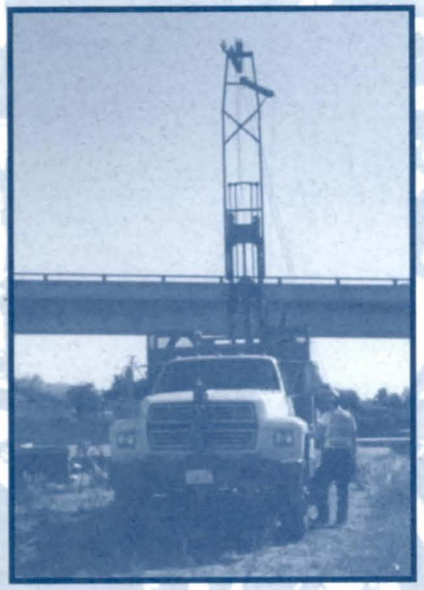
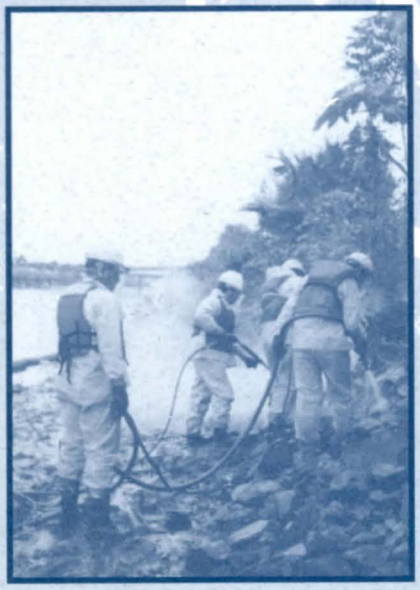
LIMITED INITIAL SITE CHARACTERIZATION REPORT
SURPRISE SPORTSMAN'S CLUB SHOOTING RANGE
NEAR MCMICKEN DAM
SURPRISE, ARIZONA
CONTRACT FCD 2004C029
WORK ASSIGNMENT NO. 3





Geotechnical

and

Environmental

Sciences

Consultants

Ninyo & Moore

January 30, 2006
Project No. 600996003

Mr. Michael Greenslade, P.E.
Flood Control District of Maricopa County
2801 West Durango Street
Phoenix, Arizona 85009

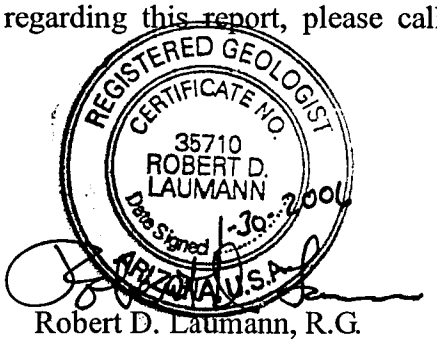
Subject: Limited Initial Site Characterization Report
Surprise Sportsman's Club Shooting Range
Near McMicken Dam
Contract FCD 2004C029
Work Assignment No. 3

Dear Mr. Greenslade:

In accordance with your authorization, Ninyo & Moore is pleased to provide this Limited Initial Site Characterization Report regarding the Surprise Sportsman's Club Shooting Range located near the McMicken Dam in Surprise, Arizona. The activities were performed under Flood Control District of Maricopa County Contract No. 2004C029, Work Assignment No. 3, and in general accordance with Ninyo & Moore's revised proposal dated June 30, 2005.

Ninyo & Moore appreciates this opportunity to be of service to Flood Control District of Maricopa County. If you have any questions or comments regarding this report, please call the undersigned at your convenience.

Respectfully submitted,
NINYO & MOORE



Dwight H. Clark, C.H.M.M., C.E.T.
Senior Environmental Engineer

Robert D. Laumann, R.G.
Principal Geologist/Division Manager

HAL/DHC/RDL/hmm

Distribution: (1) Addressee

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Ninyo & Moore was retained by the Flood Control District of Maricopa County to perform a Limited Initial Site Characterization for the Surprise Sportsman's Club (formerly Peoria Rod and Gun Club) Shooting Range located near the McMicken Dam in Surprise Arizona. The Surprise Sportsman's Club consists of an approximately 21-acre area located in Section 13 of Township 4 North, Range 2 West, Gila and Salt River Meridian and located within Maricopa County Assessor's Parcel Number 503-73-032. The range is situated just east of the McMicken Dam and south of the training dike for the emergency spillway. The current shooting range configuration includes a rifle range with 50, 100, 200 and 300-yard berms, two pistol ranges, a trap range and a "practical" pistol range. The Surprise Sportsman's Club is a private member-only shooting range with approximately 1,800 members.

The scope of work summarized in this report included use of visual and field instrumentation delineation of lead, collection of soil samples, processing and screening of soil samples, analysis of selected processed samples at an analytical laboratory, providing recommendation for further assessment or remediation and provide available best management practices for continued operations of the shooting range.

Based on the results of the Limited Initial Site Characterization, Ninyo & Moore has reached the following conclusions:

- Lead is the primary contaminant of concern for the Surprise Sportsman's Club Shooting Range due to the detected concentrations of total and leachable lead in the berm and range soil. In addition, arsenic was detected at concentrations exceeding soil remediation levels.

- The berms generally are impacted by metals in approximately the upper 2 to 3 feet of soil in areas receiving direct fire and the upper 6 inches in areas of indirect fire.

- Based on visual observations and X-Ray Fluorescence Spectroscopy results, the range floor is impacted by metals in approximately the upper 6 inches of soil.

- The soil in the berms contains leachable lead at a concentration that would render it hazardous waste if it were to meet the definition of solid waste.

Based on the results of the Limited Initial Site Characterization, Ninyo & Moore recommends the following:

- Assessing the applicability of soil washing to remove lead and other metal contaminants from the soil by conducting a scalable treatability study.

- Additional assessment to further define the vertical and horizontal extent of metals impacts. The additional sampling and analysis would serve to provide a more accurate picture with which to estimate remediation costs.

- Additional correlation studies to further develop the use of X-Ray Fluorescence Spectroscopy as a field screening device for this site.

- To evaluate methods of reducing the leachable lead, a full-scale treatability study be performed on site soil to select the appropriate process and process controls.

In addition, Ninyo & Moore recommends the following for range operations and range clean-up:

- The range operator should review and implement a program of lead reclamation to reduce the lead available for weathering and increased potential for mobility.

- The range operator should review and implement a program to reduce the small particle lead. This lead has a higher potential for migration and is present in significant quantities at the range.

- When performing range clean-up activities, additional sampling should be performed to assess the vertical and horizontal extent of impacted soils.

1. INTRODUCTION

Ninyo & Moore was retained by the Flood Control District of Maricopa County to perform a limited initial site characterization for the Surprise Sportsman's Club (SSC) Shooting Range, located near McMicken Dam, Surprise, Arizona (Figure 1).

The SSC Shooting Range consists of an approximately 21-acre area located in Section 13 of Township 4 North, Range 2 West, Gila and Salt River Meridian and is a portion of Maricopa County Assessor's Parcel Number 503-73-032. The range is situated just east of the McMicken Dam and south of the training dike for the emergency spillway. The current shooting range configuration includes a rifle range with 50, 100, 200 and 300-yard berms, two pistol ranges, a trap range and a "practical" pistol range. The SSC is a private member-only shooting range with approximately 1,800 members.

This study was performed concurrently with a companion study at the Maricopa County Sheriff's Shooting Range on the adjacent portion of the parcel.

2. SITE DESCRIPTION

2.1. Topography and Surface Drainage

A review of the United States Geological Survey (USGS), 7.5-Minute Topographic Map Series, McMicken Dam, Arizona, dated 1957 (photorevised 1981), indicated that the site is located in an undeveloped area and has an elevation of approximately 1,345 feet with a gentle slope to the southeast.

2.2. Geology

The SSC Shooting Range is located in the Sonoran Desert Section of the Basin and Range Physiographic Province, which is typified by broad alluvial valleys separated by steep, discontinuous, sub-parallel mountain ranges. The mountain ranges generally trend north-south and northwest-southeast. The basin floors consist of alluvium with thickness extending to several thousands of feet. These basins filled with alluvium from the erosion of the surround-

ing mountains, as well as from deposition from rivers. Coarser-grained alluvial material was deposited at the margins of the basins near the mountains. The surface geology of the area is described as Quaternary deposits of silt, sand, and gravel.

The site is located in the West Salt River Valley Sub-basin, which consists of an alluvial basin surrounded by mountains. The basin is underlain by sedimentary deposits. Generally, the subsurface soils at the site consist of deposits of unconsolidated to consolidated gravel, sand, silt, and clay. Based on our review of the United States Department of Agriculture (USDA), Soil Survey, Maricopa County, Arizona, Central Part, the site is a mixture of three different soil types: The Vecont Loam which is generally found in concave stream channels and depressions in valley plains and alluvial fans near McMicken Dam, the Coolidge-Tremant Complex, which is primarily level soil in valley plains and alluvial fans in the northwestern part of the Salt River Valley, and the Mohall Loam which is primarily found in fairly level in old alluvial fans and valley plains. The three soil types primarily consist of deeper, heavily drained soils that formed in older alluvium fans and plains. These soil types are derived from a wide mixture of rocks including, limestone, granite andesite, basalt, schist, rhyolite, and/or granite-gneiss.

2.2.1. Site Soils

The SSC Shooting Range is located in the Mohall-Laveen soil association described as nearly level soils on old alluvial and valley plains dissected by shallow streams. This unit is approximately 25% Mohall clay, 20% Mohall loam, 20% Laveen loam, and 15% Laveen sandy loam.

The general profile for the Mohall loam and Mohall clay soils is similar to the general Mohall series as described in the Soil Survey of Maricopa County, Arizona, but the Mohall loam has a surface layer of loam 6 to 16 inches thick and the Mohall clay has a surface layer of clay 10 to 19 inches thick. The subsurface layer of the Mohall series is comprised of yellowish-red to reddish-brown clay loam to a depth of 25 inches, and light brown loam to a depth of 42 inches. The underlying material is light brown very

fine sandy loam to a depth of 60 inches. Below a depth of approximately 26 inches the soil contains a large concentration of lime.

The Laveen sandy loam has a profile similar to the general Laveen series, but has a surface layer of sandy loam 6 to 14 inches thick. The Laveen loam has a profile representative of the series consisting of a surface layer of pale brown loam approximately 16 inches thick and a subsurface layer of pink loam to 72 inches depth. Below a depth of approximately 24 inches the soil contains visible accumulations of lime.

Soil samples during taken during the sampling event were described as brown, silty-sand with 5 to 10% gravels, and 0 to 5% caliche nodules varying in size from approximately 2 millimeters to 2 centimeters in diameter. In-house laboratory tests conducted on a composite sample from the range yielded a bulk density of approximately 1.63 grams per cubic centimeter, a clay content under 15%, a plasticity index of 4, and a pH of 7.8. A sieve analysis of the composite sample showed approximately 43% of the sample passing the #200 sieve. The berms in general showed incipient caliche at approximate depths of 7 to 8 inches.

2.3. Groundwater

The site is located within the West Salt River Valley Sub-basin of the Phoenix Active Management Area. According to the Arizona Department of Water Resources (ADWR), 2002-2003 Hydrologic Map Series Report No. 35, the depth to the regional aquifer at the site varies from approximately 485 to 500 feet below ground surface (bgs) (ADWR, 2003). The groundwater flow is generally towards the southeast; however, specific groundwater flow direction at the site may vary.

3. SCOPE OF WORK

The scope of work for this report included the field delineation of metals using visual and field instrumentation methods, collection of soil samples, processing and screening of soil samples, analysis of selected processed samples at an analytical laboratory, providing recommendations

for further assessment or remediation and providing available best management practices for continued operations of the SSC Shooting Range.

4. FIELD ACTIVITIES

On August 26, 2005, Mr. Dwight Clark, CHMM, Ms. Holly Land, CHMM, and Mr. Keenan Murray R.G. of Ninyo & Moore, accompanied by Mr. Charles Painter, Mr. James Greaves, and Mr. Larry Timmerman of the SSC performed an initial site reconnaissance to develop a field methodology for this assessment. During the site reconnaissance we observed the various ranges including a rifle range with 50, 100, 200 and 300-yard berms, two pistol ranges, a trap range and a "practical" pistol range. In addition, we observed the face of the berms, the top of the berms, the area behind the berms, and the surface of McMicken Dam. During the site reconnaissance the representatives of the SSC indicated that the trap range was previously located closer to McMicken Dam than the current configuration. Additionally, the representatives of the SSC indicated that lead reclamation had been performed on the shotgun trap range approximately between February and March of 2004 and was limited to the upper 1 inch of the trap range floor and berm.

On October 18 and 20, 2005, Ms. Holly Land and Mr. Keenan Murray of Ninyo & Moore performed field activities including the visual delineation of metals, in-situ soil screening and the collection of soil samples for analysis.

4.1. Visual Delineation

Ninyo & Moore performed a visual delineation of metals impact at the site based on observed bullets, bullet fragments and shot (herein referred collectively as "bullets"). Visible surface bullets at the site were delineated into three categories: high density, moderate density and low density. The categories were assigned by visibly judging the approximate concentrations in each area of the site relative to each other based on the surface area covered by bullets. High concentrations were defined as surface areas of greater than 25% visible bullets, moderate areas were defined as surface areas of 5 to 25% visible bullets and

low areas were defined as surface areas of less than 5% visible bullets. Typically, high concentrations were observed on berm faces and behind the berms of the sighting and pistol ranges, the berm face of the rifle ranges 50-yard berm, and berms floor of the trap range. High concentrations were also observed outside and northwest of the SCC Shooting Range on McMicken Dam and in areas adjacent to both sides of the McMicken Dam. The results of visual delineation are provided in Figure 2. To assess the relative impacts within the areas delineated soil samples were collected for further processing using X-Ray Fluorescence Spectroscopy (XRF) and fixed-base laboratory analytical methods as well as particle size evaluations.

The visual delineation in the berms indicated that the metals impact is limited to the upper 2 to 3 feet of soil in the in the direct fire sections of the berms and upper 6 inches of the indirect fire sections of the berms and range floor. The berms were also noted to have some visible calcification below the 7 inch depth, which will impact the remediation process if excavation is included.

4.2. In-Situ Soil Screening

Ninyo & Moore performed soil screening in the in-situ soils with a Niton XRF, Model XL-309. The results of the soil screening ranged up to 8,520 parts per million (ppm). The results of the in-situ soil screening are presented in Table 1. Soil samples S-1 through S-53 were screened with the XRF prior to sample collection. In addition, Ninyo & Moore screened 34 points (designated as X-1 through X-34) in situ, where no soil samples were collected.

4.3. Collection of Soil Samples

A total of 53 soil samples were collected in the field to support further characterization efforts. The sample locations are presented in Figure 3. Sample locations were chosen to bracket the full range of impacts noted on the site.

5. PROCESSING OF SOIL SAMPLES

5.1. Sample Processing and Screening Methodology

A total of 53 discrete samples were collected at the SSC Shooting Range for processing and analysis. The average soil sample size collected was approximately 3,114 grams with an average bulk density of 1.63 grams per cubic centimeter. The samples were processed in the following manner:

1. Bulk samples were weighed and the weights were recorded on laboratory logs.
2. Samples were initially sieved through a #4 mesh sieve on a mechanical shaker for approximately 10 minutes to disaggregate the soil and debris.
3. Selected samples were sieved again through either a #30 or #50 mesh sieve on a mechanical shaker for approximately 10 minutes so smaller fractions could be tested for lead content.
4. The soil fraction ranging from the #4 to #50 mesh sieve was placed in zip lock polyethylene bags, weighed, and the weights were recorded on laboratory logs.
5. For those samples with visible lead, the bullets, bullet jackets, and fragments retained by the #4 mesh sieve were manually separated, weighed, and the weights were recorded on laboratory logs.
6. The smaller fraction was tested for total lead using a portable field XRF instrument in accordance with USEPA Method 6200 and recorded on laboratory logs.
7. Four representative samples were selected and composited for average bulk density testing by weighing the soil in a 0.25-cubic-foot volume bucket.

Laboratory equipment used was as follows:

- A&D HP-20K Digital Scale with a range of 0.0 to 21,000 grams;
- Field Portable XRF Instrument XL-309; and
- ASTM certified brass sieves with steel mesh in various sizes.

5.2. Equipment Decontamination

Sieve equipment as well as the metallic scoop and aluminum bowl used for weighing of sieve fractions was decontaminated between each sieving event as follows:

1. Rinsed with potable water.
2. Scrubbed with sponge and brush using phosphate-free, biodegradable anionic and non-ionic surfactant.
3. Rinsed again with potable water.
4. Allowed to air dry.

Laboratory equipment used was as follows:

- Plastic brush;
- Sponge;
- Phosphate-free, biodegradable surfactant; and
- Potable water.

6. SAMPLE SCREENING RESULTS

The samples were processed to remove the portion of the sample greater than #4 mesh (0.187 inch) sieve. The portion of the sample retained on the #4 mesh sieve was weighed to determine the weight in the size range. This portion of the sample was visually assessed and the bullets removed to weigh the mass of metal in the sample greater than the #4 mesh sieve. In general, the samples contained an average of 12% particles greater than #4 mesh sieve by weight. Of this 12%, if visible bullets were present they comprised 39% of the mass on average.

Several samples were further processed with either a #30 mesh (0.0234 inches) or #50 mesh (0.0117 inches) sieves and one soil sample was processed with a #200 mesh (0.0029 inches) sieve. The sample fractions were weighed and recorded to note the distribution of the particle sizes within the sample. The sample fractions in the particle size less than the #30 mesh sieve ranged from 40% to 74% of the total sample weight for those processed with the #30 mesh sieve. The sample fractions in the particle size less then the #50 mesh sieve ranged from 11% to 64% of the total sample weight for those processed with the #50 mesh sieve. The sample fraction in the particle size less then the #200 mesh was 13% of the total sample weight.

Following initial sample processing, samples were further screened with the XRF for total lead on the sample portion from the less than the #4 mesh, #30 mesh, #50 mesh or #200 mesh sieves. The samples were further screened by XRF analysis for total lead on the fraction. The sample screening results following sample processing ranged up to 6,100 ppm lead. The results displaying the relative mass of the sieved fractions and the screening analytical methods by XRF are presented in Table 1.

XRF screening yielded inconclusive results for some soil samples. However, several of the soil samples yielding inconclusive results for the project were subsequently analyzed using certified laboratory methods, thereby yielding useable data.

Soil samples, by nature, are generally not homogeneous and can exhibit the "nugget effect", causing suspect or erroneous readings with the XRF. The XRF analyzes a small portion of the sample, approximately 5 millimeters square, to a depth of approximately 10 millimeters. If a large rock or other materials (nuggets) are present in the sample, it may shield or shadow the metals in the sample from analysis by the XRF. Consequently, the sample result may be significantly less or greater than the true value.

Ninyo & Moore collected multiple soil samples in the same location at various depths to aid in the delineation of the depth of impacts for the soil in the berm materials. The following soil samples were collected at the surface and various depths in the berms and in the McMicken Dam soil in the shooting direction of the trap range:

- Samples S-43, S-44 & 45 and S-46 & S-47 were collected at the surface and up to 1 foot below the surface of the McMicken Dam.
- Samples S-35 and S-36 were collected at the 50-yard berm at the rifle range approximately 10 feet apart on the surface and 2 feet below the surface, respectively.
- Sample S-51 was collected approximately 1 foot below the surface of the 10-yard berm at the pistol range, below S-11 on the surface of the berm.
- Sample, S-50 was collected at 3 to 6 inches below the range floor and soil sample S-6 was collected at the surface.

The XRF results supported the visual field observations that the metals impact extends 2 to 3 feet below the surface soil in the berms in areas receiving direct fire and the upper 6 inches in areas of indirect fire.

7. LABORATORY ANALYTICAL METHODS

Following sample processing, a total of 27 samples were selected for laboratory analysis by USEPA Method 6010/7471. The samples were selected to bracket the full range of XRF screening results in an attempt to correlate the XRF results with laboratory certified results. Of the 27 samples 14 were selected for total lead by Inductively Coupled Plasma (ICP) analysis, eight were selected for ICP Metals (lead, tin, antimony, arsenic, copper and zinc) and five were selected for total RCRA Metals (arsenic, barium, cadmium, chromium, lead, selenium and silver) and nine were selected for TCLP lead using the TCLP sample preparation and total lead analysis on the leachate. The selected soil samples were transported under chain-of-custody (COC) protocol to Del Mar Analytical (an Arizona Department of Health Services [ADHS] certified analytical laboratory, accreditation number AZ0426) following the sample screening discussed in Section 6.

8. ANALYTICAL RESULTS AND DISCUSSION

A summary table of the analytical results is presented in Table 2 with reference to the appropriate regulatory standards. The laboratory analytical report with COC documentation is presented in Appendix A. As a note the samples for the Maricopa County Sheriff's Shooting Range and samples from the SSC Shooting Range were analyzed by the subcontract laboratory in the same batch, resulting in the samples being reported in the same report. The results were compared to the State of Arizona Soil Remediation Levels (SRLs), State of Arizona Groundwater Protection Levels (GPLs), and 20 times the RCRA Toxicity Characteristic Leaching Procedure (TCLP) standards.

The 20 times RCRA TCLP concept is outlined in USEPA manual SW-846, Chapter 2, Figure 2-2. The concept provides that if the total concentration of an analyte is less than 20 times the TCLP regulatory limit, then the sample cannot leach enough of that analyte to fail the TCLP. The rea-

son for this is that the TCLP Method 1311 requires a dilution ratio of 1:20; therefore, the concentration of the analyte extracted will be less than or equal to 1/20th of the original concentration of the analyte. Therefore, the RCRA TCLP regulatory limit may be multiplied by 20; if the results of the total concentration of an analyte is equal to or less than the 20 times RCRA TCLP, then the constituent does not exhibit the characteristic of toxicity as defined by RCRA.

Antimony, barium, copper, mercury, tin and zinc were detected in the soil samples at concentrations below Arizona SRLs, GPLs and 20 times thresholds for RCRA TCLP standards. However, arsenic was detected in four of the soil samples above Non-residential SRLs ranging from less than 0.5 milligrams per kilogram (mg/kg) to 22 mg/kg. In addition, lead was detected in the samples ranging from 20 mg/kg to 15,000 mg/kg. Of the 27 samples analyzed, 19 soil samples had lead concentrations above the 20 times threshold for RCRA TCLP standard (100 mg/kg), 15 soil samples had lead concentrations above the Arizona Residential SRL (400 mg/kg) with eight at or above the Arizona Non-residential SRL (2,000 mg/kg) and 18 had lead concentrations above the Arizona GPLs (290 mg/kg).

Nine soil samples were selected for TCLP lead analysis. The results of the TCLP analysis ranged from 0.41 to 160 milligrams per liter (mg/L). Seven of the nine samples had concentrations exceeding the RCRA TCLP threshold for lead of 5 mg/L.

One soil sample exceeding the TCLP threshold for lead was collected from the portion of sample S-1 passing the #200 mesh sieve. Thirteen percent of the soil passed the #200 mesh sieve. The concentration of total lead in the portion of that sample less than the #200 mesh sieve was reported by the laboratory to be 7,100 mg/kg and the concentration of lead by TCLP analysis was 160 mg/L. The ratio of leachable lead to total lead was approximately 1:44.

Three of the samples that exceeded the TCLP threshold for lead were collected from the portion of the sample passing the #50 mesh. The concentration of lead in the sample portion passing the #50 mesh sieve of samples was reported by the laboratory to range from 11 to 180 mg/L. The concentrations of total lead in these samples ranged from 1,500 to 23,000 mg/kg. The average ratio of leachable lead in the less than #50 mesh sieve sample portions was 1:92. In a similar

study performed for the Maricopa County Sheriff's Shooting Range, Ninyo & Moore observed an average ratio of 1:40, which would be more conservative, (i.e., more potential for leaching) (Ninyo & Moore, 2005). If this mobility is applied, as an approximation, to the other soil samples, soil samples having concentrations of total lead concentrations of greater than 200 mg/kg in the sieved portion could exceed the RCRA TCLP threshold.

Ninyo & Moore understands that the TCLP thresholds are for determination of a hazardous waste, and that the berms are not a waste material. However, this data indicates the following: 1) The potential for mobility of the lead in the smaller soil particle sizes is readily detectable with standard analytical methods available such as the TCLP method, 2) If the soil in the berm were to be disposed, it would exceed the characteristic of toxicity for lead (hazardous waste code D008) upon testing for disposal, and 3) If the soil from the berms were to be physically separated or soil washed, the resultant fine particles may still have lead levels similar to the initial lead levels of the bulk soil. This latter point is evidenced by the data in Table 1, which shows sieved sample XRF results being generally comparable to the bulk XRF results. This indicates that a significant portion of the lead present is in the smaller particle sizes.

Soil sample S-50, collected 3 to 6 inches below the range floor, had a concentration of total lead of 69 mg/kg, indicating the range floors may not have high concentrations of lead at depth. However, this conclusion is based on a limited data set.

8.1. Correlation between Laboratory Analytical Results and XRF Screening Results

The USEPA has evaluated the use of XRF data in the characterization of sites and found it to be an acceptable method when used in conjunction with fixed-based laboratory analytical methods. The USEPA recommends that a portion of the XRF samples be analyzed at a fixed laboratory to assess the site-specific correlation. The tests generally correlate better if the samples are homogenized and processed through a #30 mesh sieve.

Ninyo & Moore compared the results for total lead to the XRF screening results. Based on the information the XRF generally had a low bias (i.e., XRF screening measurements were generally lower than fixed-base laboratory analytical results, often by a factor of 2 or more).

In addition, the XRF screening and the analytical results had a correlation factor (R^2) of 0.92, if inconclusive results were discarded. The correlation factor is a value that ranges from zero to one, and is the fraction of the variance in the two variables that is shared. The closer the correlation factor is to 1, the better the correlation. Based on the calculated correlation factor, the XRF screening results and the analytical data correlate reasonably well for a preliminary field screening method. However, further study and method development may improve the correlation of the readings.

9. BEST MANAGEMENT PRACTICES FOR CONTINUED OPERATION

There are a variety of "Best Management Practices" (BMPs) available for the continued operations of a shooting range while mitigating environmental degradation. The primary document for reviewing the BMPs available is USEPA-902-B-01-001, *Best Management Practices for Lead at Outdoor Shooting Ranges*, USEPA, January 2001. Additionally, Ninyo & Moore used the following documents in development of this discussion:

- Environmental Management at Operating Outdoor Small Arms Firing Ranges, Interstate Technology Regulatory Council, February 2005.
- Prevention of Lead Migration and Erosion from Small Arms Ranges, United States Army Environmental Center, August 1998.
- Corrective Action at Outdoor Shooting Ranges Guidance Document, Colorado Department of Public Health and Environment, January 2005.
- Environmental Aspects of Construction and Management of Outdoor Shooting Ranges, National Shooting Sports Foundation, 1997.

The selection of BMPs is performed through the evaluation of several site specific factors discussed in the table below:

Site-Specific Factor	Effect
Range Size	Larger ranges distribute the lead over a larger area. This is a particular issue with shotgun ranges. The smaller ranges concentrate the lead and allow for more efficient means of collection.
Soil pH	The ideal soil pH to mitigate lead migration is the 6.5 to 8.5 range.

Site-Specific Factor	Effect
Soil Type	Gravel may contribute to the ricochet and/or fragmentation of bullets, increasing the possibility of metals migration. Sandy soil will allow for reclamation activities to be conducted more easily. Sandy and gravelly soils allow for more downward mobility of constituents of concern. Clay soils decrease migration of contaminants and will bind lead ions to the clay particles. Clay soils will limit the effectiveness of physical separation processes.
Annual Precipitation	The more arid the climate, the lower potential for metals migration.
Topography / Surface runoff	If the runoff is mitigated to remain on site, it will lower the potential impacts from surface water migration.
Groundwater Depth	Relatively deep groundwater table reduces the potential for metals to reach the groundwater.
Vegetation	The lack of vegetation allows the runoff that does reach the boundary of the range to potentially contain more lead. Vegetation will aid in reducing water velocities, allowing particulates to drop out of solution.

Given the above factors it is recommended to control the amount of metals generated in the shooting process and efficiently recover the metals from the bullet containment structures. The following BMPs are submitted for consideration to mitigate the buildup and subsequent migration of metals from the operations of the firing range:

1. Bullet traps or other containment devices;
2. Metal recovery and recycling;
3. Use of non-lead bullets;
4. Limiting generation of off-site shot fall areas; and
5. Ground contouring.

Bullet Traps or Other Containment Devices - There are several options for bullet traps or other containment devices ranging from the simple use of commercially available bullet traps on fixed target locations to the use of sand traps in a simple berm face.

- **Bullet Traps** - The option that holds much promise in the design of long term effective metal management from firing weapons is a bullet containment trap that is placed in front of the protective impact berms and receives the bullets from behind the target. The benefits of these type systems include the containment of the bullets, and, with some systems, a design that limits the fragmentation of the bullets while containing them. With the bullets contained, the reclamation of the metals can be easily performed on a routine basis and with little effort. Some systems operate as a wet system that will limit the airborne lead produced from the impacts for a more effective containment of the metals. However, these systems are costly to purchase and require a re-design of the current ranges. A typical wet system 48-inch square box trap costs on the order of $20,000 retail.

- **Sand Traps** - The sand trap type bullet containment system is a variation on the earthen berms currently employed at the range. The design options may include the placement of a retaining or containment wall and floor in the berm face to contain an acceptable layer of sand. The sand is of a uniform particle size and will allow the bullets to decelerate and rest within the sand. This type of system will allow for the convenient removal of the sand for routine screening to remove the bullets and fragments.

- **Earthen Berms** - The current earthen berm system can be considered a containment device in that they collect the bullets from the firing operations and mitigate safety hazards beyond the range areas. Some minor modifications could improve the performance of these earthen berms, improving the environmental sustainability of the range complex. Improvements for consideration include:
  - Sieving of the berm materials to remove rock. This will decrease the potential for ricochet and fragmentation and will facilitate the reclamation process.
  - Increasing the berm height. This will decrease the off-site impacts from ricochet and miss fires.

Metal Recovery and Recycling - The recovery of the metal from the bullets will reduce the total metals at the site, making less available to cause environmental impacts. Several methods for the removal of the lead are available. The use of soil amendments can inhibit particle separation and should only be used after careful consideration. A brief summary of the methods of metals recovery with the benefits of each are given below:

- **Hand Raking and Sifting** - This method of metals recovery is appropriate for the routine maintenance of ranges. Special attention should be applied to the "bullet pockets" behind the targets. This method employs the removal of surface metals from the range areas during routine repairs. The process basically consists of raking the area like one is raking leaves and then sifting the soil through an appropriately sized screen. The metal is then collected for recycling. The facility will need to take great care in ensuring the workers involved are

protected from lead hazards, and that the metal is promptly recycled. Storage of metal for periods longer than one year may be considered speculative accumulation by regulatory authorities. This method should be employed on the bullet pockets whenever metals are visible in the pockets to decrease a build up and excessive fragmentation in the bullet pockets. This method will only remove the larger lead particles, and will not reduce the lead already in leachable size ranges. Removal of the larger lead particles will diminish the potential for lead from contributing to the leachable lead in the range.

- **Mechanical Removal and Separation** - This method of metals removal is also appropriate for the routine maintenance of ranges. The process consists of the removal of the top soil or media in the berms and other impacted areas to a depth deep enough to gather the metal bullets and fragments. The soil or media is then screened to remove the bullets and bullet fragments using wet or dry screening. The screening is preferably done wet to minimize dust when a small clay fraction is present in the soil. This type of activity is recommended on a routine basis to decrease the detrimental metal build-up in the soil or media as mentioned above. Additionally, as noted above, only the larger fractions of metals will be removed using these methods; therefore, they are appropriate for routine removal activities.

- **Soil Washing** - The soil washing process is the more aggressive method for the removal of metals from the soil or berm media. This method employs removal and initial screening in the manner described for the Mechanical Removal and Separation wet methods. The soil is then further separated using gravity and chemical reagents. This method is appropriate as part of a long term metals reclamation program for a range, and is performed on an infrequent basis.

Use of Non-Lead Bullets - The elimination of lead from range activities is considered a best management practice in that it removes the lead from the possible contaminants prior to introduction. However, some of the manufacturers' options for non-leaded bullets may still create environmental impacts from the metals employed.

Prevention of Off-site Shot Fall Areas - Preventing the off-site shot fall from range activities will reduce the potential for environmental impacts from bullets and shot landing in off-site areas. Some ranges in other areas have used shot screens to extend the effective height of the berms and retain the bullets and shot on the range. Detailed engineering studies will provide an appropriate design for this type of BMP and aid in appropriate installation. An alternative to the use of screens would be to raise the level of the berms, as determined by engineering studies.

Ground Contouring - The employment of the ground contouring BMP affects the range surface water or runoff flows as a whole. The berms should be designed with a reduced potential for erosion, and the general range should be designed to retain precipitation. The precipitation may be retained preferably in a lined impoundment to decrease the potential for infiltration, while promoting evaporation. The effective use of this BMP will also decrease the potential for off-site migration through surface waters.

10. CONCLUSIONS

Ninyo & Moore has completed a limited initial site characterization and has reached the following conclusions:

- Lead is the primary contaminant of concern for the SSC Shooting Range due to the detected concentrations of total and leachable lead in the berm and range soil.
- The berms generally are impacted by metals in approximately the upper 2 to 3 feet of soil in areas receiving direct fire and the upper 6 inches in areas of indirect fire.
- Based on visual observations and XRF results, the range floor is impacted by metals in approximately the upper 6 inches of soil.
- Soils in the berms contain leachable lead at a concentration that would render it hazardous waste if it were to meet the definition of solid waste.

11. RECOMMENDATIONS

Based on the results of the Limited Initial Site Characterization, Ninyo & Moore recommends the following:

- Assessing the applicability of soil washing to remove lead and other metal contaminants from the soil by conducting a scalable treatability study.
- Additional assessment to further define the vertical and horizontal extent of metals impacts. The additional sampling and analysis would serve to provide a more accurate picture with which to estimate remediation costs.
- Additional correlation studies to further develop the use of an XRF as a field screening device for this site.

- To evaulate methods of reducing the leachable lead, a full-scale treatability study be performed on site soil to select the appropriate process and process controls.

In addition, Ninyo & Moore recommends the following for range operations and range clean-up:

- The range operators should review and implement a program of lead reclamation to reduce the lead available for weathering and increased potential for mobility.
- The range operators should review and implement a program to reduce the small particle lead. This lead has a higher potential for migration and is present in significant quantities at the range.
- When performing range clean-up activities, additional sampling should be performed to assess the vertical and horizontal extent of impacted soils.

12. REFERENCES

Arizona Administrative Code, 1999, Title 18, Environmental Quality Chapter 7, Department of Environmental Quality Remedial Action, Appendix A, Soils Remediation Levels.

Arizona Administrative Code, 1999, Title 18, Environmental Quality Chapter 8, Department of Environmental Quality Waste Management, Appendix A, Soils Remediation Levels.

Arizona Department of Water Resources, 2002-2003, Hydrologic Map Series Report No. 35: dated November 2002 to February 2003.

Code of Federal Regulations, 2004, Title 40, Part 261, Identification and Listing of Hazardous Waste.

Colorado Department of Public Health and Environment, Corrective Action at Outdoor Shooting Ranges Guidance Document: dated January, 2005.

EEC, Final Phase I / II - Environmental Site Assessments of Sheriff's Shooting Range, Surprise Arizona, EEC Project No. 203169.01: dated June 28, 2004.

Interstate Technology Regulatory Council, Environmental Management at Operating Outdoor Small Arms Firing Ranges: dated February, 2005.

National Shooting Sports Foundation, Environmental Aspects of Construction and Management of Outdoor Shooting Ranges: dated 1997.

Ninyo & Moore, Limited Initial Site Characterization Report, Maricopa County Sheriff's Shooting Range, Ninyo & Moore Project No. 600996003: dated December 7, 2005.

United States Environmental Protection Agency, Best Management Practices for Lead at Outdoor Shooting Ranges, USEPA-902-B-01-001, January 2001, Region 2.

United States Environmental Protection Agency, 1996, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, USEPA Publication SW-846: dated December.

United States Army Environmental Center, Prevention of Lead Migration and Erosion from Small Arms Ranges: dated August, 1998.

United States Department of Agriculture, Soil Survey of Maricopa County, Arizona, Central Part: dated 1977.

United States Geological Survey (USGS), 7.5-Minute Topographic Quadrangle Map Series, McMicken Dam AZ, 1957, photorevised 1981 Scale 1:24,000.

TABLES

Table 1 - Sample Screening and XRF Results

Sample ID	In-Situ XRF Screening	Sample Depth (bs)	Sample Weight (g)	Visible Bullets (g)	Sieve Size	Percent Passing	XRF on Passing Percent (ppm)	ICP Lead (mg/kg)
S-1	183	surface	1,401.3	318.7	#200	13%	3,590	7,100
S-2	628	surface	3,598.5	20.8	#4	92%	I	N/A
S-3	216	surface	4,600.9	42.2	#50	18%	207	N/A
S-4	278	surface	2,830.8	none	#50	34%	4.2	45
S-5	82	surface	3,384.7	none	#4	93%	588	N/A
S-6	391	surface	4,803.4	none	#50	29%	577	N/A
S-7	208	surface	3,832.5	none	#4	94%	I	N/A
S-8	187	surface	3,772.0	none	#4	91%	I	280
S-9	290	surface	2,736.8	none	#4	83%	86.8	N/A
S-10	377	surface	3,201.8	19.4	#50	37%	90.7	N/A
S-11	2,370	surface	4,827.8	1335.5	#50	26%	6,100	15,000
S-12	385	surface	3,425.3	none	#50	37%	300	N/A
S-13	513	surface	3,357.7	143.2	#4	93%	151	N/A
S-14	806	surface	3,337.0	144.6	#4	91%	1,040	2,000
S-15	410	surface	3,302.2	none	#4	92%	85.8	N/A
S-16	379	surface	3,336.8	none	#50	16%	104	320
S-17	256	surface	2,950.3	none	#4	85%	107	N/A
S-18	199	surface	3,257.6	none	#50	19%	116	N/A
S-19	611	surface	3,230.2	none	#50	38%	41	640
S-20	259	surface	2,680.9	none	#4	97%	41.6	N/A
S-21	1,770	surface	3,397.8	none	#50	54%	589	720
S-22	230	surface	3,435.8	none	#4	83%	49.2	N/A
S-23	342	surface	3,015.5	60	#4	90%	336	770
S-24	472	surface	2,875.0	none	#50	28%	166	340
S-25	194	3 feet	3,023.0	53.4	#50	42%	364	N/A
S-26	530	surface	2,866.6	304.4	#50	38%	1,180	N/A
S-27	2,350	surface	2,818.8	89.9	#50	50%	3,070	10,000
S-28	5,300	surface	3,174.2	85.6	#50	56%	4,800	N/A
S-29	8,520	surface	3,319.2	75.9	#50	57%	5,770	23,000
S-30	960	1.5 feet	2,820.5	16.6	#30	61%	1,100	4,000
S-31	453	surface	2,347.7	none	#50	64%	I	20.0
S-32	529	surface	2,536.2	2.0	#4	93%	160	N/A
S-33	142	surface	2,802.4	none	#4	85%	I	27.0
S-34	133	surface	2,207.0	none	#4	98%	I	49.0
S-35	684	2 feet	3,409.1	53.1	#4	91%	300	1,900
S-36	358	surface	2,856.1	46.5	#30	74%	90.7	N/A
S-37	568	surface	2,689.8	none	#50	44%	185	N/A
S-38	410	surface	3,410.3	none	#4	86%	306	N/A
S-39	328	surface	3,473.3	none	#4	85%	262	N/A
S-40	568	surface	3,906.8	none	#50	32%	938	N/A
S-41	510	surface	2,965.1	184.8	#30	40%	2,400	8,900
S-42	<100	1.5 feet	2,566.7	none	#4	83%	543	N/A
S-43	4,270	surface	3,060.2	pellets	#50	44%	37	1,200
S-44	459	3-6 inches	3,223.7	none	#4	93%	I	450
S-45	212	6-9 inches	2,478.1	none	#4	95%	22.6	N/A
S-46	328	surface	3915.9	pellets	#50	27%	1,100	1,500
S-47	<110	1 foot	2534.1	none	#50	26%	43.7	45.0
S-48	<97.0	surface	2891.1	none	#4	74%	116	N/A

Table 1 - Sample Screening and XRF Results *(continued)*

Sample ID	In-Situ XRF Screening	Sample Depth (bs)	Sample Weight (g)	Visible Bullets (g)	Sieve Size	Percent Passing	XRF on Passing Percent (ppm)	ICP Lead (mg/kg)
S-49	422	surface	1,991.9	pellets	#50	39%	418	N/A
S-50	<98	3-6 inches	2,694.1	none	#50	47%	38.2	69
S-51	2,490	1 feet	2874.3	pellets	#50	11%	1,380	4,200
S-52	341	surface	3,064.0	none	#30	43%	304	360
S-53	<99	surface	2,526.0	pellets	#4	84%	15.3	22
X-1	152	surface	N/A	none	N/A	N/A	N/A	N/A
X-2	<75	surface	N/A	none	N/A	N/A	N/A	N/A
X-3	509	surface	N/A	none	N/A	N/A	N/A	N/A
X-4	218	surface	N/A	none	N/A	N/A	N/A	N/A
X-5	<90.0	surface	N/A	none	N/A	N/A	N/A	N/A
X-6	<140	surface	N/A	none	N/A	N/A	N/A	N/A
X-7	270	surface	N/A	none	N/A	N/A	N/A	N/A
X-8	126	surface	N/A	none	N/A	N/A	N/A	N/A
X-9	<150	surface	N/A	none	N/A	N/A	N/A	N/A
X-10	<85.0	surface	N/A	none	N/A	N/A	N/A	N/A
X-11	<96.0	surface	N/A	none	N/A	N/A	N/A	N/A
X-12	<89.0	surface	N/A	none	N/A	N/A	N/A	N/A
X-13	<110	surface	N/A	none	N/A	N/A	N/A	N/A
X-14	131	surface	N/A	none	N/A	N/A	N/A	N/A
X-15	<150	surface	N/A	none	N/A	N/A	N/A	N/A
X-16	<90.0	surface	N/A	none	N/A	N/A	N/A	N/A
X-17	<100	surface	N/A	none	N/A	N/A	N/A	N/A
X-18	559	surface	N/A	none	N/A	N/A	N/A	N/A
X-19	<98.0	surface	N/A	none	N/A	N/A	N/A	N/A
X-20	<91.0	surface	N/A	none	N/A	N/A	N/A	N/A
X-21	<93.0	surface	N/A	none	N/A	N/A	N/A	N/A
X-22	<99.0	surface	N/A	none	N/A	N/A	N/A	N/A
X-23	<99.0	surface	N/A	none	N/A	N/A	N/A	N/A
X-24	<100	surface	N/A	none	N/A	N/A	N/A	N/A
X-25	<110	surface	N/A	none	N/A	N/A	N/A	N/A
X-26	<100	surface	N/A	none	N/A	N/A	N/A	N/A
X-27	<110	surface	N/A	none	N/A	N/A	N/A	N/A
X-28	294	surface	N/A	none	N/A	N/A	N/A	N/A
X-29	<150	surface	N/A	none	N/A	N/A	N/A	N/A
X-30	<110	surface	N/A	none	N/A	N/A	N/A	N/A
X-31	<99.0	surface	N/A	none	N/A	N/A	N/A	N/A
X-32	<99.0	surface	N/A	none	N/A	N/A	N/A	N/A
X-33	<100	surface	N/A	none	N/A	N/A	N/A	N/A
X-34	<98.0	surface	N/A	none	N/A	N/A	N/A	N/A

Notes:

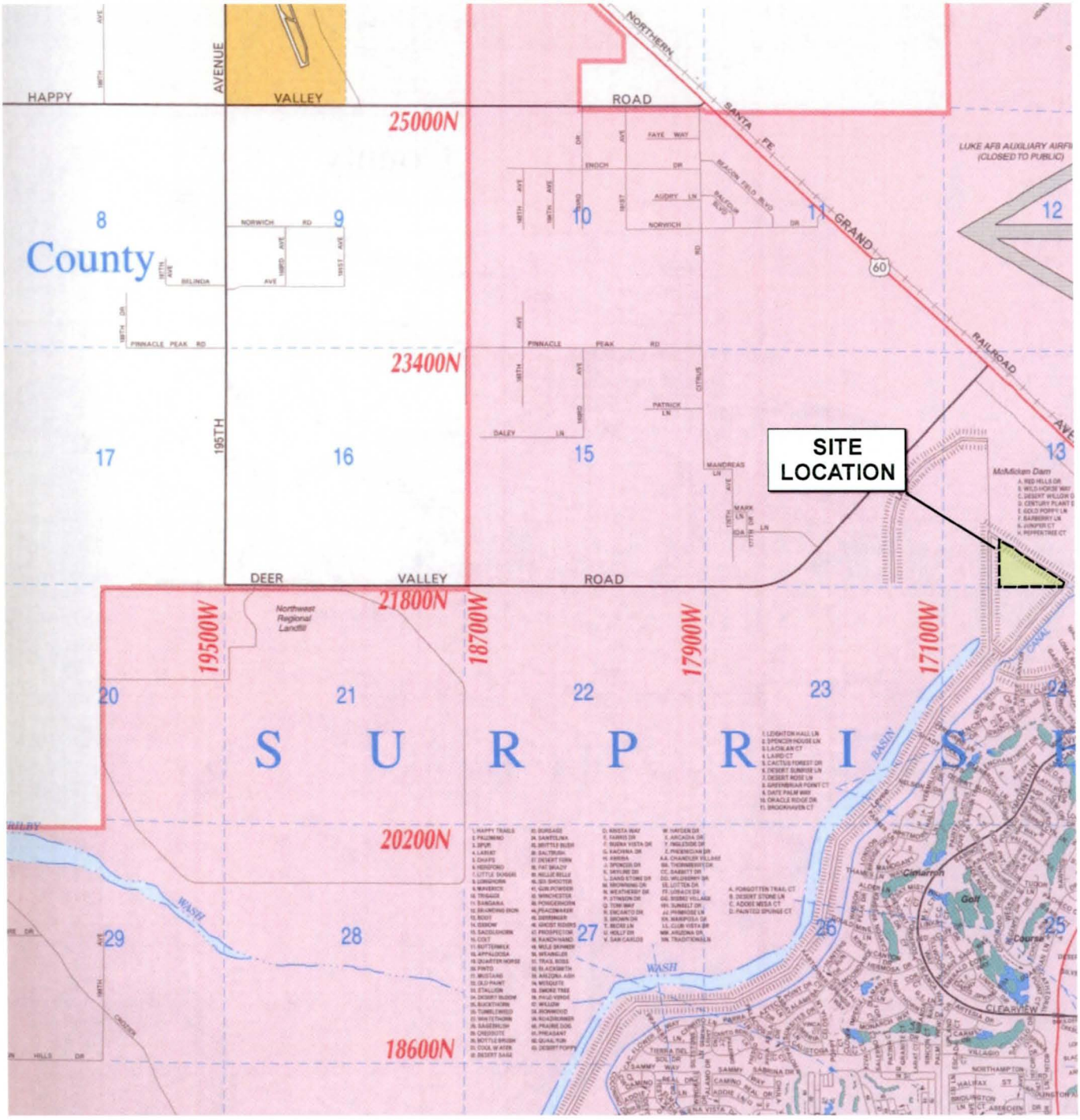
bs	= below surface
g	= grams
I	= Inconclusive Result
ICP	= Inductively Coupled Plasma
mg/kg	= milligrams per kilogram
N/A	= Not applicable
ppm	= parts per million
XRF	= x-ray fluorescence

Table 2 - Summary of Fixed-Base Laboratory Analytical Results

Reporting Data			Regulatory Standards (mg/kg)				Sample ID (mg/kg)																								
Analyte		Method	AZ SRL Residential	AZ SRL Non-Residential	AZ GPLs	RCRA 20x TCLP Level	S-1	S-4	S-8	S-11	S-14	S-16	S-19	S-21	S-23	S-24	S-27	S-29	S-30	S-31	S-33	S-34	S-35	S-39	S-41	S-43	S-44	S-46	S-47	S-50	S-51	S-52	S-53
Metals	Antimony	6010	31	680	35	NE	NA	NA	<5.0	NA	NA	<5.0	NA	NA	NA	NA	NA	NA	16	NA	<5.0	NA	<5.0	NA	NA	NA	<5.0	NA	NA	<5.0	24	NA	NA
	Arsenic	6010	10	10	290	100	**12**	NA	<5.0	**22**	6.9	**13**	NA	NA	NA	NA	NA	NA	6.7	NA	7.1	NA	5.2	NA	7.1	NA	5.7	NA	NA	<5.0	**14**	NA	NA
	Barium	6010	5,300	110,000	12,000	2,000	150	NA	NA	160	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	120	NA	180	NA	NA	NA	NA	NA	NA	NA	NA
	Cadmium	6010	38	850	29	20	<0.50	NA	NA	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA
	Chromium	6010	2,100	4,500	590	100	24	NA	NA	24	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22	NA	22	NA	NA	NA	NA	NA	NA	NA	NA
	Copper	6010	2,800	63,000	NE	NE	NA	NA	36	NA	NA	170	NA	NA	NA	NA	NA	NA	78	NA	32	NA	39	NA	NA	NA	26	NA	NA	37	150	NA	NA
	Lead	6010	400	2,000	290	100	**7,100**	45	**280**	**15,000**	**2,000**	**320**	**640**	**720**	**770**	**340**	**10,000**	**23,000**	**4,000**	20	27	49	**1,900**	NA	**8,900**	**1,200**	**450**	**1,500**	45	69	**4,200**	**360**	22
	Mercury	7471	6.7	180	12	4.0	0.044	NA	NA	0.13	0.025	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.037	NA	0.10	NA	NA	NA	NA	NA	NA	NA	NA
	Selenium	6010	380	8,500	290	20	<5.0	NA	NA	<5.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.0	NA	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
	Silver	6010	NE	NE	NE	100	<0.50	NA	NA	<0.71	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA
	Tin	6010	46,000	1,000,000	NE	NE	NA	NA	9.7	NA	NA	20	NA	NA	NA	NA	NA	NA	17	NA	9.1	NA	10	NA	NA	NA	7.5	NA	NA	12	45	NA	NA
	Zinc	6010	23,000	510,000	NE	NE	NA	NA	100	NA	NA	59	NA	NA	NA	NA	NA	NA	52	NA	79	NA	49	NA	NA	NA	42	NA	NA	66	73	NA	NA
	[1]TCLP Lead	TCLP	NE	NE	NE	5.0	**160**	NA	NA	NA	65	NA	NA	NA	NA	NA	NA	**180**	NA	0.41	NA	NA	NA	**52**	NA	NA	NA	**11**	NA	NA	**120**	0.66	**8.8**

Notes:
AZ = Arizona
GPL = Groundwater Protection Level
mg/kg = milligrams per kilogram
NA = Compound not analyzed
NE = Not established
RCRA = Resource Conservation and Recovery Act
SRL = Soil Remediation Level
TCLP = Toxicity Characteristic Leaching Procedure
[1]Results of TCLP Lead are in milligrams per liter (mg/L) and are compared to RCRA regulatory threshold of 5 mg/L not to 20x the TCLP standard
Bold indicates exceedance of one or more regulatory standards

FIGURES

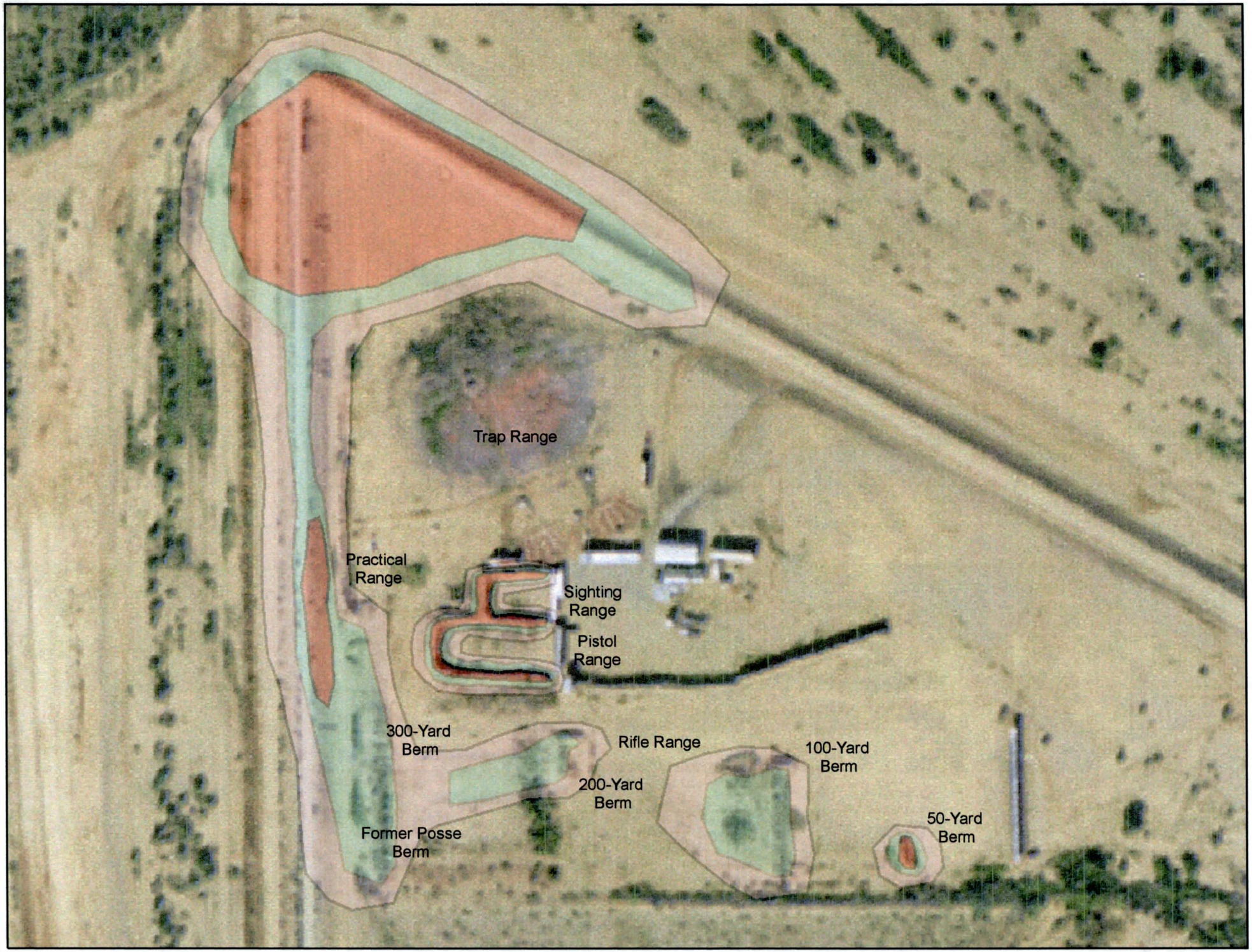


0 3300

Approximate Scale:
1 inch = 3300 feet

Source: Phoenix Mapping Service, Phoenix Metro 2005

Ninyo & Moore	SITE LOCATION MAP	
SURPRISE SPORTSMAN'S CLUB SHOOTING RANGE		FIGURE 1
PROJECT No: 600996003	FILE No: 0996slm1105	DATE: 01/06



Surprise Sportman's Club
Shooting Range
Shot Density

high
moderate
low

0 50 yds

N
W E
S

Ninyo & Moore	OBSERVED SURFICIAL BULLET/SHOT DENSITY	
Surprise Sportsman's Club Range		FIGURE
PROJECT No: 600996003	FILE No: McMickenDam	DATE: 01/06	2

Surprise Sportman's Club Shooting Range Sample Locations

○	Sample Location
S-12	Sample ID
✚	XRF Screening Location
X-19	XRF Screening ID

0 50 yds

N
W E
S

Ninyo & Moore			SOIL SAMPLE LOCATIONS
Surprise Sportsman's Club Range			FIGURE
PROJECT No: 600996003	FILE No: McMickenDam	DATE: 01/06	3

APPENDIX A

ANALYTICAL REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

LABORATORY REPORT

Prepared For: Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project: 600996003

Sampled: 11/15/05-11/16/05
Received: 11/16/05
Issued: 11/28/05 15:17

NELAP #01109CA Arizona DHS#AZ0426

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain(s) of Custody, 4 pages, are included and are an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

LABORATORY ID	CLIENT ID	MATRIX
POK0520-01	S-1	Soil
POK0520-02	S-4	Soil
POK0520-03	S-8	Soil
POK0520-04	S-11	Soil
POK0520-05	S-14	Soil
POK0520-06	S-16	Soil
POK0520-07	S-19	Soil
POK0520-08	S-21	Soil
POK0520-09	S-23	Soil
POK0520-10	S-24	Soil
POK0520-11	S-27	Soil
POK0520-12	S-29	Soil
POK0520-13	S-30	Soil
POK0520-14	S-31	Soil
POK0520-15	S-33	Soil
POK0520-16	S-34	Soil
POK0520-17	S-35	Soil
POK0520-18	S-39	Soil
POK0520-19	S-41	Soil
POK0520-20	S-43	Soil
POK0520-21	S-44	Soil
POK0520-22	S-46	Soil
POK0520-23	S-47	Soil
POK0520-24	S-50	Soil
POK0520-25	S-51	Soil
POK0520-26	S-52	Soil

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003
Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

LABORATORY ID	CLIENT ID	MATRIX
POK0520-27	S-53	Soil
POK0520-28	S-55	Soil
POK0520-29	S-58	Soil
POK0520-30	S-59	Soil
POK0520-31	S-60	Soil
POK0520-32	S-61	Soil
POK0520-33	S-67	Soil
POK0520-34	S-68	Soil
POK0520-35	S-69	Soil
POK0520-36	S-70	Soil
POK0520-37	S-83	Soil
POK0520-38	S-84	Soil
POK0520-39	S-86	Soil
POK0520-40	S-87	Soil
POK0520-41	S-91	Soil
POK0520-42	S-92	Soil
POK0520-43	S-96	Soil
POK0520-44	S-97	Soil
POK0520-45	S-98	Soil
POK0520-46	S-99	Soil
POK0520-47	S-100	Soil

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003

Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

SAMPLE RECEIPT:	Samples were received intact, at 21°C and with chain of custody documentation.
HOLDING TIMES:	All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar Analytical Sample Acceptance Policy unless otherwise noted in the report.
PRESERVATION:	Samples requiring preservation were verified prior to sample analysis.
QA/QC CRITERIA:	All analyses met method criteria, except as noted in the report with data qualifiers.
COMMENTS:	N1 - Concentration in the MS and/or MSD exceeds the calibration range and therefore result is semi-quantitative.
SUBCONTRACTED:	No analyses were subcontracted to an outside laboratory.

Reviewed By:

Kiera Hunter

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003

Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

TOTAL METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POK0520-01 (S-1 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Arsenic	EPA 6010B	P5K1714	5.0	**12**	1	11/17/2005	11/21/2005	
Barium	EPA 6010B	P5K1714	1.0	**150**	1	11/17/2005	11/21/2005	M2
Cadmium	EPA 6010B	P5K1714	0.50	ND	1	11/17/2005	11/21/2005	
Chromium	EPA 6010B	P5K1714	1.0	**24**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1714	10	**7100**	2	11/17/2005	11/22/2005	M3
Mercury	EPA 7471A	P5K1805	0.020	**0.044**	1	11/18/2005	11/18/2005	
Selenium	EPA 6010B	P5K1714	5.0	ND	1	11/17/2005	11/21/2005	
Silver	EPA 6010B	P5K1714	0.50	ND	1	11/17/2005	11/21/2005	
Sample ID: POK0520-02 (S-4 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1714	5.0	**45**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-03 (S-8 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Antimony	EPA 6010B	P5K1714	5.0	ND	1	11/17/2005	11/21/2005	
Arsenic	EPA 6010B	P5K1714	5.0	ND	1	11/17/2005	11/21/2005	
Copper	EPA 6010B	P5K1714	2.0	**36**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1714	5.0	**280**	1	11/17/2005	11/21/2005	
Tin	EPA 6010B	P5K1714	5.0	**9.7**	1	11/17/2005	11/21/2005	
Zinc	EPA 6010B	P5K1714	5.0	**100**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-04 (S-11 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Arsenic	EPA 6010B	P5K1714	5.0	**22**	1	11/17/2005	11/21/2005	
Barium	EPA 6010B	P5K1714	1.0	**160**	1	11/17/2005	11/21/2005	
Cadmium	EPA 6010B	P5K1714	0.50	ND	1	11/17/2005	11/21/2005	
Chromium	EPA 6010B	P5K1714	1.0	**24**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1714	50	**15000**	10	11/17/2005	11/22/2005	
Mercury	EPA 7471A	P5K1805	0.020	**0.13**	1	11/18/2005	11/18/2005	M1
Selenium	EPA 6010B	P5K1714	5.0	ND	1	11/17/2005	11/21/2005	
Silver	EPA 6010B	P5K1714	0.50	**0.71**	1	11/17/2005	11/21/2005	

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003

Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

TOTAL METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POK0520-05 (S-14 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Arsenic	EPA 6010B	P5K1714	5.0	**6.9**	1	11/17/2005	11/21/2005	
Barium	EPA 6010B	P5K1714	1.0	**110**	1	11/17/2005	11/21/2005	
Cadmium	EPA 6010B	P5K1714	0.50	ND	1	11/17/2005	11/21/2005	
Chromium	EPA 6010B	P5K1714	1.0	**19**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1714	5.0	**2000**	1	11/17/2005	11/21/2005	
Mercury	EPA 7471A	P5K1805	0.020	**0.025**	1	11/18/2005	11/18/2005	
Selenium	EPA 6010B	P5K1714	5.0	ND	1	11/17/2005	11/21/2005	
Silver	EPA 6010B	P5K1714	0.50	ND	1	11/17/2005	11/21/2005	
Sample ID: POK0520-06 (S-16 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Antimony	EPA 6010B	P5K1714	5.0	ND	1	11/17/2005	11/21/2005	
Arsenic	EPA 6010B	P5K1714	5.0	**13**	1	11/17/2005	11/21/2005	
Copper	EPA 6010B	P5K1714	2.0	**170**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1714	5.0	**320**	1	11/17/2005	11/21/2005	
Tin	EPA 6010B	P5K1714	5.0	**20**	1	11/17/2005	11/21/2005	
Zinc	EPA 6010B	P5K1714	5.0	**59**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-07 (S-19 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1714	5.0	**640**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-08 (S-21 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1714	5.0	**720**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-09 (S-23 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1714	5.0	**770**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-10 (S-24 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1714	5.0	**340**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-11 (S-27 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1714	25	**10000**	5	11/17/2005	11/22/2005	

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003
Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

TOTAL METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POK0520-12 (S-29 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1714	50	**23000**	10	11/17/2005	11/22/2005	
Sample ID: POK0520-13 (S-30 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Antimony	EPA 6010B	P5K1714	5.0	**16**	1	11/17/2005	11/21/2005	
Arsenic	EPA 6010B	P5K1714	5.0	**6.7**	1	11/17/2005	11/21/2005	
Copper	EPA 6010B	P5K1714	2.0	**78**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1714	5.0	**4000**	1	11/17/2005	11/21/2005	
Tin	EPA 6010B	P5K1714	5.0	**17**	1	11/17/2005	11/21/2005	
Zinc	EPA 6010B	P5K1714	5.0	**52**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-14 (S-31 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1714	5.0	**20**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-15 (S-33 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Antimony	EPA 6010B	P5K1714	5.0	ND	1	11/17/2005	11/21/2005	
Arsenic	EPA 6010B	P5K1714	5.0	**7.1**	1	11/17/2005	11/21/2005	
Copper	EPA 6010B	P5K1714	2.0	**32**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1714	5.0	**27**	1	11/17/2005	11/21/2005	
Tin	EPA 6010B	P5K1714	5.0	**9.1**	1	11/17/2005	11/21/2005	
Zinc	EPA 6010B	P5K1714	5.0	**79**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-16 (S-34 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1714	5.0	**49**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-17 (S-35 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Antimony	EPA 6010B	P5K1714	5.0	ND	1	11/17/2005	11/21/2005	
Arsenic	EPA 6010B	P5K1714	5.0	**5.2**	1	11/17/2005	11/21/2005	
Barium	EPA 6010B	P5K1714	1.0	**120**	1	11/17/2005	11/21/2005	
Cadmium	EPA 6010B	P5K1714	0.50	ND	1	11/17/2005	11/21/2005	
Chromium	EPA 6010B	P5K1714	1.0	**22**	1	11/17/2005	11/21/2005	
Copper	EPA 6010B	P5K1714	2.0	**39**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1714	5.0	**1900**	1	11/17/2005	11/21/2005	
Mercury	EPA 7471A	P5K1805	0.020	**0.037**	1	11/18/2005	11/18/2005	
Selenium	EPA 6010B	P5K1714	5.0	ND	1	11/17/2005	11/21/2005	
Silver	EPA 6010B	P5K1714	0.50	ND	1	11/17/2005	11/21/2005	
Tin	EPA 6010B	P5K1714	5.0	**10**	1	11/17/2005	11/21/2005	
Zinc	EPA 6010B	P5K1714	5.0	**49**	1	11/17/2005	11/21/2005	

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003
Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

TOTAL METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POK0520-19 (S-41 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Arsenic	EPA 6010B	P5K1714	5.0	**7.1**	1	11/17/2005	11/21/2005	
Barium	EPA 6010B	P5K1714	1.0	**180**	1	11/17/2005	11/21/2005	
Cadmium	EPA 6010B	P5K1714	0.50	ND	1	11/17/2005	11/21/2005	
Chromium	EPA 6010B	P5K1714	1.0	**22**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1714	25	**8900**	5	11/17/2005	11/22/2005	
Mercury	EPA 7471A	P5K1805	0.020	**0.10**	1	11/18/2005	11/18/2005	
Selenium	EPA 6010B	P5K1714	5.0	ND	1	11/17/2005	11/21/2005	
Silver	EPA 6010B	P5K1714	0.50	ND	1	11/17/2005	11/21/2005	
Sample ID: POK0520-20 (S-43 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1714	5.0	**1200**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-21 (S-44 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Antimony	EPA 6010B	P5K1715	5.0	ND	1	11/17/2005	11/21/2005	M2
Arsenic	EPA 6010B	P5K1715	5.0	**5.7**	1	11/17/2005	11/21/2005	
Copper	EPA 6010B	P5K1715	2.0	**26**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1715	5.0	**450**	1	11/17/2005	11/21/2005	
Tin	EPA 6010B	P5K1715	5.0	**7.5**	1	11/17/2005	11/21/2005	
Zinc	EPA 6010B	P5K1715	5.0	**42**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-22 (S-46 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1715	5.0	**1500**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-23 (S-47 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1715	5.0	**45**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-24 (S-50 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Antimony	EPA 6010B	P5K1715	5.0	ND	1	11/17/2005	11/21/2005	
Arsenic	EPA 6010B	P5K1715	5.0	ND	1	11/17/2005	11/21/2005	
Copper	EPA 6010B	P5K1715	2.0	**37**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1715	5.0	**69**	1	11/17/2005	11/21/2005	
Tin	EPA 6010B	P5K1715	5.0	**12**	1	11/17/2005	11/21/2005	
Zinc	EPA 6010B	P5K1715	5.0	**66**	1	11/17/2005	11/21/2005	

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003

Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

TOTAL METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POK0520-25 (S-51 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Antimony	EPA 6010B	P5K1715	5.0	**24**	1	11/17/2005	11/21/2005	
Arsenic	EPA 6010B	P5K1715	5.0	**14**	1	11/17/2005	11/21/2005	
Copper	EPA 6010B	P5K1715	2.0	**150**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1715	5.0	**4200**	1	11/17/2005	11/21/2005	
Tin	EPA 6010B	P5K1715	5.0	**45**	1	11/17/2005	11/21/2005	
Zinc	EPA 6010B	P5K1715	5.0	**73**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-26 (S-52 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1715	5.0	**360**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-27 (S-53 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1715	5.0	**22**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-28 (S-55 - Soil)				**Sampled: 11/15/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1715	25	**17000**	5	11/17/2005	11/22/2005	
Sample ID: POK0520-29 (S-58 - Soil)				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Arsenic	EPA 6010B	P5K1715	5.0	ND	1	11/17/2005	11/23/2005	
Barium	EPA 6010B	P5K1715	1.0	**130**	1	11/17/2005	11/21/2005	
Cadmium	EPA 6010B	P5K1715	0.50	ND	1	11/17/2005	11/21/2005	
Chromium	EPA 6010B	P5K1715	1.0	**25**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1715	5.0	**4300**	1	11/17/2005	11/21/2005	
Mercury	EPA 7471A	P5K1805	0.040	**0.12**	2	11/18/2005	11/18/2005	D1
Selenium	EPA 6010B	P5K1715	5.0	ND	1	11/17/2005	11/21/2005	
Silver	EPA 6010B	P5K1715	0.50	ND	1	11/17/2005	11/21/2005	

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003
Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

TOTAL METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POK0520-30 (S-59 - Soil)				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1715	5.0	**460**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-31 (S-60 - Soil)				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Antimony	EPA 6010B	P5K1715	5.0	**18**	1	11/17/2005	11/21/2005	
Arsenic	EPA 6010B	P5K1715	5.0	**5.3**	1	11/17/2005	11/21/2005	
Copper	EPA 6010B	P5K1715	2.0	**340**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1715	10	**8400**	2	11/17/2005	11/22/2005	
Tin	EPA 6010B	P5K1715	5.0	**18**	1	11/17/2005	11/21/2005	
Zinc	EPA 6010B	P5K1715	5.0	**84**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-32 (S-61 - Soil)				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Antimony	EPA 6010B	P5K1715	50	ND	10	11/17/2005	11/21/2005	
Arsenic	EPA 6010B	P5K1715	50	ND	10	11/17/2005	11/21/2005	
Copper	EPA 6010B	P5K1715	20	**300**	10	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1715	50	**360**	10	11/17/2005	11/21/2005	
Tin	EPA 6010B	P5K1715	50	**79**	10	11/17/2005	11/21/2005	
Zinc	EPA 6010B	P5K1715	50	**420**	10	11/17/2005	11/21/2005	
Sample ID: POK0520-33 (S-67 - Soil)				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1715	10	**6100**	2	11/17/2005	11/22/2005	
Sample ID: POK0520-34 (S-68 - Soil)				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Arsenic	EPA 6010B	P5K1715	5.0	ND	1	11/17/2005	11/21/2005	
Barium	EPA 6010B	P5K1715	1.0	**110**	1	11/17/2005	11/21/2005	
Cadmium	EPA 6010B	P5K1715	0.50	ND	1	11/17/2005	11/21/2005	
Chromium	EPA 6010B	P5K1715	1.0	**25**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1715	10	**6300**	2	11/17/2005	11/22/2005	
Mercury	EPA 7471A	P5K1805	0.020	**0.036**	1	11/18/2005	11/18/2005	
Selenium	EPA 6010B	P5K1715	5.0	ND	1	11/17/2005	11/21/2005	
Silver	EPA 6010B	P5K1715	0.50	ND	1	11/17/2005	11/21/2005	

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003

Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

TOTAL METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POK0520-35 (S-69 - Soil)				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Arsenic	EPA 6010B	P5K1715	5.0	ND	1	11/17/2005	11/21/2005	
Barium	EPA 6010B	P5K1715	1.0	**110**	1	11/17/2005	11/21/2005	
Cadmium	EPA 6010B	P5K1715	0.50	ND	1	11/17/2005	11/21/2005	
Chromium	EPA 6010B	P5K1715	1.0	**27**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1715	5.0	**4500**	1	11/17/2005	11/21/2005	
Mercury	EPA 7471A	P5K1805	0.10	**3.2**	5	11/18/2005	11/18/2005	
Selenium	EPA 6010B	P5K1715	5.0	ND	1	11/17/2005	11/21/2005	
Silver	EPA 6010B	P5K1715	0.50	ND	1	11/17/2005	11/21/2005	
Sample ID: POK0520-36 (S-70 - Soil)				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Antimony	EPA 6010B	P5K1715	5.0	**10**	1	11/17/2005	11/21/2005	
Arsenic	EPA 6010B	P5K1715	5.0	ND	1	11/17/2005	11/21/2005	
Barium	EPA 6010B	P5K1715	1.0	**110**	1	11/17/2005	11/21/2005	
Cadmium	EPA 6010B	P5K1715	0.50	ND	1	11/17/2005	11/21/2005	
Chromium	EPA 6010B	P5K1715	1.0	**25**	1	11/17/2005	11/21/2005	
Copper	EPA 6010B	P5K1715	2.0	**100**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1715	5.0	**3500**	1	11/17/2005	11/21/2005	
Mercury	EPA 7471A	P5K1805	0.020	ND	1	11/18/2005	11/18/2005	
Selenium	EPA 6010B	P5K1715	5.0	ND	1	11/17/2005	11/21/2005	
Silver	EPA 6010B	P5K1715	0.50	ND	1	11/17/2005	11/21/2005	
Tin	EPA 6010B	P5K1715	5.0	**16**	1	11/17/2005	11/21/2005	
Zinc	EPA 6010B	P5K1715	5.0	**57**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-37 (S-83 - Soil)				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1715	25	**17000**	5	11/17/2005	11/22/2005	
Sample ID: POK0520-38 (S-84 - Soil)				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1715	5.0	**110**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-39 (S-86 - Soil)				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Antimony	EPA 6010B	P5K1715	5.0	ND	1	11/17/2005	11/21/2005	
Arsenic	EPA 6010B	P5K1715	5.0	ND	1	11/17/2005	11/21/2005	
Barium	EPA 6010B	P5K1715	1.0	**170**	1	11/17/2005	11/21/2005	
Cadmium	EPA 6010B	P5K1715	0.50	ND	1	11/17/2005	11/21/2005	
Chromium	EPA 6010B	P5K1715	1.0	**28**	1	11/17/2005	11/21/2005	
Copper	EPA 6010B	P5K1715	2.0	**62**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1715	5.0	**380**	1	11/17/2005	11/21/2005	
Mercury	EPA 7471A	P5K1805	0.020	**0.042**	1	11/18/2005	11/18/2005	
Selenium	EPA 6010B	P5K1715	5.0	ND	1	11/17/2005	11/21/2005	

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003
Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

TOTAL METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POK0520-39 (S-86 - Soil) - cont.				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Silver	EPA 6010B	P5K1715	0.50	ND	1	11/17/2005	11/21/2005	
Tin	EPA 6010B	P5K1715	5.0	**10**	1	11/17/2005	11/21/2005	
Zinc	EPA 6010B	P5K1715	5.0	**150**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-40 (S-87 - Soil)				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1715	5.0	**1900**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-41 (S-91 - Soil)				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Antimony	EPA 6010B	P5K1716	5.0	ND	1	11/17/2005	11/21/2005	M2
Arsenic	EPA 6010B	P5K1716	5.0	ND	1	11/17/2005	11/21/2005	
Copper	EPA 6010B	P5K1716	2.0	**54**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1716	5.0	**180**	1	11/17/2005	11/21/2005	
Tin	EPA 6010B	P5K1716	5.0	**9.2**	1	11/17/2005	11/21/2005	
Zinc	EPA 6010B	P5K1716	5.0	**57**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-42 (S-92 - Soil)				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1716	5.0	**2200**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-43 (S-96 - Soil)				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1716	5.0	**27**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-44 (S-97 - Soil)				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1716	5.0	**230**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-45 (S-98 - Soil)				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Lead	EPA 6010B	P5K1716	5.0	**360**	1	11/17/2005	11/21/2005	
Sample ID: POK0520-46 (S-99 - Soil)				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Antimony	EPA 6010B	P5K1716	5.0	ND	1	11/17/2005	11/21/2005	
Arsenic	EPA 6010B	P5K1716	5.0	ND	1	11/17/2005	11/21/2005	
Copper	EPA 6010B	P5K1716	2.0	**24**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1716	5.0	**14**	1	11/17/2005	11/21/2005	
Tin	EPA 6010B	P5K1716	5.0	**7.7**	1	11/17/2005	11/21/2005	
Zinc	EPA 6010B	P5K1716	5.0	**49**	1	11/17/2005	11/21/2005	

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003
Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

TOTAL METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POK0520-47 (S-100 - Soil)				**Sampled: 11/16/05**				
Reporting Units: mg/kg								
Antimony	EPA 6010B	P5K1716	5.0	ND	1	11/17/2005	11/21/2005	
Arsenic	EPA 6010B	P5K1716	5.0	**5.0**	1	11/17/2005	11/21/2005	
Copper	EPA 6010B	P5K1716	2.0	**30**	1	11/17/2005	11/21/2005	
Lead	EPA 6010B	P5K1716	5.0	**13**	1	11/17/2005	11/21/2005	
Tin	EPA 6010B	P5K1716	5.0	**10**	1	11/17/2005	11/21/2005	
Zinc	EPA 6010B	P5K1716	5.0	**60**	1	11/17/2005	11/21/2005	

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003
Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

TCLP METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	TCLP Limit	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: POK0520-01 (S-1 - Soil)					**Sampled: 11/15/05**				
Reporting Units: mg/l									
TCLP Lead	EPA 1311/6010B	P5K2101	0.25	**160**	5	5.0	11/21/2005	11/23/2005	
Sample ID: POK0520-05 (S-14 - Soil)					**Sampled: 11/15/05**				
Reporting Units: mg/l									
TCLP Lead	EPA 1311/6010B	P5K2101	0.25	**65**	5	5.0	11/21/2005	11/23/2005	M1
Sample ID: POK0520-12 (S-29 - Soil)					**Sampled: 11/15/05**				
Reporting Units: mg/l									
TCLP Lead	EPA 1311/6010B	P5K2101	0.25	**180**	5	5.0	11/21/2005	11/27/2005	
Sample ID: POK0520-14 (S-31 - Soil)					**Sampled: 11/15/05**				
Reporting Units: mg/l									
TCLP Lead	EPA 1311/6010B	P5K2101	0.25	**0.41**	5	5.0	11/21/2005	11/27/2005	
Sample ID: POK0520-18 (S-39 - Soil)					**Sampled: 11/15/05**				
Reporting Units: mg/l									
TCLP Lead	EPA 1311/6010B	P5K2101	0.25	**52**	5	5.0	11/21/2005	11/27/2005	
Sample ID: POK0520-22 (S-46 - Soil)					**Sampled: 11/15/05**				
Reporting Units: mg/l									
TCLP Lead	EPA 1311/6010B	P5K2101	0.25	**11**	5	5.0	11/21/2005	11/27/2005	
Sample ID: POK0520-25 (S-51 - Soil)					**Sampled: 11/15/05**				
Reporting Units: mg/l									
TCLP Lead	EPA 1311/6010B	P5K2101	0.25	**120**	5	5.0	11/21/2005	11/27/2005	
Sample ID: POK0520-26 (S-52 - Soil)					**Sampled: 11/15/05**				
Reporting Units: mg/l									
TCLP Lead	EPA 1311/6010B	P5K2101	0.25	**0.66**	5	5.0	11/21/2005	11/27/2005	
Sample ID: POK0520-27 (S-53 - Soil)					**Sampled: 11/15/05**				
Reporting Units: mg/l									
TCLP Lead	EPA 1311/6010B	P5K2101	0.25	**8.8**	5	5.0	11/21/2005	11/27/2005	
Sample ID: POK0520-28 (S-55 - Soil)					**Sampled: 11/15/05**				
Reporting Units: mg/l									
TCLP Lead	EPA 1311/6010B	P5K2101	2.5	**520**	50	5.0	11/21/2005	11/28/2005	

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003
Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

TCLP EXTRACTION FOR METALS

Analyte	Method	Batch	Extraction Start Date	Extraction End Date	Data Qualifiers
Sample ID: POK0520-01 (S-1 - Soil)			**Sampled: 11/15/05**		
TCLP Extraction	EPA 1311	P5K1718	11/17/2005	11/18/2005	
Sample ID: POK0520-05 (S-14 - Soil)			**Sampled: 11/15/05**		
TCLP Extraction	EPA 1311	P5K1718	11/17/2005	11/18/2005	
Sample ID: POK0520-12 (S-29 - Soil)			**Sampled: 11/15/05**		
TCLP Extraction	EPA 1311	P5K1718	11/17/2005	11/18/2005	
Sample ID: POK0520-14 (S-31 - Soil)			**Sampled: 11/15/05**		
TCLP Extraction	EPA 1311	P5K1718	11/17/2005	11/18/2005	
Sample ID: POK0520-18 (S-39 - Soil)			**Sampled: 11/15/05**		
TCLP Extraction	EPA 1311	P5K1718	11/17/2005	11/18/2005	
Sample ID: POK0520-22 (S-46 - Soil)			**Sampled: 11/15/05**		
TCLP Extraction	EPA 1311	P5K1718	11/17/2005	11/18/2005	
Sample ID: POK0520-25 (S-51 - Soil)			**Sampled: 11/15/05**		
TCLP Extraction	EPA 1311	P5K1718	11/17/2005	11/18/2005	
Sample ID: POK0520-26 (S-52 - Soil)			**Sampled: 11/15/05**		
TCLP Extraction	EPA 1311	P5K1718	11/17/2005	11/18/2005	

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003
Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

TCLP EXTRACTION FOR METALS

Analyte	Method	Batch	Extraction Start Date	Extraction End Date	Data Qualifiers
Sample ID: POK0520-27 (S-53 - Soil)			**Sampled: 11/15/05**		
TCLP Extraction	EPA 1311	P5K1718	11/17/2005	11/18/2005	
Sample ID: POK0520-28 (S-55 - Soil)			**Sampled: 11/15/05**		
TCLP Extraction	EPA 1311	P5K1718	11/17/2005	11/18/2005	

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003
Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

METHOD BLANK/QC DATA

TOTAL METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P5K1714 Extracted: 11/17/05										
Blank Analyzed: 11/21/2005 (P5K1714-BLK1)										
Antimony	ND	5.0	mg/kg							
Arsenic	ND	5.0	mg/kg							
Barium	ND	1.0	mg/kg							
Cadmium	ND	0.50	mg/kg							
Chromium	ND	1.0	mg/kg							
Copper	ND	2.0	mg/kg							
Lead	ND	5.0	mg/kg							
Selenium	ND	5.0	mg/kg							
Silver	ND	0.50	mg/kg							
Tin	ND	5.0	mg/kg							
Zinc	ND	5.0	mg/kg							
LCS Analyzed: 11/21/2005-11/22/2005 (P5K1714-BS1)										
Antimony	90.9	5.0	mg/kg	100		91	80-120			
Arsenic	87.5	5.0	mg/kg	100		88	80-120			
Barium	83.1	1.0	mg/kg	100		83	80-120			
Cadmium	85.3	0.50	mg/kg	100		85	80-120			
Chromium	84.1	1.0	mg/kg	100		84	80-120			
Copper	84.8	2.0	mg/kg	100		85	80-120			
Lead	86.7	5.0	mg/kg	100		87	80-120			
Selenium	87.2	5.0	mg/kg	100		87	80-120			
Silver	86.1	0.50	mg/kg	100		86	80-120			
Tin	87.8	5.0	mg/kg	100		88	80-120			
Zinc	84.0	5.0	mg/kg	100		84	80-120			
LCS Dup Analyzed: 11/21/2005-11/22/2005 (P5K1714-BSD1)										
Antimony	85.3	5.0	mg/kg	100		85	80-120	6	20	
Arsenic	85.8	5.0	mg/kg	100		86	80-120	2	20	
Barium	80.2	1.0	mg/kg	100		80	80-120	4	20	
Cadmium	81.8	0.50	mg/kg	100		82	80-120	4	20	
Chromium	81.2	1.0	mg/kg	100		81	80-120	4	20	
Copper	81.7	2.0	mg/kg	100		82	80-120	4	20	
Lead	84.2	5.0	mg/kg	100		84	80-120	3	20	
Selenium	85.5	5.0	mg/kg	100		86	80-120	2	20	
Silver	82.6	0.50	mg/kg	100		83	80-120	4	20	
Tin	84.7	5.0	mg/kg	100		85	80-120	4	20	

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003
Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

METHOD BLANK/QC DATA

TOTAL METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P5K1714 Extracted: 11/17/05										
LCS Dup Analyzed: 11/21/2005-11/22/2005 (P5K1714-BSD1)										
Zinc	81.3	5.0	mg/kg	100		81	80-120	3	20	
Matrix Spike Analyzed: 11/21/2005 (P5K1714-MS1)					**Source: POK0520-01**					
Antimony	107	5.0	mg/kg	100	45	62	75-125			*M2*
Arsenic	111	5.0	mg/kg	100	12	99	75-125			
Barium	225	1.0	mg/kg	100	150	75	75-125			
Cadmium	95.2	0.50	mg/kg	100	ND	95	75-125			
Chromium	119	1.0	mg/kg	100	24	95	75-125			
Copper	270	2.0	mg/kg	100	200	70	75-125			*M2*
Lead	6130	5.0	mg/kg	100	7100	-970	75-125			*N1, M3*
Selenium	102	5.0	mg/kg	100	4.1	98	75-125			
Silver	99.2	0.50	mg/kg	100	0.32	99	75-125			
Tin	141	5.0	mg/kg	100	51	90	75-125			
Zinc	158	5.0	mg/kg	100	78	80	75-125			
Matrix Spike Dup Analyzed: 11/21/2005 (P5K1714-MSD1)					**Source: POK0520-01**					
Antimony	155	5.0	mg/kg	100	45	110	75-125	37	20	*R4*
Arsenic	117	5.0	mg/kg	100	12	105	75-125	5	20	
Barium	212	1.0	mg/kg	100	150	62	75-125	6	20	*M2*
Cadmium	94.2	0.50	mg/kg	100	ND	94	75-125	1	20	
Chromium	117	1.0	mg/kg	100	24	93	75-125	2	20	
Copper	220	2.0	mg/kg	100	200	20	75-125	20	20	*M2*
Lead	7570	5.0	mg/kg	100	7100	470	75-125	21	20	*N1, M3*
Selenium	100	5.0	mg/kg	100	4.1	96	75-125	2	20	
Silver	97.8	0.50	mg/kg	100	0.32	97	75-125	1	20	
Tin	149	5.0	mg/kg	100	51	98	75-125	6	20	
Zinc	156	5.0	mg/kg	100	78	78	75-125	1	20	

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003
Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

METHOD BLANK/QC DATA

TOTAL METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P5K1715 Extracted: 11/17/05										
Blank Analyzed: 11/21/2005 (P5K1715-BLK1)										
Antimony	ND	5.0	mg/kg							
Arsenic	ND	5.0	mg/kg							
Barium	ND	1.0	mg/kg							
Cadmium	ND	0.50	mg/kg							
Chromium	ND	1.0	mg/kg							
Copper	ND	2.0	mg/kg							
Lead	ND	5.0	mg/kg							
Selenium	ND	5.0	mg/kg							
Silver	ND	0.50	mg/kg							
Tin	ND	5.0	mg/kg							
Zinc	ND	5.0	mg/kg							
LCS Analyzed: 11/21/2005 (P5K1715-BS1)										
Antimony	90.3	5.0	mg/kg	100		90	80-120			
Arsenic	98.9	5.0	mg/kg	100		99	80-120			
Barium	92.5	1.0	mg/kg	100		92	80-120			
Cadmium	94.9	0.50	mg/kg	100		95	80-120			
Chromium	94.4	1.0	mg/kg	100		94	80-120			
Copper	94.5	2.0	mg/kg	100		94	80-120			
Lead	95.9	5.0	mg/kg	100		96	80-120			
Selenium	97.5	5.0	mg/kg	100		98	80-120			
Silver	95.6	0.50	mg/kg	100		96	80-120			
Tin	97.2	5.0	mg/kg	100		97	80-120			
Zinc	94.8	5.0	mg/kg	100		95	80-120			
LCS Dup Analyzed: 11/21/2005 (P5K1715-BSD1)										
Antimony	92.7	5.0	mg/kg	100		93	80-120	3	20	
Arsenic	99.8	5.0	mg/kg	100		100	80-120	1	20	
Barium	94.5	1.0	mg/kg	100		94	80-120	2	20	
Cadmium	97.4	0.50	mg/kg	100		97	80-120	3	20	
Chromium	95.9	1.0	mg/kg	100		96	80-120	2	20	
Copper	96.5	2.0	mg/kg	100		96	80-120	2	20	
Lead	96.7	5.0	mg/kg	100		97	80-120	1	20	
Selenium	98.7	5.0	mg/kg	100		99	80-120	1	20	
Silver	97.3	0.50	mg/kg	100		97	80-120	2	20	
Tin	97.8	5.0	mg/kg	100		98	80-120	1	20	

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003
Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

METHOD BLANK/QC DATA

TOTAL METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P5K1715 Extracted: 11/17/05										
LCS Dup Analyzed: 11/21/2005 (P5K1715-BSD1)										
Zinc	96.2	5.0	mg/kg	100		96	80-120	1	20	
Matrix Spike Analyzed: 11/21/2005 (P5K1715-MS1)					**Source: POK0520-21**					
Antimony	36.6	5.0	mg/kg	100	ND	37	75-125			*M2*
Arsenic	103	5.0	mg/kg	100	5.7	97	75-125			
Barium	239	1.0	mg/kg	100	130	109	75-125			
Cadmium	91.9	0.50	mg/kg	100	ND	92	75-125			
Chromium	117	1.0	mg/kg	100	21	96	75-125			
Copper	123	2.0	mg/kg	100	26	97	75-125			
Lead	548	5.0	mg/kg	100	450	98	75-125			
Selenium	97.6	5.0	mg/kg	100	ND	98	75-125			
Silver	96.9	0.50	mg/kg	100	0.11	97	75-125			
Tin	96.3	5.0	mg/kg	100	7.5	89	75-125			
Zinc	140	5.0	mg/kg	100	42	98	75-125			
Matrix Spike Dup Analyzed: 11/21/2005 (P5K1715-MSD1)					**Source: POK0520-21**					
Antimony	38.8	5.0	mg/kg	100	ND	39	75-125	6	20	*M2*
Arsenic	109	5.0	mg/kg	100	5.7	103	75-125	6	20	
Barium	241	1.0	mg/kg	100	130	111	75-125	1	20	
Cadmium	97.0	0.50	mg/kg	100	ND	97	75-125	5	20	
Chromium	123	1.0	mg/kg	100	21	102	75-125	5	20	
Copper	128	2.0	mg/kg	100	26	102	75-125	4	20	
Lead	525	5.0	mg/kg	100	450	75	75-125	4	20	
Selenium	103	5.0	mg/kg	100	ND	103	75-125	5	20	
Silver	102	0.50	mg/kg	100	0.11	102	75-125	5	20	
Tin	102	5.0	mg/kg	100	7.5	94	75-125	6	20	
Zinc	144	5.0	mg/kg	100	42	102	75-125	3	20	

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A; Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003

Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

METHOD BLANK/QC DATA

TOTAL METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P5K1716 Extracted: 11/17/05										
Blank Analyzed: 11/21/2005-11/22/2005 (P5K1716-BLK1)										
Antimony	ND	5.0	mg/kg							
Arsenic	ND	5.0	mg/kg							
Copper	ND	2.0	mg/kg							
Lead	ND	5.0	mg/kg							
Tin	ND	5.0	mg/kg							
Zinc	ND	5.0	mg/kg							
LCS Analyzed: 11/21/2005 (P5K1716-BS1)										
Antimony	93.2	5.0	mg/kg	100		93	80-120			
Arsenic	99.8	5.0	mg/kg	100		100	80-120			
Copper	96.3	2.0	mg/kg	100		96	80-120			
Lead	97.2	5.0	mg/kg	100		97	80-120			
Tin	98.4	5.0	mg/kg	100		98	80-120			
Zinc	96.4	5.0	mg/kg	100		96	80-120			
LCS Dup Analyzed: 11/21/2005 (P5K1716-BSD1)										
Antimony	94.9	5.0	mg/kg	100		95	80-120	2	20	
Arsenic	101	5.0	mg/kg	100		101	80-120	1	20	
Copper	98.9	2.0	mg/kg	100		99	80-120	3	20	
Lead	97.9	5.0	mg/kg	100		98	80-120	1	20	
Tin	101	5.0	mg/kg	100		101	80-120	3	20	
Zinc	98.6	5.0	mg/kg	100		99	80-120	2	20	
Matrix Spike Analyzed: 11/21/2005 (P5K1716-MS1)					**Source: POK0520-41**					
Antimony	33.4	5.0	mg/kg	100	0.74	33	75-125			*M2*
Arsenic	104	5.0	mg/kg	100	3.3	101	75-125			
Copper	165	2.0	mg/kg	100	54	111	75-125			
Lead	281	5.0	mg/kg	100	180	101	75-125			
Tin	103	5.0	mg/kg	100	9.2	94	75-125			
Zinc	163	5.0	mg/kg	100	57	106	75-125			

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003

Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

METHOD BLANK/QC DATA

TOTAL METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P5K1716 Extracted: 11/17/05										
Matrix Spike Dup Analyzed: 11/21/2005 (P5K1716-MSD1)					**Source: POK0520-41**					
Antimony	32.9	5.0	mg/kg	100	0.74	32	75-125	2	20	*M2*
Arsenic	106	5.0	mg/kg	100	3.3	103	75-125	2	20	
Copper	167	2.0	mg/kg	100	54	113	75-125	1	20	
Lead	268	5.0	mg/kg	100	180	88	75-125	5	20	
Tin	105	5.0	mg/kg	100	9.2	96	75-125	2	20	
Zinc	164	5.0	mg/kg	100	57	107	75-125	1	20	
Batch: P5K1805 Extracted: 11/18/05										
Blank Analyzed: 11/18/2005 (P5K1805-BLK1)										
Mercury	ND	0.020	mg/kg							
LCS Analyzed: 11/18/2005 (P5K1805-BS1)										
Mercury	0.693	0.020	mg/kg	0.667		104	85-115			
LCS Dup Analyzed: 11/18/2005 (P5K1805-BSD1)										
Mercury	0.678	0.020	mg/kg	0.667		102	85-115	2	15	
Matrix Spike Analyzed: 11/18/2005 (P5K1805-MS1)					**Source: POK0520-04**					
Mercury	1.04	0.020	mg/kg	0.667	0.13	136	85-115			*M1*
Matrix Spike Dup Analyzed: 11/18/2005 (P5K1805-MSD1)					**Source: POK0520-04**					
Mercury	1.04	0.020	mg/kg	0.667	0.13	136	85-115	0	15	*M1*

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003
Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

METHOD BLANK/QC DATA

TCLP METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P5K2101 Extracted: 11/21/05										
Blank Analyzed: 11/23/2005 (P5K2101-BLK1)										
TCLP Lead	ND	0.050	mg/l							
Blank Analyzed: 11/23/2005 (P5K2101-BLK2)										
TCLP Lead	ND	0.25	mg/l							
Blank Analyzed: 11/23/2005 (P5K2101-BLK3)										
TCLP Lead	ND	0.25	mg/l							
LCS Analyzed: 11/23/2005 (P5K2101-BS1)										
TCLP Lead	0.910	0.050	mg/l	1.00		91	80-120			
LCS Dup Analyzed: 11/23/2005 (P5K2101-BSD1)										
TCLP Lead	0.896	0.050	mg/l	1.00		90	80-120	2	20	
Matrix Spike Analyzed: 11/23/2005 (P5K2101-MS1)					**Source: POK0520-05**					
TCLP Lead	66.6	0.25	mg/l	1.00	65	160	75-125			*MI*
Matrix Spike Dup Analyzed: 11/23/2005 (P5K2101-MSD1)					**Source: POK0520-05**					
TCLP Lead	67.8	0.25	mg/l	1.00	65	280	75-125	2	20	*MI*

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003

Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

METHOD BLANK/QC DATA

TCLP EXTRACTION FOR METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: P5K1718 Extracted: 11/17/05										
Blank Analyzed: 11/18/2005 (P5K1718-BLK1)										
TCLP Extraction	ND	0.050	None							

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003

Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

DATA QUALIFIERS AND DEFINITIONS

D1	Sample required dilution due to matrix.
M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
M2	Matrix spike recovery was low, the method control sample 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 method control sample recovery was acceptable.
N1	See case narrative.
R4	MS/MSD RPD exceeded the method control limit. Recovery met acceptance criteria.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Ninyo & Moore
3001 S. 35th St. Suite 6
Phoenix, AZ 85034
Attention: Dwight Clark

Project ID: 600996003

Report Number: POK0520

Sampled: 11/15/05-11/16/05
Received: 11/16/05

Certification Summary

Del Mar Analytical - Phoenix

Method	Matrix	Nelac	Arizona
EPA 1311/6010B	Water		X
EPA 1311	Solid		X
EPA 6010B	Solid	N/A	X
EPA 7471A	Soil		X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at www.dmalabs.com.

Del Mar Analytical - Phoenix
Kiera Hunter
Project Manager

17461 Derian Ave., #100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3299
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-12D, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 796-3620 FAX (702) 798-3628

Del Mar Analytical

A TEST AMERICA COMPANY

CHAIN OF CUSTODY FORM

Client Name/Address: Ninyo & Moore, 3001 S. 35th St, Phx, AZ 85034

Project/PO Number: 600996003

Project Manager: Dwight Clark

Phone Number: 602-243-1600

Sampler: Keenan Murray

Fax Number: 602-243-2699

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Analysis Required: ICP Pb	ICP Metals	TCLP Pb	RCRA Metals						Special Instructions
S-1	Soil	glass jar	2	11/15/05	1400	NONE			X	X		PO# 0526			-1	
S-4	Soil	glass jar	1	11/15/05	1405	NONE	X								2	
S-8	Soil	glass jar	1	11/15/05	1410	NONE		X							3	
S-11	Soil	glass jar	1	11/15/05	1415	NONE				X					4	
S-14	Soil	glass jar	2	11/15/05	1420	NONE			X	X					5	
S-16	Soil	glass jar	1	11/15/05	1425	NONE		X							6	
S-19	Soil	glass jar	1	11/15/05	1430	NONE	X								7	
S-21	Soil	glass jar	1	11/15/05	1435	NONE	X								8	
S-23	Soil	glass jar	1	11/15/05	1440	NONE	X								9	
S-24	Soil	glass jar	1	11/15/05	1445	NONE	X								10	
S-27	Soil	glass jar	1	11/15/05	1500	NONE	X								11	
S-29	Soil	glass jar	2	11/15/05	1505	NONE	X		X						12	
S-30	Soil	glass jar	1	11/15/05	1510	NONE		X							13	
S-31	Soil	glass jar	2	11/15/05	1515	NONE	X		X						14	

Relinquished By:	Date/Time: 11/16/05 1622	Received By:	Date/Time: 11/16/5
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received in Lab By:	Date/Time: 11/16/5 16:22

Turnaround Time: (Check)
same day ____ 72 hours ____
24 hours ____ 5 days ____
48 hours ____ normal X

Sample Integrity: (Check)
intact X on ice ____ 21°C

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

Del Mar Analytical
2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
7277 Hayvenhurst, Suite B-12, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-9596 FAX (858) 505-9689
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

CHAIN OF CUSTODY FORM

Client Name/Address: Ninyo & Moore, 3001 S. 35th St., Phx, AZ 85034

Project/PO Number: 600996003

Project Manager: Dwight Clark

Phone Number: 602-243-1600

Sampler: Keenan Murray

Fax Number: 602-243-2699

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	ICP Pb	ICP Metals	TCLP Pb	RCRA Metals						Special Instructions
S-33	Soil	glass jar	1	11/15/05	1520	NONE		X							PO# 600996003-15	
S-34	Soil	glass jar	1	11/15/05	1525	NONE	X								16	
S-35	Soil	glass jar	2	11/15/05	1530	NONE		X		X					17	
S-39	Soil	glass jar	1	11/15/05	1535	NONE			X						18	
S-41	Soil	glass jar	1	11/15/05	1540	NONE				X					19	
S-43	Soil	glass jar	1	11/15/05	1545	NONE	X								20	
S-44	Soil	glass jar	1	11/15/05	1600	NONE		X							21	
S-46	Soil	glass jar	2	11/15/05	1605	NONE	X		X						22	
S-47	Soil	glass jar	1	11/15/05	1610	NONE	X								23	
S-50	Soil	glass jar	1	11/15/05	1620	NONE		X							24	
S-51	Soil	glass jar	2	11/15/05	1625	NONE		X	X						25	
S-52	Soil	glass jar	2	11/15/05	1630	NONE	X		X						26	
S-53	Soil	glass jar	2	11/15/05	1635	NONE	X		X						27	
S-55	Soil	glass jar	2	11/15/05	1645	NONE	X		X						28	

Analysis Required

Relinquished By:	Date/Time:	Received by:	Date/Time:
	11/16/05 1622	11/16/5	
Relinquished By:	Date/Time:	Received by:	Date/Time:
Relinquished By:	Date/Time:	Received in Lab by:	Date/Time:
			11/16/5 16:22

Turnaround Time: (Check)
same day ____ 72 hours ____
24 hours ____ 5 days ____
48 hours ____ normal X

Sample Integrity: (Check)
intact X on ice ____ 21°C

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

Del Mar Analytical
2652 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
7277 Haywenhurst, Suite B-12, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
9484 Chesapeake Dr., Suite 806, San Diego, CA 92123 (858) 505-9596 FAX (858) 505-9689
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

CHAIN OF CUSTODY FORM

Client Name/Address: Ninyo & Moore, 3001 S. 35th St., Phx, AZ 85034

Project/PO Number: 600996003

Project Manager: Dwight Clark

Phone Number: 602-243-1600

Sampler: Keenan Murray

Fax Number: 602-243-2699

Analysis Required: ICP Pb; ICP Metals; TCLP Pb; RCRA Metals; P-K0520-

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Special Instructions
S-58	Soil	glass jar	1	11/16/05	1030	NONE	29
S-59	Soil	glass jar	1	11/16/05	1035	NONE	30
S-60	Soil	glass jar	1	11/16/05	1040	NONE	31
S-61	Soil	glass jar	1	11/16/05	1045	NONE	32
S-67	Soil	glass jar	1	11/16/05	1055	NONE	33
S-68	Soil	glass jar	1	11/16/05	1100	NONE	34
S-69	Soil	glass jar	1	11/16/05	1110	NONE	35
S-70	Soil	glass jar	2	11/16/05	1115	NONE	36
S-83	Soil	glass jar	1	11/16/05	1120	NONE	37
S-84	Soil	glass jar	1	11/16/05	1125	NONE	38
S-86	Soil	glass jar	2	11/16/05	1130	NONE	39
S-87	Soil	glass jar	1	11/16/05	1135	NONE	40
S-91	Soil	glass jar	1	11/16/05	1140	NONE	41
S-92	Soil	glass jar	1	11/16/05	1145	NONE	42

Relinquished By: Keenan Murray Date/Time: 11/16/05 1622

Received by: Date/Time: 11/16/5

Relinquished By: Date/Time:

Received by: Date/Time:

Relinquished By: Date/Time:

Received in Lab by: Date/Time: 11/16/5 16:22

Turnaround Time: (Check)
same day ____ 72 hours ____
24 hours ____ 5 days ____
48 hours ____ normal X

Sample Integrity: (Check)
intact X on ice ____ 21°C

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

Del Mar Analytical
2852 Alton Ave., Irvine, CA 92606 (949) 261-1022 FAX (949) 261-1228
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
7277 Hayvenhurst, Suite B-12, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
9484 Chesapeake Dr., Suite 806, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-8689
2620 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

CHAIN OF CUSTODY FORM

Client Name/Address:	Project/PO Number:
Ninyo & Moore 3001 S. 35th St Phx, AZ 85034	600996003
Project Manager: Dwight Clark	**Phone Number:** 602-243-1600
Sampler: Keenan Murray	**Fax Number:** 602-243-2699

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Analysis Required: ICP Pb	ICP Metals	TCLP Pb	RCRA Metals						Special Instructions
S-96	Soil	glass jar	1	11/16/05	1150	NONE	X				8260	8270			43	
S-97	Soil	glass jar	1	11/16/05	1155	NONE	X								44	
S-98	Soil	glass jar	1	11/16/05	1210	NONE	X								45	
S-99	Soil	glass jar	1	11/16/05	1220	NONE		X							46	
S-100	Soil	glass jar	1	11/16/05	1230	NONE		X							47	

Relinquished By:	Date/Time:	Received by:	Date/Time:	Turnaround Time: (Check)	
	11/16/05 1622		11/16/05	same day ____	72 hours ____
Relinquished By:	Date/Time:	Received by:	Date/Time:	24 hours ____	5 days ____
				48 hours ____	normal X
Relinquished By:	Date/Time:	Received in Lab by:	Date/Time:	Sample Integrity: (Check)	
			11/16/05 16:22	intact X	on ice — 8.2°C

Note: By relinquishing samples to Del Mar Analytical, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.