, dark yellowish brown, medium SAND, dry, no HCl reaction, (tailings). 100% Sand. Coarse: rounded.
1 - 1.3 ft.	SC	stiff, dark reddish brown, fine to coarse CLAYEY SAND, trace fine to coarse gravel, dry, strong HCl reaction, rootlets, with caliche (alluvium). 5% Gravel, 70% Sand, 25% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-31

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610238 **E:** 0770461

Lithology:

Depth	*USCS*	*Description*
0 - 0.2 ft	SP	loose, moderate yellowish brown, medium SAND, trace fine gravel dry, no HCl reaction, (tailings with native topsoil). 100% Sand. Coarse: rounded.
0.2 - 0.5 ft.	SM	stiff, light brown, fine to coarse SILTY SAND, trace fine to coarse gravel, dry, strong HCl reaction, rootlets, with caliche (alluvium). 5% Gravel, 70% Sand, 25% fines. Coarse: sub-round. Fines: low plasticity.

TEST PIT LOG: TP-32

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610207 **E:** 0770473

Lithology:

Depth	*USCS*	*Description*
0 - 1.3 ft	SP	loose, dark yellowish brown, medium SAND, dry, no HCl reaction, (tailings). 100% Sand. Coarse: rounded.
1.3 - 1.8 ft.	CL	stiff, dark reddish brown, fine to coarse SANDY CLAY, dry, strong HCl reaction, rootlets, (alluvium). 40% Sand, 60% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-33

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610179 **E:** 0770503

Lithology:

Depth	*USCS*	*Description*
0 - 0.1 ft	SP	loose, dark yellowish brown, medium SAND, dry, no HCl reaction, (tailings). 100% Sand. Coarse: rounded.
0.1 - 0.5 ft.	CL	stiff, dark reddish brown, fine to coarse SANDY CLAY, dry, strong HCl reaction, rootlets, (alluvium). 40% Sand, 60% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-34

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610134 **E:** 0770506

Lithology:

Depth	*USCS*	*Description*
0 - 0.2 ft	SP	loose, dark yellowish brown, medium SAND, dry, no HCl reaction, (tailings). 100% Sand. Coarse: rounded.
0.2 - 2.5 ft.	CL	stiff, dark reddish brown, fine to coarse SANDY CLAY, dry, strong HCl reaction, rootlets, (alluvium). 40% Sand, 60% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-35

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610104 **E:** 0770476

Lithology:

Depth	*USCS*	*Description*
0 - 0.2 ft	SP	loose, dark yellowish brown, medium SAND, dry, no HCl reaction, (tailings). 100% Sand. Coarse: rounded.
0.2 - 0.5 ft.	CL	stiff, dark reddish brown, fine to coarse SANDY CLAY, dry, strong HCl reaction, rootlets, (alluvium). 40% Sand, 60% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-36

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610123 **E:** 0770463

Lithology:

Depth	*USCS*	*Description*
0 - 1.5 ft	SP	loose, dark yellowish brown, medium SAND, dry, no HCl reaction, (tailings). 100% Sand. Coarse: rounded.
1.5 - 2.5 ft.	CL	stiff, dark reddish brown, fine to coarse SANDY CLAY, dry, strong HCl reaction, rootlets, (alluvium). 40% Sand, 60% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-37

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610157 **E:** 0770340

Lithology:

Depth	*USCS*	*Description*
0 - 1.8 ft.	SM	loose, pale yellowish brown, very fine to medium SAND, some fines, dry, no HCl reaction, rootlets, (weathered tailings and alluvium). 80% Sand, 20% fines. Coarse: round. Fines: low-plasticity.
1.8 - 2.7 ft.	SP	compact, pale yellowish gray, thinly bedded, very fine to medium SAND, little fines, dry, no HCl reaction, (tailings). 90% Sand, 10% fines. Coarse: round. Fines: low plasticity.
2.7 - 4 ft.	CL	stiff, moderate brown, fine to coarse SANDY CLAY, trace fine to coarse gravel, damp, weak HCl reaction (alluvium). 5% Gravel, 30% Sand, 65% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-38

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610153 **E:** 0770387

Lithology:

Depth	*USCS*	*Description*
0 - 0.3 ft.	SM	loose, pale yellowish brown, very fine to medium SAND, some fines, dry, no HCl reaction, rootlets, (weathered tailings and alluvium). 80% Sand, 20% fines. Coarse: round. Fines: low-plasticity.
0.3 - 2 ft.	SP	compact, pale yellowish gray, thinly bedded, very fine to medium SAND, little fines, dry, no HCl reaction, (tailings). 90% Sand, 10% fines. Coarse: round. Fines: low plasticity.
2 - 4 ft.	SC	dense, dark reddish brown, fine to coarse CLAYEY SAND, trace fine to coarse gravel, dry, strong HCl reaction, rootlets, (alluvium). 5% Gravel, 70% Sand, 25% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-39

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610213 **E:** 0770402

Lithology:

Depth	*USCS*	*Description*
0 - 0.3 ft.	SM	loose, pale yellowish brown, very fine to medium SAND, some fines, dry, no HCl reaction, rootlets, (weathered tailings and alluvium). 80% Sand, 20% fines. Coarse: round. Fines: low-plasticity.
2 - 4 ft.	CL	stiff, dark reddish brown, fine to coarse SANDY CLAY, trace fine gravel, dry, strong HCl reaction, rootlets, (alluvium). 5% Gravel, 25% Sand, 70% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-40

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610248 **E:** 0770405

Lithology:

Depth	*USCS*	*Description*
0 - 0.1 ft.	SM	loose, pale yellowish brown, very fine to medium SAND, some fines, dry, no HCl reaction, rootlets, (weathered tailings and alluvium). 80% Sand, 20% fines. Coarse: round. Fines: low-plasticity.
0.1 - 0.2 ft.	SP	compact, pale yellowish gray, thinly bedded, very fine to medium SAND, little fines, dry, no HCl reaction, (tailings). 90% Sand, 10% fines. Coarse: round. Fines: low plasticity.
0.2 - 3 ft.	ML	dense, moderate brown, fine to coarse SANDY SILT, little fine to coarse gravel, dry, strong HCl reaction, rootlets, (alluvium). 10% Gravel, 25% Sand, 65% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-41

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610285 **E:** 0770393

Lithology:

Depth	*USCS*	*Description*
0 - 0.2 ft	SP	loose, moderate yellowish brown, medium SAND, trace fine gravel dry, no HCl reaction, (tailings with native topsoil). 100% Sand. Coarse: rounded.
0.2 - 1 ft.	SM	dense, moderate brown, fine to coarse SANDY SILT, little fine to coarse gravel, dry, strong HCl reaction, rootlets, with caliche (alluvium). 10% Gravel, 25% Sand, 65% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-42

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610319 **E:** 0770412

Lithology:

Depth	*USCS*	*Description*
0 - 1 ft.	SM	loose, pale yellowish brown, very fine to medium SAND, some fines, dry, no HCl reaction, rootlets, (weathered tailings and alluvium). 80% Sand, 20% fines. Coarse: round. Fines: low-plasticity.
1 - 4 ft.	SM	compact, pale yellowish gray, thinly bedded, very fine to medium SAND, little to some fines, dry, no HCl reaction, (tailings). 80% Sand, 20% fines. Coarse: round. Fines: low plasticity.
4 - 5 ft.	SM	dense, dark reddish brown, fine to coarse SILTY SAND, trace fine to coarse gravel, dry, strong HCl reaction, rootlets, (alluvium). 5% Gravel, 70% Sand, 25% fines. Coarse: sub-round. Fines: low plasticity.

TEST PIT LOG: TP-43

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610326 **E:** 0770381

Lithology:

Depth	*USCS*	*Description*
0 - 0.5 ft.	SM	loose, pale yellowish brown, very fine to medium SAND, some fines, dry, weak HCl reaction, rootlets, (weathered tailings and alluvium). 80% Sand, 20% fines. Coarse: round. Fines: low-plasticity.
0.5 - 0.7 ft.	SM	compact, pale yellowish gray, thinly bedded, very fine to medium SAND, some fines, dry, no HCl reaction, (tailings). 90% Sand, 10% fines. Coarse: round. Fines: low plasticity.
0.7 - 1.5 ft.	CL	hard, dusky brown, fine to coarse SANDY CLAY, trace fine to coarse gravel, dry, strong HCl reaction, rootlets, (alluvium). 5% Gravel, 30% Sand, 65% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-44

Client: Chino Mines **Date:** 3/8/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610292 **E:** 0770377

Lithology:

Depth	*USCS*	*Description*
0 - 0.5 ft.	SM	loose, pale yellowish brown, very fine to medium SAND, some fines, dry, moderate HCl reaction, rootlets, (weathered tailings and alluvium). 80% Sand, 20% fines. Coarse: round. Fines: low-plasticity.
0.5 - 1.5 ft.	SM	compact, yellowish gray, thinly bedded, very fine to medium SAND, some fines, dry, no HCl reaction, (tailings). 90% Sand, 10% fines. Coarse: round. Fines: low plasticity.
1.5 - 2.5 ft.	SC	hard, dusky brown, fine to coarse CLAYEY SAND, trace fine gravel, dry, strong HCl reaction, rootlets, (alluvium). 5% Gravel, 65% Sand, 30% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-45

Client: Chino Mines **Date:** 3/9/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610104 **E:** 0770476

Lithology:

Depth	*USCS*	*Description*
0 - 5 ft.	SC	dense, pale yellowish brown, fine to coarse CLAYEY SAND, some fine to coarse gravel, dry, strong HCl reaction, rootlets, (alluvium). Grades coarser with depth, with caliche. 15% Gravel, 55% Sand, 30% Fines. Coarse: sub-round. Fines: low-
5 - 6 ft.	CL	stiff, dark reddish brown, fine to coarse GRAVELY CLAY, some fine to coarse sand, dry, weak HCl reaction, rootlets, (alluvium). Grades coarser with depth. 15% Gravel, 35% Sand, 60% fines. Coarse: sub-round. Fines: moderate
6 - 9 ft.	CL	stiff/dense, moderate brown, fine to coarse CLAYEY GRAVEL, some fine to coarse sand, dry, strong HCl reaction, (alluvium). Grades coarser with depth. 45% Gravel, 30% Sand, 20% fines. Coarse: sub-round. Fines: moderate

TEST PIT LOG: TP-46

Client: Chino Mines **Date:** 3/9/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610250 **E:** 0770367

Lithology:

Depth	*USCS*	*Description*
0 - 0.8 ft.	SM	loose, pale yellowish brown, fine to medium SILTY SAND, dry, moderate HCl reaction, rootlets, (alluvium with weathered tailings). Grades coarser with depth, with caliche. 70% Sand, 30% Fines. Coarse: round to sub-round. Fines: low-plasticity.
0.8 - 1.7 ft.	SM	compact, yellowish gray, thinly bedded, very fine to medium SAND, some fines, dry, no HCl reaction, (tailings). 80% Sand, 20% fines. Coarse: round. Fines: low plasticity.
1.7 - 2.5 ft.	SC	stiff/dense, moderate brown to dusky brown, fine to coarse CLAYEY SAND, trace fine to coarse gravel, dry, weak HCl reaction, (alluvium). Grades coarser with depth. 5% Gravel, 55% Sand, 40% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-47

Client: Chino Mines **Date:** 3/9/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610218 **E:** 0770341

Lithology:

Depth	*USCS*	*Description*
0 - 1 ft.	SM	loose, pale yellowish brown, fine to medium SILTY SAND, dry, weak HCl reaction, rootlets, (alluvium with weathered tailings). Grades coarser with depth, with caliche. 80% Sand, 20% Fines. Coarse: round to sub-round. Fines: low-plasticity.
1 - 3 ft.	ML	firm, yellowish gray, thinly bedded, SILT, trace fine sand, dry, no HCl reaction, (tailings). 5% Sand, 95% fines. Coarse: round. Fines: low plasticity.
3 - 4 ft.	SC	firm, olive gray, SILTY CLAY, trace fine sand, moist, no HCl reaction, (alluvium). Grades coarser with depth. 5% Sand, 95% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-48

Client: Chino Mines **Date:** 3/9/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610220 **E:** 0770322

Lithology:

Depth	*USCS*	*Description*
0 - 1 ft.	SM	loose, pale yellowish brown, very fine to medium SAND, some fines, dry, strong HCl reaction, rootlets, (weathered tailings and alluvium). 80% Sand, 20% fines. Coarse: round. Fines: low-plasticity.
1 - 3.5 ft.	CL	very stiff, moderate brown, fine to coarse SANDY CLAY, little fines, dry, weak HCl reaction, (alluvium). Grades coarser with depth. 5% Oversize, 5% Gravel, 25% Sand, 65% Fines. Coarse: round. Fines: low plasticity.

TEST PIT LOG: TP-49

Client: Chino Mines **Date:** 3/9/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610178 **E:** 0770319

Lithology:

Depth	*USCS*	*Description*
0 - 1.8 ft.	SM	loose, pale yellowish brown, very fine to medium SAND, some fines, dry, weak HCl reaction, rootlets, (weathered tailings and alluvium). 80% Sand, 20% fines. Coarse: round. Fines: low-plasticity.
1.8 - 2.2 ft.	ML	compact, yellowish gray, thinly bedded, very fine to medium SAND, some fines, dry, no HCl reaction, (tailings). 80% Sand, 20% fines. Coarse: round. Fines: low plasticity.
2.2 - 5 ft.	ML	compact, yellowish gray, CLAYEY SILT, some fines, dry, no HCl reaction, (tailings). 10% Sand, 90% fines. Coarse: round. Fines: low plasticity.
5 - 5.5 ft.	CL	firm, light olive gray, SILTY CLAY, trace fine gravel, dry, no HCl reaction, rootlets, iron oxide staining, (alluvium). 5% Sand, 95% fines. Fines: moderate plasticity.

TEST PIT LOG: TP-50

Client: Chino Mines **Date:** 3/9/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610191 **E:** 0770280

Lithology:

Depth	*USCS*	*Description*
0 - 0.6 ft	ML	loose, pale yellowish brown, fine to medium SANDY SILT, dry, moderate HCl reaction, (tailings with native topsoil). 40% Sand. Coarse: rounded to sub-rounded. Fines: low plasticity.
0.6 - 3 ft.	CL	very stiff, moderate brown, SILTY CLAY, trace fine to coarse gravel, dry, no HCl reaction, rootlets, with caliche (alluvium). 5% Oversize, 5% Gravel, 20% Sand, 70% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-51

Client: Chino Mines **Date:** 3/9/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610285 **E:** 0770393

Lithology:

Depth	*USCS*	*Description*
0 - 0.5 ft.	ML	loose, pale yellowish brown, fine to medium SANDY SILT, dry, strong HCl reaction, rootlets, (alluvium with tailings). 45% Sand, 55% fines. Coarse: round. Fines: low-plasticity.
0.5 - 1 ft.	ML	stiff, pale yellowish gray, thinly bedded, very fine to medium SANDY SILT, dry, no HCl reaction, (tailings). 35% Sand, 10% fines. Coarse: round. Fines: low plasticity.
1 - 2 ft.	CL	very stiff, moderate brown, fine SANDY CLAY, trace fine gravel, dry, weak HCl reaction, rootlets, (alluvium). 5% Gravel, 30% Sand, 65% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-52

Client: Chino Mines **Date:** 3/9/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610115 **E:** 0770293

Lithology:

Depth	*USCS*	*Description*
0 - 2 ft.	SM	loose, pale yellowish brown, fine to medium SILTY SAND, dry, strong HCl reaction, rootlets, (alluvium with tailings). 70% Sand, 30% fines. Coarse: sub-round to round. Fines: low-plasticity.
2 - 4 ft.	SM	compact, pale yellowish gray, thinly bedded, very fine to medium SILTY SAND, dry, no HCl reaction, (tailings). 35% Sand, 10% fines. Coarse: round. Fines: low plasticity.
4 - 4.5 ft.	CL	firm, olive gray, SILTY CLAY, trace fine sand, moist, no HCl reaction, rootlets, (alluvium). 5% Sand, 95% fines. Fines: moderate plasticity.

TEST PIT LOG: TP-53

Client: Chino Mines **Date:** 3/9/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610128 **E:** 0770241

Lithology:

Depth	*USCS*	*Description*
0 - 0.5 ft.	SC	loose, pale yellowish brown, fine to coarse SILTY SAND, trace fine to coarse gravel, dry, strong HCl reaction, rootlets, (alluvium with tailings). Grades coarser with depth, with caliche. 5% Gravel, 70% Sand, 25% Fines. Coarse: sub-round. Fines: low-plasticity.
0.5 - 4 ft.	CL	dense, moderate brown, fine to coarse SANDY GRAVEL, some fines, dry, no HCl reaction, rootlets, (alluvium). Grades coarser with depth. 50% Gravel, 30% Sand, 20% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-54

Client: Chino Mines **Date:** 3/9/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 361039 **E:** 0770197

Lithology:

Depth	*USCS*	*Description*
0 - 3 ft.	SM	dense, dark reddish brown, fine to coarse SAND and gravel, some fines, dry, weak HCl reaction, rootlets, possible staining, with caliche, (alluvium). 40% Gravel, 40% sand, 20% fines. Coarse: sub-rounded. Fines: moderate plasticity.

TEST PIT LOG: TP-55

Client: Chino Mines **Date:** 3/9/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610015 **E:** 0770292

Lithology:

Depth	*USCS*	*Description*
0 - 0.5 ft.	CL	stiff, pale yellowish brown, fine to coarse SANDY CLAY, dry, strong HCl reaction, rootlets, (alluvium with weathered tailings). 40% Sand, 60% Fines. Coarse: round to sub-round. Fines: moderate plasticity.
0.5 - 1.5 ft.	SM	loose, pale yellowish gray, fine to medium SILTY SAND, dry, no HCl reaction, rootlets, (tailings). 80% Sand, 20% fines. Coarse: round. Fines: low plasticity.
1.5 - 2 ft.	CL	dense, moderate brown, fine to coarse SAND, and gravel, damp, weak HCl reaction, (alluvium). Grades coarser with depth. 30% Gravel, 60% Sand, 10% fines. Coarse: sub-round. Fines: moderate plasticity.
2 - 6 ft.	SC	dense, dark reddish brown, fine to coarse SAND, some fines, some fine to coarse gravel, little oversize, damp, weak HCl reaction, trace iron oxide staining, (alluvium). Grades coarser with depth. 10% Oversize, 30% Gravel, 30% Sand, 30% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-56

Client: Chino Mines **Date:** 3/9/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3609975 **E:** 0770270

Lithology:

Depth	*USCS*	*Description*
0 - 0.5 ft.	ML	loose, pale yellowish brown to light brown, fine to coarse SANDY SILT, dry, strong HCl reaction, (alluvium). 40% Sand, 60% Fines. Coarse: sub-rounded. Fines: low-plasticity.
0.5 - 8 ft.	SW	dense, light brown, fine to coarse SAND and gravel, little oversize, little fines, dry, weak HCl reaction, (alluvium). Iron oxide staining from 6 to 6.5 ft. 10% Oversize, 30% Gravel, 50% Sand, 10% fines. Coarse: sub-rounded. Fines: low plasticity.

TEST PIT LOG: TP-57

Client: Chino Mines **Date:** 3/15/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610102 **E:** 0770318

Lithology:

Depth	*USCS*	*Description*
0 - 2 ft.	SM	loose, pale yellowish brown, fine to medium SILTY SAND, dry, no HCl reaction, rootlets, (alluvium with weathered tailings). 80% Sand, 20% fines. Coarse: round to sub-round. Fines: low-plasticity.
2 - 7 ft.	SP	compact, yellowish gray, thinly bedded, fine to medium SAND, trace fines, dry, no HCl reaction, (tailings). 90% Sand, 10% fines. Coarse: round. Fines: low plasticity.
7 - 9 ft.	GC/GW	dense, dark reddish brown, fine to coarse SANDY GRAVEL, trace oversize, little fines, dry, weak HCl reaction, (alluvium). Grades coarser with depth. 5% Oversize, 50% gravel, 30% sand, 15% fines. Coarse: sub-round. Fines: moderate plasticity.

TEST PIT LOG: TP-63

Client: Chino Mines **Date:** 3/15/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610075 **E:** 0770217

Lithology:

Depth	*USCS*	*Description*
0 - 0.5 ft.	SC	loose, pale yellowish brown, fine to coarse SILTY SAND, trace fine to coarse gravel, dry, strong HCl reaction, rootlets, (alluvium with tailings). Grades coarser with depth, with caliche. 5% Gravel, 70% Sand, 25% Fines. Coarse: sub-round. Fines: low-plasticity.
0.5 - 0.8 ft.	SM	loose, pale yellowish gray, fine to medium SILTY SAND, dry, no HCl reaction, rootlets, (tailings). 85% Sand, 15% fines. Coarse: round. Fines: low plasticity.
0.8 - 2.5 ft.	CL	dense, dark reddish brown, fine to coarse SANDY CLAY, little fine gravel, dry, no HCl reaction, rootlets, possible staining, (alluvium). Grades coarser with depth. 10% Gravel, 40% sand, 50% fines. Coarse: sub-rounded. Fines: moderate plasticity.
2.5 - 9 ft.	SW	dense, dark reddish brown, fine to coarse SAND and gravel, little fines, dry, weak HCl reaction, rootlets, (alluvium). Grades coarser with depth. 10% Gravel, 40% sand, 50% fines. Coarse: sub-rounded. Fines: moderate plasticity.

TEST PIT LOG: TP-64

Client: Chino Mines **Date:** 3/15/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 361060 **E:** 0770221

Lithology:

Depth	*USCS*	*Description*
0 - 0.5 ft.	SC	loose, pale yellowish brown, fine to coarse SILTY SAND, trace fine to coarse gravel, dry, no HCl reaction, rootlets, (alluvium with tailings). Grades coarser with depth, with caliche. 5% Gravel, 70% Sand, 25% Fines. Coarse: sub-round. Fines: low-plasticity.
0.5 - 3.5 ft.	SM	loose, pale yellowish gray, fine to medium SILTY SAND, dry, no HCl reaction, rootlets, (tailings). Grades finer with depth. 80% Sand, 20% fines. Coarse: round. Fines: low plasticity.
3.5 - 5.5 ft.	ML	firm, pale yellowish gray, SILT, trace to little fine to medium sand, moist, no HCl reaction, rootlets, (tailings). Grades finer with depth. 10% Sand, 90% fines. Coarse: round. Fines: low plasticity.
5.5 - 6.5 ft.	ML	firm, light olive gray, SILTY CLAY, trace fine sand, moist, no HCl reaction, rootlets, (possible tailings). 5% Sand, 90% fines. Coarse: round. Fines: moderate plasticity.
6.5 - 7.5 ft.	SW	dense, dark reddish brown, fine to coarse SAND, little fine to coarse gravel, little fines, moist, weak HCl reaction, (alluvium). Grades coarser with depth. 10% Gravel, 80% sand, 10% fines. Coarse: sub-rounded. Fines: moderate plasticity.
7.5 - 8 ft.	SW	dense, moderate brown, fine to coarse SAND, little to some fine to coarse gravel, trace oversize, trace fines, moist, weak HCl reaction, (alluvium). Grades coarser with depth. 5% Oversize, 15% gravel, 75% sand, 5% fines. Coarse: sub-rounded.

TEST PIT LOG: TP-66

Client: Chino Mines **Date:** 3/16/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3609023 **E:** 0770223

Lithology:

Depth	*USCS*	*Description*
0 - 3 ft.	CL	stiff, moderate brown, SILTY CLAY, some fine to coarse sand, trace fine gravel, dry, no HCl reaction, (alluvium with tailings at surface). Grades coarser with depth. 5% Gravel, 15% sand, 80% fines. Coarse: sub-round. Fines: moderate plasticity.
0.5 - 8 ft.	SC	dense, moderate brown to light brown, fine to coarse SAND and gravel, little oversize, little fines, dry, weak to moderate HCl reaction, (alluvium). Trace iron oxide staining from 6 to 8 ft. 10% Oversize, 30% Gravel, 40% Sand, 20% fines. Coarse: sub-rounded. Fines: moderate plasticity.

TEST PIT LOG: TP-67

Client: Chino Mines **Date:** 3/15/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610019 **E:** 0770258

Lithology:

Depth	*USCS*	*Description*
0 - 0.5 ft.	ML	loose, pale yellowish brown, fine to coarse SILT, trace fine to coarse gravel, dry, strong HCl reaction, rootlets, (tailings). Grades coarser with depth, with caliche. 5% Gravel, 70% Sand, 25% Fines. Coarse: sub-round. Fines: low-plasticity.
0.5 - 3 ft.	CL	stiff, dusky brown, blocky, SILTY CLAY, some fine to coarse sand, dry, no HCl reaction, rootlets, (alluvium). 15% Sand, 85% fines. Coarse: sub-round. Fines: moderate plasticity.
3 - 7 ft.	CL	dense, moderate reddish brown, fine to coarse SAND and gravel, some fines, trace oversize, damp, weak HCl reaction, (alluvium). Grades coarser with depth, trace staining. 5% Oversize, 30% gravel, 40% sand, 25% fines. Coarse: sub-rounded. Fines: moderate plasticity.
2.5 - 9 ft.	CL	stiff, light olive brown, fine to coarse SANDY CLAY, trace fine gravel, damp, no HCl reaction, (alluvium). Iron and manganese staining. 5% Gravel, 25% sand, 70% fines. Coarse: sub-rounded. Fines: moderate plasticity.
9 - 11 ft.	CL	stiff, light olive brown, fine to coarse SAND, little clay, little fine gravel, damp, weak HCl reaction, (alluvium). Iron and manganese staining. 10% Gravel, 80% sand, 10% fines. Coarse: sub-rounded. Fines: moderate plasticity.

TEST PIT LOG: TP-68

Client: Chino Mines **Date:** 3/15/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3609997 **E:** 0770274

Lithology:

Depth	*USCS*	*Description*
0 - 1 ft.	ML	loose, pale yellowish brown, fine to coarse SANDY SILT, dry, no HCl reaction, rootlets, (alluvium with tailings). 35% Sand, 65% fines. Coarse: round to sub-round. Fines: low-plasticity.
1 - 4 ft.	SM	loose, pale yellowish gray, fine to medium SILTY SAND, dry, no HCl reaction, rootlets, (tailings). Grades finer with depth. 80% Sand, 20% fines. Coarse: round. Fines: low plasticity.
4 - 10.5 ft.	SC	dense, dark reddish brown, fine to coarse SAND and gravel, some fines, little oversize, damp, no HCl reaction, (alluvium). Grades coarser with depth, trace staining. 10% Oversize, 35% gravel, 40% sand, 15% fines. Coarse: sub-rounded. Fines: moderate plasticity.

TEST PIT LOG: TP-69

Client: Chino Mines **Date:** 3/15/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3609998 **E:** 0770231

Lithology:

Depth	*USCS*	*Description*
0 - 10 ft.	SW/SC	dense, dark reddish brown, fine to coarse SAND and gravel, little fines, little oversize, damp, various HCl reaction, (alluvium). Grades coarser with depth, intermittent staining, intermittent caliche. 10% Oversize, 30% gravel, 50% sand, 10% fines. Coarse: sub-rounded. Fines: moderate plasticity.

TEST PIT LOG: TP-70

Client: Chino Mines **Date:** 3/15/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3609985 **E:** 0770261

Lithology:

Depth	*USCS*	*Description*
0 - 0.5 ft.	GM	loose, pale yellowish brown, fine to coarse SILTY GRAVEL, some fine to coarse sand, dry, weak HCl reaction, (alluvium). 60% Gravel, 20% sand, 20% fines. Coarse: sub-rounded. Fines: low plasticity.
0.5 - 1.8 ft.	SW/SC	dense, dusky brown, fine to coarse SAND and gravel, little fines, little oversize, dry, various HCl reaction, (alluvium). Grades coarser with depth, intermittent staining, intermittent caliche. 10% Oversize, 30% gravel, 50% sand, 10% fines. Coarse: sub-rounded. Fines: moderate plasticity.
1.8 - 10 ft.	SW/SC	dense, moderate brown, fine to coarse SAND and gravel, little fines, little oversize, damp, various HCl reaction, (alluvium). Grades coarser with depth, intermittent staining, intermittent caliche. 10% Oversize, 30% gravel, 50% sand, 10% fines. Coarse: sub-rounded. Fines: moderate plasticity.

TEST PIT LOG: TP-71

Client: Chino Mines **Date:** 3/16/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3609968 **E:** 0770256

Lithology:

Depth	*USCS*	*Description*
0 - 10 ft.	GW/GC	dense, moderate brown to light brown, fine to coarse GRAVEL and sand, little fines, little oversize, damp, various HCl reaction, (alluvium). Grades coarser with depth, intermittent staining, intermittent caliche. 10-20% Oversize, 30-40% gravel, 50% sand, 10% fines. Coarse: sub-rounded. Fines: moderate plasticity.

TEST PIT LOG: TP-72

Client: Chino Mines **Date:** 3/16/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3609977 **E:** 0770230

Lithology:

Depth	*USCS*	*Description*
0 - 10 ft.	GW/GC	dense, moderate brown to light brown, fine to coarse GRAVEL and sand, little fines, little oversize, damp, various HCl reaction, (alluvium). Grades coarser with depth, intermittent staining, intermittent caliche. 10-20% Oversize, 30-40% gravel, 50% sand, 10% fines. Coarse: sub-rounded. Fines: moderate plasticity.

TEST PIT LOG: TP-73

Client: Chino Mines **Date:** 3/16/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3609983 **E:** 0770284

Lithology:

Depth	*USCS*	*Description*
0 - 10 ft.	GW/GC	dense, moderate brown to light brown, fine to coarse GRAVEL and sand, little fines, little oversize, damp, various HCl reaction, (alluvium). Grades coarser with depth, intermittent staining, intermittent caliche. 10-20% Oversize, 30-40% gravel, 50% sand, 10% fines. Coarse: sub-rounded. Fines: moderate plasticity.

TEST PIT LOG: TP-76

Client: Chino Mines **Date:** 3/16/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610005 **E:** 0770354

Lithology:

Depth	*USCS*	*Description*
0 - 0.5 ft.	ML	loose, pale yellowish brown, fine to coarse SANDY SILT, trace fine to coarse gravel, dry, strong HCl reaction, rootlets, (alluvium). 5% Gravel, 25% sand, 70% Fines. Coarse: round to sub-round. Fines: low plasticity.
0.5 - 6 ft.	CL	very stiff to hard, moderate yellowish brown, SILTY CLAY, little fine to coarse sand, trace fine to coarse gravel, dry, strong HCl reaction, with partially cemented (alluvium with caliche). 5% Gravel, 20% sand, 75% fines. Coarse: sub-round. Fines: moderate plasticity.
6 - 10 ft.	CH	very stiff, blocky, moderate reddish brown to dark reddish brown, SILTY CLAY, trace fine to coarse sand, trace fine gravel, dry, strong HCl reaction, partially cemented (alluvium). 5% Gravel, 10% sand, 85% fines. Coarse: sub-round. Fines: moderate to high plasticity.

TEST PIT LOG: TP-81

Client: Chino Mines **Date:** 3/16/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610067 **E:** 0770067

Lithology:

Depth	*USCS*	*Description*
0 - 1 ft.	CL	very stiff, blocky, moderate reddish brown to dark reddish brown, SILTY CLAY, little fine to coarse sand, trace fine gravel, dry, strong HCl reaction, partially cemented (alluvium). 5% gravel, 10% sand, 85% fines. Coarse: sub-round. Fines: moderate plasticity.
1 - 8 ft.	CH	very stiff, blocky, moderate yellowish brown to very light gray, SILTY CLAY, some fine to coarse sand, little fine to coarse gravel, dry, strong HCl reaction, heavily calcified (alluvium). 10% gravel, 15% sand, 85% fines. Coarse: sub-round. Fines: moderate to high plasticity.

TEST PIT LOG: TP-82

Client: Chino Mines **Date:** 3/16/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610067 **E:** 0770432

Lithology:

Depth	*USCS*	*Description*
0 - 1.5 ft.	CL	very stiff, blocky, moderate reddish brown to dark reddish brown, SILTY CLAY, little to some fine to coarse sand, trace fine gravel, dry, strong HCl reaction, partially cemented (alluvium). 5% gravel, 15% sand, 80% fines. Coarse: sub-round. Fines: moderate plasticity.
1.5 - 4 ft.	CH	very stiff, blocky, moderate yellowish brown to very light gray, SILTY CLAY, some fine to coarse sand, little fine to coarse gravel, dry, strong HCl reaction, heavily calcified (alluvium). 10% gravel, 15% sand, 85% fines. Coarse: sub-round. Fines: moderate to high plasticity.
4 - 8 ft.	CH	very stiff, blocky, light brown, SILTY CLAY, some fine to coarse sand, trace fine gravel, dry, strong HCl reaction, lightly calcified (alluvium). 5% gravel, 15% sand, 85% fines. Coarse: sub-round. Fines: moderate to high plasticity.

TEST PIT LOG: TP-83

Client: Chino Mines **Date:** 3/16/2006
Project: Apache Tejo
Project No.: 093-92578
Location: Hurley, NM
NAD 27: **N:** 3610067 **E:** 0770396

Lithology:

Depth	*USCS*	*Description*
0 - 0.5 ft.	ML	loose, pale yellowish brown, fine to coarse SANDY SILT, dry, strong HCl reaction, rootlets, (alluvium with tailings). 30% Sand, 60% Fines. Coarse: round to sub-round. Fines: low plasticity.
0.5 - 1.5 ft.	CL	stiff, moderate yellowish brown with very light gray, SILTY CLAY, little fine to coarse sand, trace fine gravel, dry, strong HCl reaction, heavily calcified (alluvium). 5% Gravel, 20% sand, 75% fines. Coarse: sub-round. Fines: moderate plasticity.
1.5 - 7 ft.	CH	very stiff, light brown, SILTY CLAY, little fine to coarse sand, trace fine gravel, dry, strong HCl reaction, lightly calcified (alluvium). 5% gravel, 10% sand, 85% fines. Coarse: sub-round. Fines: moderate to high plasticity.

APPENDIX A-3
PASTE PH/EC, TOTAL METALS AND ABA DATA

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-089
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-55:3-4ft
Sample Collected: 3/09/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06 As Received Basis

SVL JOB: 121809
SAMPLE: 498501
Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	20.5	TCaCO3/1000T		EPA600	4/07/06
Acid Generating	<0.3	TCaCO3/1000T		EPA600	4/07/06
Acid Neut. Pot.	20.5	TCaCO3/1000T		EPA600	4/07/06
ELECTRICAL COND.	0.22	mmhos/cm		ASA M9	4/04/06
pH Paste	7.73			ASA M9	4/04/06
Non-Ext Sulfur,S	<0.01	%		LECO	4/07/06
Pyritic Sulfur,S	<0.01	%		LECO	4/07/06
Sulfate Sulfur,S	<0.01	%		LECO	4/07/06
Total Sulfur, S	<0.01	%		LECO	4/07/06
Calcium	9900	mg/kg		6010B	4/09/06
Potassium	2560	mg/kg		6010B	4/09/06
Sodium	80	mg/kg		6010B	4/09/06
Silver	<0.50	mg/kg		6010B	4/09/06
Aluminum	17200	mg/kg		6010B	4/09/06
Arsenic	8.1	mg/kg		6010B	4/09/06
Boron	4.1	mg/kg		6010B	4/09/06
Barium	271	mg/kg		6010B	4/09/06
Beryllium	1.08	mg/kg		6010B	4/09/06
Cadmium	0.65	mg/kg		6010B	4/09/06
Cobalt	16.9	mg/kg		6010B	4/09/06
Chromium	18.9	mg/kg		6010B	4/09/06
Copper	60.9	mg/kg		6010B	4/09/06
Iron	27900	mg/kg		6010B	4/09/06
Mercury	<0.033	mg/kg		7471A	3/30/06
Lithium	23.5	mg/kg		6010B	4/09/06
Manganese	1130	mg/kg		6010B	4/09/06
Molybdenum	2.72	mg/kg		6010B	4/09/06
Nickel	20.1	mg/kg		6010B	4/09/06
Lead	18.7	mg/kg		6010B	4/09/06
Selenium	<4.0	mg/kg		6010B	4/09/06
Zinc	159	mg/kg		6010B	4/09/06

M2:BA M1:K B7:CU M3:AL,CA,FE,MN

Reviewed By: _____ Date 4/10/06
4/10/06 13:24

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-56:6ft
Sample Collected: 3/09/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06

SVL JOB: 121809
SAMPLE: 498502

Matrix: SOIL

As Received Basis

Determination	Result	Units	Dilution	Method	Analyzed
ELECTRICAL COND.	0.16	mmhos/cm		ASA M9	4/04/06
pH Paste	7.87			ASA M9	4/04/06

Reviewed By: _____ Date 4/10/06
4/10/06 13:24

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-67:7-8ft
Sample Collected: 3/15/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06 As Received Basis

SVL JOB: 121809
SAMPLE: 498503
Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	12.5	TCaCO3/1000T		EPA600	4/07/06
Acid Generating	<0.3	TCaCO3/1000T		EPA600	4/07/06
Acid Neut. Pot.	12.5	TCaCO3/1000T		EPA600	4/07/06
ELECTRICAL COND.	0.84	mmhos/cm		ASA M9	4/04/06
pH Paste	7.59			ASA M9	4/04/06
Non-Ext Sulfur,S	<0.01	%		LECO	4/07/06
Pyritic Sulfur,S	<0.01	%		LECO	4/07/06
Sulfate Sulfur,S	0.01	%		LECO	4/07/06
Total Sulfur, S	0.01	%		LECO	4/07/06
Calcium	6510	mg/kg		6010B	4/09/06
Potassium	1790	mg/kg		6010B	4/09/06
Sodium	68	mg/kg		6010B	4/09/06
Silver	1.31	mg/kg		6010B	4/09/06
Aluminum	10200	mg/kg		6010B	4/09/06
Arsenic	15.7	mg/kg		6010B	4/09/06
Boron	<4.0	mg/kg		6010B	4/09/06
Barium	284	mg/kg		6010B	4/09/06
Beryllium	1.77	mg/kg		6010B	4/09/06
Cadmium	0.73	mg/kg		6010B	4/09/06
Cobalt	10.2	mg/kg		6010B	4/09/06
Chromium	15.7	mg/kg		6010B	4/09/06
Copper	48.3	mg/kg		6010B	4/09/06
Iron	30200	mg/kg		6010B	4/09/06
Mercury	<0.033	mg/kg		7471A	3/30/06
Lithium	10.3	mg/kg		6010B	4/09/06
Manganese	1510	mg/kg		6010B	4/09/06
Molybdenum	1.68	mg/kg		6010B	4/09/06
Nickel	11.5	mg/kg		6010B	4/09/06
Lead	19.8	mg/kg		6010B	4/09/06
Selenium	<4.0	mg/kg		6010B	4/09/06
Zinc	308	mg/kg		6010B	4/09/06

M2:BA M1:K B7:CU M3:AL,CA,FE,MN

Reviewed By: _____ Date 4/10/06
4/10/06 13:24

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-68:9-10ft
Sample Collected: 3/15/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06 As Received Basis

SVL JOB: 121809
SAMPLE: 498504
Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ELECTRICAL COND.	1.30	mmhos/cm		ASA M9	4/04/06
pH Paste	7.64			ASA M9	4/04/06

Reviewed By: N Gallucci Date 4/10/06
4/10/06 13:24

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-69:0-2ft
Sample Collected: 3/15/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06

SVL JOB: 121809
SAMPLE: 498505

Matrix: SOIL

As Received Basis

Determination	Result	Units	Dilution	Method	Analyzed
ELECTRICAL COND.	0.19	mmhos/cm		ASA M9	4/04/06
pH Paste	7.90			ASA M9	4/04/06

Reviewed By: _____ Date 4/10/06
4/10/06 13:24

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Certificate: AZ AZ0538 ▪ Fax: (208)783-0891

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-71:2-3ft
Sample Collected: 3/16/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06

SVL JOB: 121809
SAMPLE: 498506

Matrix: SOIL

As Received Basis

Determination	Result	Units	Dilution	Method	Analyzed
ELECTRICAL COND.	0.32	mmhos/cm		ASA M9	4/04/06
pH Paste	7.77			ASA M9	4/04/06

Reviewed By: _____ Date 4/10/06
4/10/06 13:24

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-089
Certificate: AZ AZ053

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-73:2-4ft
Sample Collected: 3/16/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06 As Received Basis

SVL JOB: 121809
SAMPLE: 498507
Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ELECTRICAL COND.	0.82	mmhos/cm		ASA M9	4/04/06
pH Paste	7.93			ASA M9	4/04/06

Reviewed By: _____ Date 4/10/06
4/10/06 13:24

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.

Quality Control Report
Part I Prep Blank and Laboratory Control Sample

Client :GALLAGHER & KENNEDY

SVL JOB No: 121809

Analyte	Method	Matrix	Units	Prep Blank	True	LCS	Found	LCS %R	Analysis Date
Silver	6010B	SOIL	mg/kg	<0.50	5.00		5.23	104.6	4/09/06
Aluminum	6010B	SOIL	mg/kg	<3.0	100		106	106.0	4/09/06
Arsenic	6010B	SOIL	mg/kg	<2.50	100		91.3	91.3	4/09/06
Boron	6010B	SOIL	mg/kg	<4.0	100		91.9	91.9	4/09/06
Barium	6010B	SOIL	mg/kg	<0.20	100		99.3	99.3	4/09/06
Beryllium	6010B	SOIL	mg/kg	<0.20	100		95.6	95.6	4/09/06
Calcium	6010B	SOIL	mg/kg	<4.0	2000		1950	97.5	4/09/06
Cadmium	6010B	SOIL	mg/kg	<0.20	100		92.9	92.9	4/09/06
Cobalt	6010B	SOIL	mg/kg	<0.60	100		92.9	92.9	4/09/06
Chromium	6010B	SOIL	mg/kg	<0.60	100		96.4	96.4	4/09/06
Copper	6010B	SOIL	mg/kg	<1.0 B7	100		96.0	96.0	4/09/06
Iron	6010B	SOIL	mg/kg	<6.0	1000		965	96.5	4/09/06
Potassium	6010B	SOIL	mg/kg	<50	2000		1970	98.5	4/09/06
Lithium	6010B	SOIL	mg/kg	<0.50	100		101	101.0	4/09/06
Manganese	6010B	SOIL	mg/kg	<0.40	100		96.2	96.2	4/09/06
Molybdenum	6010B	SOIL	mg/kg	<0.80	100		96.3	96.3	4/09/06
Sodium	6010B	SOIL	mg/kg	<50	1900		1840	96.8	4/09/06
Nickel	6010B	SOIL	mg/kg	<1.0	100		90.7	90.7	4/09/06
Lead	6010B	SOIL	mg/kg	<0.750	100		93.0	93.0	4/09/06
Selenium	6010B	SOIL	mg/kg	<4.0	100		82.4	82.4	4/09/06
Zinc	6010B	SOIL	mg/kg	<1.0	100		91.9	91.9	4/09/06
Mercury	7471A	SOIL	mg/kg	<0.0333	0.834		0.843	101.1	3/30/06
Acid Generating	EPA600	SOIL	TCaCO3/k	N/A	9.36		8.44	90.2	4/07/06
Acid Neut. Pot.	EPA600	SOIL	TCaCO3/k	N/A	52.0		56.0	107.7	4/07/06
ELECTRICAL COND.	ASA M9	SOIL	mmhos/cm	0.010	0.400		0.420	105.0	4/04/06
pH Paste	ASA M9	SOIL		5.50	8.45		8.42	99.6	4/04/06
Non-Ext Sulfur,S	LECO	SOIL	%	<0.010	N/A			N/A	4/07/06
Pyritic Sulfur,S	LECO	SOIL	%	<0.010	N/A			N/A	4/07/06
Sulfate Sulfur,S	LECO	SOIL	%	<0.010	N/A			N/A	4/07/06
Total Sulfur, S	LECO	SOIL	%	<0.010	0.298		0.270	90.6	4/07/06

LEGEND:

LCS = Laboratory Control Sample LCS %R = LCS Percent Recovery N/A = Not Applicable

SVL ANALYTICAL, INC.

Quality Control Report
Part II Duplicate and Spike Analysis

Client :GALLAGHER & KENNEDY — SVL JOB No: 121809

Test	Method	Mtx	QC SAMPLE ID	Units	Result		Duplicate Found		or	MSD RPD%	Matrix Spike Result	SPK ADD		%R	Analysis Date
Ag	6010B	S	1	mg/kg	<0.50		5.53		M	3.6	5.73	5.00		114.6	4/09/06
Al	6010B	S	1	mg/kg	17200	M3	22000	M3	M	2.2	22500	M3 100		R >4S	4/09/06
As	6010B	S	1	mg/kg	8.09		98.0		M	4.0	102	100		93.9	4/09/06
B	6010B	S	1	mg/kg	4.1		92.8		M	2.6	95.2	100		91.1	4/09/06
Ba	6010B	S	1	mg/kg	271	M2	315	M2	M	4.0	328	M2 100		57.0	4/09/06
Ba	6010B	S	1	mg/kg	271	M2	N/A			N/A	369	100	A	98.0	4/09/06
Be	6010B	S	1	mg/kg	1.08		98.1		M	1.9	100	100		98.9	4/09/06
Ca	6010B	S	1	mg/kg	9900	M3	11800	M3	M	1.7	12000	M3 2000		105.0	4/09/06
Cd	6010B	S	1	mg/kg	0.65		92.9		M	1.0	93.8	100		93.2	4/09/06
Co	6010B	S	1	mg/kg	16.9		107		M	4.6	112	100		95.1	4/09/06
Cr	6010B	S	1	mg/kg	18.9		117		M	1.7	119	100		100.1	4/09/06
Cu	6010B	S	1	mg/kg	60.9	B7	172	B7	M	1.2	174	B7 100		113.1	4/09/06
Fe	6010B	S	1	mg/kg	27900	M3	30100	M3	M	1.0	30400	M3 1000		R >4S	4/09/06
K	6010B	S	1	mg/kg	2560	M1	5080	M1	M	3.1	5240	M1 2000		134.0	4/09/06
K	6010B	S	1	mg/kg	2560	M1	N/A			N/A	4670	2000	A	105.5	4/09/06
Li	6010B	S	1	mg/kg	23.5		129		M	3.8	134	100		110.5	4/09/06
Mn	6010B	S	1	mg/kg	1130	M3	796	M3	M	22.1	994	M3 100		R >4S	4/09/06
Mo	6010B	S	1	mg/kg	2.72		92.4		M	1.0	93.3	100		90.6	4/09/06
Na	6010B	S	1	mg/kg	80		1960		M	3.5	2030	1900		102.6	4/09/06
Ni	6010B	S	1	mg/kg	20.1		118		M	3.3	122	100		101.9	4/09/06
Pb	6010B	S	1	mg/kg	18.7		111		M	0.9	112	100		93.3	4/09/06
Se	6010B	S	1	mg/kg	<4.0		83.9		M	0.6	84.4	100		84.4	4/09/06
Zn	6010B	S	1	mg/kg	159		241		M	1.2	244	100		85.0	4/09/06
Hg	7471A	S	1	mg/kg	<0.0333		0.178		M	0.6	0.177	0.167		106.0	3/30/06
ABP	EPA600	S	1	TCaCO3/	20.5		20.0			2.5	N/A	N/A		N/A	4/07/06
AGP	EPA600	S	1	TCaCO3/	<0.30		<0.30			UDL	N/A	N/A		N/A	4/07/06
ANP	EPA600	S	1	TCaCO3/	20.5		20.0			2.5	N/A	N/A		N/A	4/07/06
EC	ASA M9	S	1	mmhos/c	0.220		0.220			0.0	N/A	N/A		N/A	4/04/06
pH Pst	ASA M9	S	1		7.73		7.73			0.0	N/A	N/A		N/A	4/04/06
S N-EX	LECO	S	1	%	<0.010		<0.010			UDL	N/A	N/A		N/A	4/07/06
S-PYR	LECO	S	1	%	<0.010		<0.010			UDL	N/A	N/A		N/A	4/07/06
S-SO4	LECO	S	1	%	<0.010		<0.010			UDL	N/A	N/A		N/A	4/07/06
S-TOT	LECO	S	1	%	<0.010		<0.010			UDL	N/A	N/A		N/A	4/07/06

LEGEND:

RPD% = (|SAM - DUP| /((SAM + DUP)/2) * 100) UDL = Both SAM & DUP not detected. *Result or *Found: Interference required dilution.

RPD% = (|SPK - MSD| /((SPK + MSD)/2) * 100) M in Duplicate/MSD column indicates MSD.

SPIKE ADD column, A = Post Digest Spike; %R = Percent Recovery N/A = Not Analyzed; R > 4S = Result more than 4X the Spike Added

QC limits for MS recoveries apply only if the spike is at least 1/4 the concentration of the analyte in the sample.

Control limits for the RPD apply only if the concentration of the analyte in the sample is at least five times the reporting limit.

QC Sample 1: SVL SAM No.: 498501 Client Sample ID: TP-55:3-4ft

STANDARD-USE DATA QUALIFIERS

Blanks:

If the target analyte is not detected in the samples, apply the appropriate qualifier to affected analyte in the blank. If analytes are detected, then all associated samples should also be qualified.

B1 = Target analyte detected in method blank at or above the method reporting limit.
B2 = Non-target analyte detected in method blank and sample, producing interference.
B3 = Target analyte detected in calibration blank at or above the method reporting limit.
B4 = Target analyte detected in blank at/above method acceptance criteria.
B5 = Target analyte detected in method blank at or above the method reporting limit, but below trigger level or MCL.
B6 = Target analyte detected in calibration blank at or above the method reporting limit, but below trigger level or MCL.
B7 = Target analyte detected in method blank at or above method reporting limit, but concentration found in the sample was 10 times above the concentration found in the method blank.

Dilution:

If all analytes are reported from the diluted sample, apply the qualifier to the entire sample. Otherwise apply qualifier to each analyte that required dilution.

D1 = Sample required dilution due to matrix.
D2 = Sample required dilution due to high concentration of target analyte.
D3 = Sample dilution required due to insufficient sample.
D4 = Reporting limits (minimum reporting level) adjusted to reflect sample amount received and analyzed.

Estimated concentration:

The appropriate qualifier must be used for any analyte result reported outside the calibration range. Affects data reported outside the calibration range or down to the MDL.

E1 = Concentration estimated. Analyte exceeded calibration range. Reanalysis not possible due to insufficient sample.
E2 = Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E3 = Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to holding time requirements.
E4 = Concentration estimated. Analyte was detected below laboratory minimum reporting level.
E5 = Concentration estimated. Analyte was detected below laboratory minimum reporting level, but not confirmed by alternate analysis.
E6 = Concentration estimated. Internal standard recoveries did not meet method acceptance criteria.
E7 = Concentration estimated. Internal standard recoveries did not meet laboratory acceptance criteria.
E8 = Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Holding Time:
Qualify samples appropriately when method distillation and/or analysis holding time have been exceeded.

H1 = Sample analysis performed past holding time.
H2 = Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3 = Sample was received and analyzed past holding time.
H4 = Sample was distilled past required distillation holding time, but analyzed within analysis holding time.

Laboratory Control Sample (Laboratory Fortified Blank):
The appropriate qualifier must be applied to the affected analytes in the laboratory fortified blank and to all corresponding analytes in the associated samples.

L1 = The associated LCS recovery was above laboratory acceptance limits.
L2 = The associated LCS recovery was below laboratory acceptance limits.
L3 = The associated LCS recovery was above method acceptance limits.
L4 = The associated LCS recovery was below method acceptance limits.
L5 = The associated LCS recovery was outside laboratory acceptance limits, but within method acceptance limits.

Matrix Spike:
The appropriate qualifier must be applied to the affected analytes in the matrix spike and should also be added to all corresponding analytes in the associated spiked sample. If a batch spike recovery is outside of the acceptable range, it is permissible to only flag the sample that was spike and not the other samples in the batch.

M1 = Matrix spike recovery was high, but the LCS recovery was acceptable.
M2 = Matrix spike recovery was low, but the LCS recovery was acceptable.
M3 = The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to spike level. The LCS recovery was acceptable.
M4 = The analysis of the spiked sample required a dilution such that the spike concentration was diluted below the reporting limit. The LCS recovery was acceptable.
M5 = Analyte concentration was determined by the method of standard addition (MSA).

General:
Use for events that cannot be described by the approved data qualifiers.

N1 = See case narrative.
N2 = See corrective action report.

Sample Quality:
Flag samples with appropriate qualifier when sample quality may be potentially impacted or when method requirements were not met.

Q1 = Sample integrity was not maintained.
Q2 = Sample received with headspace.
Q3 = Sample was received with improper chemical preservation.
Q4 = Sample was received and analyzed without chemical preservation.
Q5 = Sample was received with inadequate chemical preservation, but preserved by the laboratory.
Q6 = Sample was received above recommended temperature.
Q7 = Sample was inadequately dechlorinated.
Q9 = Insufficient sample was received to meet method QC requirements.
Q10 = Sample was received in inappropriate sample container.
Q11 = Sample is heterogeneous. Sample homogeneity could not be readily achieved using routine laboratory practices.

Duplicates:
For use with sample, matrix spike, LFB/LCS duplicates. Qualify all affected analytes. For MS/MSD or sample duplicates qualify only the original source sample.

R2 = RPD exceeded the laboratory control limit.
R5 = MS/MSD RPD exceeded the laboratory control limit. Recovery met acceptance criteria.
R6 = LCS/LCSD RPD exceeded the laboratory control limit. Recovery met acceptance criteria.
R9 = Sample RPD exceeded the laboratory control limit.

Method/analyte discrepancies:
For use with methods or analytes that are not currently approved under the Environmental Laboratory Licensure Rules (limited to Arizona).

T1 = Method approved by EPA, but not yet licensed by ADHS.
T2 = Cited ADHS licensed method does not contain this analyte as part of method compound list.
T3 = Method not promulgated either by EPA or ADHS.

Calibration Verification:
Appropriate qualifier must be applied to all affected analytes in any samples associated with the calibration verification.

V1 = CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.
V2 = CCV recovery was above method acceptance limits. This target analyte was detected in the sample. The sample could not be reanalyzed due to insufficient sample.
V3 = CCV recovery was above method acceptance limits. This target analyte was detected in the sample, but the sample was not reanalyzed.
V4 = CCV recovery was below method acceptance limits. The sample could not be reanalyzed due to insufficient sample.

CHAIN OF CUSTODY RECORD

Client: Gallagher + Kennedy / Golder

Contact:

Address:

Phone Number:

FAX Number:

NOTES:

1) Ensure proper container packaging.

2) Ship samples promptly following collection.

* 3) Designate Sample Reject Disposition

PO#:

Project Name:

Table 1. -- Matrix Type

1 = Surface Water, 2 = Ground Water

3 = Soil/Sediment, 4 = Rinsate, 5 = Oil

6 = Waste, 7 = Other (Specify) _____

FOR SVL USE ONLY

SVL JOB # 121609

Samplers Signature:

Lab Name: SVL Analytical, Inc. (208) 784-1258 FAX (208) 783-0891

Address: One Government Gulch, Kellogg, ID 83837-0929

Sample ID	Collection: Date	Collection: Time	Misc: Collected by: (Init.)	Misc: Matrix Type From Table 1	Misc: No. of Containers	Misc: Sample Filtered ? Y/N	Preservative(s): Unpreserved (Ice Only)	Preservative(s): HNO3	Preservative(s): HCL	Preservative(s): H2SO4	Preservative(s): NAOH	Preservative(s): Other (Specify)	Analyses Required: pH/EC ABA 9	Analyses Required: ABA	Analyses Required: NP	Analyses Required: Total Metals	Analyses Required: SPLP Metals	Comments
1. TP-55: 3-4 ft	3-9-06	—	JC	3	1	NA	X						X	X		X		
2. TP-56: 6 ft	3-9-06	↓	↓	↓	↓	↓	↓						X					
3. TP-67: 7-8 ft	3-15-06												X	X		X		
4. TP-68: 9-10 ft	3-15-06												X					
5. TP-69: 0-2 ft	3-15-06												X					
6. TP-71: 2-3 ft	3-16-06												X					
7. TP-73: 2-4 ft	3-16-06												X					
8.	—	—																
9.	—	—																
10.	—	—																

Relinquished by: [signature]	Date: 3-23-06	Time: 1400	Received by: Robin Stribling	Date: 3.27.06	Time: 10:45
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

* Sample Reject: [ ] Return [ ] Dispose [ ] Store (30 Days)

White: LAB COPY Yellow: CUSTOMER COPY

SVL-COC 12/95

Cooler temp N/A 3.27.06 10:45 RS

CHAIN OF CUSTODY RECORD

Client: Gallagher + Kennedy / Golder

Contact:

Address:

Phone Number:

FAX Number:

NOTES:

1) Ensure proper container packaging.

2) Ship samples promptly following collection.

* 3) Designate Sample Reject Disposition

PO#:

Project Name:

Samplers Signature:

Table 1. -- Matrix Type

1 = Surface Water, 2 = Ground Water

3 = Soil/Sediment, 4 = Rinsate, 5 = Oil

6 = Waste, 7 = Other (Specify) _____

FOR SVL USE ONLY

SVL JOB # 121809

Lab Name: SVL Analytical, Inc. (208) 784-1258 FAX (208) 783-0891

Address: One Government Gulch, Kellogg, ID 83837-0929

Sample ID	Collection: Date	Collection: Time	Misc: Collected by: (Init.)	Misc: Matrix Type From Table 1	Misc: No. of Containers	Misc: Sample Filtered ? Y/N	Preservative(s): Unpreserved (Ice Only)	Preservative(s): HNO3	Preservative(s): HCL	Preservative(s): H2SO4	Preservative(s): NAOH	Preservative(s): Other (Specify)	Analyses Required: pH/EC ABA 9	Analyses Required: ABA	Analyses Required: NP	Analyses Required: Total Metals	Analyses Required: SPLP Metals	Comments
1. TP-55: 3-4 ft	3-9-06	—	JC	3	1	NA	X						X	X		X		
2. TP-56: 6 ft	3-9-06												X					
3. TP-67: 7-8 ft	3-15-06												X	X		X		
4. TP-68: 9-10 ft	3-15-06												X					
5. TP-69: 0-2 ft	3-15-06												X					
6. TP-71: 2-3 ft	3-16-06												X					
7. TP-73: 2-4 ft	3-16-06												X					
8.																		
9.																		
10.																		

Relinquished by:		Date: 3-23-06	Time: 1400	Received by: Robin Stribling		Date: 3.27.06	Time: 10.45
Relinquished by:		Date:	Time:	Received by:		Date:	Time:

* Sample Reject: [ ] Return [ ] Dispose [ ] Store (30 Days)

White: LAB COPY Yellow: CUSTOMER COPY

SVL-COC 12/95

cooler temp n/a 3.27.06 10:45 RS.

CHAIN OF CUSTODY RECORD

Client: Gallagher + Kennedy / Golder

Contact:

Address:

Phone Number:

FAX Number:

NOTES:

1) Ensure proper container packaging.

2) Ship samples promptly following collection.

* 3) Designate Sample Reject Disposition

PO#:

Project Name:

Samplers Signature:

Table 1. -- Matrix Type
1 = Surface Water, 2 = Ground Water
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil
6 = Waste, 7 = Other (Specify) _____

FOR SVL USE ONLY

SVL JOB # 121509

Lab Name: SVL Analytical, Inc. (208) 784-1258 FAX (208) 783-0891

Address: One Government Gulch, Kellogg, ID 83837-0929

Sample ID	Collection		Miscellaneous				Preservative(s)						Analyses Required									Comments
	Date	Time	Collected by: (Init.)	Matrix Type From Table 1	No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NAOH	Other (Specify)	8011/EC ABA 9	ABA	NP	Total Metals	SPLP Metals					
1. TP-55: 3-4 ft	3-9-06	—	JC	3	1	NA	X						X	X		X						
2. TP-56: 6 ft	3-9-06												X									
3. TP-67: 7-8 ft	3-15-06												X	X		X						
4. TP-68: 9-10 ft	3-15-06												X									
5. TP-69: 0-2 ft	3-15-06												X									
6. TP-71: 2-3 ft	3-16-06												X									
7. TP-73: 2-4 ft	3-16-06												X									
8.																						
9.																						
10.																						

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[signature]	3-23-06	1400	Robert Bissling	3.27.06	10:45
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

* Sample Reject: | | Return | | Dispose | | Store (30 Days)

White: LAB COPY Yellow: CUSTOMER COPY SVL-COC 12/95

COPY

NOTE:

Please Report to Jen Pepe and Jeffrey Clark at Golder Associates Tucson

jclark@golder.com 4730 N. Oracle Rd Ste 210, Tucson, AZ 85705
jpepe@golder.com 520-888-8818

Total Metals and SPLP metals to Include:

Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Li, Mn, Mo, Na, Ni, Se, Pb, Zn

Methods:

- paste pH/EC by ASA 9
- ABA by Modified Sobek
- NP by Modified Sobek
- Total Metals by 350 Extraction 6010B
- SPLP by EPA 1312
- Saturated paste pH by ASA 10-3.2
- Saturated paste EC by ASA 10-3
- Texture by ASA 15-5

Please retain samples for further analysis.

SAMPLE RECEIPT CONFIRMATION

SVL ANALYTICAL, INC.
One Government Gulch - Kellogg, ID 83837-0929

CLIENT: DALVA MOELLENBERG
GALLAGHER & KENNEDY
2575 E. CAMELBACK ROAD

PHOENIX AZ 85016-9225
FAX: (602)530-8500 PH: (602)530-8223 Fax:

We will invoice: SAME

SOIL METALS,ABA,PH,EC
SVL JOB No: 121809
Received: 3/27/06
Expected Due date: 4/10/06

SVL#	M	ClientID	Sampled	Time	By	Received	Sample Comments
498501	S	TP-55:3-4ft	3/09/06	:	JC	3/27/06	Tests:ABA + Sulfur Forms|pH (PASTE)|EC SOIL|GALLAGHER SOILS|
498502	S	TP-56:6ft	3/09/06	:	JC	3/27/06	Tests:pH (PASTE)|EC SOIL
498503	S	TP-67:7-8ft	3/15/06	:	JC	3/27/06	Tests:ABA + Sulfur Forms|pH (PASTE)|EC SOIL|GALLAGHER SOILS|
498504	S	TP-68:9-10ft	3/15/06	:	JC	3/27/06	Tests:pH (PASTE)|EC SOIL
498505	S	TP-69:0-2ft	3/15/06	:	JC	3/27/06	Tests:pH (PASTE)|EC SOIL
498506	S	TP-71:2-3ft	3/16/06	:	JC	3/27/06	Tests:pH (PASTE)|EC SOIL
498507	S	TP-73:2-4ft	3/16/06	:	JC	3/27/06	Tests:pH (PASTE)|EC SOIL

ADDITIONAL COMMENTS FOR JOB: Sample Cooler/Container temp not measured upon receipt.

[ ] These samples will be DISPOSED 45 days after job completion.
[X] These samples will be ARCHIVED 45 days, then you will receive a letter requesting disposal options.

Please contact Crystal Sevy (208-784-1258) if you have questions regarding the receipt of these samples. 3/27/06 14:06

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-2:0-2ft
Sample Collected: 3/07/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06

SVL JOB: 121810
SAMPLE: 498510

Matrix: SOIL

As Received Basis

Determination	Result	Units	Dilution	Method	Analyzed
ABP	19.4	TCaCO3/1000T		EPA600	4/10/06
Acid Generating	1.9	TCaCO3/1000T		EPA600	4/10/06
Acid Neut. Pot.	21.2	TCaCO3/1000T		EPA600	4/10/06
ELECTRICAL COND.	0.66	mmhos/cm		ASA M9	4/07/06
pH Paste	7.33			ASA M9	4/06/06
Non-Ext Sulfur,S	0.04	%		LECO	4/10/06
Pyritic Sulfur,S	0.06	%		LECO	4/10/06
Sulfate Sulfur,S	0.05	%		LECO	4/10/06
Total Sulfur, S	0.15	%		LECO	4/10/06
Calcium	6810	mg/kg		6010B	4/09/06
Potassium	1410	mg/kg		6010B	4/09/06
Sodium	65	mg/kg		6010B	4/09/06
Silver	<0.50	mg/kg		6010B	4/09/06
Aluminum	6200	mg/kg		6010B	4/09/06
Arsenic	5.5	mg/kg		6010B	4/09/06
Boron	<4.0	mg/kg		6010B	4/09/06
Barium	420	mg/kg		6010B	4/09/06
Beryllium	0.47	mg/kg		6010B	4/09/06
Cadmium	0.32	mg/kg		6010B	4/09/06
Cobalt	8.64	mg/kg		6010B	4/09/06
Chromium	10.4	mg/kg		6010B	4/09/06
Copper	389	mg/kg		6010B	4/09/06
Iron	17800	mg/kg		6010B	4/09/06
Mercury	<0.033	mg/kg		7471A	3/30/06
Lithium	6.1	mg/kg		6010B	4/09/06
Manganese	332	mg/kg		6010B	4/09/06
Molybdenum	25.6	mg/kg		6010B	4/09/06
Nickel	8.3	mg/kg		6010B	4/09/06
Lead	11.1	mg/kg		6010B	4/09/06
Selenium	<4.0	mg/kg		6010B	4/09/06
Zinc	123	mg/kg		6010B	4/09/06

M2:SE,CA M3:AL,FE B7:CU

Reviewed By: _____ Date 4/10/06
4/10/06 13:45

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-2:3-5ft
Sample Collected: 3/07/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06

SVL JOB: 121810
SAMPLE: 498511

Matrix: SOIL

As Received Basis

Determination	Result	Units	Dilution	Method	Analyzed
ABP	-1.3	TCaCO3/1000T		EPA600	4/10/06
Acid Generating	1.3	TCaCO3/1000T		EPA600	4/10/06
Acid Neut. Pot.	<0.3	TCaCO3/1000T		EPA600	4/10/06
ELECTRICAL COND.	1.70	mmhos/cm		ASA M9	4/07/06
pH Paste	4.46			ASA M9	4/06/06
Non-Ext Sulfur,S	0.05	%		LECO	4/10/06
Pyritic Sulfur,S	0.04	%		LECO	4/10/06
Sulfate Sulfur,S	0.46	%		LECO	4/10/06
Total Sulfur, S	0.55	%		LECO	4/10/06
Calcium	3140	mg/kg		6010B	4/09/06
Potassium	1170	mg/kg		6010B	4/09/06
Sodium	68	mg/kg		6010B	4/09/06
Silver	<0.50	mg/kg		6010B	4/09/06
Aluminum	3060	mg/kg		6010B	4/09/06
Arsenic	<2.5	mg/kg		6010B	4/09/06
Boron	<4.0	mg/kg		6010B	4/09/06
Barium	170	mg/kg		6010B	4/09/06
Beryllium	<0.20	mg/kg		6010B	4/09/06
Cadmium	<0.20	mg/kg		6010B	4/09/06
Cobalt	2.75	mg/kg		6010B	4/09/06
Chromium	4.99	mg/kg		6010B	4/09/06
Copper	254	mg/kg		6010B	4/09/06
Iron	14000	mg/kg		6010B	4/09/06
Mercury	<0.033	mg/kg		7471A	3/30/06
Lithium	2.1	mg/kg		6010B	4/09/06
Manganese	57.4	mg/kg		6010B	4/09/06
Molybdenum	32.0	mg/kg		6010B	4/09/06
Nickel	3.1	mg/kg		6010B	4/09/06
Lead	5.4	mg/kg		6010B	4/09/06
Selenium	<4.0	mg/kg		6010B	4/09/06
Zinc	38.8	mg/kg		6010B	4/09/06

M2:SE,CA M3:AL,FE B7:CU

Reviewed By: NSlavin Date 4/10/06
4/10/06 13:45

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-2:5ft
Sample Collected: 3/07/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06

SVL JOB: 121810
SAMPLE: 498512

Matrix: SOIL

As Received Basis

Determination	Result	Units	Dilution	Method	Analyzed
ABP	15.9	TCaCO3/1000T		EPA600	4/10/06
Acid Generating	0.3	TCaCO3/1000T		EPA600	4/10/06
Acid Neut. Pot.	16.2	TCaCO3/1000T		EPA600	4/10/06
ELECTRICAL COND.	1.53	mmhos/cm		ASA M9	4/07/06
pH Paste	6.72			ASA M9	4/06/06
Non-Ext Sulfur,S	<0.01	%		LECO	4/10/06
Pyritic Sulfur,S	0.01	%		LECO	4/10/06
Sulfate Sulfur,S	0.01	%		LECO	4/10/06
Total Sulfur, S	0.02	%		LECO	4/10/06
Calcium	6420	mg/kg		6010B	4/09/06
Potassium	2950	mg/kg		6010B	4/09/06
Sodium	64	mg/kg		6010B	4/09/06
Silver	<0.50	mg/kg		6010B	4/09/06
Aluminum	12900	mg/kg		6010B	4/09/06
Arsenic	2.8	mg/kg		6010B	4/09/06
Boron	<4.0	mg/kg		6010B	4/09/06
Barium	141	mg/kg		6010B	4/09/06
Beryllium	0.92	mg/kg		6010B	4/09/06
Cadmium	0.46	mg/kg		6010B	4/09/06
Cobalt	9.94	mg/kg		6010B	4/09/06
Chromium	16.6	mg/kg		6010B	4/09/06
Copper	73.7	mg/kg		6010B	4/09/06
Iron	24700	mg/kg		6010B	4/09/06
Mercury	<0.033	mg/kg		7471A	3/30/06
Lithium	12.1	mg/kg		6010B	4/09/06
Manganese	571	mg/kg		6010B	4/09/06
Molybdenum	2.52	mg/kg		6010B	4/09/06
Nickel	14.8	mg/kg		6010B	4/09/06
Lead	17.9	mg/kg		6010B	4/09/06
Selenium	<4.0	mg/kg		6010B	4/09/06
Zinc	77.6	mg/kg		6010B	4/09/06

M2:SE,CA M3:AL,FE B7:CU

Reviewed By: _____ Date 4/10/06
4/10/06 13:45

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-2:8-10ft
Sample Collected: 3/07/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06

SVL JOB: 121810
SAMPLE: 498513

Matrix: SOIL

As Received Basis

Determination	Result	Units	Dilution	Method	Analyzed
Acid Neut. Pot.	11.5	TCaCO3/1000T		EPA600	4/10/06
ELECTRICAL COND.	2.06	mmhos/cm		ASA M9	4/07/06
pH Paste	6.97			ASA M9	4/06/06

Reviewed By: N Gillis Date 4/10/06
4/10/06 13:45

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-8:0-2ft
Sample Collected: 3/07/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06 As Received Basis

SVL JOB: 121810
SAMPLE: 498514

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	55.0	TCaCO3/1000T		EPA600	4/10/06
Acid Generating	<0.3	TCaCO3/1000T		EPA600	4/10/06
Acid Neut. Pot.	55.0	TCaCO3/1000T		EPA600	4/10/06
ELECTRICAL COND.	0.74	mmhos/cm		ASA M9	4/07/06
pH Paste	7.62			ASA M9	4/06/06
Non-Ext Sulfur,S	<0.01	%		LECO	4/10/06
Pyritic Sulfur,S	<0.01	%		LECO	4/10/06
Sulfate Sulfur,S	<0.01	%		LECO	4/10/06
Total Sulfur, S	<0.01	%		LECO	4/10/06
Calcium	21600	mg/kg		6010B	4/09/06
Potassium	1740	mg/kg		6010B	4/09/06
Sodium	74	mg/kg		6010B	4/09/06
Silver	<0.50	mg/kg		6010B	4/09/06
Aluminum	8840	mg/kg		6010B	4/09/06
Arsenic	10.4	mg/kg		6010B	4/09/06
Boron	<4.0	mg/kg		6010B	4/09/06
Barium	544	mg/kg		6010B	4/09/06
Beryllium	0.79	mg/kg		6010B	4/09/06
Cadmium	0.73	mg/kg		6010B	4/09/06
Cobalt	10.8	mg/kg		6010B	4/09/06
Chromium	12.9	mg/kg		6010B	4/09/06
Copper	356	mg/kg		6010B	4/09/06
Iron	19600	mg/kg		6010B	4/09/06
Mercury	<0.033	mg/kg		7471A	3/30/06
Lithium	9.6	mg/kg		6010B	4/09/06
Manganese	481	mg/kg		6010B	4/09/06
Molybdenum	5.82	mg/kg		6010B	4/09/06
Nickel	12.5	mg/kg		6010B	4/09/06
Lead	14.8	mg/kg		6010B	4/09/06
Selenium	<4.0	mg/kg		6010B	4/09/06
Zinc	221	mg/kg		6010B	4/09/06

M2:SE,CA M3:AL,FE B7:CU

Reviewed By: NSlunn Date 4/10/06
4/10/06 13:45

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-8:2-4ft
Sample Collected: 3/07/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06 As Received Basis

SVL JOB: 121810
SAMPLE: 498515

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	6.9	TCaCO3/1000T		EPA600	4/10/06
Acid Generating	0.6	TCaCO3/1000T		EPA600	4/10/06
Acid Neut. Pot.	7.5	TCaCO3/1000T		EPA600	4/10/06
ELECTRICAL COND.	0.42	mmhos/cm		ASA M9	4/07/06
pH Paste	6.25			ASA M9	4/06/06
Non-Ext Sulfur,S	0.05	%		LECO	4/10/06
Pyritic Sulfur,S	0.02	%		LECO	4/10/06
Sulfate Sulfur,S	0.20	%		LECO	4/10/06
Total Sulfur, S	0.27	%		LECO	4/10/06
Calcium	1340	mg/kg		6010B	4/09/06
Potassium	926	mg/kg		6010B	4/09/06
Sodium	60	mg/kg		6010B	4/09/06
Silver	<0.50	mg/kg		6010B	4/09/06
Aluminum	2990	mg/kg		6010B	4/09/06
Arsenic	<2.5	mg/kg		6010B	4/09/06
Boron	<4.0	mg/kg		6010B	4/09/06
Barium	217	mg/kg		6010B	4/09/06
Beryllium	<0.20	mg/kg		6010B	4/09/06
Cadmium	<0.20	mg/kg		6010B	4/09/06
Cobalt	3.95	mg/kg		6010B	4/09/06
Chromium	5.29	mg/kg		6010B	4/09/06
Copper	150	mg/kg		6010B	4/09/06
Iron	15600	mg/kg		6010B	4/09/06
Mercury	<0.033	mg/kg		7471A	3/30/06
Lithium	2.0	mg/kg		6010B	4/09/06
Manganese	89.7	mg/kg		6010B	4/09/06
Molybdenum	31.4	mg/kg		6010B	4/09/06
Nickel	3.2	mg/kg		6010B	4/09/06
Lead	6.1	mg/kg		6010B	4/09/06
Selenium	<4.0	mg/kg		6010B	4/09/06
Zinc	43.0	mg/kg		6010B	4/09/06

M2:SE,CA M3:AL,FE B7:CU

Reviewed By: NBlin Date 4/10/06
4/10/06 13:45

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-8:4-6ft
Sample Collected: 3/07/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06

SVL JOB: 121810
SAMPLE: 498516

Matrix: SOIL

As Received Basis

Determination	Result	Units	Dilution	Method	Analyzed
ABP	21.5	TCaCO3/1000T		EPA600	4/10/06
Acid Generating	<0.3	TCaCO3/1000T		EPA600	4/10/06
Acid Neut. Pot.	21.5	TCaCO3/1000T		EPA600	4/10/06
ELECTRICAL COND.	1.96	mmhos/cm		ASA M9	4/07/06
pH Paste	5.85			ASA M9	4/06/06
Non-Ext Sulfur,S	<0.01	%		LECO	4/10/06
Pyritic Sulfur,S	<0.01	%		LECO	4/10/06
Sulfate Sulfur,S	0.04	%		LECO	4/10/06
Total Sulfur, S	0.04	%		LECO	4/10/06
Calcium	9390	mg/kg		6010B	4/09/06
Potassium	1580	mg/kg		6010B	4/09/06
Sodium	76	mg/kg		6010B	4/09/06
Silver	<0.50	mg/kg		6010B	4/09/06
Aluminum	14900	mg/kg		6010B	4/09/06
Arsenic	6.7	mg/kg		6010B	4/09/06
Boron	<4.0	mg/kg		6010B	4/09/06
Barium	280	mg/kg		6010B	4/09/06
Beryllium	1.07	mg/kg		6010B	4/09/06
Cadmium	0.67	mg/kg		6010B	4/09/06
Cobalt	21.1	mg/kg		6010B	4/09/06
Chromium	17.3	mg/kg		6010B	4/09/06
Copper	731	mg/kg		6010B	4/09/06
Iron	23700	mg/kg		6010B	4/09/06
Mercury	<0.033	mg/kg		7471A	3/30/06
Lithium	21.3	mg/kg		6010B	4/09/06
Manganese	1370	mg/kg		6010B	4/09/06
Molybdenum	2.77	mg/kg		6010B	4/09/06
Nickel	18.9	mg/kg		6010B	4/09/06
Lead	11.0	mg/kg		6010B	4/09/06
Selenium	<4.0	mg/kg		6010B	4/09/06
Zinc	219	mg/kg		6010B	4/09/06

M2:SE,CA M3:AL,FE B7:CU

Reviewed By: _____ Date 4/10/06

4/10/06 13:46

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-8:8-10ft
Sample Collected: 3/07/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06

SVL JOB: 121810
SAMPLE: 498517

Matrix: SOIL

As Received Basis

Determination	Result	Units	Dilution	Method	Analyzed
Acid Neut. Pot.	24.0	TCaCO3/1000T		EPA600	4/10/06
ELECTRICAL COND.	1.91	mmhos/cm		ASA M9	4/07/06
pH Paste	7.13			ASA M9	4/06/06

Reviewed By: N/Stein Date 4/10/06
4/10/06 13:46

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-9:0-2ft
Sample Collected: 3/07/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06 As Received Basis

SVL JOB: 121810
SAMPLE: 498518
Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ELECTRICAL COND.	0.41	mmhos/cm		ASA M9	4/07/06
pH Paste	7.20			ASA M9	4/06/06

Reviewed By: N Gillis Date 4/10/06
4/10/06 13:46

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-9:4-5ft
Sample Collected: 3/07/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06

SVL JOB: 121810
SAMPLE: 498519

Matrix: SOIL

As Received Basis

Determination	Result	Units	Dilution	Method	Analyzed
ELECTRICAL COND.	0.29	mmhos/cm		ASA M9	4/07/06
pH Paste	7.74			ASA M9	4/06/06

Reviewed By: _____ Date 4/10/06
4/10/06 13:46

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-9:7-8ft
Sample Collected: 3/07/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06

SVL JOB: 121810
SAMPLE: 498520

Matrix: SOIL

As Received Basis

Determination	Result	Units	Dilution	Method	Analyzed
ELECTRICAL COND.	0.58	mmhos/cm		ASA M9	4/07/06
pH Paste	7.58			ASA M9	4/06/06

Reviewed By: _____ Date 4/10/06
4/10/06 13:46

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-14:2-5ft
Sample Collected: 3/08/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06 As Received Basis

SVL JOB: 121810
SAMPLE: 498521
Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ELECTRICAL COND.	2.57	mmhos/cm		ASA M9	4/07/06
pH Paste	6.83			ASA M9	4/06/06

Reviewed By: _____ Date 4/10/06
4/10/06 13:46

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-14:7-10ft
Sample Collected: 3/08/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06 As Received Basis

SVL JOB: 121810
SAMPLE: 498522

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ELECTRICAL COND.	2.71	mmhos/cm		ASA M9	4/07/06
pH Paste	4.47			ASA M9	4/06/06

Reviewed By: _____ Date 4/10/06
4/10/06 13:46

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-36:0-1ft
Sample Collected: 3/08/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06 As Received Basis

SVL JOB: 121810
SAMPLE: 498523

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	1.6	TCaCO3/1000T		EPA600	4/10/06
Acid Generating	0.9	TCaCO3/1000T		EPA600	4/10/06
Acid Neut. Pot.	2.5	TCaCO3/1000T		EPA600	4/10/06
ELECTRICAL COND.	0.13	mmhos/cm		ASA M9	4/07/06
pH Paste	4.87			ASA M9	4/06/06
Non-Ext Sulfur,S	0.05	%		LECO	4/10/06
Pyritic Sulfur,S	0.03	%		LECO	4/10/06
Sulfate Sulfur,S	0.17	%		LECO	4/10/06
Total Sulfur, S	0.25	%		LECO	4/10/06
Calcium	1060	mg/kg		6010B	4/09/06
Potassium	871	mg/kg		6010B	4/09/06
Sodium	<50	mg/kg		6010B	4/09/06
Silver	<0.50	mg/kg		6010B	4/09/06
Aluminum	2870	mg/kg		6010B	4/09/06
Arsenic	3.1	mg/kg		6010B	4/09/06
Boron	<4.0	mg/kg		6010B	4/09/06
Barium	215	mg/kg		6010B	4/09/06
Beryllium	0.22	mg/kg		6010B	4/09/06
Cadmium	<0.20	mg/kg		6010B	4/09/06
Cobalt	4.47	mg/kg		6010B	4/09/06
Chromium	5.03	mg/kg		6010B	4/09/06
Copper	234	mg/kg		6010B	4/09/06
Iron	12200	mg/kg		6010B	4/09/06
Mercury	<0.033	mg/kg		7471A	3/30/06
Lithium	2.1	mg/kg		6010B	4/09/06
Manganese	126	mg/kg		6010B	4/09/06
Molybdenum	27.3	mg/kg		6010B	4/09/06
Nickel	3.8	mg/kg		6010B	4/09/06
Lead	6.1	mg/kg		6010B	4/09/06
Selenium	<4.0	mg/kg		6010B	4/09/06
Zinc	54.3	mg/kg		6010B	4/09/06

M2:SE,CA M3:AL,FE B7:CU

Reviewed By: _____ Date 4/10/06
4/10/06 13:46

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-36:2-3ft
Sample Collected: 3/08/06
Sample Receipt : 3/27/06
Date of Report : 4/10/06 As Received Basis

SVL JOB: 121810
SAMPLE: 498524

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
Acid Neut. Pot.	175	TCaCO3/1000T		EPA600	4/10/06
ELECTRICAL COND.	0.33	mmhos/cm		ASA M9	4/07/06
pH Paste	7.74			ASA M9	4/06/06

Reviewed By: _____ Date 4/10/06
4/10/06 13:46

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.

Quality Control Report
Part I Prep Blank and Laboratory Control Sample

Client :GALLAGHER & KENNEDY

SVL JOB No: 121810

Analyte	Method	Matrix	Units	Prep Blank	True	LCS	Found	LCS %R	Analysis Date
Silver	6010B	SOIL	mg/kg	<0.50	5.00		5.23	104.6	4/09/06
Aluminum	6010B	SOIL	mg/kg	<3.0	100		106	106.0	4/09/06
Arsenic	6010B	SOIL	mg/kg	<2.50	100		91.3	91.3	4/09/06
Boron	6010B	SOIL	mg/kg	<4.0	100		91.9	91.9	4/09/06
Barium	6010B	SOIL	mg/kg	<0.20	100		99.3	99.3	4/09/06
Beryllium	6010B	SOIL	mg/kg	<0.20	100		95.6	95.6	4/09/06
Calcium	6010B	SOIL	mg/kg	<4.0	2000		1950	97.5	4/09/06
Cadmium	6010B	SOIL	mg/kg	<0.20	100		92.9	92.9	4/09/06
Cobalt	6010B	SOIL	mg/kg	<0.60	100		92.9	92.9	4/09/06
Chromium	6010B	SOIL	mg/kg	<0.60	100		96.4	96.4	4/09/06
Copper	6010B	SOIL	mg/kg	<1.0 B7	100		96.0	96.0	4/09/06
Iron	6010B	SOIL	mg/kg	<6.0	1000		965	96.5	4/09/06
Potassium	6010B	SOIL	mg/kg	<50	2000		1970	98.5	4/09/06
Lithium	6010B	SOIL	mg/kg	<0.50	100		101	101.0	4/09/06
Manganese	6010B	SOIL	mg/kg	<0.40	100		96.2	96.2	4/09/06
Molybdenum	6010B	SOIL	mg/kg	<0.80	100		96.3	96.3	4/09/06
Sodium	6010B	SOIL	mg/kg	<50	1900		1840	96.8	4/09/06
Nickel	6010B	SOIL	mg/kg	<1.0	100		90.7	90.7	4/09/06
Lead	6010B	SOIL	mg/kg	<0.750	100		93.0	93.0	4/09/06
Selenium	6010B	SOIL	mg/kg	<4.0	100		82.4	82.4	4/09/06
Zinc	6010B	SOIL	mg/kg	<1.0	100		91.9	91.9	4/09/06
Mercury	7471A	SOIL	mg/kg	<0.0333	0.834		0.843	101.1	3/30/06
Acid Generating	EPA600	SOIL	TCaCO3/k	N/A	9.36		8.75	93.5	4/10/06
Acid Neut. Pot.	EPA600	SOIL	TCaCO3/k	N/A	52.0		56.0	107.7	4/10/06
ELECTRICAL COND.	ASA M9	SOIL	mmhos/cm	0.010	0.400		0.420	105.0	4/07/06
pH Paste	ASA M9	SOIL		5.50	8.45		8.40	99.4	4/06/06
Non-Ext Sulfur,S	LECO	SOIL	%	<0.010	N/A			N/A	4/10/06
Pyritic Sulfur,S	LECO	SOIL	%	<0.010	N/A			N/A	4/10/06
Sulfate Sulfur,S	LECO	SOIL	%	<0.010	N/A			N/A	4/10/06
Total Sulfur, S	LECO	SOIL	%	<0.010	0.298		0.280	94.0	4/10/06

LEGEND:

LCS = Laboratory Control Sample LCS %R = LCS Percent Recovery N/A = Not Applicable

SVL ANALYTICAL, INC.

Quality Control Report
Part II Duplicate and Spike Analysis

Client :GALLAGHER & KENNEDY — SVL JOB No: 121810

Test	Method	Mtx	QC SAMPLE ID	Units	Result	Duplicate Found	or	MSD RPD%	Matrix Spike Result	SPK ADD		%R	Analysis Date
Ag	6010B	S	1	mg/kg	<0.50	5.78	M	1.2	5.85	5.00		117.0	4/09/06
Al	6010B	S	1	mg/kg	6200 M3	10800 M3	M	0.9	10900 M3	100		R >4S	4/09/06
As	6010B	S	1	mg/kg	5.45	99.6	M	1.2	98.4	100		93.0	4/09/06
B	6010B	S	1	mg/kg	<4.0	94.0	M	0.8	94.8	100		94.8	4/09/06
Ba	6010B	S	1	mg/kg	420	520	M	0.6	517	100		97.0	4/09/06
Be	6010B	S	1	mg/kg	0.47	99.7	M	1.3	101	100		100.5	4/09/06
Ca	6010B	S	1	mg/kg	6810 M2	9000 M2	M	16.2	7650 M2	2000		42.0	4/09/06
Ca	6010B	S	1	mg/kg	6810 M2	N/A		N/A	8370 M2	2000	A	78.0	4/09/06
Cd	6010B	S	1	mg/kg	0.32	96.0	M	0.1	95.9	100		95.6	4/09/06
Co	6010B	S	1	mg/kg	8.64	105	M	0.9	106	100		97.4	4/09/06
Cr	6010B	S	1	mg/kg	10.4	111	M	0.0	111	100		100.6	4/09/06
Cu	6010B	S	1	mg/kg	389 B7	494 B7	M	1.4	487 B7	100		98.0	4/09/06
Fe	6010B	S	1	mg/kg	17800 M3	20400 M3	M	1.0	20600 M3	1000		R >4S	4/09/06
K	6010B	S	1	mg/kg	1410	3890	M	0.5	3910	2000		125.0	4/09/06
Li	6010B	S	1	mg/kg	6.09	112	M	1.8	114	100		107.9	4/09/06
Mn	6010B	S	1	mg/kg	332	351	M	5.6	332	100		0.0	4/09/06
Mn	6010B	S	1	mg/kg	332	N/A		N/A	409	100	A	77.0	4/09/06
Mo	6010B	S	1	mg/kg	25.6	125	M	3.1	129	100		103.4	4/09/06
Na	6010B	S	1	mg/kg	65	2000	M	2.0	2040	1900		103.9	4/09/06
Ni	6010B	S	1	mg/kg	8.3	108	M	0.9	109	100		100.7	4/09/06
Pb	6010B	S	1	mg/kg	11.1	109	M	0.9	110	100		98.9	4/09/06
Se	6010B	S	1	mg/kg	<4.0 M2	87.2 M2	M	1.3	88.3 M2	100		88.3	4/09/06
Zn	6010B	S	1	mg/kg	123	230	M	3.5	222	100		99.0	4/09/06
Hg	7471A	S	1	mg/kg	<0.0333	0.178	M	1.1	0.180	0.167		107.8	3/30/06
ABP	EPA600	S	1	TCaCO3/	19.4	18.7		3.7	N/A	N/A		N/A	4/10/06
AGP	EPA600	S	1	TCaCO3/	1.88	1.25		40.3	N/A	N/A		N/A	4/10/06
ANP	EPA600	S	1	TCaCO3/	21.2	20.0		5.8	N/A	N/A		N/A	4/10/06
EC	ASA M9	S	1	mmhos/c	0.660	0.660		0.0	N/A	N/A		N/A	4/07/06
pH	PstASA M9	S	1		7.33	7.36		0.4	N/A	N/A		N/A	4/06/06
S N-EX	LECO	S	1	%	0.040	0.040		0.0	N/A	N/A		N/A	4/10/06
S-PYR	LECO	S	1	%	0.060	0.040		40.0	N/A	N/A		N/A	4/10/06
S-SO4	LECO	S	1	%	0.050	0.090		57.1	N/A	N/A		N/A	4/10/06
S-TOT	LECO	S	1	%	0.150	0.170		12.5	N/A	N/A		N/A	4/10/06

LEGEND:

RPD% = (|SAM - DUP| /((SAM + DUP)/2) * 100) UDL = Both SAM & DUP not detected. *Result or *Found: Interference required dilution.

RPD% = (|SPK - MSD| /((SPK + MSD)/2) * 100) M in Duplicate/MSD column indicates MSD.

SPIKE ADD column, A = Post Digest Spike; %R = Percent Recovery N/A = Not Analyzed; R > 4S = Result more than 4X the Spike Added

QC limits for MS recoveries apply only if the spike is at least 1/4 the concentration of the analyte in the sample.

Control limits for the RPD apply only if the concentration of the analyte in the sample is at least five times the reporting limit.

QC Sample 1: SVL SAM No.: 498510 Client Sample ID: TP-2:0-2ft

COPY

NOTE:

Please Report to Jen Pepe and Jeffrey Clark at Golder Associates Tucson

jclark@golder.com 4730 N. Oracle Rd Ste 210, Tucson, AZ 85705
jpepe@golder.com 520-888-8818

Total Metals and SPLP metals to Include:

Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Li, Mn, Mo, Na, Ni, Se, Pb, Zn

Methods:

- paste pH/EC by ASA 9
- ABA by Modified Sobek
- NP by Modified Sobek
- Total Metals by 350 Extraction 6010B
- SPLP by EPA 1312
- Saturated paste pH by ASA 10-3.2
- Saturated paste EC by ASA 10-3
- Texture by ASA 15-5

Please retain samples for further analysis.

STANDARD-USE DATA QUALIFIERS

Blanks:

If the target analyte is not detected in the samples, apply the appropriate qualifier to affected analyte in the blank. If analytes are detected, then all associated samples should also be qualified.

B1 = Target analyte detected in method blank at or above the method reporting limit.
B2 = Non-target analyte detected in method blank and sample, producing interference.
B3 = Target analyte detected in calibration blank at or above the method reporting limit.
B4 = Target analyte detected in blank at/above method acceptance criteria.
B5 = Target analyte detected in method blank at or above the method reporting limit, but below trigger level or MCL.
B6 = Target analyte detected in calibration blank at or above the method reporting limit, but below trigger level or MCL.
B7 = Target analyte detected in method blank at or above method reporting limit, but concentration found in the sample was 10 times above the concentration found in the method blank.

Dilution:

If all analytes are reported from the diluted sample, apply the qualifier to the entire sample. Otherwise apply qualifier to each analyte that required dilution.

D1 = Sample required dilution due to matrix.
D2 = Sample required dilution due to high concentration of target analyte.
D3 = Sample dilution required due to insufficient sample.
D4 = Reporting limits (minimum reporting level) adjusted to reflect sample amount received and analyzed.

Estimated concentration:

The appropriate qualifier must be used for any analyte result reported outside the calibration range. Affects data reported outside the calibration range or down to the MDL.

E1 = Concentration estimated. Analyte exceeded calibration range. Reanalysis not possible due to insufficient sample.
E2 = Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E3 = Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to holding time requirements.
E4 = Concentration estimated. Analyte was detected below laboratory minimum reporting level.
E5 = Concentration estimated. Analyte was detected below laboratory minimum reporting level, but not confirmed by alternate analysis.
E6 = Concentration estimated. Internal standard recoveries did not meet method acceptance criteria.
E7 = Concentration estimated. Internal standard recoveries did not meet laboratory acceptance criteria.
E8 = Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Holding Time:
Qualify samples appropriately when method distillation and/or analysis holding time have been exceeded.

H1 = Sample analysis performed past holding time.
H2 = Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3 = Sample was received and analyzed past holding time.
H4 = Sample was distilled past required distillation holding time, but analyzed within analysis holding time.

Laboratory Control Sample (Laboratory Fortified Blank):
The appropriate qualifier must be applied to the affected analytes in the laboratory fortified blank and to all corresponding analytes in the associated samples.

L1 = The associated LCS recovery was above laboratory acceptance limits.
L2 = The associated LCS recovery was below laboratory acceptance limits.
L3 = The associated LCS recovery was above method acceptance limits.
L4 = The associated LCS recovery was below method acceptance limits.
L5 = The associated LCS recovery was outside laboratory acceptance limits, but within method acceptance limits.

Matrix Spike:
The appropriate qualifier must be applied to the affected analytes in the matrix spike and should also be added to all corresponding analytes in the associated spiked sample. If a batch spike recovery is outside of the acceptable range, it is permissible to only flag the sample that was spike and not the other samples in the batch.

M1 = Matrix spike recovery was high, but the LCS recovery was acceptable.
M2 = Matrix spike recovery was low, but the LCS recovery was acceptable.
M3 = The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to spike level. The LCS recovery was acceptable.
M4 = The analysis of the spiked sample required a dilution such that the spike concentration was diluted below the reporting limit. The LCS recovery was acceptable.
M5 = Analyte concentration was determined by the method of standard addition (MSA).

General:
Use for events that cannot be described by the approved data qualifiers.

N1 = See case narrative.
N2 = See corrective action report.

Sample Quality:
Flag samples with appropriate qualifier when sample quality may be potentially impacted or when method requirements were not met.

Q1 = Sample integrity was not maintained.
Q2 = Sample received with headspace.
Q3 = Sample was received with improper chemical preservation.
Q4 = Sample was received and analyzed without chemical preservation.
Q5 = Sample was received with inadequate chemical preservation, but preserved by the laboratory.
Q6 = Sample was received above recommended temperature.
Q7 = Sample was inadequately dechlorinated.
Q9 = Insufficient sample was received to meet method QC requirements.
Q10 = Sample was received in inappropriate sample container.
Q11 = Sample is heterogeneous. Sample homogeneity could not be readily achieved using routine laboratory practices.

Duplicates:
For use with sample, matrix spike, LFB/LCS duplicates. Qualify all affected analytes. For MS/MSD or sample duplicates qualify only the original source sample.

R2 = RPD exceeded the laboratory control limit.
R5 = MS/MSD RPD exceeded the laboratory control limit. Recovery met acceptance criteria.
R6 = LCS/LCSD RPD exceeded the laboratory control limit. Recovery met acceptance criteria.
R9 = Sample RPD exceeded the laboratory control limit.

Method/analyte discrepancies:
For use with methods or analytes that are not currently approved under the Environmental Laboratory Licensure Rules (limited to Arizona).

T1 = Method approved by EPA, but not yet licensed by ADHS.
T2 = Cited ADHS licensed method does not contain this analyte as part of method compound list.
T3 = Method not promulgated either by EPA or ADHS.

Calibration Verification:
Appropriate qualifier must be applied to all affected analytes in any samples associated with the calibration verification.

V1 = CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.
V2 = CCV recovery was above method acceptance limits. This target analyte was detected in the sample. The sample could not be reanalyzed due to insufficient sample.
V3 = CCV recovery was above method acceptance limits. This target analyte was detected in the sample, but the sample was not reanalyzed.
V4 = CCV recovery was below method acceptance limits. The sample could not be reanalyzed due to insufficient sample.

SVL ANALYTICAL

cooler temp N/A 3.27.06 10:45 RS

CHAIN OF CUSTODY RECORD

Client: Gallagher & Kennedy / Boldt

Contact:

Address:

Phone Number:

FAX Number:

NOTES:

1) Ensure proper container packaging.

2) Ship samples promptly following collection.

* 3) Designate Sample Reject Disposition

PO#:

Project Name:

Samplers Signature:

Table 1. – Matrix Type

1 = Surface Water, 2 = Ground Water

3 = Soil/Sediment, 4 = Rinsate, 5 = Oil

6 = Waste, 7 = Other (Specify) _____

FOR SVL USE ONLY

SVL JOB # 121810

Lab Name: SVL Analytical, Inc. (208) 784-1258 FAX (208) 783-0891

Address: One Government Gulch, Kellogg, ID 83837-0929

Sample ID	Collection: Date	Collection: Time	Misc: Collected by: (Init.)	Misc: Matrix Type From Table 1	Misc: No. of Containers	Misc: Sample Filtered ? Y/N	Preservative(s): Unpreserved (Ice Only)	Preservative(s): HNO3	Preservative(s): HCL	Preservative(s): H2SO4	Preservative(s): NAOH	Preservative(s): Other (Specify)	Analyses Required: pH/EC ABA Q	Analyses Required: ABA	Analyses Required: ND	Analyses Required: Total Metals	Analyses Required: SPLP Metals	Comments
1. TP-8: 9-10 ft	3-7-06		JC	3	1	NA	X						X		X			
2. TP-9: 0-2 ft	3-7-06												X					
3. TP-9: 4-5 ft	↓												X					
4. TP-9: 7-8 ft	↓												X					
5. TP-13: 0-2 ft	3-8-06																	Hold
6. TP-14: 2-5 ft	3-8-06												X					
7. TP-14: 7-10 ft	↓												X					
8. TP-36: 0-1 ft	3-8-06												X	X		X		
9. TP-36: 2-3 ft	↓												X		X			
10. TP-54: 0-2 ft	3-9-06																	Hold

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[signature]	3-13-06	1400	Robin Stribling	3.27.06	10:45
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

* Sample Reject: [ ] Return [ ] Dispose [ ] Store (30 Days)

White: LAB COPY Yellow: CUSTOMER COPY

SVL-COC 12/95

Cooler temp n/A 3.27.06 10:45 RS

1 of 4

CHAIN OF CUSTODY RECORD SEE Attached

Page ~~1~~ of ~~39~~

Client: Gallagher + Kennedy / Golder
Contact: Mr. Dalva Moellenberg
Address: 2575 East Camelback Rd
Phoenix, Az 85016
Phone Number: Golder: 520 888 8818
FAX Number: Golder: 520 888 8817

NOTES: Also Report to Jen Pepe Golder Associates Tucson

1) Ensure proper container packaging.
2) Ship samples promptly following collection.
* 3) Designate Sample Reject Disposition

PO#: 063562
Project Name: Apache Tejo

Table 1. -- Matrix Type
1 = Surface Water, 2 = Ground Water
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil
6 = Waste, 7 = Other (Specify) _____

Samplers Signature:

FOR SVL USE ONLY
SVL JOB # 121812

Lab Name: SVL Analytical, Inc. (208) 784-1258 FAX (208) 783-0891
Address: One Government Gulch, Kellogg, ID 83837-0929

Sample ID	Collection: Date	Collection: Time	Misc: Collected by: (Init.)	Misc: Matrix Type From Table 1	Misc: No. of Containers	Misc: Sample Filtered ? Y/N	Preservative(s): Unpreserved (Ice Only)	Preservative(s): HNO3	Preservative(s): HCL	Preservative(s): H2SO4	Preservative(s): NAOH	Preservative(s): Other (Specify)	Analyses Required: Paste pH - ASA Mana 9	Analyses Required: EC - ASA Mana 9	Analyses Required: ABA - Modified Sobek	Analyses Required: NP - Modified Sobek	Analyses Required: Metals - 3050 Extraction 6010 B	Analyses Required: SPLP Metals 1312	Comments
1. TP-2: 0-2 ft	3-7-06	—	JC	3	1	N	X						X	X	X		X		
2. TP-2: 3-5 ft	↓	↓	↓	↓	↓	↓	X						X	X	X		X	X	
3. TP-2: 5 ft							X						X	X	X		X		
4. TP-2: 8-10 ft							X						X	X		X			
5. TP-3: 0-2 ft	3-7-06						X												Hold
6. TP-3: 2-4 ft	↓						X												Hold
7. TP-4: 0-2 ft	3-7-06						X												Hold
8. TP-8: 0-2 ft	3-7-06						X						X	X	X		X		
9. TP-8: 2-4 ft	↓						X						X	X	X		X	X	
10. TP-8: 4-6 ft	↓	↓	↓	↓	↓	↓	X						X	X	X		X		

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Arthur A Clow	3-23-06	1400	Robin Stribling	3.27.06	10:45
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

* Sample Reject: | | Return | | Dispose | | Store (30 Days)

White: LAB COPY Yellow: CUSTOMER COPY

SVL-COC 12/95

SAMPLE RECEIPT CONFIRMATION

SVL ANALYTICAL, INC.
One Government Gulch - Kellogg, ID 83837-0929

CLIENT: DALVA MOELLENBERG
GALLAGHER & KENNEDY
2575 E. CAMELBACK ROAD

PHOENIX AZ 85016-9225
FAX: (602)530-8500 PH: (602)530-8223 Fax:

We will invoice: SAME

SOIL METALS,PH,ABA
SVL JOB No: 121810
Received: 3/27/06
Expected Due date: 4/10/06

SVL#	M	ClientID	Sampled	Time	By	Received	Sample Comments
498510	S	TP-2:0-2ft	3/07/06	:	JC	3/27/06	Tests:ABA + Sulfur Forms|GALLAGHER SOILS|EC SOIL|pH (PASTE)|
498511	S	TP-2:3-5ft	3/07/06	:	JC	3/27/06	Tests:ABA + Sulfur Forms|GALLAGHER SOILS|EC SOIL|pH (PASTE)|
498512	S	TP-2:5ft	3/07/06	:	JC	3/27/06	Tests:ABA + Sulfur Forms|GALLAGHER SOILS|EC SOIL|pH (PASTE)|
498513	S	TP-2:8-10ft	3/07/06	:	JC	3/27/06	Tests:ABA + Sulfur Forms|GALLAGHER SOILS|EC SOIL|pH (PASTE)|
498514	S	TP-8:0-2ft	3/07/06	:	JC	3/27/06	Tests:ANP|EC SOIL|pH (PASTE)|
498515	S	TP-8:2-4ft	3/07/06	:	JC	3/27/06	Tests:ABA + Sulfur Forms|GALLAGHER SOILS|EC SOIL|pH (PASTE)|
498516	S	TP-8:4-6ft	3/07/06	:	JC	3/27/06	Tests:ABA + Sulfur Forms|GALLAGHER SOILS|EC SOIL|pH (PASTE)|
498517	S	TP-8:8-10ft	3/07/06	:	JC	3/27/06	Tests:ABA + Sulfur Forms|GALLAGHER SOILS|EC SOIL|pH (PASTE)|
498518	S	TP-9:0-2ft	3/07/06	:	JC	3/27/06	Tests:ANP|EC SOIL|pH (PASTE)|
498519	S	TP-9:4-5ft	3/07/06	:	JC	3/27/06	Tests:EC SOIL|pH (PASTE)|
498520	S	TP-9:7-8ft	3/07/06	:	JC	3/27/06	Tests:EC SOIL|pH (PASTE)|
498521	S	TP-14:2-5ft	3/08/06	:	JC	3/27/06	Tests:EC SOIL|pH (PASTE)|
498522	S	TP-14:7-10ft	3/08/06	:	JC	3/27/06	Tests:EC SOIL|pH (PASTE)|
498523	S	TP-36:0-1ft	3/08/06	:	JC	3/27/06	Tests:ABA + Sulfur Forms|GALLAGHER SOILS|EC SOIL|pH (PASTE)|
498524	S	TP-36:2-3ft	3/08/06	:	JC	3/27/06	Tests:ANP|EC SOIL|pH (PASTE)|

ADDITIONAL COMMENTS FOR JOB: Sample Cooler/Container temp not measured upon receipt.

[ ] These samples will be DISPOSED 45 days after job completion.
[X] These samples will be ARCHIVED 45 days, then you will receive a letter requesting disposal options.

Please contact Crystal Sevy (208-784-1258) if you have questions regarding the receipt of these samples. 3/27/06 14:58

APPENDIX A-4
SPLP DATA

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-2:3-5ft
Sample Collected: 3/07/06
Sample Receipt : 3/27/06
Date of Report : 4/11/06

SVL JOB: 121807
SAMPLE: 498490

Matrix: ESOIL
Extraction: SPLP

Determination	Result	Units	Dilution	Method	Analyzed
Calcium	12.1	mg/L Ext		6010B	4/10/06
Potassium	1.78	mg/L Ext		6010B	4/10/06
Sodium	5.93	mg/L Ext		6010B	4/10/06
Silver	<0.0050	mg/L Ext		6010B	4/10/06
Aluminum	0.88	mg/L Ext		6010B	4/10/06
Arsenic	<0.025	mg/L Ext		6010B	4/10/06
Boron	0.059	mg/L Ext		6010B	4/10/06
Barium	0.0234	mg/L Ext		6010B	4/10/06
Beryllium	<0.0020	mg/L Ext		6010B	4/10/06
Cadmium	<0.0020	mg/L Ext		6010B	4/10/06
Cobalt	<0.0060	mg/L Ext		6010B	4/10/06
Chromium	<0.0060	mg/L Ext		6010B	4/10/06
Copper	0.042	mg/L Ext		6010B	4/10/06
Iron	1.22	mg/L Ext		6010B	4/10/06
Mercury	<0.00020	mg/L Ext		7470A	4/10/06
Lithium	<0.005	mg/L Ext		6010B	4/10/06
Manganese	0.008	mg/L Ext		6010B	4/10/06
Molybdenum	0.123	mg/L Ext		6010B	4/10/06
Nickel	<0.010	mg/L Ext		6010B	4/10/06
Lead	<0.008	mg/L Ext		6010B	4/10/06
Selenium	<0.040	mg/L Ext		6010B	4/10/06
Zinc	0.013	mg/L Ext		6010B	4/10/06

Tests:GALL/KENN SPLP|

Reviewed By: _____ Date 4/11/06
4/11/06 15:50

AZ: AZ0538 CA: NO. 2080 CO: 9/1/05 ID: ID00019 MT: 6/6/05 NV: 8/1/05 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT: 0632562
CLIENT SAMPLE ID: TP-8:2-4ft
Sample Collected: 3/07/06
Sample Receipt : 3/27/06
Date of Report : 4/11/06

SVL JOB: 121807
SAMPLE: 498491

Matrix: ESOIL
Extraction: SPLP

Determination	Result	Units	Dilution	Method	Analyzed
Calcium	3.87	mg/L Ext		6010B	4/10/06
Potassium	<0.50	mg/L Ext		6010B	4/10/06
Sodium	4.48	mg/L Ext		6010B	4/10/06
Silver	<0.0050	mg/L Ext		6010B	4/10/06
Aluminum	0.75	mg/L Ext		6010B	4/10/06
Arsenic	<0.025	mg/L Ext		6010B	4/10/06
Boron	0.063	mg/L Ext		6010B	4/10/06
Barium	0.0249	mg/L Ext		6010B	4/10/06
Beryllium	<0.0020	mg/L Ext		6010B	4/10/06
Cadmium	<0.0020	mg/L Ext		6010B	4/10/06
Cobalt	<0.0060	mg/L Ext		6010B	4/10/06
Chromium	<0.0060	mg/L Ext		6010B	4/10/06
Copper	0.027	mg/L Ext		6010B	4/10/06
Iron	2.86	mg/L Ext		6010B	4/10/06
Mercury	<0.00020	mg/L Ext		7470A	4/10/06
Lithium	<0.005	mg/L Ext		6010B	4/10/06
Manganese	<0.004	mg/L Ext		6010B	4/10/06
Molybdenum	0.0113	mg/L Ext		6010B	4/10/06
Nickel	<0.010	mg/L Ext		6010B	4/10/06
Lead	<0.008	mg/L Ext		6010B	4/10/06
Selenium	<0.040	mg/L Ext		6010B	4/10/06
Zinc	0.012	mg/L Ext		6010B	4/10/06

Tests:GALL/KENN SPLP

Reviewed By: _____ Date 4/11/06
4/11/06 15:50

SVL ANALYTICAL, INC.

Quality Control Report
Part I Prep Blank and Laboratory Control Sample

Client :GALLAGHER & KENNEDY

SVL JOB No: 121807

Analyte	Method	Matrix	Units	Prep Blank	True	LCS	Found	LCS %R	Analysis Date
Silver	6010B	ESOIL	mg/L Ext	<0.0050	0.0500		0.0530	106.0	4/10/06
Aluminum	6010B	ESOIL	mg/L Ext	<0.03	1.00		1.00	100.0	4/10/06
Arsenic	6010B	ESOIL	mg/L Ext	<0.025	1.00		0.964	96.4	4/10/06
Boron	6010B	ESOIL	mg/L Ext	<0.040	1.00		0.984	98.4	4/10/06
Barium	6010B	ESOIL	mg/L Ext	<0.0020	1.00		0.980	98.0	4/10/06
Beryllium	6010B	ESOIL	mg/L Ext	<0.0020	1.00		0.973	97.3	4/10/06
Calcium	6010B	ESOIL	mg/L Ext	<0.04	20.0		19.4	97.0	4/10/06
Cadmium	6010B	ESOIL	mg/L Ext	<0.0020	1.00		0.958	95.8	4/10/06
Cobalt	6010B	ESOIL	mg/L Ext	<0.0060	1.00		0.951	95.1	4/10/06
Chromium	6010B	ESOIL	mg/L Ext	<0.0060	1.00		0.985	98.5	4/10/06
Copper	6010B	ESOIL	mg/L Ext	<0.010	1.00		0.976	97.6	4/10/06
Iron	6010B	ESOIL	mg/L Ext	<0.060	10.0		9.64	96.4	4/10/06
Potassium	6010B	ESOIL	mg/L Ext	<0.50	20.0		19.3	96.5	4/10/06
Lithium	6010B	ESOIL	mg/L Ext	<0.005	1.00		0.947	94.7	4/10/06
Manganese	6010B	ESOIL	mg/L Ext	<0.004	1.00		0.954	95.4	4/10/06
Molybdenum	6010B	ESOIL	mg/L Ext	<0.0080	1.00		0.979	97.9	4/10/06
Sodium	6010B	ESOIL	mg/L Ext	<0.50	19.0		18.1	95.3	4/10/06
Nickel	6010B	ESOIL	mg/L Ext	<0.010	1.00		0.955	95.5	4/10/06
Lead	6010B	ESOIL	mg/L Ext	<0.008	1.00		0.954	95.4	4/10/06
Selenium	6010B	ESOIL	mg/L Ext	<0.040	1.00		0.919	91.9	4/10/06
Zinc	6010B	ESOIL	mg/L Ext	<0.010	1.00		0.945	94.5	4/10/06
Mercury	7470A	ESOIL	mg/L Ext	<0.00020	0.00500		0.00526	105.2	4/10/06

LEGEND:
LCS = Laboratory Control Sample LCS %R = LCS Percent Recovery N/A = Not Applicable

SVL ANALYTICAL, INC.

Quality Control Report
Part II Duplicate and Spike Analysis

Client :GALLAGHER & KENNEDY — SVL JOB No: 121807

Test	Method	Mtx	QC SAMPLE ID	Units	Result	Duplicate Found	or	MSD RPD%	Matrix Spike Result	Matrix Spike SPK ADD	%R	Analysis Date
Ag	6010B	E	1	mg/L Ex	<0.0050	0.0539	M	4.4	0.0516	0.0500	103.2	4/10/06
Al	6010B	E	1	mg/L Ex	0.88	2.14	M	3.3	2.07	1.00	119.0	4/10/06
As	6010B	E	1	mg/L Ex	<0.025	0.991	M	5.5	0.938	1.00	93.8	4/10/06
B	6010B	E	1	mg/L Ex	0.059	1.07	M	2.8	1.04	1.00	98.1	4/10/06
Ba	6010B	E	1	mg/L Ex	0.0234	1.04	M	5.4	0.985	1.00	96.2	4/10/06
Be	6010B	E	1	mg/L Ex	<0.0020	0.986	M	3.3	0.954	1.00	95.4	4/10/06
Ca	6010B	E	1	mg/L Ex	12.1	31.5	M	3.2	30.5	20.0	92.0	4/10/06
Cd	6010B	E	1	mg/L Ex	<0.0020	0.975	M	4.9	0.928	1.00	92.8	4/10/06
Co	6010B	E	1	mg/L Ex	<0.0060	0.967	M	4.8	0.922	1.00	92.2	4/10/06
Cr	6010B	E	1	mg/L Ex	<0.0060	1.01	M	5.0	0.961	1.00	96.1	4/10/06
Cu	6010B	E	1	mg/L Ex	0.042	1.03	M	3.5	0.995	1.00	95.3	4/10/06
Fe	6010B	E	1	mg/L Ex	1.22	11.1	M	3.7	10.7	10.0	94.8	4/10/06
K	6010B	E	1	mg/L Ex	1.78	21.4	M	3.3	20.7	20.0	94.6	4/10/06
Li	6010B	E	1	mg/L Ex	<0.005	0.960	M	3.2	0.930	1.00	93.0	4/10/06
Mn	6010B	E	1	mg/L Ex	0.008	0.990	M	4.2	0.949	1.00	94.1	4/10/06
Mo	6010B	E	1	mg/L Ex	0.123	1.13	M	4.5	1.08	1.00	95.7	4/10/06
Na	6010B	E	1	mg/L Ex	5.93	24.1	M	2.5	23.5	19.0	92.5	4/10/06
Ni	6010B	E	1	mg/L Ex	<0.010	0.945	M	4.4	0.904	1.00	90.4	4/10/06
Pb	6010B	E	1	mg/L Ex	<0.008	0.986	M	5.1	0.937	1.00	93.7	4/10/06
Se	6010B	E	1	mg/L Ex	<0.040	0.945	M	5.4	0.895	1.00	89.5	4/10/06
Zn	6010B	E	1	mg/L Ex	0.013	0.974	M	5.2	0.925	1.00	91.2	4/10/06
Hg	7470A	E	1	mg/L Ex	0.00020	0.00105	M	1.9	0.00103	0.0010	83.0	4/10/06

LEGEND:

RPD% = (|SAM - DUP| /((SAM + DUP)/2) * 100) UDL = Both SAM & DUP not detected. *Result or *Found: Interference required dilution.

RPD% = (|SPK - MSD| /((SPK + MSD)/2) * 100) M in Duplicate/MSD column indicates MSD.

SPIKE ADD column, A = Post Digest Spike; %R = Percent Recovery N/A = Not Analyzed; R > 4S = Result more than 4X the Spike Added

QC limits for MS recoveries apply only if the spike is at least 1/4 the concentration of the analyte in the sample.

Control limits for the RPD apply only if the concentration of the analyte in the sample is at least five times the reporting limit.

QC Sample 1: SVL SAM No.: 498490 Client Sample ID: TP-2:3-5ft

SPLP Extraction Log

JOB#: 121807

SVL ANALYTICAL, INC.

CASE #: SAS #: SDG #:

SVL#	M	ClientID	Fluid Type	mls Fluid	Sample Wt.	Tumble Ext. Time	Final pH
		pH 4 Buffer					4.00
		pH 7 Buffer					7.02
498489	ES	EXTRACTION FLUID	WESTERN				5.00
498490	ES	TP-2:3-5ft	FLUID	2000 mls	100g	18HR	8.66
498491	ES	TP-8:2-4ft	↓	2000 mls	100g	18HR	7.62

Extraction Started By: JA Date/Time: 04/06/06 1400

Extraction Completed By: JA Date/Time: 04/07/06 0800

Client: GALLAGHER & KENNEDY

Received: 3/27/06

v3.0

SVL ANALYTICAL, INC.
SAMPLE RECEIPT CONFIRMATION One Government Gulch - Kellogg, ID 83837-0929

CLIENT: DALVA MOELLENBERG
GALLAGHER & KENNEDY
2575 E. CAMELBACK ROAD
PHOENIX AZ 85016-9225
FAX: (602)530-8500 PH: (602)530-8223 Fax:

We will invoice: SAME

SOIL SPLP METALS
SVL JOB No: 121807
Received: 3/27/06
Expected Due date: 4/10/06

SVL#	M	ClientID	Sampled	Time	By	Received	Sample Comments
498489	E	EXTRACTION FLUID	/ /	:		3/27/06	Tests:GALL/KENN SPLP
498490	E	TP-2:3-5ft	3/07/06	:	JC	3/27/06	Tests:GALL/KENN SPLP
498491	E	TP-8:2-4ft	3/07/06	:	JC	3/27/06	Tests:GALL/KENN SPLP

ADDITIONAL COMMENTS FOR JOB:

[ ] These samples will be DISPOSED 45 days after job completion.
[X] These samples will be ARCHIVED 45 days, then you will receive a letter requesting disposal options.

Please contact Crystal Sevy (208-784-1258) if you have questions regarding the receipt of these samples. 3/27/06 15:14

NOTE:

Please Report to Jen Pepe and Jeffrey Clark at Golder Associates Tucson
jclark@golder.com 4730 N. Oracle Rd Ste 210, Tucson, AZ 85705
jpepe@golder.com 520-888-8818

Total Metals and SPLP metals to Include:
Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Li, Mn, Mo, Na, Ni, Se, Pb, Zn

Methods:
paste pH/EC by ASA 9
ABA by Modified Sobek
NP by Modified Sobek
Total Metals by 350 Extraction 6010B
SPLP by EPA 1312
Saturated paste pH by ASA 10-3.2
Saturated paste EC by ASA 10-3
Texture by ASA 15-5

Please retain samples for further analysis.

APPENDIX B

Channel Characterization Data

APPENDIX B-1
SAMPLING AND ANALYSIS

Appendix B1 – Channel Solids Sampling and Analysis

This appendix summarizes the field data collection and laboratory analyses performed for the Apache Tejo Wash channel. A one-time sampling event was conducted between October 8, 2006 and October 9, 2006 by Melanie Maguire and Kent Johnejack of the Golder Associates Inc. (Golder) Tucson, Arizona office. A total of 24 samples were collected from 11 locations:

- Surface tailing – 4 samples,
- Buried tailing – 5 samples,
- Overlying sediment – 10 samples
- Underlying sediment – 1 sample,
- Overlying stained sediment – 2 samples, and
- Underlying stained sediment – 2 samples.

A description of the sample types and sampling rationale is presented in Section 3.2 of the main text of this report. Sample locations are shown on Figure 14 of the main text.

Samples were point (grab) samples collected from hand-dug holes. All samples were collected by hand (using disposable nitrile gloves) directly into 1-gallon Ziploc™ bags and stored in an iced cooler pending shipment to the laboratory. The project number, sample number, date, and sampler's initials were written on the outside of the sample bag. Samples were stored in coolers, on ice, until shipment to the laboratory. All samples were shipped under chain of custody.

Channel samples were selected judgmentally, in the field, based on visual identification of tailing, "clean" sediment, and stained sediment. Sample locations were mapped using an aerial photograph and verified using a handheld GPS unit, photographed. Each sample location was photographed, described and sketched in field notes. Sample descriptions are provided in Appendix B2.

Samples were analyzed by SVL Analytical of Kellogg, Idaho for:

- Paste pH by ASA Monograph 9,
- Paste electrical conductivity by ASA Monograph 9,
- Acid base accounting (ABA) and sulfur forms by the Modified Sobek method,
- Total metals analysis by SW-846 Method 3050/6010B, and
- Sythethic Precipitation Leaching Procedure (SPLP) by United States Environmental Protection Agency Method 1312.

Samples were air dried and crushed to 3/8-inch according to SPLP Method 1312. A sub-sample was then pulverized to -160 mesh (approximately 0.09 millimeters) for ABA testing. Total metals analysis was performed on the bulk sample as received.

Total metals and SPLP analysis included aluminum, arsenic, boron, barium, beryllium, calcium, cadmium, cobalt, chromium, copper, iron, mercury, lead, lithium, manganese, molybdenum, nickel, potassium, selenium, silver, sodium, and zinc. Table B1 lists the laboratory methods and practical quantitation limits. Laboratory data packages are compiled in Appendices B3 and B4.

Table B-1: List of Constituents and Practical Quantitation Limits for Total Metals and SPLP Analysis

Analyte	Total Metals		SPLP	
	Method	Practical Quantitation Limit (mg/kg)	Method	Practical Quantitation Limit (mg/L)
Aluminum (Al)	6010B	8	6010B	0.08
Arsenic (As)	6010B	2.5	6010B	0.025
Barium (Ba)	6010B	0.2	6010B	0.002
Beryllium (Be)	6010B	0.2	6010B	0.002
Boron (B)	6010B	4	6010B	0.04
Cadmium (Cd)	6010B	0.2	6010B	0.002
Calcium (Ca)	6010B	4	6010B	0.04
Chromium (Cr)	6010B	0.6	6010B	0.006
Cobalt (Co)	6010B	0.6	6010B	0.006
Copper (Cu)	6020	1	6020	0.01
Cyanide	6010B	0.5	6010B	0.01
Cyanide	6010B	0.5	6010B	0.01
Iron (Fe)	6010B	6	6010B	0.06
Lead (Pb)	6010B	0.75	6010B	0.0075
Lithium (Li)	6010B	2	6010B	0.02
Manganese (Mn)	6010B	0.4	6010B	0.004
Mercury (Hg)	7471A	0.033	7470A	0.0002
Molybdenum (Mo)	6010B	0.8	6010B	0.008
Nickel (Ni)	6010B	1	6010B	0.01
Potassium (K)	6010B	50	6010B	0.5
Selenium (Se)	6020	3.5	6020	0.003
Silver (Ag)	6020	0.5	6020	0.005
Sodium (Na)	6010B	50	6010B	0.5
Zinc (Zn)	6010B	1	6010B	0.01

Notes:

SPLP = Synthetic Precipitation Leaching Procedure

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

APPENDIX B-2
SAMPLING DESCRIPTIONS

Appendix B-2: Channel Sample Descriptions

Test Pit	Top Depth (ft)	Bottom Depth (ft)	% Gravel	% Sand	% Fines	Well Graded Gravel (y/n)	Gravel Size	Gravel Pred Size	Gravel Description	Well Graded Sand (y/n)	Sand Size	Sand Pred Size	Sand Description	Plasticity	Fines Predominately Clay?	Color	Moisture	HCl
AT-1006-01	2	6	5	55	40	n	f	f	sr	y	f-c	f	sr	lp	n	7.5YR 2.5/3	m-vm	n
AT-1006-02	0	2	20	80	<5	n	f	f	sr	y	f-c	f-c	sr-sa	np		7.5YR 4/2	m-vm	w
AT-1006-03	0	2	10	65	25	n	f	f	sr-sa	y	f-c	f	sr-sa	lp	n	7.5YR 3/3	m-vm	n-w
AT-1006-04	0	2	<5	70	30	n	f	f	sr	n	f-m	f	a-sa	np	n	10YR 4/3	m-vm	n-w
AT-1006-05	0	12		65	35					n	f-m	f	a-sa	np	n	2.5Y 5/3	m-vm	n
AT-1006-06	12	18	5	25	70	n	f	f	sr-sa	y	f-c	m	sa-sr	mp	n	10YR 2/2	m-vm	vstr
AT-1006-07	0	18	30	30	40	n	f	f	sr-sa		f-c	f	sa-sr	mp	y	10YR 4/1	m-vm	vstr
AT-1006-08	18	60	15	65	20	n	f	f	sr	n	f-c	f-vf	a-sr	np	n	10YR 5/4	m-vm	w
AT-1006-09	60	120	15	40	45	n	f	f	sa-sr	y	f-c	f	sa-sr	lp	n	10YR 4/6	m-vm	n
AT-1006-10	0	2	5	85	10	n	f	f	sa-sr	n	f	f	a-sa	np	n	10YR 5/6	m-vm	n
AT-1006-11	0	3	5	45	50	n	f	f	sr	n	f	f	a-sr	lp	n	2.5Y 4/4	m-vm	n
AT-1006-12	3	13	35	65	<5	n	f	f	sa-sr	n	m-c	c	sa-sr	np	n	2.5Y 4/3	m-vm	n-w
AT-1006-13	0	2	5	45	50	n	f	f	sr	n	f	f	a-sr	np	n	10YR 5/6	m-vm	n-w
AT-1006-14	24	48	25	40	35	n	f	f	sr-sa	n	f	f	sa-sr	np	n	7.5YR 4/4	m-vm	w-str
AT-1006-15	0	3	10	85	5	n	f	f	sr	y	f-c	m	sr	np	n	10YR 3/2	m-vm	n-w
AT-1006-16	36	60	40	45	15	n	f	f	sr-sa	y	f-c	m	sa-sr			7.5YR 2.5/2	m-vm	w-str
AT-1006-17	24	40	5	50	45	n	f	f		n	f	f	a-sr	lp	n	7.5YR 4/2	m-vm	n
AT-1006-18	0	18	30	30	40	n	f	f	sr	y	m-f	f	sr	lp	n	7.5YR 4/3	m-vm	str
AT-1006-19	0	3	20	75	5	n	f	f	sr	y	f-c	m	sr	np	n	10YR 4/2	m-vm	w
AT-1006-20	0	19	30	65	5	n	f	f	sr-r	y	f-c	m-c	sr	np	n	10YR 4/2	m-vm	n
AT-1006-21	0	36	5	50	45	n	f	f	sr	n	f	f	sr	np-lp	n	10YR 4/4	m-vm	vstr
AT-1006-22	36	72	5	50	45	n	f	f	sr-sa	n	f	f	sr	lp	n	10YR 5/3	m-vm	vstr
AT-1006-23	72	96	20	45	35	n	f	f	sr	n	f-m	f	sr	np-lp	n	7.5YR 3/4	m-vm	n-w
AT-1006-24	0	3	10	90	<5	n	f	f	sr	y	f-c	m	sr-sa	np	n	7.5YR 3/2	m-vm	n

APPENDIX B-3

PASTE PH/EC, TOTAL METALS AND ABA DATA

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-01
Sample Collected: 10/08/06 10:06
Sample Receipt : 10/16/06
Date of Report : 11/15/06

SVL JOB: 125948
SAMPLE: 542999

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	-1.3	TCaCO3/1000T		EPA600	11/08/06
Acid Generating	1.3	TCaCO3/1000T		EPA600	11/08/06
Acid Neut. Pot.	<0.3	TCaCO3/1000T		EPA600	11/08/06
ELECTRICAL COND.	2.20	mmhos/cm		ASA M9	11/02/06
pH Paste	4.64			ASA M9	11/08/06
Non-Ext Sulfur,S	0.02	%		LECO	11/08/06
Pyritic Sulfur,S	0.04	%		LECO	11/08/06
Sulfate Sulfur,S	0.27	%		LECO	11/08/06
Total Sulfur, S	0.33	%		LECO	11/08/06

Reviewed By: Nauri Date 11/15/06
11/15/06 9:07

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-02
Sample Collected: 10/08/06 10:15
Sample Receipt : 10/16/06
Date of Report : 11/15/06

SVL JOB: 125948
SAMPLE: 543000

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	-0.9	TCaCO3/1000T		EPA600	11/08/06
Acid Generating	0.9	TCaCO3/1000T		EPA600	11/08/06
Acid Neut. Pot.	<0.3	TCaCO3/1000T		EPA600	11/08/06
ELECTRICAL COND.	2.19	mmhos/cm		ASA M9	11/02/06
pH Paste	8.44			ASA M9	11/08/06
Non-Ext Sulfur,S	0.02	%		LECO	11/08/06
Pyritic Sulfur,S	0.03	%		LECO	11/08/06
Sulfate Sulfur,S	0.27	%		LECO	11/08/06
Total Sulfur, S	0.32	%		LECO	11/08/06
Calcium	19200	mg/kg		6010B	11/02/06
Potassium	1260	mg/kg		6010B	11/02/06
Sodium	161	mg/kg		6010B	11/02/06
Silver	0.134	mg/kg		6020	10/25/06
Aluminum	8010	mg/kg		6010B	11/02/06
Arsenic	<2.5	mg/kg		6010B	11/02/06
Boron	<4	mg/kg		6010B	11/02/06
Barium	113	mg/kg		6010B	11/02/06
Beryllium	0.51	mg/kg		6010B	11/02/06
Cadmium	<0.20	mg/kg		6010B	11/02/06
Cobalt	9.42	mg/kg		6010B	11/02/06
Chromium	37.5	mg/kg		6010B	11/02/06
Copper	464	mg/kg	10	6020	10/25/06
Iron	19600	mg/kg		6010B	11/02/06
Mercury	<0.033	mg/kg		7471A	10/26/06
Lithium	8.0	mg/kg		6010B	11/02/06
Manganese	528	mg/kg		6010B	11/02/06
Molybdenum	8.7	mg/kg		6010B	11/02/06
Nickel	8.1	mg/kg		6010B	11/02/06
Lead	31.1	mg/kg		6010B	11/02/06
Selenium	<0.30	mg/kg	10	6020	10/25/06
Zinc	84.4	mg/kg		6010B	11/02/06

NO DATE ON SAMPLE LABEL

Reviewed By: NSlin Date 11/15/06
11/15/06 9:07

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-03
Sample Collected: 10/08/06 10:25
Sample Receipt : 10/16/06
Date of Report : 11/15/06

SVL JOB: 125948
SAMPLE: 543001

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	0.2	TCaCO3/1000T		EPA600	11/08/06
Acid Generating	1.3	TCaCO3/1000T		EPA600	11/08/06
Acid Neut. Pot.	1.4	TCaCO3/1000T		EPA600	11/08/06
ELECTRICAL COND.	0.83	mmhos/cm		ASA M9	11/02/06
pH Paste	6.76			ASA M9	11/08/06
Non-Ext Sulfur,S	0.03	%		LECO	11/08/06
Pyritic Sulfur,S	0.04	%		LECO	11/08/06
Sulfate Sulfur,S	0.12	%		LECO	11/08/06
Total Sulfur, S	0.19	%		LECO	11/08/06
Calcium	8470	mg/kg		6010B	11/02/06
Potassium	1540	mg/kg		6010B	11/02/06
Sodium	88	mg/kg		6010B	11/02/06
Silver	0.176	mg/kg		6020	10/25/06
Aluminum	8950	mg/kg		6010B	11/02/06
Arsenic	5.3	mg/kg		6010B	11/02/06
Boron	8	mg/kg		6010B	11/02/06
Barium	138	mg/kg		6010B	11/02/06
Beryllium	0.65	mg/kg		6010B	11/02/06
Cadmium	<0.20	mg/kg		6010B	11/02/06
Cobalt	7.77	mg/kg		6010B	11/02/06
Chromium	45.1	mg/kg		6010B	11/02/06
Copper	582	mg/kg	10	6020	10/25/06
Iron	82600	mg/kg		6010B	11/02/06
Mercury	<0.033	mg/kg		7471A	10/26/06
Lithium	5.4	mg/kg		6010B	11/02/06
Manganese	628	mg/kg		6010B	11/02/06
Molybdenum	19.8	mg/kg		6010B	11/02/06
Nickel	<1.0	mg/kg		6010B	11/02/06
Lead	34.0	mg/kg		6010B	11/02/06
Selenium	0.47	mg/kg	10	6020	10/25/06
Zinc	106	mg/kg		6010B	11/02/06

Reviewed By: _____ Date 11/15/06
11/15/06 9:07

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-04
Sample Collected: 10/08/06 11:00
Sample Receipt : 10/16/06
Date of Report : 11/15/06

SVL JOB: 125948
SAMPLE: 543002

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	-5.6	TCaCO3/1000T		EPA600	11/08/06
Acid Generating	8.1	TCaCO3/1000T		EPA600	11/08/06
Acid Neut. Pot.	2.6	TCaCO3/1000T		EPA600	11/08/06
ELECTRICAL COND.	2.79	mmhos/cm		ASA M9	11/02/06
pH Paste	7.17			ASA M9	11/08/06
Non-Ext Sulfur,S	0.09	%		LECO	11/08/06
Pyritic Sulfur,S	0.26	%		LECO	11/08/06
Sulfate Sulfur,S	0.64	%		LECO	11/08/06
Total Sulfur, S	0.99	%		LECO	11/08/06

Reviewed By: NSlein Date 11/15/06
11/15/06 9:07

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-05
Sample Collected: 10/08/06 11:45
Sample Receipt : 10/16/06
Date of Report : 11/15/06

SVL JOB: 125948
SAMPLE: 543003

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	-1.9	TCaCO3/1000T		EPA600	11/08/06
Acid Generating	1.9	TCaCO3/1000T		EPA600	11/08/06
Acid Neut. Pot.	<0.3	TCaCO3/1000T		EPA600	11/08/06
ELECTRICAL COND.	2.79	mmhos/cm		ASA M9	11/02/06
pH Paste	6.58			ASA M9	11/08/06
Non-Ext Sulfur,S	0.09	%		LECO	11/08/06
Pyritic Sulfur,S	0.06	%		LECO	11/08/06
Sulfate Sulfur,S	0.48	%		LECO	11/08/06
Total Sulfur, S	0.63	%		LECO	11/08/06

ID ON SAMPLE LABEL READS AT-1060-05

Reviewed By: NSlm Date 11/15/06
11/15/06 9:07

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-06
Sample Collected: 10/08/06 12:50
Sample Receipt : 10/16/06
Date of Report : 11/15/06

SVL JOB: 125948
SAMPLE: 543004

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	173	TCaCO3/1000T		EPA600	11/08/06
Acid Generating	<0.3	TCaCO3/1000T		EPA600	11/08/06
Acid Neut. Pot.	173	TCaCO3/1000T		EPA600	11/08/06
ELECTRICAL COND.	5.15	mmhos/cm		ASA M9	11/02/06
pH Paste	7.72			ASA M9	11/08/06
Non-Ext Sulfur,S	<0.01	%		LECO	11/08/06
Pyritic Sulfur,S	<0.01	%		LECO	11/08/06
Sulfate Sulfur,S	0.15	%		LECO	11/08/06
Total Sulfur, S	0.16	%		LECO	11/08/06

Reviewed By: _____ Date 11/15/06
11/15/06 9:08

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-07
Sample Collected: 10/08/06 14:05
Sample Receipt : 10/16/06
Date of Report : 11/15/06

SVL JOB: 125948
SAMPLE: 543005

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	84.9	TCaCO3/1000T		EPA600	11/08/06
Acid Generating	0.3	TCaCO3/1000T		EPA600	11/08/06
Acid Neut. Pot.	85.2	TCaCO3/1000T		EPA600	11/08/06
ELECTRICAL COND.	2.78	mmhos/cm		ASA M9	11/02/06
pH Paste	7.83			ASA M9	11/08/06
Non-Ext Sulfur,S	<0.01	%		LECO	11/08/06
Pyritic Sulfur,S	0.01	%		LECO	11/08/06
Sulfate Sulfur,S	0.21	%		LECO	11/08/06
Total Sulfur, S	0.23	%		LECO	11/08/06
Calcium	39800	mg/kg		6010B	11/02/06
Potassium	2840	mg/kg		6010B	11/02/06
Sodium	115	mg/kg		6010B	11/02/06
Silver	0.731	mg/kg		6020	10/25/06
Aluminum	13300	mg/kg		6010B	11/02/06
Arsenic	10.6	mg/kg		6010B	11/02/06
Boron	7	mg/kg		6010B	11/02/06
Barium	909	mg/kg		6010B	11/02/06
Beryllium	1.19	mg/kg		6010B	11/02/06
Cadmium	<0.20	mg/kg		6010B	11/02/06
Cobalt	7.06	mg/kg		6010B	11/02/06
Chromium	35.4	mg/kg		6010B	11/02/06
Copper	62.8	mg/kg	10	6020	10/25/06
Iron	21200	mg/kg		6010B	11/02/06
Mercury	0.043	mg/kg		7471A	10/26/06
Lithium	14.7	mg/kg		6010B	11/02/06
Manganese	402	mg/kg		6010B	11/02/06
Molybdenum	2.5	mg/kg		6010B	11/02/06
Nickel	12.8	mg/kg		6010B	11/02/06
Lead	21.90	mg/kg		6010B	11/02/06
Selenium	<0.30	mg/kg	10	6020	10/25/06
Zinc	358	mg/kg		6010B	11/02/06

ID ON SAMPLE LABEL READS AT-1060-07

Reviewed By: NSlevin Date 11/15/06
11/15/06 9:08

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-08
Sample Collected: 10/08/06 14:15
Sample Receipt : 10/16/06
Date of Report : 11/15/06

SVL JOB: 125948
SAMPLE: 543006

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	14.9	TCaCO3/1000T		EPA600	11/08/06
Acid Generating	1.9	TCaCO3/1000T		EPA600	11/08/06
Acid Neut. Pot.	16.8	TCaCO3/1000T		EPA600	11/08/06
ELECTRICAL COND.	3.14	mmhos/cm		ASA M9	11/02/06
pH Paste	7.51			ASA M9	11/08/06
Non-Ext Sulfur,S	<0.01	%		LECO	11/08/06
Pyritic Sulfur,S	0.06	%		LECO	11/08/06
Sulfate Sulfur,S	0.31	%		LECO	11/08/06
Total Sulfur, S	0.38	%		LECO	11/08/06
Calcium	11200	mg/kg		6010B	11/02/06
Potassium	1090	mg/kg		6010B	11/02/06
Sodium	235	mg/kg		6010B	11/02/06
Silver	0.458	mg/kg		6020	10/25/06
Aluminum	12300	mg/kg		6010B	11/02/06
Arsenic	25.0	mg/kg		6010B	11/02/06
Boron	8	mg/kg		6010B	11/02/06
Barium	2320	mg/kg		6010B	11/02/06
Beryllium	1.39	mg/kg		6010B	11/02/06
Cadmium	<0.20	mg/kg		6010B	11/02/06
Cobalt	7.23	mg/kg		6010B	11/02/06
Chromium	42.5	mg/kg		6010B	11/02/06
Copper	90.7	mg/kg	10	6020	10/25/06
Iron	57100	mg/kg		6010B	11/02/06
Mercury	<0.033	mg/kg		7471A	10/26/06
Lithium	12.5	mg/kg		6010B	11/02/06
Manganese	295	mg/kg		6010B	11/02/06
Molybdenum	3.1	mg/kg		6010B	11/02/06
Nickel	<1.0	mg/kg		6010B	11/02/06
Lead	27.20	mg/kg		6010B	11/02/06
Selenium	<0.30	mg/kg	10	6020	10/25/06
Zinc	530	mg/kg		6010B	11/02/06

ID ON SAMPLE LABEL READS AT-1060-08

Reviewed By: NSlevin Date 11/15/06
11/15/06 9:08

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Certificate: AZ AZ0538 ▪ Fax: (208)783-0891

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-09
Sample Collected: 10/08/06 14:25
Sample Receipt : 10/16/06
Date of Report : 11/15/06

SVL JOB: 125948
SAMPLE: 543007

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	6.0	TCaCO3/1000T		EPA600	11/08/06
Acid Generating	2.5	TCaCO3/1000T		EPA600	11/08/06
Acid Neut. Pot.	8.5	TCaCO3/1000T		EPA600	11/08/06
ELECTRICAL COND.	0.34	mmhos/cm		ASA M9	11/02/06
pH Paste	7.48			ASA M9	11/08/06
Non-Ext Sulfur,S	0.01	%		LECO	11/08/06
Pyritic Sulfur,S	0.08	%		LECO	11/08/06
Sulfate Sulfur,S	<0.01	%		LECO	11/08/06
Total Sulfur, S	0.08	%		LECO	11/08/06

ID ON SAMPLE LABEL READS AT-1060-09

Reviewed By: NBlair Date 11/15/06
11/15/06 9:08

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-10
Sample Collected: 10/08/06 14:45
Sample Receipt : 10/16/06
Date of Report : 11/15/06

SVL JOB: 125948
SAMPLE: 543008

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	-5.3	TCaCO3/1000T		EPA600	11/08/06
Acid Generating	5.3	TCaCO3/1000T		EPA600	11/08/06
Acid Neut. Pot.	<0.3	TCaCO3/1000T		EPA600	11/08/06
ELECTRICAL COND.	2.62	mmhos/cm		ASA M9	11/02/06
pH Paste	7.08			ASA M9	11/08/06
Non-Ext Sulfur,S	0.08	%		LECO	11/08/06
Pyritic Sulfur,S	0.17	%		LECO	11/08/06
Sulfate Sulfur,S	0.25	%		LECO	11/08/06
Total Sulfur, S	0.50	%		LECO	11/08/06

ID ON SAMPLE LABEL READS AT-1060-10

Reviewed By: _____ Date 11/15/06
11/15/06 9:08

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-11
Sample Collected: 10/08/06 15:40
Sample Receipt : 10/16/06
Date of Report : 11/15/06

SVL JOB: 125948
SAMPLE: 543009

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	8.7	TCaCO3/1000T		EPA600	11/08/06
Acid Generating	0.9	TCaCO3/1000T		EPA600	11/08/06
Acid Neut. Pot.	9.6	TCaCO3/1000T		EPA600	11/08/06
ELECTRICAL COND.	0.40	mmhos/cm		ASA M9	11/02/06
pH Paste	7.92			ASA M9	11/08/06
Non-Ext Sulfur,S	<0.01	%		LECO	11/08/06
Pyritic Sulfur,S	0.03	%		LECO	11/08/06
Sulfate Sulfur,S	0.08	%		LECO	11/08/06
Total Sulfur, S	0.12	%		LECO	11/08/06

ID ON SAMPLE LABEL READS AT-1060-11

Reviewed By: NSlmi Date 11/15/06
11/15/06 9:08

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-12
Sample Collected: 10/08/06 15:50
Sample Receipt : 10/16/06
Date of Report : 11/15/06

SVL JOB: 125948
SAMPLE: 543010

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	33.1	TCaCO3/1000T		EPA600	11/08/06
Acid Generating	0.9	TCaCO3/1000T		EPA600	11/08/06
Acid Neut. Pot.	34.0	TCaCO3/1000T		EPA600	11/08/06
ELECTRICAL COND.	0.31	mmhos/cm		ASA M9	11/02/06
pH Paste	8.03			ASA M9	11/08/06
Non-Ext Sulfur,S	0.04	%		LECO	11/08/06
Pyritic Sulfur,S	0.03	%		LECO	11/08/06
Sulfate Sulfur,S	<0.01	%		LECO	11/08/06
Total Sulfur, S	0.02	%		LECO	11/08/06
Calcium	20800	mg/kg		6010B	11/02/06
Potassium	995	mg/kg		6010B	11/02/06
Sodium	200	mg/kg		6010B	11/02/06
Silver	0.219	mg/kg		6020	10/25/06
Aluminum	8140	mg/kg		6010B	11/02/06
Arsenic	7.1	mg/kg		6010B	11/02/06
Boron	5	mg/kg		6010B	11/02/06
Barium	630	mg/kg		6010B	11/02/06
Beryllium	0.78	mg/kg		6010B	11/02/06
Cadmium	<0.20	mg/kg		6010B	11/02/06
Cobalt	6.54	mg/kg		6010B	11/02/06
Chromium	34.8	mg/kg		6010B	11/02/06
Copper	102	mg/kg	10	6020	10/25/06
Iron	20700	mg/kg		6010B	11/02/06
Mercury	<0.033	mg/kg		7471A	10/26/06
Lithium	8.8	mg/kg		6010B	11/02/06
Manganese	529	mg/kg		6010B	11/02/06
Molybdenum	3.1	mg/kg		6010B	11/02/06
Nickel	8.1	mg/kg		6010B	11/02/06
Lead	12.20	mg/kg		6010B	11/02/06
Selenium	<0.30	mg/kg	10	6020	10/25/06
Zinc	156	mg/kg		6010B	11/02/06

ID ON SAMPLE LABEL READS AT-1060-12

Reviewed By: NSHlmi Date 11/15/06
11/15/06 9:08

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-13
Sample Collected: 10/08/06 16:05
Sample Receipt : 10/16/06
Date of Report : 11/15/06

SVL JOB: 125948
SAMPLE: 543011

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	-2.5	TCaCO3/1000T		EPA600	11/08/06
Acid Generating	2.5	TCaCO3/1000T		EPA600	11/08/06
Acid Neut. Pot.	<0.3	TCaCO3/1000T		EPA600	11/08/06
ELECTRICAL COND.	3.09	mmhos/cm		ASA M9	11/02/06
pH Paste	5.04			ASA M9	11/08/06
Non-Ext Sulfur,S	0.08	%		LECO	11/08/06
Pyritic Sulfur,S	0.08	%		LECO	11/08/06
Sulfate Sulfur,S	0.69	%		LECO	11/08/06
Total Sulfur, S	0.85	%		LECO	11/08/06
Calcium	6290	mg/kg		6010B	11/02/06
Potassium	2010	mg/kg		6010B	11/02/06
Sodium	166	mg/kg		6010B	11/02/06
Silver	0.313	mg/kg		6020	10/25/06
Aluminum	6070	mg/kg		6010B	11/02/06
Arsenic	5.3	mg/kg		6010B	11/02/06
Boron	<4	mg/kg		6010B	11/02/06
Barium	560	mg/kg		6010B	11/02/06
Beryllium	0.39	mg/kg		6010B	11/02/06
Cadmium	<0.20	mg/kg		6010B	11/02/06
Cobalt	6.14	mg/kg		6010B	11/02/06
Chromium	46.1	mg/kg		6010B	11/02/06
Copper	461	mg/kg	10	6020	10/25/06
Iron	21400	mg/kg		6010B	11/02/06
Mercury	<0.033	mg/kg		7471A	10/26/06
Lithium	4.5	mg/kg		6010B	11/02/06
Manganese	186	mg/kg		6010B	11/02/06
Molybdenum	31.1	mg/kg		6010B	11/02/06
Nickel	2.5	mg/kg		6010B	11/02/06
Lead	8.76	mg/kg		6010B	11/02/06
Selenium	1.52	mg/kg	10	6020	10/25/06
Zinc	94.8	mg/kg		6010B	11/02/06

ID ON SAMPLE LABEL READS AT-1060-13

Reviewed By: _____ Date 11/15/06
11/15/06 9:08

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-14
Sample Collected: 10/08/06 16:20
Sample Receipt : 10/16/06
Date of Report : 11/15/06

SVL JOB: 125948
SAMPLE: 543012

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	7.8	TCaCO3/1000T		EPA600	11/08/06
Acid Generating	2.8	TCaCO3/1000T		EPA600	11/08/06
Acid Neut. Pot.	10.6	TCaCO3/1000T		EPA600	11/08/06
ELECTRICAL COND.	2.91	mmhos/cm		ASA M9	11/02/06
pH Paste	7.59			ASA M9	11/08/06
Non-Ext Sulfur,S	0.01	%		LECO	11/08/06
Pyritic Sulfur,S	0.09	%		LECO	11/08/06
Sulfate Sulfur,S	0.03	%		LECO	11/08/06
Total Sulfur, S	0.13	%		LECO	11/08/06

ID ON SAMPLE LABEL READS AT-1060-14

Reviewed By: _____ Date 11/15/06
11/15/06 9:08

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Certificate: AZ AZ0538 ▪ Fax: (208)783-0891

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-15
Sample Collected: 10/09/06 10:20
Sample Receipt : 10/16/06
Date of Report : 11/15/06

SVL JOB: 125948
SAMPLE: 543013

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	15.1	TCaCO3/1000T		EPA600	11/08/06
Acid Generating	<0.3	TCaCO3/1000T		EPA600	11/08/06
Acid Neut. Pot.	15.1	TCaCO3/1000T		EPA600	11/08/06
ELECTRICAL COND.	0.28	mmhos/cm		ASA M9	11/02/06
pH Paste	8.10			ASA M9	11/08/06
Non-Ext Sulfur,S	0.01	%		LECO	11/08/06
Pyritic Sulfur,S	<0.01	%		LECO	11/08/06
Sulfate Sulfur,S	0.01	%		LECO	11/08/06
Total Sulfur, S	0.02	%		LECO	11/08/06
Calcium	11600	mg/kg		6010B	11/02/06
Potassium	1320	mg/kg		6010B	11/02/06
Sodium	123	mg/kg		6010B	11/02/06
Silver	0.252	mg/kg		6020	10/25/06
Aluminum	9730	mg/kg		6010B	11/02/06
Arsenic	5.9	mg/kg		6010B	11/02/06
Boron	5	mg/kg		6010B	11/02/06
Barium	172	mg/kg		6010B	11/02/06
Beryllium	0.94	mg/kg		6010B	11/02/06
Cadmium	<0.20	mg/kg		6010B	11/02/06
Cobalt	9.88	mg/kg		6010B	11/02/06
Chromium	49.8	mg/kg		6010B	11/02/06
Copper	82.6	mg/kg		6010B	11/02/06
Iron	43300	mg/kg	10	6020	10/25/06
Mercury	<0.033	mg/kg		6010B	11/02/06
Lithium	9.0	mg/kg		7471A	10/26/06
Manganese	871	mg/kg		6010B	11/02/06
Molybdenum	4.7	mg/kg		6010B	11/02/06
Nickel	3.9	mg/kg		6010B	11/02/06
Lead	20.50	mg/kg		6010B	11/02/06
Selenium	<0.30	mg/kg		6010B	11/02/06
Zinc	136	mg/kg	10	6020	10/25/06
				6010B	11/02/06

ID ON SAMPLE LABEL READS AT-1060-15

Reviewed By: NSwin Date 11/15/06

11/15/06 9:08

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-16
Sample Collected: 10/09/06 10:40
Sample Receipt : 10/16/06
Date of Report : 11/15/06

SVL JOB: 125948
SAMPLE: 543014

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	11.2	TCaCO3/1000T		EPA600	11/08/06
Acid Generating	2.2	TCaCO3/1000T		EPA600	11/08/06
Acid Neut. Pot.	13.3	TCaCO3/1000T		EPA600	11/08/06
ELECTRICAL COND.	0.28	mmhos/cm		ASA M9	11/02/06
pH Paste	8.03			ASA M9	11/08/06
Non-Ext Sulfur,S	<0.01	%		LECO	11/08/06
Pyritic Sulfur,S	0.07	%		LECO	11/08/06
Sulfate Sulfur,S	<0.01	%		LECO	11/08/06
Total Sulfur, S	<0.01	%		LECO	11/08/06
Calcium	11100	mg/kg		6010B	11/02/06
Potassium	1380	mg/kg		6010B	11/02/06
Sodium	176	mg/kg		6010B	11/02/06
Silver	0.247	mg/kg		6020	10/25/06
Aluminum	10200	mg/kg		6010B	11/02/06
Arsenic	30.1	mg/kg		6010B	11/02/06
Boron	5	mg/kg		6010B	11/02/06
Barium	546	mg/kg		6010B	11/02/06
Beryllium	1.06	mg/kg		6010B	11/02/06
Cadmium	<0.20	mg/kg		6010B	11/02/06
Cobalt	15.6	mg/kg		6010B	11/02/06
Chromium	31.1	mg/kg		6010B	11/02/06
Copper	60.3	mg/kg		6010B	11/02/06
Iron	48700	mg/kg	10	6020	10/25/06
Mercury	<0.033	mg/kg		6010B	11/02/06
Lithium	10.3	mg/kg		7471A	10/26/06
Manganese	2630	mg/kg		6010B	11/02/06
Molybdenum	3.5	mg/kg		6010B	11/02/06
Nickel	6.8	mg/kg		6010B	11/02/06
Lead	16.00	mg/kg		6010B	11/02/06
Selenium	<0.30	mg/kg		6010B	11/02/06
Zinc	158	mg/kg	10	6020	10/25/06
				6010B	11/02/06

Reviewed By: NSlim Date 11/15/06

11/15/06 9:08

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-17
Sample Collected: 10/09/06 10:55
Sample Receipt : 10/16/06
Date of Report : 11/15/06

SVL JOB: 125948
SAMPLE: 543015

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	9.2	TCaCO3/1000T		EPA600	11/08/06
Acid Generating	<0.3	TCaCO3/1000T		EPA600	11/08/06
Acid Neut. Pot.	9.2	TCaCO3/1000T		EPA600	11/08/06
ELECTRICAL COND.	0.39	mmhos/cm		ASA M9	11/02/06
pH Paste	7.81			ASA M9	11/08/06
Non-Ext Sulfur,S	<0.01	%		LECO	11/08/06
Pyritic Sulfur,S	<0.01	%		LECO	11/08/06
Sulfate Sulfur,S	0.01	%		LECO	11/08/06
Total Sulfur, S	<0.01	%		LECO	11/08/06
Calcium	7120	mg/kg		6010B	11/02/06
Potassium	2020	mg/kg		6010B	11/02/06
Sodium	115	mg/kg		6010B	11/02/06
Silver	1.06	mg/kg		6020	10/25/06
Aluminum	11300	mg/kg		6010B	11/02/06
Arsenic	<2.5	mg/kg		6010B	11/02/06
Boron	<4	mg/kg		6010B	11/02/06
Barium	218	mg/kg		6010B	11/02/06
Beryllium	1.51	mg/kg		6010B	11/02/06
Cadmium	<0.20	mg/kg		6010B	11/02/06
Cobalt	6.65	mg/kg		6010B	11/02/06
Chromium	32.2	mg/kg		6010B	11/02/06
Copper	34.0	mg/kg	10	6020	10/25/06
Iron	15200	mg/kg		6010B	11/02/06
Mercury	<0.033	mg/kg		7471A	10/26/06
Lithium	11.2	mg/kg		6010B	11/02/06
Manganese	804	mg/kg		6010B	11/02/06
Molybdenum	1.5	mg/kg		6010B	11/02/06
Nickel	10.5	mg/kg		6010B	11/02/06
Lead	17.70	mg/kg		6010B	11/02/06
Selenium	<0.30	mg/kg	10	6020	10/25/06
Zinc	283	mg/kg		6010B	11/02/06

Reviewed By: NBlevins Date 11/15/06
11/15/06 9:08

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-18
Sample Collected: 10/09/06 11:10
Sample Receipt : 10/16/06
Date of Report : 11/15/06

SVL JOB: 125948
SAMPLE: 543016

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	6.3	TCaCO3/1000T		EPA600	11/08/06
Acid Generating	2.2	TCaCO3/1000T		EPA600	11/08/06
Acid Neut. Pot.	8.5	TCaCO3/1000T		EPA600	11/08/06
ELECTRICAL COND.	1.31	mmhos/cm		ASA M9	11/02/06
pH Paste	7.46			ASA M9	11/08/06
Non-Ext Sulfur,S	<0.01	%		LECO	11/08/06
Pyritic Sulfur,S	0.07	%		LECO	11/08/06
Sulfate Sulfur,S	<0.01	%		LECO	11/08/06
Total Sulfur, S	0.04	%		LECO	11/08/06
Calcium	7470	mg/kg		6010B	11/02/06
Potassium	1930	mg/kg		6010B	11/02/06
Sodium	138	mg/kg		6010B	11/02/06
Silver	0.309	mg/kg		6020	10/25/06
Aluminum	14200	mg/kg		6010B	11/02/06
Arsenic	5.3	mg/kg		6010B	11/02/06
Boron	<4	mg/kg		6010B	11/02/06
Barium	166	mg/kg		6010B	11/02/06
Beryllium	1.12	mg/kg		6010B	11/02/06
Cadmium	<0.20	mg/kg		6010B	11/02/06
Cobalt	11.1	mg/kg		6010B	11/02/06
Chromium	34.7	mg/kg		6010B	11/02/06
Copper	42.1	mg/kg		6010B	11/02/06
Iron	28100	mg/kg	10	6020	10/25/06
Mercury	<0.033	mg/kg		6010B	11/02/06
Lithium	16.5	mg/kg		7471A	10/26/06
Manganese	761	mg/kg		6010B	11/02/06
Molybdenum	2.3	mg/kg		6010B	11/02/06
Nickel	10.8	mg/kg		6010B	11/02/06
Lead	17.50	mg/kg		6010B	11/02/06
Selenium	<0.30	mg/kg		6010B	11/02/06
Zinc	151	mg/kg	10	6020	10/25/06
				6010B	11/02/06

Reviewed By: NSlmin Date 11/15/06
11/15/06 9:08

SVL ANALYTICAL, INC.

Quality Control Report

Part I Prep Blank and Laboratory Control Sample

Client :GALLAGHER & KENNEDY

SVL JOB No: 125948

Analyte	Method	Matrix	Units	Prep Blank	True	LCS Found	LCS %R	Analysis Date
Silver	6020	SOIL	mg/kg	<0.010	2.50	2.55	102.0	10/25/06
Aluminum	6010B	SOIL	mg/kg	<3	100	102	102.0	11/02/06
Arsenic	6010B	SOIL	mg/kg	<2.5	100	98.2	98.2	11/02/06
Boron	6010B	SOIL	mg/kg	<4	100	100	100.0	11/02/06
Barium	6010B	SOIL	mg/kg	<0.20	100	105	105.0	11/02/06
Beryllium	6010B	SOIL	mg/kg	<0.20	100	97.8	97.8	11/02/06
Calcium	6010B	SOIL	mg/kg	<4	2000	2030	101.5	11/02/06
Cadmium	6010B	SOIL	mg/kg	<0.20	100	101	101.0	11/02/06
Cobalt	6010B	SOIL	mg/kg	<0.60	100	101	101.0	11/02/06
Chromium	6010B	SOIL	mg/kg	<0.60	100	102	102.0	11/02/06
Copper	6020	SOIL	mg/kg	<0.100	2.50	2.49	99.6	10/25/06
Iron	6010B	SOIL	mg/kg	<6	1000	1020	102.0	11/02/06
Potassium	6010B	SOIL	mg/kg	<50	2000	2010	100.5	11/02/06
Lithium	6010B	SOIL	mg/kg	<2.0	100	102	102.0	11/02/06
Manganese	6010B	SOIL	mg/kg	<0.40	100	97.3	97.3	11/02/06
Molybdenum	6010B	SOIL	mg/kg	<0.8	100	102	102.0	11/02/06
Sodium	6010B	SOIL	mg/kg	<50	1900	1900	100.0	11/02/06
Nickel	6010B	SOIL	mg/kg	<1.0	100	96.1	96.1	11/02/06
Lead	6010B	SOIL	mg/kg	<0.75	100	98.9	98.9	11/02/06
Selenium	6020	SOIL	mg/kg	<0.300	2.50	2.50	100.0	10/25/06
Zinc	6010B	SOIL	mg/kg	<1.0	100	99.6	99.6	11/02/06
Mercury	7471A	SOIL	mg/kg	<0.033	0.834	0.880	105.5	10/26/06
Acid Generating	EPA600	SOIL	TCaCO3/k	N/A	9.4	9.7	103.2	11/08/06
Acid Neut. Pot.	EPA600	SOIL	TCaCO3/k	N/A	52.0	53.2	102.3	11/08/06
ELECTRICAL COND.	ASA M9	SOIL	mmhos/cm	<0.01	0.30	0.30	100.0	11/02/06
pH Paste	ASA M9	SOIL		5.22	8.45	8.88	105.1	11/08/06
Non-Ext Sulfur,S	LECO	SOIL	%	<0.01	N/A		N/A	11/08/06
Pyritic Sulfur,S	LECO	SOIL	%	<0.01	N/A		N/A	11/08/06
Sulfate Sulfur,S	LECO	SOIL	%	<0.01	N/A		N/A	11/08/06
Total Sulfur, S	LECO	SOIL	%	<0.01	0.28	0.31	110.7	11/08/06

LEGEND:

LCS = Laboratory Control Sample LCS %R = LCS Percent Recovery N/A = Not Applicable

SVL ANALYTICAL, INC.

Quality Control Report
Part II Duplicate and Spike Analysis

Client :GALLAGHER & KENNEDY

SVL JOB No: 125948

Test	Method	Mtx	QC SAMPLE ID	Units	Result	Duplicate Found	or	MSD RPD%	Matrix Spike Result	Matrix Spike SPK ADD	%R	Analysis Date
Ag	6020	S	1	mg/kg	0.134	2.24	M	5.0	2.13	2.50	79.8	10/25/06
Al	6010B	S	1	mg/kg	8010	11800	M	1.7	11600	100	R >4S	11/02/06
As	6010B	S	1	mg/kg	<2.5	99.6	M	2.4	97.2	100	97.2	11/02/06
B	6010B	S	1	mg/kg	<4	100	M	1.0	99	100	99.0	11/02/06
Ba	6010B	S	1	mg/kg	113	220	M	0.0	220	100	107.0	11/02/06
Be	6010B	S	1	mg/kg	0.51	98.5	M	1.5	97.0	100	96.5	11/02/06
Ca	6010B	S	1	mg/kg	19200	22700	M	1.8	22300	2000	R >4S	11/02/06
Cd	6010B	S	1	mg/kg	<0.20	96.2	M	1.4	94.9	100	94.9	11/02/06
Co	6010B	S	1	mg/kg	9.42	106	M	0.9	105	100	95.6	11/02/06
Cr	6010B	S	1	mg/kg	37.5	140	M	0.0	140	100	102.5	11/02/06
Cu	6020	S	1	mg/kg	464	448	M	2.6	460	2.50	R >4S	10/25/06
Fe	6010B	S	1	mg/kg	19600	22100	M	2.8	21500	1000	R >4S	11/02/06
K	6010B	S	1	mg/kg	1260	3550	M	1.4	3500	2000	112.0	11/02/06
Li	6010B	S	1	mg/kg	8.0	113	M	1.8	111	100	103.0	11/02/06
Mn	6010B	S	1	mg/kg	528	614	M	1.9	626	100	98.0	11/02/06
Mo	6010B	S	1	mg/kg	8.7	107	M	1.9	105	100	96.3	11/02/06
Na	6010B	S	1	mg/kg	161	2140	M	0.9	2120	1900	103.1	11/02/06
Ni	6010B	S	1	mg/kg	8.1	104	M	1.9	102	100	93.9	11/02/06
Pb	6010B	S	1	mg/kg	31.1	120	M	0.8	119	100	87.9	11/02/06
Se	6020	S	1	mg/kg	<0.30	1.80	M	4.0	1.73	2.50	69.2	10/25/06
Zn	6010B	S	1	mg/kg	84.4	183	M	0.5	184	100	99.6	11/02/06
Hg	7471A	S	1	mg/kg	<0.033	0.175	M	0.0	0.175	0.167	104.8	10/26/06
ABP	EPA600	S	1	TCaCO3/	-0.9	40.7		209.0	N/A	N/A	N/A	11/08/06
AGP	EPA600	S	1	TCaCO3/	0.9	0.9		0.0	N/A	N/A	N/A	11/08/06
ANP	EPA600	S	1	TCaCO3/	<0.3	41.7		200.0	N/A	N/A	N/A	11/08/06
EC	ASA M9	S	1	mmhos/c	2.19	0.35		144.9	N/A	N/A	N/A	11/02/06
pH Pst	ASA M9	S	2		4.64	4.67		0.6	N/A	N/A	N/A	11/08/06
S N-EX	LECO	S	1	%	0.02	0.02		0.0	N/A	N/A	N/A	11/08/06
S-PYR	LECO	S	1	%	0.03	0.03		0.0	N/A	N/A	N/A	11/08/06
S-SO4	LECO	S	1	%	0.27	0.02		172.4	N/A	N/A	N/A	11/08/06
S-TOT	LECO	S	1	%	0.32	0.07		128.2	N/A	N/A	N/A	11/08/06

LEGEND:

RPD% = (|SAM - DUP|/((SAM + DUP)/2) * 100) UDL = Both SAM & DUP not detected. *Result or *Found: Interference required dilution.

RPD% = (|SPK - MSD|/((SPK + MSD)/2) * 100) M in Duplicate/MSD column indicates MSD.

SPIKE ADD column, A = Post Digest Spike; %R = Percent Recovery N/A = Not Analyzed; R > 4S = Result more than 4X the Spike Added

QC limits for MS recoveries apply only if the spike is at least 1/4 the concentration of the analyte in the sample.

Control limits for the RPD apply only if the concentration of the analyte in the sample is at least five times the reporting limit.

QC Sample 1: SVL SAM No.: 543000 Client Sample ID: AT-1006-02

QC Sample 2: SVL SAM No.: 542999 Client Sample ID: AT-1006-01

SAMPLE RECEIPT CONFIRMATION

SVL ANALYTICAL, INC.
One Government Gulch - Kellogg, ID 83837-0929

CLIENT: DALVA MOELLENBERG
GALLAGHER & KENNEDY
2575 E. CAMELBACK ROAD

PHOENIX AZ 85016-9225
FAX: (602)530-8500 PH: (602)530-8223 Fax:

We will invoice: SAME

SOIL GOLDER APACHE TEJO SAMPLE
SVL JOB No: 125948
Received: 10/16/06
Expected Due date: 10/30/06

SVL#	M	ClientID	Sampled	Time	By	Received	Sample Comments

ADDITIONAL COMMENTS FOR JOB: Sample Cooler temp: 16.°C.

[ ] These samples will be DISPOSED 45 days after job completion.
[X] These samples will be ARCHIVED 45 days, then you will receive a letter requesting disposal options.

Please contact Crystal Sevy (208-784-1258) if you have questions regarding the receipt of these samples.

10/18/06 19:01

SAMPLE RECEIPT CONFIRMATION

SVL ANALYTICAL, INC.
One Government Gulch - Kellogg, ID 83837-0929

CLIENT: DALVA MOELLENBERG
GALLAGHER & KENNEDY
2575 E. CAMELBACK ROAD

PHOENIX AZ 85016-9225
FAX: (602)530-8500 PH: (602)530-8223 Fax:

We will invoice: SAME

SOIL GOLDER APACHE TEJO SAMPLE
SVL JOB No: 125948
Received: 10/16/06
Expected Due date: 10/30/06

SVL#	M	ClientID	Sampled	Time	By	Received	Sample Comments
542999	S	AT-1006-01	10/08/06	10:06	KJ	10/16/06	Tests:GAL/KEN APACHE SOIL|ABA + Sulfur Forms|
543000	S	AT-1006-02	10/08/06	10:15	KJ	10/16/06	NO DATE ON SAMPLE LABEL
543001	S	AT-1006-03	10/08/06	10:25	KJ	10/16/06	Tests:GAL/KEN APACHE SOIL|ABA + Sulfur Forms|
543002	S	AT-1006-04	10/08/06	11:00	KJ	10/16/06	Tests:GAL/KEN APACHE SOIL|ABA + Sulfur Forms|
543003	S	AT-1006-05	10/08/06	11:45	KJ	10/16/06	Tests:GAL/KEN APACHE SOIL|ABA + Sulfur Forms|
543004	S	AT-1006-06	10/08/06	12:50	KJ	10/16/06	ID ON SAMPLE LABLE READS AT-1060-05
543005	S	AT-1006-07	10/08/06	14:05	KJ	10/16/06	Tests:GAL/KEN APACHE SOIL|ABA + Sulfur Forms|
543006	S	AT-1006-08	10/08/06	14:15	KJ	10/16/06	Tests:GAL/KEN APACHE SOIL|ABA + Sulfur Forms|
543007	S	AT-1006-09	10/08/06	14:25	KJ	10/16/06	ID ON SAMPLE LABEL READS AT-1060-07
543008	S	AT-1006-10	10/08/06	14:45	KJ	10/16/06	Tests:GAL/KEN APACHE SOIL|ABA + Sulfur Forms|
543009	S	AT-1006-11	10/08/06	15:40	KJ	10/16/06	ID ON SAMPLE LABEL READS AT-1060-08
543010	S	AT-1006-12	10/08/06	15:50	KJ	10/16/06	Tests:GAL/KEN APACHE SOIL|ABA + Sulfur Forms|
543011	S	AT-1006-13	10/08/06	16:05	KJ	10/16/06	ID ON SAMPLE LABEL READS AT-1060-09
543012	S	AT-1006-14	10/08/06	16:20	KJ	10/16/06	Tests:GAL/KEN APACHE SOIL|ABA + Sulfur Forms|
543013	S	AT-1006-15	10/09/06	10:20	KJ	10/16/06	ID ON SAMPLE LABEL READS AT-1060-10
543014	S	AT-1006-16	10/09/06	10:40	KJ	10/16/06	Tests:GAL/KEN APACHE SOIL|ABA + Sulfur Forms|
543015	S	AT-1006-17	10/09/06	10:55	KJ	10/16/06	Tests:GAL/KEN APACHE SOIL|ABA + Sulfur Forms|
543016	S	AT-1006-18	10/09/06	11:10	KJ	10/16/06	Tests:GAL/KEN APACHE SOIL|ABA + Sulfur Forms|

[ ] These samples will be DISPOSED 45 days after job completion.
[X] These samples will be ARCHIVED 45 days, then you will receive a letter requesting disposal options.

Please contact Crystal Sevy (208-784-1258) if you have questions regarding the receipt of these samples.

10/18/06 19:01

Cooler temp 16.6° 10.16.06 11:45 RS

125948

Chain of Custody Record

COC No. Apache Tejo SAP - 03

Project Name: Apache Tejo SAP

Project Location: Apache Tejo SAP

Gallagher & Kennedy/ Golder Associates

Sampler(s): Kent Johnejack and Melanie Maguire

1. Paste pH and EC
2. ABA
3. Total Metals and SPLP (Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Li, Mn, Mo, Na, Ni, Pb, Se, Zn)

Analytical Parameters

* Time taken from Sample labels.

Sample Date	* time	Type Grab	Sample Identification (Field ID)	Matrix	No. of Containers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Chain of Custody Seal#
10/8/2006	1605	X	AT-1006-13	soil	1	X	X	X							X	ID	on	Sample	label	(lead)						AT-1060-13
10/8/2006	16:20	X	AT-1006-14	soil	1	X	X								X		14									AT-1060-14
10/9/2006	10:20	X	AT-1006-15	soil	1	X	X	X							X			14								AT-1060-15
10/9/2006	1040	X	AT-1006-16	soil	1	X	X	X																		
10/9/2006	1055	X	AT-1006-17	soil	1	X	X	X												RS	10.16.06					
10/9/2006	1110	X	AT-1006-18	soil	1	X	X	X																		

COPY

Signatures	Date & Time
Relinquished by: Melanie C. Maguire	10/13/2006 13:00
Received by:	
Relinquished by:	
Received for Laboratory by: Robin Stribling	10.16.06 11:45

Shipping Details

Method of Shipment: Fed Ex

Airbill No. 7900 9353 6786

Lab Addresses: ATTN: Chris Meyer

SVL
One Government Gulch
Kellogg, ID 83837-0929

Phone: 208-784-1258
Fax: 208-783-0891

Special Instructions

Any questions, please call Melanie Maguire or Kent Johnejack at 520-888-8818. Please send results to Golder Associates at 4730 N. Oracle Rd, Suite 210, Tucson, AZ 85705.

Cooler temp 15.8° 10.16.06 11:45 RS

125948

Chain of Custody Record

COC No. Apache Tejo SAP - 02

Project Name		
Apache Tejo SAP	Gallagher & Kennedy/ Golder Associates	
Project Location: Apache Tejo SAP		
Sampler(s): Kent Johnejack and Melanie Maguire		

1. Paste pH and EC
2. ABA
3. Total Metals and SPLP (Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Li, Mn, Mo, Na, Ni, Pb, Se, Zn)

Analytical Parameters

SVL took time from Sample Labels

Sample Date	Type: time	Type: Grab	Sample Identification (Field ID)	Matrix	No. of Containers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Chain of Custody Seal#
10/8/2006	1405	X	AT-1006-07	soil	1	X	X	X								↓	ID	on	Sample	label	reads	AT-1060-07				
10/8/2006	1415	X	AT-1006-08	soil	1	X	X	X								↓	ID	on	Sample	label	reads	AT-1060-08				
10/8/2006	1425	X	AT-1006-09	soil	1	X	X									↓	ID	on	Sample	label	reads	AT-1060-09				
10/8/2006	1445	X	AT-1006-10	soil	1	X	X									↓	ID	on	Sample	label	reads	AT-1060-10				
10/8/2006	1540	X	AT-1006-11	soil	1	X	X									↓	ID	on	Sample	label	reads	~~AT-1060-11~~ RS	AT-1060-11			
10/8/2006	1550	X	AT-1006-12	soil	1	X	X	X								↓	ID	on	Sample	label	reads	AT-1060-12				
																			RS 10-16-06							

COPY

Signatures	Date & Time
Relinquished by: Melanie C. Maguire	10/13/2006 13:00
Received by:	
Relinquished by:	
Received for Laboratory by: Robin Stribling	10.16.06 11:45

Shipping Details

Method of Shipment: Fed Ex

Airbill No. 7905 8513 4468

Lab Addresses: ATTN: Chris Meyer

SVL
One Government Gulch
Kellogg, ID 83837-0929

Phone: 208-784-1258
Fax: 208-783-0891

Special Instructions

Any questions, please call Melanie Maguire or Kent Johnejack at 520-888-8818. Please send results to Golder Associates at 4730 N. Oracle Rd, Suite 210, Tucson, AZ 85705.

cooler temp 16.5 10.16.06 11:45 RS

125948

Chain of Custody Record

COC No. Apache Tejo SAP - 01

Page 1 of 1

Project Name: Apache Tejo SAP

Project Location: Apache Tejo SAP

Sampler(s): Kent Johnejack and Melanie Maguire

Gallagher & Kennedy/ Golder Associates

1. Paste pH and EC
2. ABA
3. Total Metals and SPLP (Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Li, Mn, Mo, Na, Ni, Pb, Se, Zn)

Analytical Parameters

⊙ SVL took time from sample labels

Sample Date	time	Type Grab	Sample Identification (Field ID)	Matrix	No. of Containers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Chain of Custody Seal#
10/8/2006	10:00	X	AT-1006-01	soil	1	X	X																			
⊙ 10/8/2006	10:15	X	AT-1006-02	soil	1	X	X	X																		
10/8/2006	10:25	X	AT-1006-03	soil	1	X	X	X								⊙ No date on sample label										
10/8/2006	11:00	X	AT-1006-04	soil	1	X	X																			
✗ 10/8/2006	11:45	X	AT-1006-05	soil	1	X	X																			
10/8/2006	12:50	X	AT-1006-06	soil	1	X	X									✗ Sample ID reads AT-1060-05										

RS 10.16.06

COPY

Signatures	Date & Time
Relinquished by: Melanie C. Maguire	10/13/2006 13:00
Received by:	
Relinquished by:	
Received for Laboratory by: Robin Stribling	10.16.06 11:45

Shipping Details

Method of Shipment: Fed Ex

Airbill No. 7922-2294-1082

Lab Addresses: ATTN: Chris Meyer
SVL
One Government Gulch
Kellogg, ID 83837-0929
Phone: 208-784-1258
Fax: 208-783-0891

Special Instructions

Any questions, please call Melanie Maguire or Kent Johnejack at 520-888-8818. Please send results to Golder Associates at 4730 N. Oracle Rd, Suite 210, Tucson, AZ 85705.

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-19
Sample Collected: 10/09/06 11:55
Sample Receipt : 10/16/06
Date of Report : 11/07/06 As Received Basis

SVL JOB: 125949
SAMPLE: 543019
Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	17.3	TCaCO3/1000T		EPA600	11/02/06
Acid Generating	0.3	TCaCO3/1000T		EPA600	11/02/06
Acid Neut. Pot.	17.6	TCaCO3/1000T		EPA600	11/02/06
ELECTRICAL COND.	0.26	mmhos/cm		ASA M9	11/02/06
pH Paste	7.97			ASA M9	11/02/06
Non-Ext Sulfur,S	0.01	%		LECO	11/02/06
Pyritic Sulfur,S	0.01	%		LECO	11/02/06
Sulfate Sulfur,S	0.01	%		LECO	11/02/06
Total Sulfur, S	0.03	%		LECO	11/02/06
Calcium	12900	mg/kg		6010B	11/05/06
Potassium	1400	mg/kg		6010B	11/05/06
Sodium	279	mg/kg		6010B	11/05/06
Silver	0.263	mg/kg		6020	10/25/06
Aluminum	9430	mg/kg		6010B	11/05/06
Arsenic	9.3	mg/kg		6010B	11/05/06
Boron	<4	mg/kg		6010B	11/05/06
Barium	581	mg/kg		6010B	11/05/06
Beryllium	0.80	mg/kg		6010B	11/05/06
Cadmium	0.58	mg/kg		6010B	11/05/06
Cobalt	10.4	mg/kg		6010B	11/05/06
Chromium	47.1	mg/kg		6010B	11/05/06
Copper	174	mg/kg	10	6020	10/25/06
Iron	57000	mg/kg		6010B	11/05/06
Mercury	<0.033	mg/kg		7471A	10/26/06
Lithium	9.3	mg/kg		6010B	11/05/06
Manganese	739	mg/kg		6010B	11/05/06
Molybdenum	4.8	mg/kg		6010B	11/05/06
Nickel	22.4	mg/kg		6010B	11/05/06
Lead	21.80	mg/kg		6010B	11/05/06
Selenium	<0.30	mg/kg	10	6020	10/25/06
Zinc	152	mg/kg		6010B	11/05/06

Reviewed By: _____ Date 11/7/06
11/07/06 16:01

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-20
Sample Collected: 10/09/06 12:10
Sample Receipt : 10/16/06
Date of Report : 11/07/06 As Received Basis

SVL JOB: 125949
SAMPLE: 543020
Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	16.3	TCaCO3/1000T		EPA600	11/02/06
Acid Generating	<0.3	TCaCO3/1000T		EPA600	11/02/06
Acid Neut. Pot.	16.3	TCaCO3/1000T		EPA600	11/02/06
ELECTRICAL COND.	0.24	mmhos/cm		ASA M9	11/02/06
pH Paste	7.54			ASA M9	11/02/06
Non-Ext Sulfur,S	<0.01	%		LECO	11/02/06
Pyritic Sulfur,S	<0.01	%		LECO	11/02/06
Sulfate Sulfur,S	0.03	%		LECO	11/02/06
Total Sulfur, S	0.03	%		LECO	11/02/06

Reviewed By: _____ Date 11/7/06
11/07/06 16:01

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-21
Sample Collected: 10/09/06 13:55
Sample Receipt : 10/16/06
Date of Report : 11/07/06 As Received Basis

SVL JOB: 125949
SAMPLE: 543021
Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	116	TCaCO3/1000T		EPA600	11/02/06
Acid Generating	<0.3	TCaCO3/1000T		EPA600	11/02/06
Acid Neut. Pot.	116	TCaCO3/1000T		EPA600	11/02/06
ELECTRICAL COND.	0.76	mmhos/cm		ASA M9	11/02/06
pH Paste	7.50			ASA M9	11/02/06
Non-Ext Sulfur,S	<0.01	%		LECO	11/02/06
Pyritic Sulfur,S	<0.01	%		LECO	11/02/06
Sulfate Sulfur,S	<0.01	%		LECO	11/02/06
Total Sulfur, S	<0.01	%		LECO	11/02/06
Calcium	30700	mg/kg		6010B	11/05/06
Potassium	2470	mg/kg		6010B	11/05/06
Sodium	138	mg/kg		6010B	11/05/06
Silver	0.358	mg/kg		6020	10/25/06
Aluminum	13200	mg/kg		6010B	11/05/06
Arsenic	5.4	mg/kg		6010B	11/05/06
Boron	<4	mg/kg		6010B	11/05/06
Barium	264	mg/kg		6010B	11/05/06
Beryllium	0.87	mg/kg		6010B	11/05/06
Cadmium	0.52	mg/kg		6010B	11/05/06
Cobalt	8.75	mg/kg		6010B	11/05/06
Chromium	25.2	mg/kg		6010B	11/05/06
Copper	29.1	mg/kg	10	6020	10/25/06
Iron	20300	mg/kg		6010B	11/05/06
Mercury	<0.033	mg/kg		7471A	10/26/06
Lithium	13.0	mg/kg		6010B	11/05/06
Manganese	446	mg/kg		6010B	11/05/06
Molybdenum	2.8	mg/kg		6010B	11/05/06
Nickel	16.0	mg/kg		6010B	11/05/06
Lead	16.70	mg/kg		6010B	11/05/06
Selenium	<0.30	mg/kg	10	6020	10/25/06
Zinc	168	mg/kg		6010B	11/05/06

Reviewed By: _____ Date 11/7/06
11/07/06 16:01

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-22
Sample Collected: 10/09/06 14:10
Sample Receipt : 10/16/06
Date of Report : 11/07/06 As Received Basis

SVL JOB: 125949
SAMPLE: 543022

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	300	TCaCO3/1000T		EPA600	11/02/06
Acid Generating	<0.3	TCaCO3/1000T		EPA600	11/02/06
Acid Neut. Pot.	300	TCaCO3/1000T		EPA600	11/02/06
ELECTRICAL COND.	1.63	mmhos/cm		ASA M9	11/02/06
pH Paste	7.27			ASA M9	11/02/06
Non-Ext Sulfur,S	<0.01	%		LECO	11/02/06
Pyritic Sulfur,S	<0.01	%		LECO	11/02/06
Sulfate Sulfur,S	<0.01	%		LECO	11/02/06
Total Sulfur, S	<0.01	%		LECO	11/02/06

Reviewed By: _____ Date 11/7/06
11/07/06 16:01

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-23
Sample Collected: 10/09/06 14:30
Sample Receipt : 10/16/06
Date of Report : 11/07/06 As Received Basis

SVL JOB: 125949
SAMPLE: 543023

Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	12.4	TCaCO3/1000T		EPA600	11/02/06
Acid Generating	<0.3	TCaCO3/1000T		EPA600	11/02/06
Acid Neut. Pot.	12.4	TCaCO3/1000T		EPA600	11/02/06
ELECTRICAL COND.	1.91	mmhos/cm		ASA M9	11/02/06
pH Paste	7.95			ASA M9	11/02/06
Non-Ext Sulfur,S	<0.01	%		LECO	11/02/06
Pyritic Sulfur,S	<0.01	%		LECO	11/02/06
Sulfate Sulfur,S	0.01	%		LECO	11/02/06
Total Sulfur, S	0.01	%		LECO	11/02/06
Calcium	12400	mg/kg		6010B	11/05/06
Potassium	1670	mg/kg		6010B	11/05/06
Sodium	325	mg/kg		6010B	11/05/06
Silver	0.267	mg/kg		6020	10/25/06
Aluminum	11700	mg/kg		6010B	11/05/06
Arsenic	42.3	mg/kg		6010B	11/05/06
Boron	<4	mg/kg		6010B	11/05/06
Barium	508	mg/kg		6010B	11/05/06
Beryllium	0.82	mg/kg		6010B	11/05/06
Cadmium	0.72	mg/kg		6010B	11/05/06
Cobalt	12.8	mg/kg		6010B	11/05/06
Chromium	33.7	mg/kg		6010B	11/05/06
Copper	41.5	mg/kg	10	6020	10/25/06
Iron	48300	mg/kg		6010B	11/05/06
Mercury	<0.033	mg/kg		7471A	10/26/06
Lithium	13.8	mg/kg		6010B	11/05/06
Manganese	1360	mg/kg		6010B	11/05/06
Molybdenum	3.7	mg/kg		6010B	11/05/06
Nickel	28.1	mg/kg		6010B	11/05/06
Lead	16.10	mg/kg		6010B	11/05/06
Selenium	<0.30	mg/kg	10	6020	10/25/06
Zinc	127	mg/kg		6010B	11/05/06

Reviewed By: _____ Date 11/7/06
11/07/06 16:01

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-24
Sample Collected: 10/09/06 14:50
Sample Receipt : 10/16/06
Date of Report : 11/07/06 As Received Basis

SVL JOB: 125949
SAMPLE: 543024
Matrix: SOIL

Determination	Result	Units	Dilution	Method	Analyzed
ABP	19.8	TCaCO3/1000T		EPA600	11/02/06
Acid Generating	1.6	TCaCO3/1000T		EPA600	11/02/06
Acid Neut. Pot.	21.4	TCaCO3/1000T		EPA600	11/02/06
ELECTRICAL COND.	0.36	mmhos/cm		ASA M9	11/02/06
pH Paste	7.88			ASA M9	11/02/06
Non-Ext Sulfur,S	0.07	%		LECO	11/02/06
Pyritic Sulfur,S	0.05	%		LECO	11/02/06
Sulfate Sulfur,S	0.05	%		LECO	11/02/06
Total Sulfur, S	0.17	%		LECO	11/02/06
Calcium	11100	mg/kg		6010B	11/05/06
Potassium	1180	mg/kg		6010B	11/05/06
Sodium	241	mg/kg		6010B	11/05/06
Silver	0.240	mg/kg		6020	10/25/06
Aluminum	10500	mg/kg		6010B	11/05/06
Arsenic	6.5	mg/kg		6010B	11/05/06
Boron	<4	mg/kg		6010B	11/05/06
Barium	180	mg/kg		6010B	11/05/06
Beryllium	0.58	mg/kg		6010B	11/05/06
Cadmium	<0.20	mg/kg		6010B	11/05/06
Cobalt	7.84	mg/kg		6010B	11/05/06
Chromium	35.0	mg/kg		6010B	11/05/06
Copper	41.7	mg/kg	10	6020	10/25/06
Iron	26100	mg/kg		6010B	11/05/06
Mercury	<0.033	mg/kg		7471A	10/26/06
Lithium	10.4	mg/kg		6010B	11/05/06
Manganese	510	mg/kg		6010B	11/05/06
Molybdenum	4.2	mg/kg		6010B	11/05/06
Nickel	16.8	mg/kg		6010B	11/05/06
Lead	16.80	mg/kg		6010B	11/05/06
Selenium	<0.30	mg/kg	10	6020	10/25/06
Zinc	120	mg/kg		6010B	11/05/06

Reviewed By: _____ Date 11/7/06
11/07/06 16:01

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.

Quality Control Report
Part I Prep Blank and Laboratory Control Sample

Client :GALLAGHER & KENNEDY

SVL JOB No: 125949

Analyte	Method	Matrix	Units	Prep Blank	True	LCS	Found	LCS %R	Analysis Date
Silver	6020	SOIL	mg/kg	<0.010	2.50		2.44	97.6	10/25/06
Aluminum	6010B	SOIL	mg/kg	<3	100		105	105.0	11/05/06
Arsenic	6010B	SOIL	mg/kg	<2.5	100		104	104.0	11/05/06
Boron	6010B	SOIL	mg/kg	<4	100		102	102.0	11/05/06
Barium	6010B	SOIL	mg/kg	<0.20	100		104	104.0	11/05/06
Beryllium	6010B	SOIL	mg/kg	<0.20	100		99.7	99.7	11/05/06
Calcium	6010B	SOIL	mg/kg	<4	2000		2100	105.0	11/05/06
Cadmium	6010B	SOIL	mg/kg	<0.20	100		97.7	97.7	11/05/06
Cobalt	6010B	SOIL	mg/kg	<0.60	100		107	107.0	11/05/06
Chromium	6010B	SOIL	mg/kg	<0.60	100		101	101.0	11/05/06
Copper	6020	SOIL	mg/kg	<0.100	2.50		2.45	98.0	10/25/06
Iron	6010B	SOIL	mg/kg	<6	1000		1050	105.0	11/05/06
Potassium	6010B	SOIL	mg/kg	<50	2000		2030	101.5	11/05/06
Lithium	6010B	SOIL	mg/kg	<2.0	100		105	105.0	11/05/06
Manganese	6010B	SOIL	mg/kg	<0.40	100		99.0	99.0	11/05/06
Molybdenum	6010B	SOIL	mg/kg	<0.8	100		108	108.0	11/05/06
Sodium	6010B	SOIL	mg/kg	<50	1900		1970	103.7	11/05/06
Nickel	6010B	SOIL	mg/kg	<1.0	100		96.8	96.8	11/05/06
Lead	6010B	SOIL	mg/kg	<0.75	100		102	102.0	11/05/06
Selenium	6020	SOIL	mg/kg	<0.300	2.50		2.59	103.6	10/25/06
Zinc	6010B	SOIL	mg/kg	<1.0	100		109	109.0	11/05/06
Mercury	7471A	SOIL	mg/kg	<0.033	0.834		0.880	105.5	10/26/06
Acid Generating	EPA600	SOIL	TCaCO3/k	N/A	9.4		9.4	100.0	11/02/06
Acid Neut. Pot.	EPA600	SOIL	TCaCO3/k	N/A	52.0		51.0	98.1	11/02/06
ELECTRICAL COND.	ASA M9	SOIL	mmhos/cm	<0.01	0.30		0.30	100.0	11/02/06
pH Paste	ASA M9	SOIL		5.25	8.45		8.42	99.6	11/02/06
Non-Ext Sulfur,S	LECO	SOIL	%	<0.01	N/A			N/A	11/02/06
Pyritic Sulfur,S	LECO	SOIL	%	<0.01	N/A			N/A	11/02/06
Sulfate Sulfur,S	LECO	SOIL	%	<0.01	N/A			N/A	11/02/06
Total Sulfur, S	LECO	SOIL	%	<0.01	0.30		0.30	100.0	11/02/06

LEGEND:

LCS = Laboratory Control Sample LCS %R = LCS Percent Recovery N/A = Not Applicable

SVL ANALYTICAL, INC.

Quality Control Report
Part II Duplicate and Spike Analysis

Client :GALLAGHER & KENNEDY

SVL JOB No: 125949

Test	Method	Mtx	QC SAMPLE ID	Units	Result	Duplicate Found	or	MSD RPD%	Matrix Spike Result	Matrix Spike SPK ADD	%R	Analysis Date
Ag	6020	S	1	mg/kg	0.263	2.09	M	0.5	2.10	2.50	73.5	10/25/06
Al	6010B	S	1	mg/kg	9430	13300	M	2.3	13000	100	R >4S	11/05/06
As	6010B	S	1	mg/kg	9.3	118	M	0.9	117	100	107.7	11/05/06
B	6010B	S	1	mg/kg	<4	104	M	1.9	102	100	102.0	11/05/06
Ba	6010B	S	1	mg/kg	581	707	M	4.0	679	100	98.0	11/05/06
Be	6010B	S	1	mg/kg	0.80	100	M	3.1	96.9	100	96.1	11/05/06
Ca	6010B	S	1	mg/kg	12900	17200	M	6.0	16200	2000	R >4S	11/05/06
Cd	6010B	S	1	mg/kg	0.58	95.9	M	5.7	90.6	100	90.0	11/05/06
Co	6010B	S	1	mg/kg	10.4	120	M	1.7	118	100	107.6	11/05/06
Cr	6010B	S	1	mg/kg	47.1	150	M	6.2	141	100	93.9	11/05/06
Cu	6020	S	1	mg/kg	174	176	M	0.0	176	2.50	80.0	10/25/06
Fe	6010B	S	1	mg/kg	57000	64100	M	6.6	60000	1000	R >4S	11/05/06
K	6010B	S	1	mg/kg	1400	3770	M	3.5	3640	2000	112.0	11/05/06
Li	6010B	S	1	mg/kg	9.3	121	M	1.7	119	100	109.7	11/05/06
Mn	6010B	S	1	mg/kg	739	867	M	1.0	858	100	119.0	11/05/06
Mo	6010B	S	1	mg/kg	4.8	115	M	1.8	113	100	108.2	11/05/06
Na	6010B	S	1	mg/kg	279	2490	M	2.4	2430	1900	113.2	11/05/06
Ni	6010B	S	1	mg/kg	22.4	125	M	3.3	121	100	98.6	11/05/06
Pb	6010B	S	1	mg/kg	21.80	130	M	3.8	135	100	113.2	11/05/06
Se	6020	S	1	mg/kg	<0.30	1.30	M	0.8	1.29	2.50	51.6	10/25/06
Zn	6010B	S	1	mg/kg	152	276	M	1.1	273	100	121.0	11/05/06
Hg	7471A	S	1	mg/kg	<0.033	0.180	M	2.7	0.185	0.167	110.8	10/26/06
ABP	EPA600	S	1	TCaCO3/	17.3	15.1		13.6	N/A	N/A	N/A	11/02/06
AGP	EPA600	S	1	TCaCO3/	0.3	0.3		0.0	N/A	N/A	N/A	11/02/06
ANP	EPA600	S	1	TCaCO3/	17.6	15.4		13.3	N/A	N/A	N/A	11/02/06
EC	ASA M9	S	1	mmhos/c	0.26	0.26		0.0	N/A	N/A	N/A	11/02/06
pH Pst	ASA M9	S	1		7.97	7.97		0.0	N/A	N/A	N/A	11/02/06
S N-EX	LECO	S	1	%	0.01	<0.01		200.0	N/A	N/A	N/A	11/02/06
S-PYR	LECO	S	1	%	0.01	0.01		0.0	N/A	N/A	N/A	11/02/06
S-SO4	LECO	S	1	%	0.01	0.02		66.7	N/A	N/A	N/A	11/02/06
S-TOT	LECO	S	1	%	0.03	0.04		28.6	N/A	N/A	N/A	11/02/06

LEGEND:

RPD% = (|SAM - DUP| /((SAM + DUP)/2) * 100) UDL = Both SAM & DUP not detected. *Result or *Found: Interference required dilution.

RPD% = (|SPK - MSD| /((SPK + MSD)/2) * 100) M in Duplicate/MSD column indicates MSD.

SPIKE ADD column, A = Post Digest Spike; %R = Percent Recovery N/A = Not Analyzed; R > 4S = Result more than 4X the Spike Added

QC limits for MS recoveries apply only if the spike is at least 1/4 the concentration of the analyte in the sample.

Control limits for the RPD apply only if the concentration of the analyte in the sample is at least five times the reporting limit.

QC Sample 1: SVL SAM No.: 543019 Client Sample ID: AT-1006-19

Cooler temp 16.5° 10-16-06 11:45 RS 125949

Chain of Custody Record

COC No. Apache Tejo SAP - 04

Project Name: Apache Tejo SAP

Client: Gallagher & Kennedy/ Golder Associates

Project Location: Apache Tejo SAP

Sampler(s): Kent Johnejack and Melanie Maguire

Analytical Parameters:
1. Paste pH and EC
2. ABA
3. Total Metals and SPLP (Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Li, Mn, Mo, Na, Ni, Pb, Se, Zn)

• Time taken from sample labels. RS 10-16-06

Sample Date	time	Type Grab	Sample Identification (Field ID)	Matrix	No. of Containers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Chain of Custody Seal#
10/9/2006	• 11:55	X	AT-1006-19	soil	1	X	X	X																		
10/9/2006	12:10	X	AT-1006-20	soil	1	X	X																			
10/9/2006	13:55	X	AT-1006-21	soil	1	X	X	X																		
10/9/2006	14:10	X	AT-1006-22	soil	1	X	X																			
10/9/2006	14:30	X	AT-1006-23	soil	1	X	X	X																		
10/9/2006	14:50	X	AT-1006-24	soil	1	X	X	X																		

~~10-16-06 Hess. to Kent Kent Chino job~~ CRS 10/18/06

Signatures		Date & Time
Relinquished by:	Melanie C. Maguire	10/13/2006 13:00
Received by:		
Relinquished by:		
Received for Laboratory by:	Robin Stribling	10-16-06 11:45

Shipping Details

Method of Shipment: Fed Ex

Airbill No. 7905 8513 4115

Lab Addresses: ATTN: Chris Meyer
SVL
One Government Gulch
Kellogg, ID 83837-0929
Phone: 208-784-1258
Fax: 208-783-0891

Special Instructions

Any questions, please call Melanie Maguire or Kent Johnejack at 520-888-8818. Please send results to Golder Associates at 4730 N. Oracle Rd, Suite 210, Tucson, AZ 85705.

SAMPLE RECEIPT CONFIRMATION

SVL ANALYTICAL, INC.
One Government Gulch - Kellogg, ID 83837-0929

CLIENT: DALVA MOELLENBERG
GALLAGHER & KENNEDY
2575 E. CAMELBACK ROAD

PHOENIX AZ 85016-9225
FAX: (602)530-8500 PH: (602)530-8223 Fax:

We will invoice: SAME

SOIL GOLDER ABA/PASTE/METALS
SVL JOB No: 125949
Received: 10/16/06
Expected Due date: 10/30/06

SVL#	M	ClientID	Sampled	Time	By	Received	Sample Comments
543019	S	AT-1006-19	10/09/06	11:55		10/16/06	Tests:GAL/KEN APACHE SOIL|ABA + Sulfur Forms|
543020	S	AT-1006-20	10/09/06	12:10		10/16/06	Tests:GAL/KEN APACHE SOIL|ABA + Sulfur Forms|
543021	S	AT-1006-21	10/09/06	13:55		10/16/06	Tests:GAL/KEN APACHE SOIL|ABA + Sulfur Forms|
543022	S	AT-1006-22	10/09/06	14:10		10/16/06	Tests:GAL/KEN APACHE SOIL|ABA + Sulfur Forms|
543023	S	AT-1006-23	10/09/06	14:30		10/16/06	Tests:GAL/KEN APACHE SOIL|ABA + Sulfur Forms|
543024	S	AT-1006-24	10/09/06	14:50		10/16/06	Tests:GAL/KEN APACHE SOIL|ABA + Sulfur Forms|

ADDITIONAL COMMENTS FOR JOB: Sample Cooler temp: 16.°C.

[ ] These samples will be DISPOSED 45 days after job completion.
[X] These samples will be ARCHIVED 45 days, then you will receive a letter requesting disposal options.

Please contact Crystal Sevy (208-784-1258) if you have questions regarding the receipt of these samples. 10/18/06 17:57

APPENDIX B-4
SPLP DATA

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-02
Sample Collected: 10/08/06 10:15
Sample Receipt : 10/16/06
Date of Report : 11/07/06

SVL JOB: 125947
SAMPLE: 542979

Matrix: ESOIL
Extraction: SPLP

Determination	Result	Units	Method	Analyzed
Calcium	10.8	mg/L Ext	6010B	11/05/06
Potassium	1.62	mg/L Ext	6010B	11/05/06
Sodium	2.78	mg/L Ext	6010B	11/05/06
Silver	<0.00010	mg/L Ext	6020	11/02/06
Aluminum	0.44	mg/L Ext	6010B	11/05/06
Arsenic	<0.025	mg/L Ext	6010B	11/05/06
Boron	<0.04	mg/L Ext	6010B	11/05/06
Barium	0.0062	mg/L Ext	6010B	11/05/06
Beryllium	<0.0020	mg/L Ext	6010B	11/05/06
Cadmium	<0.0020	mg/L Ext	6010B	11/05/06
Cobalt	<0.0060	mg/L Ext	6010B	11/05/06
Chromium	<0.0060	mg/L Ext	6010B	11/05/06
Copper	0.0249	mg/L Ext	6020	11/02/06
Iron	0.34	mg/L Ext	6010B	11/05/06
Mercury	<0.00020	mg/L Ext	7470A	11/07/06
Lithium	<0.020	mg/L Ext	6010B	11/05/06
Manganese	0.0067	mg/L Ext	6010B	11/05/06
Molybdenum	<0.008	mg/L Ext	6010B	11/05/06
Nickel	<0.010	mg/L Ext	6010B	11/05/06
Lead	<0.0075	mg/L Ext	6010B	11/05/06
Selenium	<0.0030	mg/L Ext	6020	11/02/06
Zinc	<0.010	mg/L Ext	6010B	11/05/06

NO DATE ON SAMPLE LABEL

Reviewed By: _____ Date 11/7/06
11/07/06 16:06

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-03
Sample Collected: 10/08/06 10:25
Sample Receipt : 10/16/06
Date of Report : 11/07/06

SVL JOB: 125947
SAMPLE: 542980

Matrix: ESOIL
Extraction: SPLP

Determination	Result	Units	Method	Analyzed
Calcium	13.2	mg/L Ext	6010B	11/05/06
Potassium	1.31	mg/L Ext	6010B	11/05/06
Sodium	1.62	mg/L Ext	6010B	11/05/06
Silver	<0.00010	mg/L Ext	6020	11/02/06
Aluminum	0.24	mg/L Ext	6010B	11/05/06
Arsenic	<0.025	mg/L Ext	6010B	11/05/06
Boron	<0.04	mg/L Ext	6010B	11/05/06
Barium	0.0193	mg/L Ext	6010B	11/05/06
Beryllium	<0.0020	mg/L Ext	6010B	11/05/06
Cadmium	<0.0020	mg/L Ext	6010B	11/05/06
Cobalt	<0.0060	mg/L Ext	6010B	11/05/06
Chromium	<0.0060	mg/L Ext	6010B	11/05/06
Copper	0.0154	mg/L Ext	6020	11/02/06
Iron	0.35	mg/L Ext	6010B	11/05/06
Mercury	<0.00020	mg/L Ext	7470A	11/07/06
Lithium	<0.020	mg/L Ext	6010B	11/05/06
Manganese	0.0083	mg/L Ext	6010B	11/05/06
Molybdenum	<0.008	mg/L Ext	6010B	11/05/06
Nickel	<0.010	mg/L Ext	6010B	11/05/06
Lead	<0.0075	mg/L Ext	6010B	11/05/06
Selenium	<0.0030	mg/L Ext	6020	11/02/06
Zinc	<0.010	mg/L Ext	6010B	11/05/06

Reviewed By: _____ Date 11/7/06
11/07/06 16:06

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-07
Sample Collected: 10/08/06 14:05
Sample Receipt : 10/16/06
Date of Report : 11/07/06

SVL JOB: 125947
SAMPLE: 542981

Matrix: ESOIL
Extraction: SPLP

Determination	Result	Units	Method	Analyzed
Calcium	121	mg/L Ext	6010B	11/05/06
Potassium	2.96	mg/L Ext	6010B	11/05/06
Sodium	1.86	mg/L Ext	6010B	11/05/06
Silver	<0.00010	mg/L Ext	6020	11/02/06
Aluminum	<0.03	mg/L Ext	6010B	11/05/06
Arsenic	<0.025	mg/L Ext	6010B	11/05/06
Boron	<0.04	mg/L Ext	6010B	11/05/06
Barium	0.0424	mg/L Ext	6010B	11/05/06
Beryllium	<0.0020	mg/L Ext	6010B	11/05/06
Cadmium	<0.0020	mg/L Ext	6010B	11/05/06
Cobalt	<0.0060	mg/L Ext	6010B	11/05/06
Chromium	<0.0060	mg/L Ext	6010B	11/05/06
Copper	0.0048	mg/L Ext	6020	11/02/06
Iron	<0.06	mg/L Ext	6010B	11/05/06
Mercury	<0.00020	mg/L Ext	7470A	11/07/06
Lithium	<0.020	mg/L Ext	6010B	11/05/06
Manganese	<0.0040	mg/L Ext	6010B	11/05/06
Molybdenum	0.023	mg/L Ext	6010B	11/05/06
Nickel	<0.010	mg/L Ext	6010B	11/05/06
Lead	<0.0075	mg/L Ext	6010B	11/05/06
Selenium	<0.0030	mg/L Ext	6020	11/02/06
Zinc	<0.010	mg/L Ext	6010B	11/05/06

SAMPLE ID READS AT-1060-07

Reviewed By: _____ Date 11/7/06
11/07/06 16:06

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-08
Sample Collected: 10/08/06 14:15
Sample Receipt : 10/16/06
Date of Report : 11/07/06

SVL JOB: 125947
SAMPLE: 542982

Matrix: ESOIL
Extraction: SPLP

Determination	Result	Units	Method	Analyzed
Calcium	81.1	mg/L Ext	6010B	11/05/06
Potassium	1.09	mg/L Ext	6010B	11/05/06
Sodium	4.92	mg/L Ext	6010B	11/05/06
Silver	<0.00010	mg/L Ext	6020	11/02/06
Aluminum	0.07	mg/L Ext	6010B	11/05/06
Arsenic	<0.025	mg/L Ext	6010B	11/05/06
Boron	<0.04	mg/L Ext	6010B	11/05/06
Barium	0.0357	mg/L Ext	6010B	11/05/06
Beryllium	<0.0020	mg/L Ext	6010B	11/05/06
Cadmium	<0.0020	mg/L Ext	6010B	11/05/06
Cobalt	<0.0060	mg/L Ext	6010B	11/05/06
Chromium	<0.0060	mg/L Ext	6010B	11/05/06
Copper	0.0014	mg/L Ext	6020	11/02/06
Iron	<0.06	mg/L Ext	6010B	11/05/06
Mercury	<0.00020	mg/L Ext	7470A	11/07/06
Lithium	<0.020	mg/L Ext	6010B	11/05/06
Manganese	<0.0040	mg/L Ext	6010B	11/05/06
Molybdenum	<0.008	mg/L Ext	6010B	11/05/06
Nickel	<0.010	mg/L Ext	6010B	11/05/06
Lead	<0.0075	mg/L Ext	6010B	11/05/06
Selenium	<0.0030	mg/L Ext	6020	11/02/06
Zinc	<0.010	mg/L Ext	6010B	11/05/06

SAMPLE ID READS AT-1060-08

Reviewed By: _____ Date 11/7/06
11/07/06 16:06

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-12
Sample Collected: 10/08/06 15:50
Sample Receipt : 10/16/06
Date of Report : 11/07/06

SVL JOB: 125947
SAMPLE: 542983

Matrix: ESOIL
Extraction: SPLP

Determination	Result	Units	Method	Analyzed
Calcium	8.69	mg/L Ext	6010B	11/05/06
Potassium	2.11	mg/L Ext	6010B	11/05/06
Sodium	3.30	mg/L Ext	6010B	11/05/06
Silver	<0.00010	mg/L Ext	6020	11/02/06
Aluminum	0.36	mg/L Ext	6010B	11/05/06
Arsenic	<0.025	mg/L Ext	6010B	11/05/06
Boron	<0.04	mg/L Ext	6010B	11/05/06
Barium	0.0529	mg/L Ext	6010B	11/05/06
Beryllium	<0.0020	mg/L Ext	6010B	11/05/06
Cadmium	<0.0020	mg/L Ext	6010B	11/05/06
Cobalt	<0.0060	mg/L Ext	6010B	11/05/06
Chromium	<0.0060	mg/L Ext	6010B	11/05/06
Copper	0.0055	mg/L Ext	6020	11/02/06
Iron	0.35	mg/L Ext	6010B	11/05/06
Mercury	<0.00020	mg/L Ext	7470A	11/07/06
Lithium	<0.020	mg/L Ext	6010B	11/05/06
Manganese	0.0073	mg/L Ext	6010B	11/05/06
Molybdenum	<0.008	mg/L Ext	6010B	11/05/06
Nickel	<0.010	mg/L Ext	6010B	11/05/06
Lead	<0.0075	mg/L Ext	6010B	11/05/06
Selenium	<0.0030	mg/L Ext	6020	11/02/06
Zinc	<0.010	mg/L Ext	6010B	11/05/06

SAMPLE ID READS AT-1060-12

Reviewed By: _____ Date 11/7/06
11/07/06 16:06

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-13
Sample Collected: 10/08/06 16:05
Sample Receipt : 10/16/06
Date of Report : 11/07/06

SVL JOB: 125947
SAMPLE: 542984

Matrix: ESOIL
Extraction: SPLP

Determination	Result	Units	Method	Analyzed
Calcium	151	mg/L Ext	6010B	11/05/06
Potassium	8.89	mg/L Ext	6010B	11/05/06
Sodium	1.65	mg/L Ext	6010B	11/05/06
Silver	<0.00010	mg/L Ext	6020	11/02/06
Aluminum	0.10	mg/L Ext	6010B	11/05/06
Arsenic	<0.025	mg/L Ext	6010B	11/05/06
Boron	<0.04	mg/L Ext	6010B	11/05/06
Barium	0.0360	mg/L Ext	6010B	11/05/06
Beryllium	<0.0020	mg/L Ext	6010B	11/05/06
Cadmium	<0.0020	mg/L Ext	6010B	11/05/06
Cobalt	0.0208	mg/L Ext	6010B	11/05/06
Chromium	<0.0060	mg/L Ext	6010B	11/05/06
Copper	1.27	mg/L Ext	6020	11/02/06
Iron	<0.06	mg/L Ext	6010B	11/05/06
Mercury	<0.00020	mg/L Ext	7470A	11/07/06
Lithium	<0.020	mg/L Ext	6010B	11/05/06
Manganese	0.487	mg/L Ext	6010B	11/05/06
Molybdenum	<0.008	mg/L Ext	6010B	11/05/06
Nickel	0.014	mg/L Ext	6010B	11/05/06
Lead	<0.0075	mg/L Ext	6010B	11/05/06
Selenium	<0.0030	mg/L Ext	6020	11/02/06
Zinc	0.159	mg/L Ext	6010B	11/05/06

SAMPLE ID READS AT-1060-13

Reviewed By: _____ Date 11/7/06
11/07/06 16:06

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-15
Sample Collected: 10/09/06 10:20
Sample Receipt : 10/16/06
Date of Report : 11/07/06

SVL JOB: 125947
SAMPLE: 542985

Matrix: ESOIL
Extraction: SPLP

Determination	Result	Units	Method	Analyzed
Calcium	8.33	mg/L Ext	6010B	11/05/06
Potassium	2.19	mg/L Ext	6010B	11/05/06
Sodium	5.37	mg/L Ext	6010B	11/05/06
Silver	0.00033	mg/L Ext	6020	11/02/06
Aluminum	1.76	mg/L Ext	6010B	11/05/06
Arsenic	<0.025	mg/L Ext	6010B	11/05/06
Boron	0.05	mg/L Ext	6010B	11/05/06
Barium	0.0190	mg/L Ext	6010B	11/05/06
Beryllium	<0.0020	mg/L Ext	6010B	11/05/06
Cadmium	<0.0020	mg/L Ext	6010B	11/05/06
Cobalt	<0.0060	mg/L Ext	6010B	11/05/06
Chromium	<0.0060	mg/L Ext	6010B	11/05/06
Copper	0.0221	mg/L Ext	6020	11/02/06
Iron	1.45	mg/L Ext	6010B	11/05/06
Mercury	<0.00020	mg/L Ext	7470A	11/07/06
Lithium	<0.020	mg/L Ext	6010B	11/05/06
Manganese	0.0412	mg/L Ext	6010B	11/05/06
Molybdenum	<0.008	mg/L Ext	6010B	11/05/06
Nickel	<0.010	mg/L Ext	6010B	11/05/06
Lead	<0.0075	mg/L Ext	6010B	11/05/06
Selenium	<0.0030	mg/L Ext	6020	11/02/06
Zinc	0.017	mg/L Ext	6010B	11/05/06

SAMPLE ID READS AT-1060-15

Reviewed By: _____ Date 11/7/06
11/07/06 16:06

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-16
Sample Collected: 10/09/06 10:40
Sample Receipt : 10/16/06
Date of Report : 11/07/06

SVL JOB: 125947
SAMPLE: 542986

Matrix: ESOIL
Extraction: SPLP

Determination	Result	Units	Method	Analyzed
Calcium	8.25	mg/L Ext	6010B	11/05/06
Potassium	1.27	mg/L Ext	6010B	11/05/06
Sodium	3.97	mg/L Ext	6010B	11/05/06
Silver	<0.00010	mg/L Ext	6020	11/02/06
Aluminum	0.32	mg/L Ext	6010B	11/05/06
Arsenic	<0.025	mg/L Ext	6010B	11/05/06
Boron	<0.04	mg/L Ext	6010B	11/05/06
Barium	0.0165	mg/L Ext	6010B	11/05/06
Beryllium	<0.0020	mg/L Ext	6010B	11/05/06
Cadmium	<0.0020	mg/L Ext	6010B	11/05/06
Cobalt	<0.0060	mg/L Ext	6010B	11/05/06
Chromium	<0.0060	mg/L Ext	6010B	11/05/06
Copper	0.0015	mg/L Ext	6020	11/02/06
Iron	0.44	mg/L Ext	6010B	11/05/06
Mercury	<0.00020	mg/L Ext	7470A	11/07/06
Lithium	<0.020	mg/L Ext	6010B	11/05/06
Manganese	0.0067	mg/L Ext	6010B	11/05/06
Molybdenum	<0.008	mg/L Ext	6010B	11/05/06
Nickel	<0.010	mg/L Ext	6010B	11/05/06
Lead	<0.0075	mg/L Ext	6010B	11/05/06
Selenium	<0.0030	mg/L Ext	6020	11/02/06
Zinc	<0.010	mg/L Ext	6010B	11/05/06

SAMPLE ID READS AT-1060-16

Reviewed By: _____ Date 11/7/06
11/07/06 16:06

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-17
Sample Collected: 10/09/06 10:55
Sample Receipt : 10/16/06
Date of Report : 11/07/06

SVL JOB: 125947
SAMPLE: 543972

Matrix: ESOIL
Extraction: SPLP

Determination	Result	Units	Method	Analyzed
Calcium	8.32	mg/L Ext	6010B	11/05/06
Potassium	1.19	mg/L Ext	6010B	11/05/06
Sodium	10.9	mg/L Ext	6010B	11/05/06
Silver	<0.00010	mg/L Ext	6020	11/02/06
Aluminum	3.39	mg/L Ext	6010B	11/05/06
Arsenic	<0.025	mg/L Ext	6010B	11/05/06
Boron	0.09	mg/L Ext	6010B	11/05/06
Barium	0.0154	mg/L Ext	6010B	11/05/06
Beryllium	<0.0020	mg/L Ext	6010B	11/05/06
Cadmium	<0.0020	mg/L Ext	6010B	11/05/06
Cobalt	<0.0060	mg/L Ext	6010B	11/05/06
Chromium	<0.0060	mg/L Ext	6010B	11/05/06
Copper	0.0062	mg/L Ext	6020	11/02/06
Iron	2.53	mg/L Ext	6010B	11/05/06
Mercury	<0.00020	mg/L Ext	7470A	11/07/06
Lithium	<0.020	mg/L Ext	6010B	11/05/06
Manganese	0.0186	mg/L Ext	6010B	11/05/06
Molybdenum	<0.008	mg/L Ext	6010B	11/05/06
Nickel	<0.010	mg/L Ext	6010B	11/05/06
Lead	<0.0075	mg/L Ext	6010B	11/05/06
Selenium	<0.0030	mg/L Ext	6020	11/02/06
Zinc	0.051	mg/L Ext	6010B	11/05/06

SAMPLE ID READS AT-1060-17

Reviewed By: _____ Date 11/7/06
11/07/06 16:06

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-18
Sample Collected: 10/09/06 11:10
Sample Receipt : 10/16/06
Date of Report : 11/07/06

SVL JOB: 125947
SAMPLE: 543973

Matrix: ESOIL
Extraction: SPLP

Determination	Result	Units	Method	Analyzed
Calcium	19.6	mg/L Ext	6010B	11/05/06
Potassium	1.51	mg/L Ext	6010B	11/05/06
Sodium	1.90	mg/L Ext	6010B	11/05/06
Silver	<0.00010	mg/L Ext	6020	11/02/06
Aluminum	0.31	mg/L Ext	6010B	11/05/06
Arsenic	<0.025	mg/L Ext	6010B	11/05/06
Boron	<0.04	mg/L Ext	6010B	11/05/06
Barium	0.0307	mg/L Ext	6010B	11/05/06
Beryllium	<0.0020	mg/L Ext	6010B	11/05/06
Cadmium	<0.0020	mg/L Ext	6010B	11/05/06
Cobalt	<0.0060	mg/L Ext	6010B	11/05/06
Chromium	<0.0060	mg/L Ext	6010B	11/05/06
Copper	0.0016	mg/L Ext	6020	11/02/06
Iron	0.18	mg/L Ext	6010B	11/05/06
Mercury	<0.00020	mg/L Ext	7470A	11/07/06
Lithium	<0.020	mg/L Ext	6010B	11/05/06
Manganese	<0.0040	mg/L Ext	6010B	11/05/06
Molybdenum	<0.008	mg/L Ext	6010B	11/05/06
Nickel	<0.010	mg/L Ext	6010B	11/05/06
Lead	<0.0075	mg/L Ext	6010B	11/05/06
Selenium	<0.0030	mg/L Ext	6020	11/02/06
Zinc	<0.010	mg/L Ext	6010B	11/05/06

SAMPLE ID READS AT-1060-18

Reviewed By: _____ Date 11/7/06
11/07/06 16:06

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-19
Sample Collected: 10/09/06 11:35
Sample Receipt : 10/16/06
Date of Report : 11/07/06

SVL JOB: 125947
SAMPLE: 543974

Matrix: ESOIL
Extraction: SPLP

Determination	Result	Units	Method	Analyzed
Calcium	8.10	mg/L Ext	6010B	11/05/06
Potassium	2.42	mg/L Ext	6010B	11/05/06
Sodium	5.59	mg/L Ext	6010B	11/05/06
Silver	<0.00010	mg/L Ext	6020	11/02/06
Aluminum	2.52	mg/L Ext	6010B	11/05/06
Arsenic	<0.025	mg/L Ext	6010B	11/05/06
Boron	<0.04	mg/L Ext	6010B	11/05/06
Barium	0.0306	mg/L Ext	6010B	11/05/06
Beryllium	<0.0020	mg/L Ext	6010B	11/05/06
Cadmium	<0.0020	mg/L Ext	6010B	11/05/06
Cobalt	<0.0060	mg/L Ext	6010B	11/05/06
Chromium	<0.0060	mg/L Ext	6010B	11/05/06
Copper	0.0359	mg/L Ext	6020	11/02/06
Iron	2.22	mg/L Ext	6010B	11/05/06
Mercury	<0.00020	mg/L Ext	7470A	11/07/06
Lithium	<0.020	mg/L Ext	6010B	11/05/06
Manganese	0.0424	mg/L Ext	6010B	11/05/06
Molybdenum	<0.008	mg/L Ext	6010B	11/05/06
Nickel	<0.010	mg/L Ext	6010B	11/05/06
Lead	<0.0075	mg/L Ext	6010B	11/05/06
Selenium	<0.0030	mg/L Ext	6020	11/02/06
Zinc	0.023	mg/L Ext	6010B	11/05/06

Reviewed By: _____ Date 11/7/06
11/07/06 16:06

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-21
Sample Collected: 10/09/06 13:55
Sample Receipt : 10/16/06
Date of Report : 11/07/06

SVL JOB: 125947
SAMPLE: 543975

Matrix: ESOIL
Extraction: SPLP

Determination	Result	Units	Method	Analyzed
Calcium	16.5	mg/L Ext	6010B	11/05/06
Potassium	1.88	mg/L Ext	6010B	11/05/06
Sodium	3.12	mg/L Ext	6010B	11/05/06
Silver	<0.00010	mg/L Ext	6020	11/02/06
Aluminum	0.67	mg/L Ext	6010B	11/05/06
Arsenic	<0.025	mg/L Ext	6010B	11/05/06
Boron	<0.04	mg/L Ext	6010B	11/05/06
Barium	0.0458	mg/L Ext	6010B	11/05/06
Beryllium	<0.0020	mg/L Ext	6010B	11/05/06
Cadmium	<0.0020	mg/L Ext	6010B	11/05/06
Cobalt	<0.0060	mg/L Ext	6010B	11/05/06
Chromium	<0.0060	mg/L Ext	6010B	11/05/06
Copper	0.0028	mg/L Ext	6020	11/02/06
Iron	0.45	mg/L Ext	6010B	11/05/06
Mercury	<0.00020	mg/L Ext	7470A	11/07/06
Lithium	<0.020	mg/L Ext	6010B	11/05/06
Manganese	0.0055	mg/L Ext	6010B	11/05/06
Molybdenum	<0.008	mg/L Ext	6010B	11/05/06
Nickel	<0.010	mg/L Ext	6010B	11/05/06
Lead	<0.0075	mg/L Ext	6010B	11/05/06
Selenium	<0.0030	mg/L Ext	6020	11/02/06
Zinc	<0.010	mg/L Ext	6010B	11/05/06

Reviewed By: _____ Date 11/7/06
11/07/06 16:06

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-23
Sample Collected: 10/09/06 14:30
Sample Receipt : 10/16/06
Date of Report : 11/07/06

SVL JOB: 125947
SAMPLE: 543976

Matrix: ESOIL
Extraction: SPLP

Determination	Result	Units	Method	Analyzed
Calcium	20.4	mg/L Ext	6010B	11/05/06
Potassium	1.20	mg/L Ext	6010B	11/05/06
Sodium	5.86	mg/L Ext	6010B	11/05/06
Silver	<0.00010	mg/L Ext	6020	11/02/06
Aluminum	0.06	mg/L Ext	6010B	11/05/06
Arsenic	<0.025	mg/L Ext	6010B	11/05/06
Boron	<0.04	mg/L Ext	6010B	11/05/06
Barium	0.0591	mg/L Ext	6010B	11/05/06
Beryllium	<0.0020	mg/L Ext	6010B	11/05/06
Cadmium	<0.0020	mg/L Ext	6010B	11/05/06
Cobalt	<0.0060	mg/L Ext	6010B	11/05/06
Chromium	<0.0060	mg/L Ext	6010B	11/05/06
Copper	<0.0010	mg/L Ext	6020	11/02/06
Iron	0.08	mg/L Ext	6010B	11/05/06
Mercury	<0.00020	mg/L Ext	7470A	11/07/06
Lithium	<0.020	mg/L Ext	6010B	11/05/06
Manganese	<0.0040	mg/L Ext	6010B	11/05/06
Molybdenum	<0.008	mg/L Ext	6010B	11/05/06
Nickel	<0.010	mg/L Ext	6010B	11/05/06
Lead	<0.0075	mg/L Ext	6010B	11/05/06
Selenium	<0.0030	mg/L Ext	6020	11/02/06
Zinc	<0.010	mg/L Ext	6010B	11/05/06

Reviewed By: _____ Date 11/7/06
11/07/06 16:06

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: AZ AZ0538

CLIENT : GALLAGHER & KENNEDY
PROJECT:
CLIENT SAMPLE ID: AT-1006-24
Sample Collected: 10/09/06 14:50
Sample Receipt : 10/16/06
Date of Report : 11/07/06

SVL JOB: 125947
SAMPLE: 543977

Matrix: ESOIL
Extraction: SPLP

Determination	Result	Units	Method	Analyzed
Calcium	7.67	mg/L Ext	6010B	11/05/06
Potassium	2.48	mg/L Ext	6010B	11/05/06
Sodium	3.80	mg/L Ext	6010B	11/05/06
Silver	<0.00010	mg/L Ext	6020	11/02/06
Aluminum	1.36	mg/L Ext	6010B	11/05/06
Arsenic	<0.025	mg/L Ext	6010B	11/05/06
Boron	<0.04	mg/L Ext	6010B	11/05/06
Barium	0.0268	mg/L Ext	6010B	11/05/06
Beryllium	<0.0020	mg/L Ext	6010B	11/05/06
Cadmium	<0.0020	mg/L Ext	6010B	11/05/06
Cobalt	<0.0060	mg/L Ext	6010B	11/05/06
Chromium	<0.0060	mg/L Ext	6010B	11/05/06
Copper	0.0053	mg/L Ext	6020	11/02/06
Iron	1.13	mg/L Ext	6010B	11/05/06
Mercury	<0.00020	mg/L Ext	7470A	11/07/06
Lithium	<0.020	mg/L Ext	6010B	11/05/06
Manganese	0.0199	mg/L Ext	6010B	11/05/06
Molybdenum	<0.008	mg/L Ext	6010B	11/05/06
Nickel	<0.010	mg/L Ext	6010B	11/05/06
Lead	<0.0075	mg/L Ext	6010B	11/05/06
Selenium	<0.0030	mg/L Ext	6020	11/02/06
Zinc	0.012	mg/L Ext	6010B	11/05/06

Reviewed By: _____ Date 11/7/06
11/07/06 16:06

AZ: AZ0538 CA: CERT NO. 2080 CO: CERT NO. ID00019 ID: ID00019 MT: CERT. 0027 NV: CERT. ID19 WA: C1268

SVL ANALYTICAL, INC.

Quality Control Report
Part I Prep Blank and Laboratory Control Sample

Client :GALLAGHER & KENNEDY

SVL JOB No: 125947

Analyte	Method	Matrix	Units	Prep Blank	True	LCS	Found	LCS %R	Analysis Date
Silver	6020	ESOIL	mg/L Ext	<0.00010	0.0250		0.0285	114.0	11/02/06
Aluminum	6010B	ESOIL	mg/L Ext	<0.03	1.00		1.06	106.0	11/05/06
Arsenic	6010B	ESOIL	mg/L Ext	<0.025	1.00		0.996	99.6	11/05/06
Boron	6010B	ESOIL	mg/L Ext	<0.04	1.00		1.04	104.0	11/05/06
Barium	6010B	ESOIL	mg/L Ext	<0.0020	1.00		1.05	105.0	11/05/06
Beryllium	6010B	ESOIL	mg/L Ext	<0.0020	1.00		1.02	102.0	11/05/06
Calcium	6010B	ESOIL	mg/L Ext	<0.04	20.0		21.2	106.0	11/05/06
Cadmium	6010B	ESOIL	mg/L Ext	<0.0020	1.00		1.01	101.0	11/05/06
Cobalt	6010B	ESOIL	mg/L Ext	<0.0060	1.00		1.02	102.0	11/05/06
Chromium	6010B	ESOIL	mg/L Ext	<0.0060	1.00		1.03	103.0	11/05/06
Copper	6020	ESOIL	mg/L Ext	<0.0010	0.0250		0.0278	111.2	11/02/06
Iron	6010B	ESOIL	mg/L Ext	<0.06	10.0		10.8	108.0	11/05/06
Potassium	6010B	ESOIL	mg/L Ext	<0.50	20.0		20.0	100.0	11/05/06
Lithium	6010B	ESOIL	mg/L Ext	<0.020	1.00		1.04	104.0	11/05/06
Manganese	6010B	ESOIL	mg/L Ext	<0.0040	1.00		0.995	99.5	11/05/06
Molybdenum	6010B	ESOIL	mg/L Ext	<0.008	1.00		1.05	105.0	11/05/06
Sodium	6010B	ESOIL	mg/L Ext	<0.50	19.0		19.9	104.7	11/05/06
Nickel	6010B	ESOIL	mg/L Ext	<0.010	1.00		0.966	96.6	11/05/06
Lead	6010B	ESOIL	mg/L Ext	<0.0075	1.00		1.03	103.0	11/05/06
Selenium	6020	ESOIL	mg/L Ext	<0.0030	0.0250		0.0264	105.6	11/02/06
Zinc	6010B	ESOIL	mg/L Ext	<0.010	1.00		1.01	101.0	11/05/06
Mercury	7470A	ESOIL	mg/L Ext	<0.00020	0.00500		0.00501	100.2	11/07/06

LEGEND:
LCS = Laboratory Control Sample LCS %R = LCS Percent Recovery N/A = Not Applicable

SVL ANALYTICAL, INC.

Quality Control Report
Part II Duplicate and Spike Analysis

Client :GALLAGHER & KENNEDY — SVL JOB No: 125947

Test	Method	Mtx	QC SAMPLE ID	Units	Result	Duplicate or MSD Found		RPD%	Matrix Spike Result	Matrix Spike SPK ADD	%R	Analysis Date
Ag	6020	E	1	mg/L Ex	<0.00010	0.0283	M	0.4	0.0284	0.0250	113.6	11/02/06
Ag	6020	E	2	mg/L Ex	<0.00010	N/A		N/A	0.0278	0.0250	111.2	11/02/06
Al	6010B	E	1	mg/L Ex	0.44	1.58	M	1.9	1.55	1.00	111.0	11/05/06
Al	6010B	E	2	mg/L Ex	1.36	N/A		N/A	2.49	1.00	113.0	11/05/06
As	6010B	E	1	mg/L Ex	<0.025	1.01	M	1.2	0.998	1.00	99.8	11/05/06
As	6010B	E	2	mg/L Ex	<0.025	N/A		N/A	1.01	1.00	101.0	11/05/06
B	6010B	E	1	mg/L Ex	<0.04	1.09	M	1.9	1.07	1.00	107.0	11/05/06
B	6010B	E	2	mg/L Ex	<0.04	N/A		N/A	1.08	1.00	108.0	11/05/06
Ba	6010B	E	1	mg/L Ex	0.0062	1.08	M	1.9	1.06	1.00	105.4	11/05/06
Ba	6010B	E	2	mg/L Ex	0.0268	N/A		N/A	1.09	1.00	106.3	11/05/06
Be	6010B	E	1	mg/L Ex	<0.0020	1.04	M	2.9	1.01	1.00	101.0	11/05/06
Be	6010B	E	2	mg/L Ex	<0.0020	N/A		N/A	1.03	1.00	103.0	11/05/06
Ca	6010B	E	1	mg/L Ex	10.8	32.3	M	2.8	31.4	20.0	103.0	11/05/06
Ca	6010B	E	2	mg/L Ex	7.67	N/A		N/A	29.2	20.0	107.7	11/05/06
Cd	6010B	E	1	mg/L Ex	<0.0020	1.03	M	2.0	1.01	1.00	101.0	11/05/06
Cd	6010B	E	2	mg/L Ex	<0.0020	N/A		N/A	1.03	1.00	103.0	11/05/06
Co	6010B	E	1	mg/L Ex	<0.0060	1.01	M	1.0	1.02	1.00	102.0	11/05/06
Co	6010B	E	2	mg/L Ex	<0.0060	N/A		N/A	1.02	1.00	102.0	11/05/06
Cr	6010B	E	1	mg/L Ex	<0.0060	1.05	M	1.9	1.03	1.00	103.0	11/05/06
Cr	6010B	E	2	mg/L Ex	<0.0060	N/A		N/A	1.04	1.00	104.0	11/05/06
Cu	6020	E	1	mg/L Ex	0.0249	0.0525	M	0.8	0.0529	0.0250	112.0	11/02/06
Cu	6020	E	2	mg/L Ex	0.0053	N/A		N/A	0.0309	0.0250	102.4	11/02/06
Fe	6010B	E	1	mg/L Ex	0.34	11.3	M	1.8	11.1	10.0	107.6	11/05/06
Fe	6010B	E	2	mg/L Ex	1.13	N/A		N/A	12.1	10.0	109.7	11/05/06
K	6010B	E	1	mg/L Ex	1.62	22.0	M	1.8	21.6	20.0	99.9	11/05/06
K	6010B	E	2	mg/L Ex	2.48	N/A		N/A	22.5	20.0	100.1	11/05/06
Li	6010B	E	1	mg/L Ex	<0.020	1.05	M	1.9	1.03	1.00	103.0	11/05/06
Li	6010B	E	2	mg/L Ex	<0.020	N/A		N/A	1.02	1.00	102.0	11/05/06
Mn	6010B	E	1	mg/L Ex	0.0067	1.03	M	3.0	1.00	1.00	99.3	11/05/06
Mn	6010B	E	2	mg/L Ex	0.0199	N/A		N/A	1.03	1.00	101.0	11/05/06
Mo	6010B	E	1	mg/L Ex	<0.008	1.07	M	0.9	1.06	1.00	106.0	11/05/06
Mo	6010B	E	2	mg/L Ex	<0.008	N/A		N/A	1.05	1.00	105.0	11/05/06
Na	6010B	E	1	mg/L Ex	2.78	23.0	M	2.2	22.5	19.0	103.8	11/05/06
Na	6010B	E	2	mg/L Ex	3.80	N/A		N/A	23.6	19.0	104.2	11/05/06
Ni	6010B	E	1	mg/L Ex	<0.010	0.978	M	1.5	0.963	1.00	96.3	11/05/06
Ni	6010B	E	2	mg/L Ex	<0.010	N/A		N/A	0.962	1.00	96.2	11/05/06
Pb	6010B	E	1	mg/L Ex	<0.0075	1.05	M	1.0	1.04	1.00	104.0	11/05/06
Pb	6010B	E	2	mg/L Ex	<0.0075	N/A		N/A	1.04	1.00	104.0	11/05/06
Se	6020	E	1	mg/L Ex	<0.0030	0.0266	M	0.4	0.0265	0.0250	106.0	11/02/06
Se	6020	E	2	mg/L Ex	<0.0030	N/A		N/A	0.0251	0.0250	100.4	11/02/06
Zn	6010B	E	1	mg/L Ex	<0.010	1.03	M	2.0	1.01	1.00	101.0	11/05/06
Zn	6010B	E	2	mg/L Ex	0.012	N/A		N/A	1.05	1.00	103.8	11/05/06
Hg	7470A	E	1	mg/L Ex	<0.00020	0.00096	M	3.2	0.00093	0.0010	93.0	11/07/06

LEGEND:

RPD% = (|SAM - DUP| /((SAM + DUP)/2) * 100) UDL = Both SAM & DUP not detected. *Result or *Found: Interference required dilution.

RPD% = (|SPK - MSD| /((SPK + MSD)/2) * 100) M in Duplicate/MSD column indicates MSD.

SPIKE ADD column, A = Post Digest Spike; %R = Percent Recovery N/A = Not Analyzed; R > 4S = Result more than 4X the Spike Added

QC limits for MS recoveries apply only if the spike is at least 1/4 the concentration of the analyte in the sample.

Control limits for the RPD apply only if the concentration of the analyte in the sample is at least five times the reporting limit.

QC Sample 1: SVL SAM No.: 542979 Client Sample ID: AT-1006-02

QC Sample 2: SVL SAM No.: 543977 Client Sample ID: AT-1006-24

SPLP Extraction Log

JOB#: 125947

SVL ANALYTICAL, INC.

CASE #: SAS #: SDG #:

SVL#	M	ClientID	Fluid Type	mls Fluid	Sample Wt.	Tumble Ext. Time	Final pH
		pH 4 Buffer					4.00
		pH 7 Buffer					6.99
542978	ES	EXTRACTION FLUID 1	WESTERN			→	5.00
542979	ES	AT-1006-02	FLUID	2000 mls	100g	18 HR	8.81
542980	ES	AT-1006-03		2000 mls	100g	18 HR	7.44
542981	ES	AT-1006-07		2000 mls	100g	18 HR	8.33
542982	ES	AT-1006-08		2000 mls	100g	18 HR	8.07
542983	ES	AT-1006-12		2000 mls	100g	18 HR	9.07
542984	ES	AT-1006-13		2000 mls	100g	18 HR	5.78
542985	ES	AT-1006-15		2000 mls	100g	18 HR	8.52
542986	ES	AT-1006-16		2000 mls	100g	18 HR	8.60
543972	ES	AT-1006-17		2000 mls	100g	18 HR	9.24
543973	ES	AT-1006-18		2000 mls	100g	18 HR	7.99
543974	ES	AT-1006-19		2000 mls	100g	18 HR	9.33
543975	ES	AT-1006-21		2000 mls	100g	18 HR	8.73
543976	ES	AT-1006-23		2000 mls	100g	18 HR	8.36
543977	ES	AT-1006-24	↓	2000 mls	100g	18 HR	8.52

Extraction Started By: [signature] Date/Time: 10/30/06 1545

Extraction Completed By: [signature] Date/Time: 10/31/06 0945

Client: GALLAGHER & KENNEDY

Received: 10/16/06

v3.0

SOIL JOBS ALSO

ABA Also on Soil Jobs

Cooler temp 16.5 10.16.06 11:45 RS

125947

Chain of Custody Record

COC No. Apache Tejo SAP - 01

Project Name: Apache Tejo SAP	Gallagher & Kennedy/ Golder Associates	1. Paste pH and EC 2. ABA 3. Total Metals and SPLP (Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Li, Mn, Mo, Na, Ni, Pb, Se, Zn)
Project Location: Apache Tejo SAP		
Sampler(s): Kent Johnejack and Melanie Maguire		

Analytical Parameters

* SOIL TOOK Time from Sample labels

Sample Date	Type time	Type Grab	Sample Identification (Field ID)	Matrix	No. of Containers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Chain of Custody Seal#
10/8/2006	*10:00	X	AT-1006-01	soil	1	X	X																			
@ 10/8/2006	10:15	X	AT-1006-02	soil	1	X	X	X								@ No Date on Sample label										
10/8/2006	10:25	X	AT-1006-03	soil	1	X	X	X																		
10/8/2006	11:00	X	AT-1006-04	soil	1	X	X																			
& 10/8/2006	11:45	X	AT-1006-05	soil	1	X	X									✓ Sample ID read AT-1006-05										
10/8/2006	12:50	X	AT-1006-06	soil	1	X	X													RS 10-16-06						

Signatures	Date & Time
Relinquished by: Melanie C. Maguire	10/13/2006 13:00
Received by:	
Relinquished by:	
Received for Laboratory by: Robin Stribling	10.16.06 11:45

Shipping Details

Method of Shipment: Fed Ex

Airbill No. 7922-2294-1082

Lab Addresses: ATTN: Chris Meyer

SVL
One Government Gulch
Kellogg, ID 83837-0929

Phone: 208-784-1258
Fax: 208-783-0891

Special Instructions

Any questions, please call Melanie Maguire or Kent Johnejack at 520-888-8818. Please send results to Golder Associates at 4730 N. Oracle Rd, Suite 210, Tucson, AZ 85705.

Cooler temp 15.8° 10.16.06 11:45 RS

125947

Chain of Custody Record

COC No. Apache Tejo SAP - 02

Project Name: Apache Tejo SAP	Gallagher & Kennedy/ Golder Associates
Project Location: Apache Tejo SAP	
Sampler(s): Kent Johnejack and Melanie Maguire	

1. Paste pH and EC
2. ABA
3. Total Metals and SPLP (Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Li, Mn, Mo, Na, Ni, Pb, Se, Zn)

Analytical Parameters

o SVL Took Time from Sample Labels

Sample Date	Type time	Type Grab	Sample Identification (Field ID)	Matrix	No. of Containers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Chain of Custody Seal#
10/8/2006	o 14:05	X	AT-1006-07	soil	1	X	X	X								↓	ID	on	Sample	label	reads	AT-1060-07				
10/8/2006	1415	X	AT-1006-08	soil	1	X	X	X								↓	ID	on	Sample	label	reads	AT-1060-08				
10/8/2006	14:25	X	AT-1006-09	soil	1	X	X									↓	ID	on	Sample	label	reads	AT-1060-09				
10/8/2006	14:45	X	AT-1006-10	soil	1	X	X									↓	ID	on	Sample	label	reads	AT-1060-10				
10/8/2006	1540	X	AT-1006-11	soil	1	X	X									↓	ID	on	Sample	label	reads	~~AT-1060-11~~ RS AT-1060-11				
10/8/2006	1550	X	AT-1006-12	soil	1	X	X	X								↓	ID	on	Sample	label	reads	AT-1060-12				
																			RS 10-16-06							

Special Instructions

Any questions, please call Melanie Maguire or Kent Johnejack at 520-888-8818. Please send results to Golder Associates at 4730 N. Oracle Rd, Suite 210, Tucson, AZ 85705.

Signatures	Date & Time
Relinquished by: Melanie C. Maguire	10/13/2006 13:00
Received by:	
Relinquished by:	
Received for Laboratory by: Robin Stribling	10-16-06 11:45

Shipping Details

Method of Shipment: Fed Ex

Airbill No. 7905 8513 4468

Lab Addresses: ATTN: Chris Meyer

SVL
One Government Gulch
Kellogg, ID 83837-0929

Phone: 208-784-1258
Fax: 208-783-0891

Cooler temp 16.6° 10.16.06 11:45 RS

125947

Chain of Custody Record

COC No. Apache Tejo SAP - 03

Project Name: Apache Tejo SAP	Gallagher & Kennedy/ Golder Associates
Project Location: Apache Tejo SAP	
Sampler(s): Kent Johnejack and Melanie Maguire	

Analytical Parameters

1. Paste pH and EC
2. ABA
3. Total Metals and SPLP (Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Li, Mn, Mo, Na, Ni, Pb, Se, Zn)

* time taken from sample labels.

Sample Date	* time	Type Grab	Sample Identification (Field ID)	Matrix	No. of Containers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Chain of Custody Seal#
10/8/2006	1605	X	AT-1006-13	soil	1	X	X	X							*	ID	on	Sample	label	heads						AT-1060-13
10/8/2006	16:20	X	AT-1006-14	soil	1	X	X								*											AT-1060-14
10/9/2006	10:20	X	AT-1006-15	soil	1	X	X	X							*											AT-1060-15
10/9/2006	1040	X	AT-1006-16	soil	1	X	X	X																		
10/9/2006	1055	X	AT-1006-17	soil	1	X	X	X												RS	10.16.06					
10/9/2006	1110	X	AT-1006-18	soil	1	X	X	X																		

Signatures	Date & Time
Relinquished by: Melanie C. Maguire	10/13/2006 13:00
Received by:	
Relinquished by:	
Received for Laboratory by: Robin Stribling	10.16.06 11.45

Shipping Details

Method of Shipment: Fed Ex

Airbill No. 7900 9353 6786

Lab Addresses: ATTN: Chris Meyer

SVL
One Government Gulch
Kellogg, ID 83837-0929

Phone: 208-784-1258
Fax: 208-783-0891

Special Instructions

Any questions, please call Melanie Maguire or Kent Johnejack at 520-888-8818. Please send results to Golder Associates at 4730 N. Oracle Rd, Suite 210, Tucson, AZ 85705.

Cooler temp 16.5° 10/16/06 11:45 RS-

125947, ~~25950~~ CRS

Chain of Custody Record

COC No. Apache Tejo SAP - 04

Project Name: Apache Tejo SAP	Client: Gallagher & Kennedy/ Golder Associates
Project Location: Apache Tejo SAP	
Sampler(s): Kent Johnejack and Melanie Maguire	

Analytical Parameters

1. Paste pH and EC
2. ABA
3. Total Metals and SPLP (Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Li, Mn, Mo, Na, Ni, Pb, Se, Zn)

* Time taken from sample labels. RS 10.16.06

Sample Date	Type: time	Type: Grab	Sample Identification (Field ID)	Matrix	No. of Containers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Chain of Custody Seal#
10/9/2006	*11:35	X	AT-1006-19	soil	1	X	X	X																		
10/9/2006	12:10	X	AT-1006-20	soil	1	X	X																			
10/9/2006	13:55	X	AT-1006-21	soil	1	X	X	X																		
10/9/2006	14:10	X	AT-1006-22	soil	1	X	X																			
10/9/2006	14:30	X	AT-1006-23	soil	1	X	X	X																		
10/9/2006	14:50	X	AT-1006-24	soil	1	X	X	X																		

COPY

Special Instructions

Any questions, please call Melanie Maguire or Kent Johnejack at 520-888-8818. Please send results to Golder Associates at 4730 N. Oracle Rd, Suite 210, Tucson, AZ 85705.

Signatures	Date & Time
Relinquished by: Melanie C. Maguire	10/13/2006 13:00
Received by:	
Relinquished by:	
Received for Laboratory by: Robin Stribling	10/16/06 11:45

Shipping Details

Method of Shipment: Fed Ex

Airbill No. 7905 8513 4115

Lab Addresses: ATTN: Chris Meyer

SVL
One Government Gulch
Kellogg, ID 83837-0929

Phone: 208-784-1258
Fax: 208-783-0891

SVL ANALYTICAL, INC.
One Government Gulch - Kellogg, ID 83837-0929

SAMPLE RECEIPT CONFIRMATION

SOIL GOLDER SPLP APACHE SAMPLE
SVL JOB No: 125947
Received: 10/16/06
Expected Due date: 10/30/06

CLIENT: DALVA MOELLENBERG
GALLAGHER & KENNEDY
2575 E. CAMELBACK ROAD
PHOENIX AZ 85016-9225
FAX: (602)530-8500 PH: (602)530-8223 Fax:

We will invoice: SAME

SVL#	M	ClientID	Sampled	Time	By	Received	Sample Comments
542978	E	EXTRACTION FLUID 1	/ /	:		10/16/06	Tests:GALL/KENN SPLP|GAL/KEN APACHE SPLP|
542979	E	AT-1006-02	10/08/06	10:15	KJ	10/16/06	NO DATE ON SAMPLE LABEL Tests:GALL/KENN SPLP|GAL/KEN APACHE SPLP|
542980	E	AT-1006-03	10/08/06	10:25	KJ	10/16/06	Tests:GALL/KENN SPLP|GAL/KEN APACHE SPLP|
542981	E	AT-1006-07	10/08/06	14:05	KJ	10/16/06	SAMPLE ID READS AT-1060-07 Tests:GALL/KENN SPLP|GAL/KEN APACHE SPLP|
542982	E	AT-1006-08	10/08/06	14:15	KJ	10/16/06	SAMPLE ID READS AT-1060-08 Tests:GALL/KENN SPLP|GAL/KEN APACHE SPLP|
542983	E	AT-1006-12	10/08/06	15:50	KJ	10/16/06	SAMPLE ID READS AT-1060-12 Tests:GALL/KENN SPLP|GAL/KEN APACHE SPLP|
542984	E	AT-1006-13	10/08/06	16:05	KJ	10/16/06	SAMPLE ID READS AT-1060-13 Tests:GALL/KENN SPLP|GAL/KEN APACHE SPLP|
542985	E	AT-1006-15	10/09/06	10:20	KJ	10/16/06	SAMPLE ID READS AT-1060-15 Tests:GALL/KENN SPLP|GAL/KEN APACHE SPLP|
542986	E	AT-1006-16	10/09/06	10:40	KJ	10/16/06	SAMPLE ID READS AT-1060-16 Tests:GALL/KENN SPLP|GAL/KEN APACHE SPLP|
543972	E	AT-1006-17	10/09/06	10:55	KJ	10/16/06	SAMPLE ID READS AT-1060-17 Tests:GALL/KENN SPLP|GAL/KEN APACHE SPLP|
543973	E	AT-1006-18	10/09/06	11:10	KJ	10/16/06	SAMPLE ID READS AT-1060-18 Tests:GALL/KENN SPLP|GAL/KEN APACHE SPLP|
543974	E	AT-1006-19	10/09/06	11:35	KJ	10/16/06	Tests:GALL/KENN SPLP|GAL/KEN APACHE SPLP|
543975	E	AT-1006-21	10/09/06	13:55	KJ	10/16/06	Tests:GALL/KENN SPLP|GAL/KEN APACHE SPLP|
543976	E	AT-1006-23	10/09/06	14:30	KJ	10/16/06	Tests:GALL/KENN SPLP|GAL/KEN APACHE SPLP|
543977	E	AT-1006-24	10/09/06	14:50	KJ	10/16/06	Tests:GALL/KENN SPLP|GAL/KEN APACHE SPLP|

ADDITIONAL COMMENTS FOR JOB: Sample Cooler temp: 16.°C.

[ ] These samples will be DISPOSED 45 days after job completion.
[X] These samples will be ARCHIVED 45 days, then you will receive a letter requesting disposal options.

Please contact Crystal Sevy (208-784-1258) if you have questions regarding the receipt of these samples. 10/18/06 19:23

APPENDIX C

Photograph Comparisons

GOLDER

Apache Tejo Wash

PHOTOGRAPH AND AERIAL IMAGE COMPARISON OVER TIME

April 2021

Apache-Tejo Wash Photo and Image Comparison

CHANNEL CHANGES OVER TIME

- Purpose: qualitatively compare photographs and aerial images over time with respect to channel changes.
- Timeframe: 2004 to 2020.
- Photosets available:
  - December 2004. Initial reconnaissance.
  - October 2006. Channel sampling event.
  - October 2008. Additional reconnaissance.
  - August 2019. Recent reconnaissance.
  - January 2020. Recent reconnaissance.
- Aerial images available: 1935, 1974, 1996, and 2016.

Apache – Tejo Wash Photo Comparison

GENERAL CHANNEL CONDITIONS STA. 56.0

October 2006. General channel conditions. Looking upstream.

January 2020. General channel conditions. Looking upstream.

No major changes.

GPS

Latitude	32; 39; 19.52777814630835
Longitude	108; 7; 39.2141423653811216
Altitude	1653.3374550958597

Apache – Tejo Wash Photo Comparison

WILLOW THICKET STA. 51.0 TO 49.0

October 2006. General conditions at Willow Thicket. Willows in good condition.

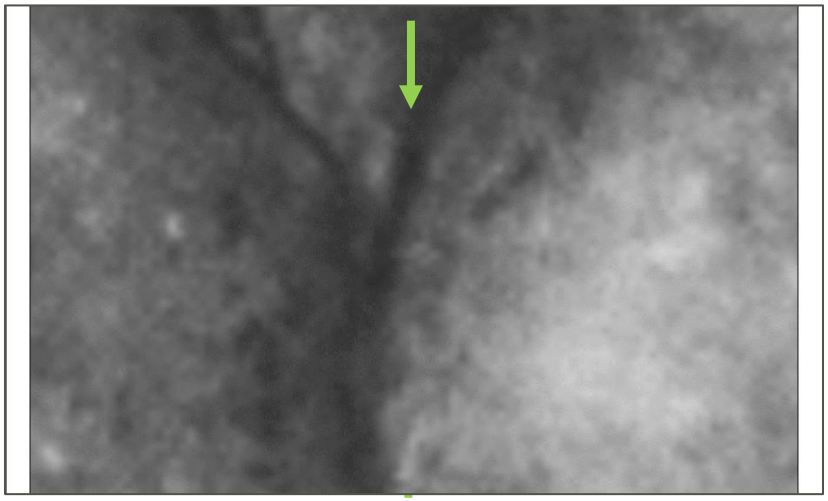
August 2019. General conditions at Willow Thicket. Willows drying out/dying. Overflows from the upstream water supply tank that sustained vegetation in the past have now decreased or ceased.

Photograph not exactly at same spot as 2006 photograph.

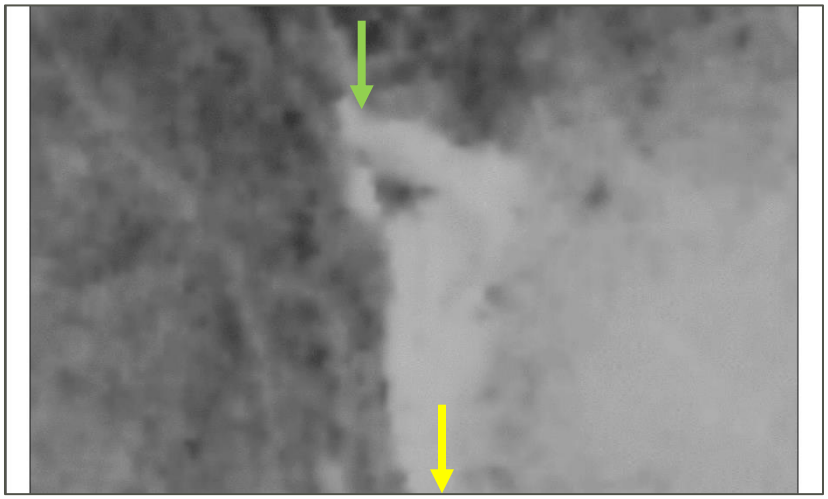
GPS Coordinates Unavailable

Apache-Tejo Wash Aerial Comparison

WILLOW THICKET STA. 51.0 TO 49.0



1935. Image from EDAC at UNM.



1974. Image from EDAC at UNM.

Presumed tailing accumulation sometime between 1935 and 1974.

1935
1974
1996
2016

NTS

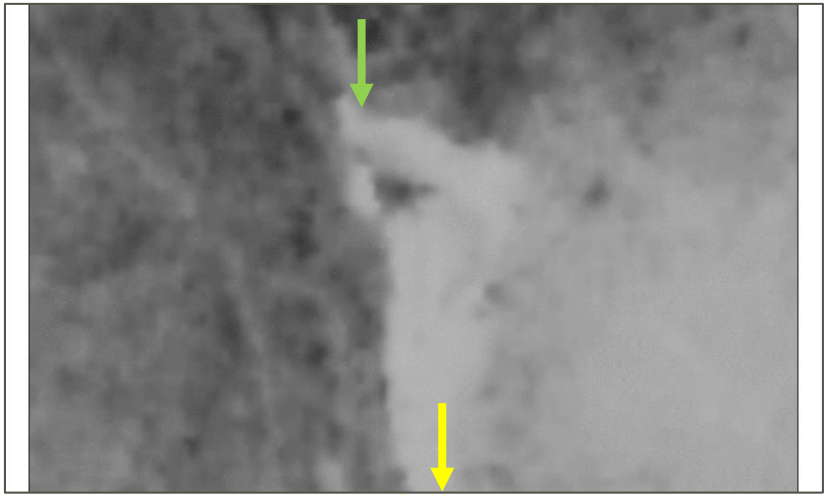
N

Direction of flow is north to south.

GOLDER

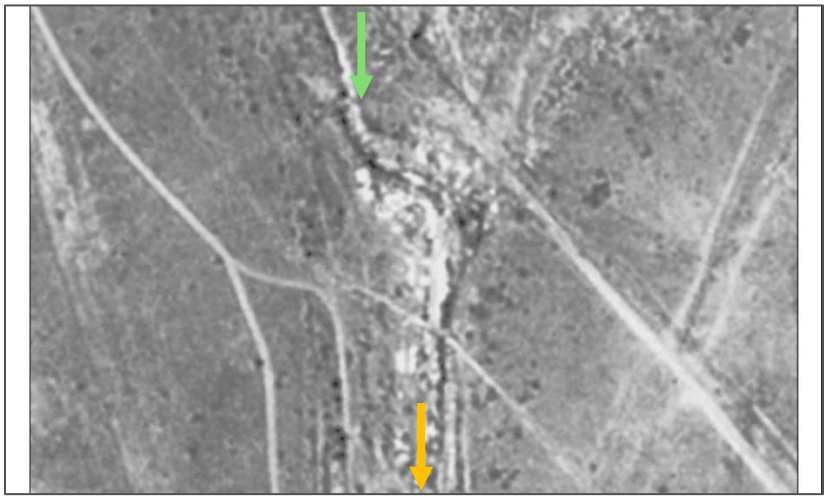
Apache-Tejo Wash Aerial Comparison (cont'd)

WILLOW THICKET STA. 51.0 TO 49.0



1974. Image from EDAC at UNM.

Presumed tailing accumulation sometime between 1935 and 1974.



1996. Image from EDAC at UNM.

Sediment accumulation over presumed tailings and/or volunteer revegetation between 1974 and 1996.

1935
1974
1996
2016

NTS

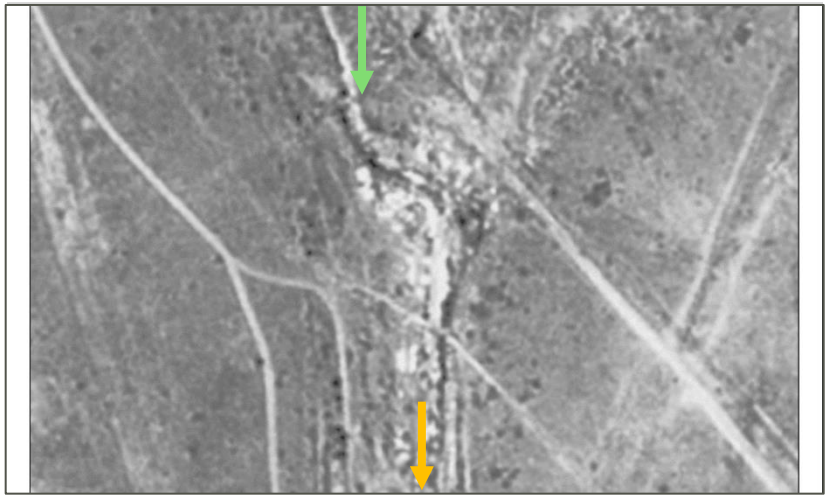
N

Direction of flow is north to south.

GOLDER

Apache-Tejo Wash Aerial Comparison (cont'd)

WILLOW THICKET 51.0 TO 49.0



1996. Image from EDAC at UNM.

Sediment accumulation over presumed tailings and/or volunteer revegetation between 1974 and 1996.

2016. Image from Google Earth.

Groundwater supply well / tank installed between 1996 and 2016. Tank overflows allow dense willow thicket to grow. Field recon in 2020 indicated the overflows have stopped and the willows are dying.

1935
1974
1996
2016

NTS

N

Direction of flow is north to south.

GOLDER

Apache-Tejo Wash Photo Comparison

EDWARDS RANCH EAST HEADCUTS STA. 47.0 TO 46.0

October 2008. East headcut at Edwards Ranch. Looking upstream.

January 2020. East headcut at Edwards Ranch. Looking upstream.

More vegetation present and headcut appears stable.

GPS

Latitude	32; 37; 46.8189899748978178
Longitude	108; 7; 29.9492176919011577
Altitude	1616.24981052666431

Apache-Tejo Wash Photo Comparison

EDWARDS RANCH WEST HEADCUTS STA. 47.0 TO 46.0

October 2008. West headcut at Edwards Ranch. Looking downstream.

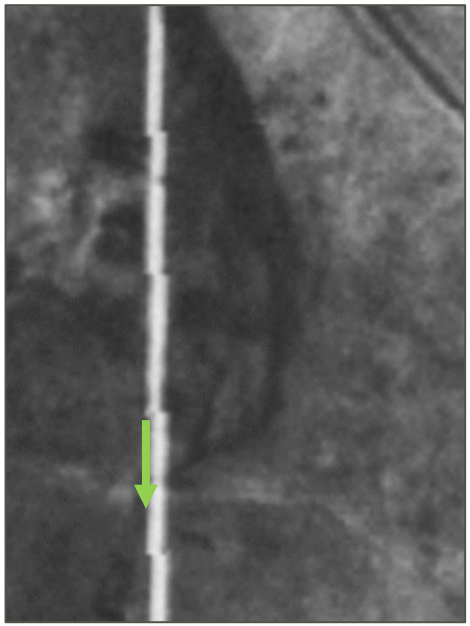
GPS	
Latitude	32; 37; 47.2028581520716273
Longitude	108; 7; 30.3046644179849167
Altitude	1616.21575120549164

January 2020. West headcut at Edwards Ranch. Looking downstream.

Note new chunk of headwall fallen into the channel in the foreground – old piece is now hidden in the grass in the background. Headcut has eroded laterally – unclear if it is migrating upstream.

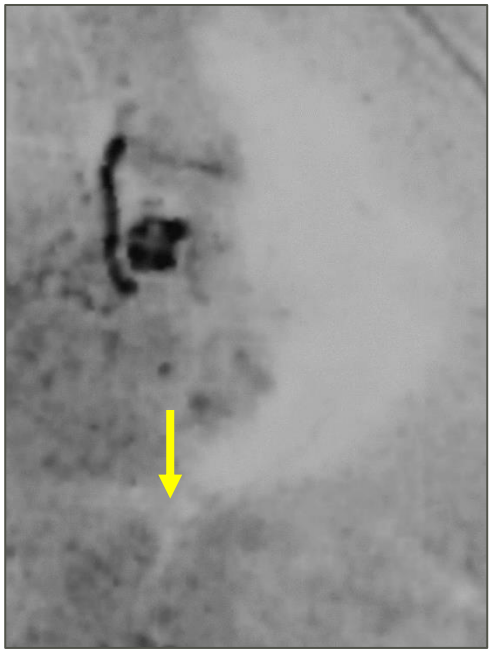
Apache-Tejo Wash Aerial Comparison (cont'd)

EDWARDS RANCH AREA STA. 47.0 TO 46.0



1935. Image from EDAC at UNM.

Green arrow indicates location of future headcut.



1974. Image from EDAC at UNM.

Presumed tailing accumulation sometime between 1935 and 1974. No clear headcutting.

1935
1974
1996
2016

NTS

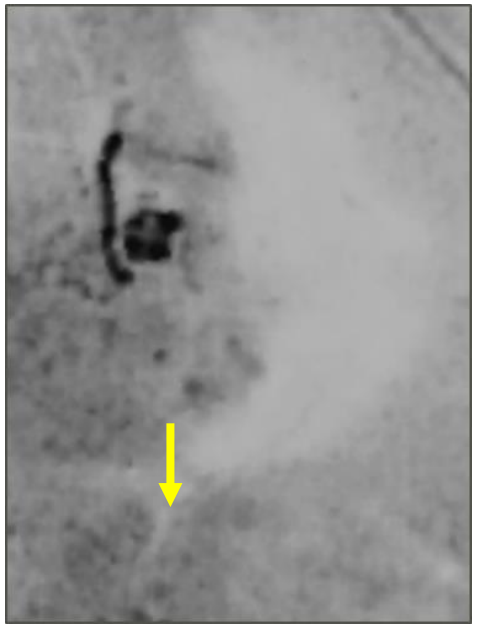
N

Direction of flow is north to south.

GOLDER

Apache-Tejo Wash Aerial Comparison (cont'd)

EDWARDS RANCH AREA STA. 47.0 TO 46.0



1974. Image from EDAC at UNM.

Presumed tailing accumulation between 1935 and 1974. No clear headcutting.

1996. Image from EDAC at UNM.

Sediment accumulation and/or volunteer revegetation has occurred. Headcutting has initiated.

1935
1974
1996
2016

NTS

N

Direction of flow is north to south.

GOLDER

Apache-Tejo Wash Aerial Comparison (cont'd)

EDWARDS RANCH AREA STA. 47.0 TO 46.0

1996. Image from EDAC at UNM.

Sediment accumulation and/or volunteer revegetation has occurred. Headcutting has initiated at the west headcut only.

2016. Image from Google Earth.

Sediment accumulation and/or volunteer revegetation has continued. West headcut has not migrated much and east headcut is unclear.

1935
1974
1996
2016

NTS

N

Direction of flow is north to south.

Apache-Tejo Wash Photo Comparison

GENERAL CHANNEL CONDITIONS STA. 43.7

December 2004. General channel conditions. Looking upstream.

January 2020. General channel conditions. Looking upstream.

More vegetation on channel banks. No major changes in channel bed.

GPS

Latitude	32; 37; 28.2968383079132479
Longitude	108; 7; 23.284791234415021
Altitude	1606.29541474900839

Apache-Tejo Wash Photo Comparison

GENERAL CHANNEL CONDITIONS STA. 38.5

December 2004. General channel conditions. Looking upstream.

January 2020. General channel conditions. Looking upstream.

No major changes.

GPS	
Latitude	32; 36; 42.3570846190561667
Longitude	108; 7; 22.9570800890214777
Altitude	1589.19358412318775

Apache-Tejo Wash Photo Comparison

FORMER STOCK TANK STA. 36.8

October 2008. Tailings accumulation at Stock Tank. Looking upstream from top of berm.

January 2020. Tailings accumulation at Stock Tank. Looking upstream from top of berm.

More vegetation, but otherwise no significant changes.

GPS

Latitude	32; 36; 25.429275453978164
Longitude	108; 7; 22.8944896610919635
Altitude	1587.7154962212453

Apache-Tejo Wash Photo Comparison

FORMER STOCK TANK STA. 36.8

October 2008. Channel at Stock Tank. Looking downstream.

January 2020. Channel at Stock Tank. Looking downstream.

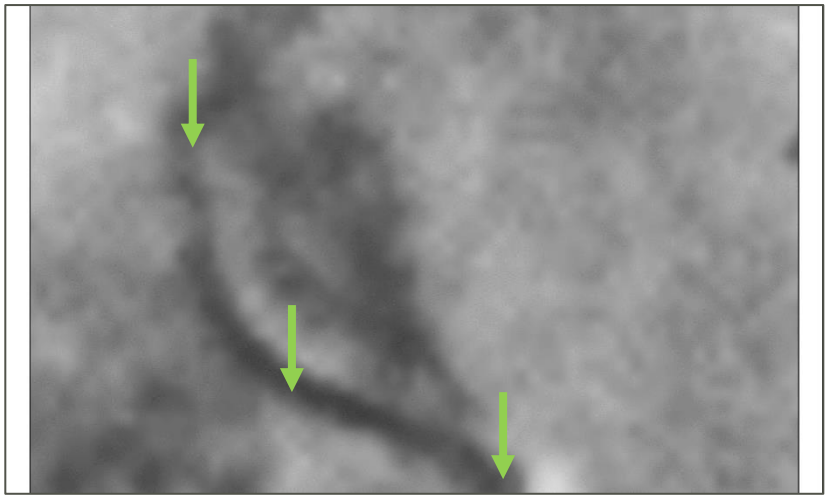
No major changes.

GPS

Latitude	32; 36; 25.4692877663181605
Longitude	108; 7; 22.6319064950221183
Altitude	1590.65910971298285

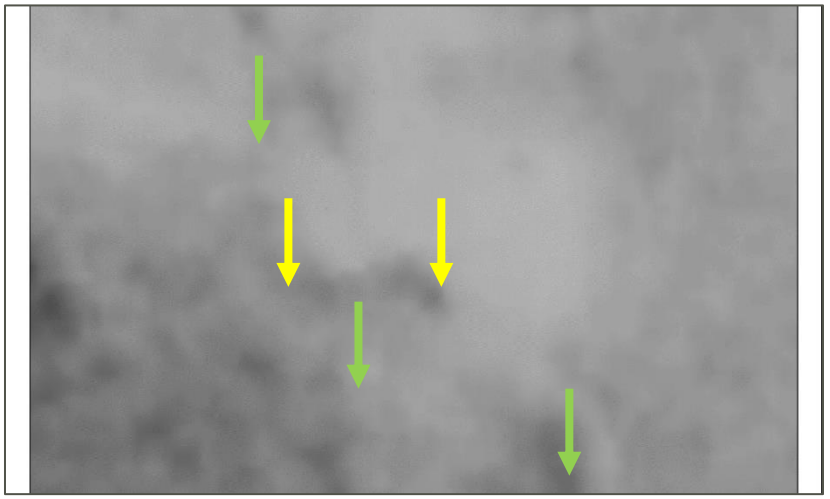
Apache-Tejo Wash Aerial Comparison

FORMER STOCK TANK STA. 36.8



1935. Image from EDAC at UNM.

Green arrows indicate channel location.



1974. Image from EDAC at UNM.

Presumed tailing accumulation sometime between 1935 and 1974. Maybe a berm present. Image is not definitive due to pixilation.

1935
1974
1996
2016

NTS

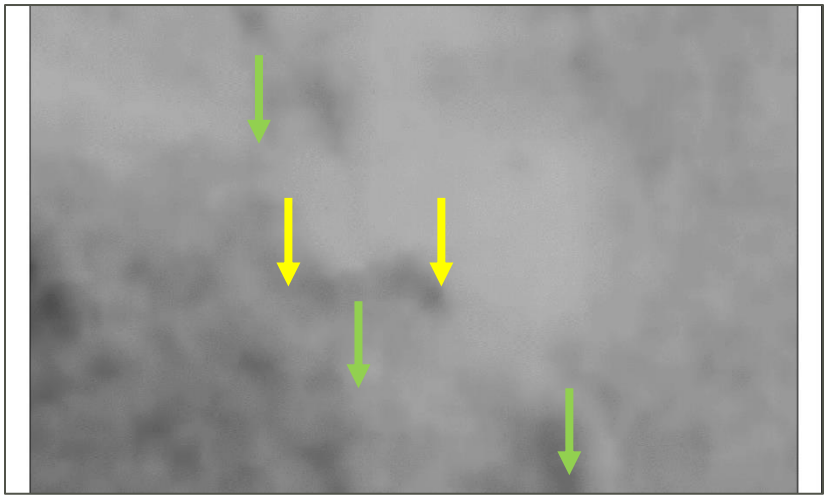
N

Direction of flow is north to south.

GOLDER

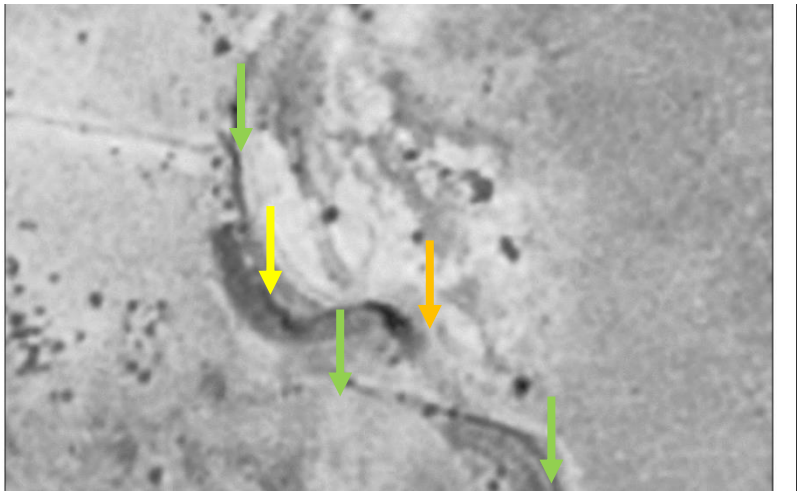
Apache-Tejo Wash Aerial Comparison (cont'd)

FORMER STOCK TANK STA. 36.8



1974. Image from EDAC at UNM.

Presumed tailing accumulation sometime between 1935 and 1974. Maybe a berm present. Image is not definitive due to pixilation.



1996. Image from EDAC at UNM.

Berm clearly in place with tailings accumulation upstream. Inflow from north maybe be escaping around the east corner of the berm.

1935
1974
1996
2016

NTS

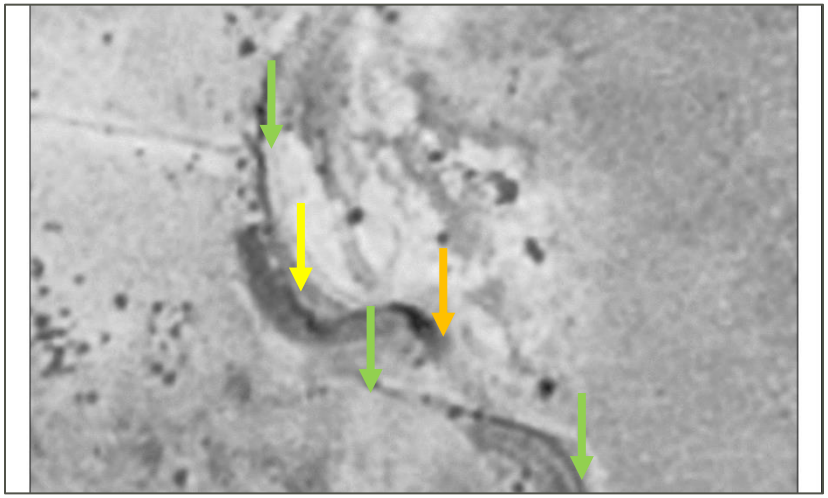
N

Direction of flow is north to south.

GOLDER

Apache-Tejo Wash Aerial Comparison (cont'd)

FORMER STOCK TANK STA. 36.8



1996. Image from EDAC at UNM.

Berm clearly in place with tailings accumulation upstream. Inflow from north maybe be escaping around the east corner of the berm.

2016. Image from Google Earth.

Inflow from north clearly bypassing the east end of the berm. Volunteer revegetation is increasing on the tailings accumulation.

1935
1974
1996
2016

NTS

N

Direction of flow is north to south.

Apache-Tejo Wash Photo Comparison

GENERAL CHANNEL CONDITIONS STA. 35.7

December 2004. General channel conditions. Looking upstream.

January 2020. General channel conditions looking upstream.

No major changes.

GPS

Latitude	32; 36; 16.265307499706978
Longitude	108; 7; 17.6619666862534253
Altitude	1586.15931365126676

Apache – Tejo Wash Photo Comparison

BIG BERM STA. 32.8 TO 32.5

October 2008. From top of berm looking across revegetated tailings. Looking to the northwest.

GPS

Latitude	32; 35; 48.100726869670325
Longitude	108; 7; 16.200419545406497
Altitude	1579.62910026289342

January 2020. From top of berm looking across revegetated tailings. Looking to the northwest.

No major changes.

Apache – Tejo Wash Photo Comparison

BIG BERM STA. 32.8 TO 32.5

October 2008. Tailings accumulation on the east side of the Big Berm. Looking north-northeast.

GPS

Latitude	32; 35; 50.6161343780840411
Longitude	108; 7; 8.9767507866490881
Altitude	1579.46877004230578

January 2020. Tailings accumulation on the east side of the Big Berm. Looking north-northeast.

No major changes.

Photograph not taken in exactly the same location as 2008.

Apache – Tejo Wash Photo Comparison

BIG BERM STA. 32.8 TO 32.5

October 2006. General channel conditions immediately downstream of Big Berm. Looking upstream.

January 2020. Channel conditions immediately downstream of the Big Berm. Looking upstream.

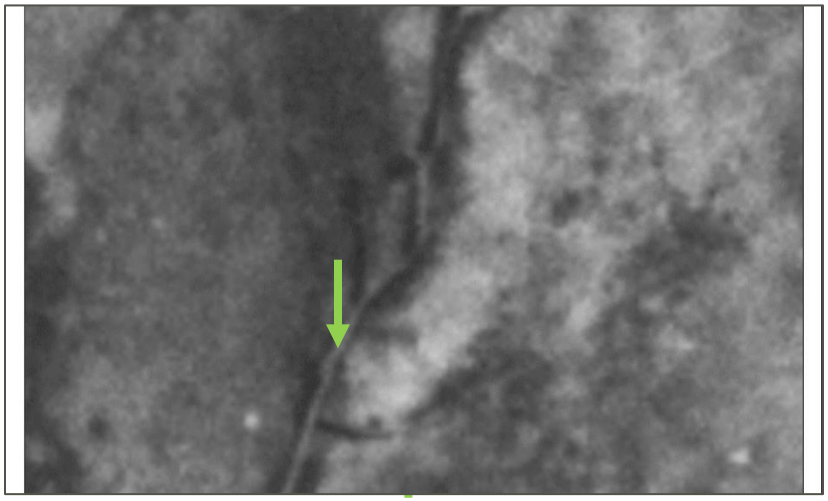
No major changes.

GPS

Latitude	32; 35; 44.204202347973478
Longitude	108; 7; 16.2938594163861339
Altitude	1571.07735904823085

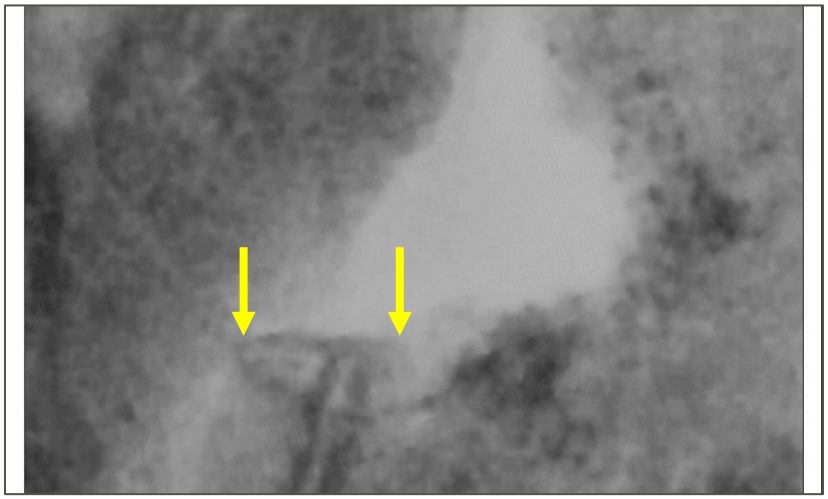
Apache-Tejo Wash Aerial Comparison

BIG BERM STA.32.8 TO 32.5



1935. Image from EDAC at UNM.

Green arrow shows future berm location.



1974. Image from EDAC at UNM.

Presumed tailing accumulation sometime between 1935 and 1974; cannot distinguish between water deposited tailings and subsequent wind redistribution. Berm is in place; no headcuts downstream of the berm.

1935
1974
1996
2016

NTS

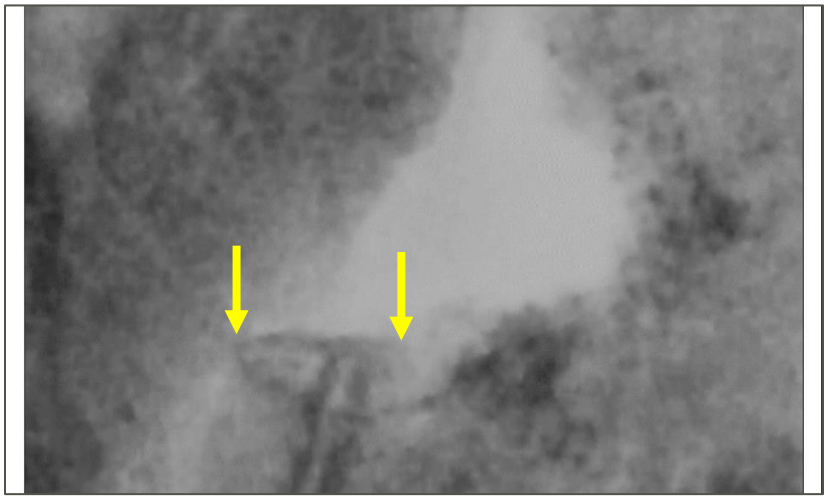
N

Direction of flow is north to south.

GOLDER

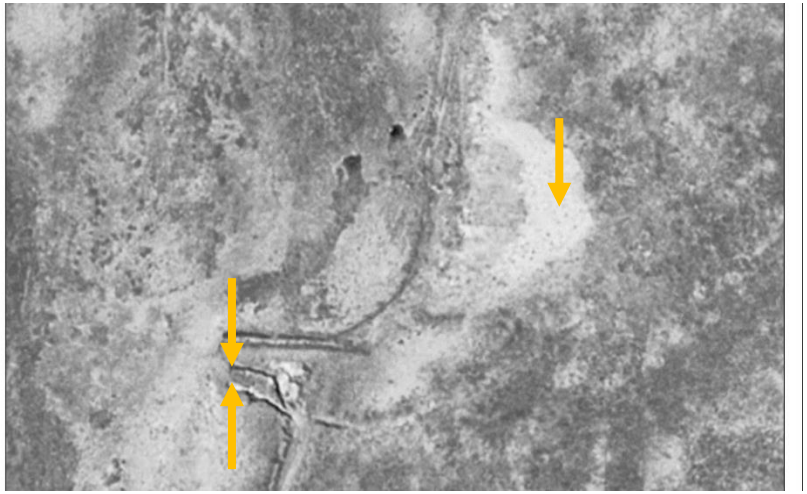
Apache-Tejo Wash Aerial Comparison (cont'd)

BIG BERM STA.32.8 TO 32.5



1974. Image from EDAC at UNM.

Presumed tailing accumulation sometime between 1935 and 1974. Berm is in place; no headcuts downstream of berm.



1996. Image from EDAC at UNM.

Sediment accumulation and/or volunteer revegetation has occurred. Two headcuts have formed downstream of and to the west of the berm. Tailings to the east have shape of a barcan dune, suggesting windblow origin from the original deposit behind the berm.

1935
1974
1996
2016

NTS

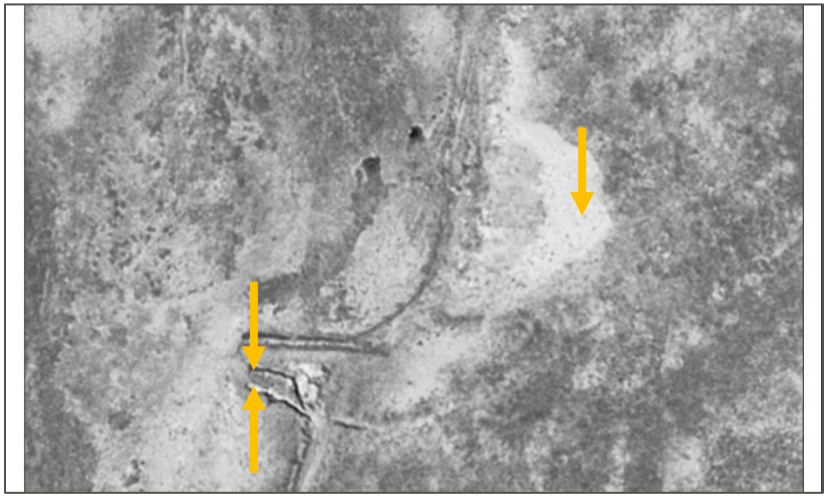
N

Direction of flow is north to south.

GOLDER

Apache-Tejo Wash Aerial Comparison (cont'd)

BIG BERM STA. 32.8 TO 32.5



1996. Image from EDAC at UNM.

Two headcuts have formed downstream and west of berm. Presumed windblown tailings to the east of original deposit.

2016. Image from Google Earth.

Headcutting has advanced slightly between 1996 and 2016; rock armor was installed in 2015. A third small headcut formed at the outlet of a drainage pipe. Volunteer revegetation has continued to increase.

1935
1974
1996
2016

NTS

N

Direction of flow is north to south.

Apache – Tejo Wash Photo Comparison

GENERAL CHANNEL CONDITIONS STA. 26.0

October 2006. General channel conditions. Looking upstream.

January 2020. General channel conditions. Looking upstream.

Channel appears to have widened, become finer, and possibly aggraded.

GPS

Latitude	32; 34; 56.4305335105456152
Longitude	108; 7; 6.70038193592335
Altitude	1563.81479558472915

Apache-Tejo Wash Photo Comparison

SOUTHERN HEADCUTS STA. 23.0 TO 21.0

October 2008. Headcut west of A-T Wash. Looking upstream.

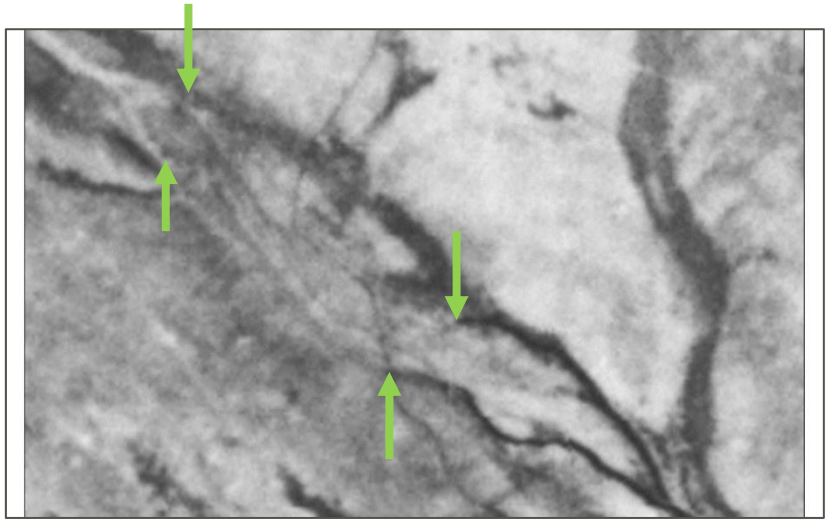
August 2019. Headcut west of A-T Wash. Looking upstream.

Headcut appears stable, but hard to tell with all the tumbleweeds.

GPS Coordinates Unavailable

Apache-Tejo Wash Aerial Comparison

SOUTHERN HEADCUTS STA. 23.0 TO 21.0



1935. Image from EDAC at UNM.

Channel at northeast corner is poorly defined; perhaps aggrading. Side channels downstream do not yet appear to be headcuts.

1974. Image from EDAC at UNM.

Upstream channel still poorly defined. Side channels now headcutting upstream.

1935
1974
1996
2016

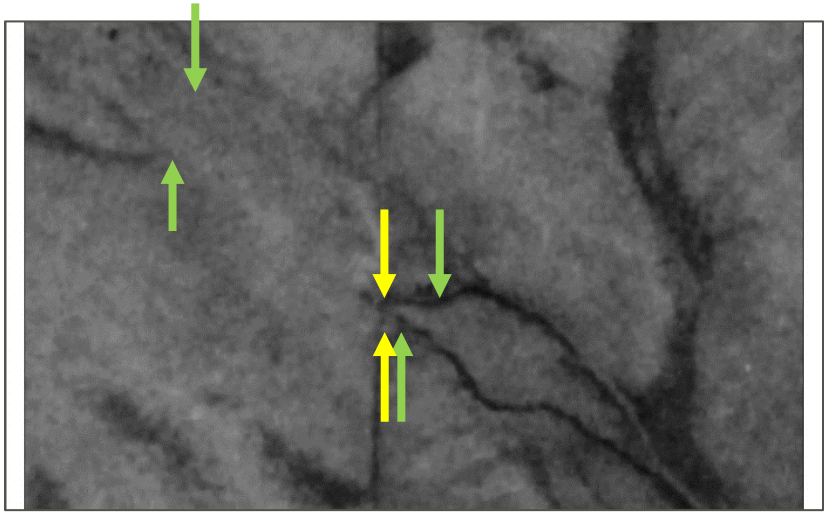
NTS

N

Direction of flow is from northwest to southeast.

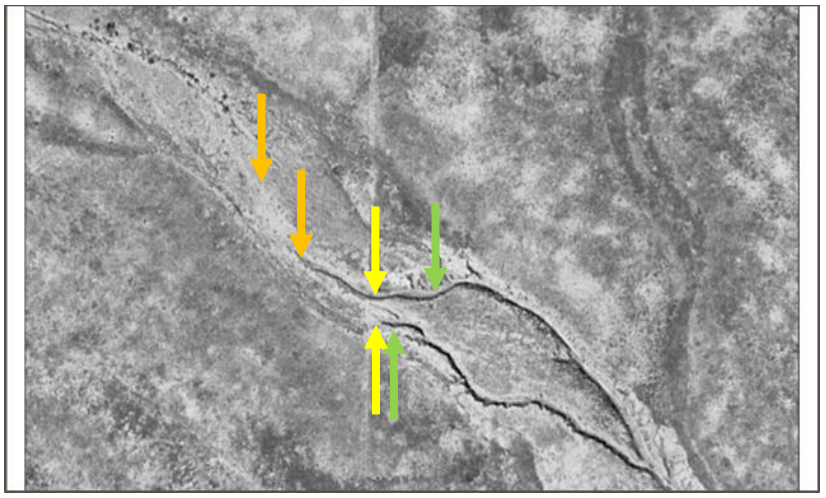
Apache-Tejo Wash Aerial Comparison (cont'd)

SOUTHERN HEADCUTS STA. 23.0 TO 21.0



1974. Image from EDAC at UNM.

Upstream channel still poorly defined. Side channels now headcutting upstream.



1996. Image from EDAC at UNM.

Channel aggradation and sheetflow to south occurring in northeast corner. Upper headcut has captured sheetflow and migrated upstream. Lower headcut not receiving sheetflow, resulting in little upstream migration.

1935
1974
1996
2016

NTS

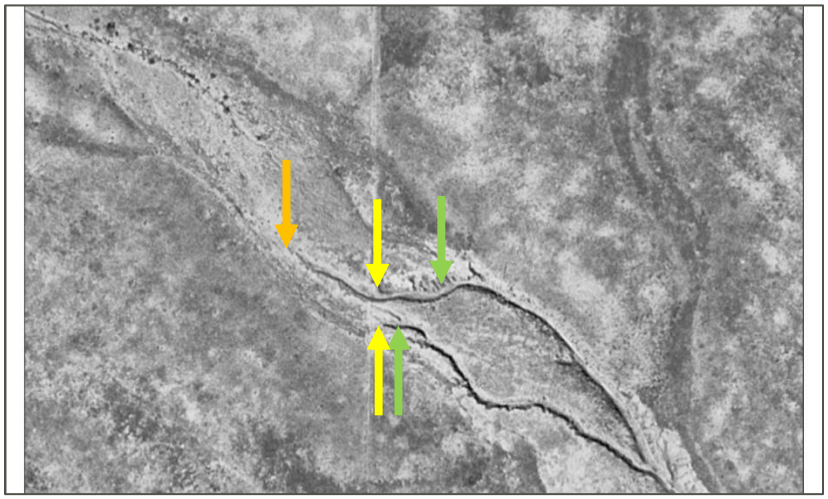
N

Direction of flow is from northwest to southeast.

GOLDER

Apache-Tejo Wash Aerial Comparison (cont'd)

SOUTHERN HEADCUTS STA. 23.0 TO 21.0



1996. Image from EDAC at UNM.

Lower headcut stopped migrating in 1974.

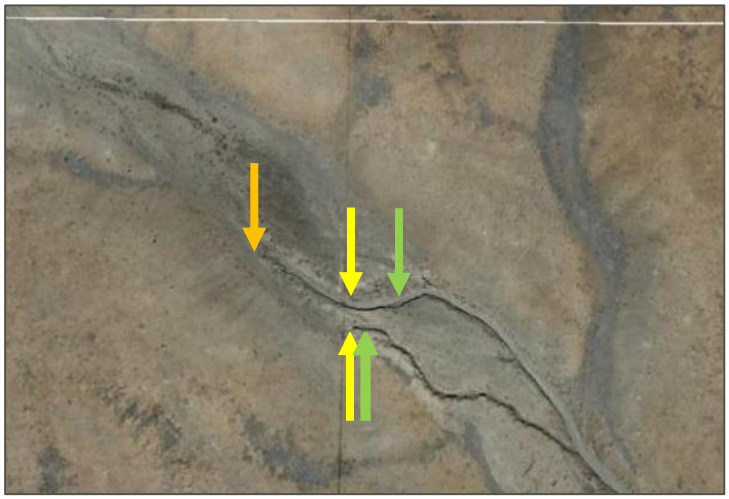
Upper headcut migrated upstream between 1974 and 1996.

1935
1974
1996
2016

NTS

N

Direction of flow is from northwest to southeast.



2016. Image from Google Earth.

Lower headcut stopped migrating in 1974.

Upper headcut did not migrate much between 1996 and 2016. However, 2020 field recon indicated the upper headcut is actively migrating upstream.

GOLDER

Apache – Tejo Wash Photo Comparison

GENERAL CHANNEL CONDITIONS STA. 23.0

October 2006. General channel conditions. Looking downstream.

January 2020. General channel conditions. Looking downstream.

Cut banks on both sides. Channel bed appears to be degrading, maybe coarsening. Approximately 1/3 mile upstream, a headcut is migrating upstream (not shown).

GPS

Latitude	32; 34; 38.1351282522084
Longitude	108; 6; 36.3226713007316
Altitude	1557.65330181494278

golder.com