



**El Paso and Dona Ana County
Metals Survey
Sampling Report**

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1 INTRODUCTION

The United States Army Corps of Engineers (USACE), Tulsa District, tasked Ecology and Environment, Inc. (E & E), to conduct a metals survey action for the United States Environmental Protection Agency (EPA) in publicly accessible areas of El Paso County, Texas, and Dona Ana County, New Mexico. This document presents the findings of those actions and was prepared under E & E's USACE Contract No. DACA56-01-D-2001 and Task Order 0002.

1.1 Confirmation Sampling Objectives

The primary objective of the El Paso County and Dona Ana County sampling effort was to confirm previous independent investigations conducted by candidate masters students associated with the University of Texas at El Paso (UTEP). As part of several individual thesis efforts, extensive surveys and samplings of area surface soils were completed in an attempt to explain elevated concentrations of heavy metals by potential air dispersion. E & E's sampling effort was an attempt to re-create the previous efforts to the extent possible while focusing on publicly accessible land areas that could be considered at risk.

1.2 Site Specific Objectives

The principal objectives of the confirmation sampling activities were to:

- C Collect and analyze samples to confirm values of historical sampling efforts associated with characterization of metals content in surface soils;
- C Provide the EPA with adequate information to determine whether further investigation of residential and privately held lands is warranted; and
- C Document any threat or potential threat to public health or the environment posed by wind-borne air dispersion of metals contaminants.

The sampling event included collection of surface and subsurface soil samples at previously sampled locations where historical data indicate the possibility of high metals concentrations as a result of air dispersion, as well as sampling of publicly accessible high-traffic areas to characterize metals concentrations within local soils.

2 DATA REVIEW AND DATA COLLECTION

In addition to a study conducted by the Texas Air Control Board (TACB), numerous environmental investigations associated with individual master's theses from students at UTEP were reviewed to support this metals survey.

2.1 Previous Investigations

In response to a request from the Research Division of the TACB, the Sampling and Analysis Division of the TACB conducted soil sampling in El Paso County. Personnel from the Source Sampling Section collected the soil samples on July 12 and 13, 1989 (TACB 1989). The project was designed to document the levels of arsenic in the top 0.5 inch of soil at selected sites. Soil samples were collected in the vicinity of high-traffic areas such as schools and recreational parks. At each sampling site, 12 samples were collected at evenly spaced locations on the circumference of a 2-foot diameter circle. At each location, a soil aliquot was obtained by removing an approximately 1-inch diameter, 0.5-inch deep soil core (TACB 1989).

The highest soil concentration of arsenic detected was 1,100 micrograms/gram (equivalent to milligrams per kilogram (mg/kg) or parts per million [ppm]). It was noted that this result was obtained from a sample collected at the International Boundary and Water Commission, which is located directly across the Rio Grande River from a brick manufacturing company in Mexico (TACB 1989). The minimum detection limit (MDL) for the analysis was 3 micrograms/gram; the two background samples, which were collected from areas outside of suspected air dispersion impact, were determined to have arsenic concentrations less than the MDL. The 1989 TACB sampling locations and analytical results for arsenic concentrations of this sampling effort are presented in Table 1 and on Figure 1 of Attachment F.

In May 1993, Brenda E. Barnes presented her master's thesis, *An Evaluation of Metals Concentrations in Surficial Soils, El Paso County, Texas*, to UTEP. The abstract states that the study involved the collection of soil samples from areas surrounding various facilities in El Paso County that were potential point sources (historical as well as current) for metals contamination (Barnes 1993). Soil samples were collected from outlying areas north and east of the City of El Paso area in an effort to observe effects of distance from potential point sources (Barnes 1993).

Table 1*
Analytical Results of TACB Arsenic Sampling**

Sampling Site	Location	Arsenic Concentration mg/kg***
1	Vilas Elem. School	10
2	Dunn Park	10
3	Tom Lea Park	7
4	UTEP	12
5	UTEP	15
6	Mesita Elem. School	24
7	Mission Hills Park	11
8	Crazycat Mountain	16
9	Westside Park	5
10	N. Mesa Street	4
11	Rio Bravo Drive	15
12	Interstate Hwy. 10	250
13	Madeline Park	16
14	Ascarte Park	< MDL
15	Washington Park	< MDL
16	Loretto Park	< MDL
17	Memorial Park	6
18	Grandview Park	5
19	Newman Park	6
20	Houston Square Park	7
21	Armijo Park	6
22	Kerr Park	59
23	IBWC ¹	1100
24	Doniphan Park	6
25	W. Robertson WTP ²	26
Background 1	City of Vinton, TX	< MDL
Background 2	Montana/Yarbrough	< MDL

Minimum detection limit (MDL) for this method of analysis is 3 mg/kg***.

¹ International Boundary and Water Commission

² W. Robertson Water Treatment Plant

* Table1 duplicated from Sampling and Analysis of Soil in El Paso, Texas, David Carmichael, Texas Air Control Board, August 1989.

** Locations correlate to Figure 1 of Attachment F.

*** Originally reported in µg/g

Higher metals concentrations were observed in surface samples (2.5-centimeter depths) than in samples collected at greater depths. Overall, metals concentrations in the surface soil samples did not appear to be affected based on sample lithology or soil type (Barnes 1993).

In December 1993, Emmanuel Chukwuka Ndamé presented his master's thesis, *Heavy Metals in Soils in the Vicinity of the University of Texas at El Paso Campus (El Paso County, Texas)*, to UTEP. The abstract states that 78 soil samples were collected, prepared, and analyzed using appropriate EPA protocols to quantify heavy metals concentrations in the study area. Areas of interest included the campus of UTEP and parks and public school playgrounds within a 2-kilometer radius of the campus. The samples were analyzed for arsenic, barium, calcium, cadmium, chromium, copper, lead, nickel, selenium, and zinc (Ndamé 1993).

The Ndamé thesis stated that, "Overall, the data indicate no point source or large-scale contamination in arsenic, barium, cadmium, chromium, lead, and selenium." It should be noted that the instrument detection limit (IDL) for arsenic during the Ndamé analytical effort was 51 milligrams/kilogram (mg/kg). Sample analytical results indicated that arsenic concentrations in off-site (off-campus) soils ranged from below the IDL to 92 mg/kg, and that concentrations in on-campus soils ranged from below the IDL to 91 mg/kg. Concentrations of lead in on-campus surface soil were as high as 1,500 mg/kg in an area near Sun Bowl Drive. Significant concentrations of arsenic and lead were not detected in any of the samples collected at public schools or parks, with the exception of a surface soil result from Alethea Park, which had a lead concentration of 840 mg/kg (Ndamé 1993).

In May 1994, Dilip Kumar Devanahalli presented a master's thesis, *Survey of Heavy Metal Concentrations of Soils in Downtown El Paso, Texas*, to UTEP. The abstract states that the study involved the collection of soil samples from the downtown area of El Paso. The study focused on an area bounded by Interstate 10 on the north, the Rio Grande River on the south, Sun Metro Terminal on the west, and the Phelps Dodge copper refinery on the east. Soil samples were collected from the surface and at a depth of 6 inches. Samples were analyzed using the Acid Digestion Procedure which gives the total metal concentration, and the Toxicity Characteristics Leaching Procedure (TCLP) for regulatory evaluation. Fifty-four (28 surface and 26 subsurface) samples were collected from public parks and playgrounds, including school playgrounds. Arsenic concentrations in surface soils ranged from below the MDL of 13 mg/kg to 33 mg/kg, and lead concentrations ranged from below the MDL of 17 mg/kg to 560 mg/kg. The Devanahalli sampling effort did not indicate the presence of significant arsenic or lead concentrations in surface or subsurface soils at the public schools where samples had been collected (Devanahalli 1994).

Also in May 1994, Shyam Srinivas presented a master's thesis, *Heavy Metal Contamination of Soils in Public Parks, El Paso, Texas*, to UTEP. The abstract states that 72 surface and subsurface (6-inch depth) samples were collected from public parks in the City of El Paso, located in the eastern and northeastern areas of the city. The Srinivas thesis stated that no point source or larger-scale contamination areas were apparent and that the concentrations of metals were generally higher in surface soils than in subsurface soils. In only one instance was arsenic detected (55 mg/kg) at or above the MDL of 55 mg/kg. Concentrations of lead in surface soils ranged from below the MDL (30 mg/kg) to 130 mg/kg.

Numerous other related studies have been conducted or are being completed by other university and environmental research centers for various risk assessment and biological modeling studies. For the purpose of this action, the soil sampling effort focused on the confirmation of the studies noted above and the evaluation of the data generated to support the identification and evaluation of surface and subsurface soils within these previously evaluated public schools, parks, and the UTEP campus.

3 ACTIONS TAKEN

Sampling was conducted by EPA from July 9 through 12, 2001. The samples were collected from locations and features to confirm previous sampling locations and values, and from newly identified locations. The locations or features sampled were selected based on information derived from a review of the background information previously discussed and a ground-based drive-by survey of publicly accessible (high traffic) areas. Table 2 provides the final list of the sampling locations, which are identified by parcel, master sample number, and the coordinates of the location in decimal degrees as recorded using hand-held Global Positioning System (GPS) units. Attachments A.1, A.2, and A.3 show the final sample locations with master sample number.

Table 2				
Final Sample Locations and Geographic Coordinates				
El Paso and Dona Ana Counties Metals Survey				
Parcel	Master Sample No.	General Location	Latitude	Longitude
PK-001	0001	San Jacinto Plaza Park	31.75970	-106.48805
PK-002	0002	Mundy Park	31.76392	-106.50099
PK-003	0003	Houston Square Park	31.76751	-106.48477
PK-004	0004	Tula Irrobali Park	31.75530	-106.47509
PK-005	0005	Chihuahuita Park	31.74985	-106.48964
PK-006	0006	Marcus B. Armijo Park	31.75223	-106.48094
PK-007	0007	Paseo de los Heroes Park	31.75116	-106.48025
PK-008	0008	Dunn Park	31.76740	-106.49728
PK-009	0009	Roger Brown Ballfield	31.78460	-106.46527
PK-010	0010	Tom Lea Upper Park	31.77860	-106.48758
PK-010	0011	Tom Lea Upper Park	31.77860	-106.48758
PK-010	0012	Tom Lea Upper Park	31.77880	-106.48758
PK-011	0013	Arroyo Park	31.77813	-106.49649
PK-011	0014	Arroyo Park	31.77886	-106.49541
PK-011	0015	Arroyo Park	31.77918	-106.49399
PK-012	0016	Madeline Park	31.78279	-106.49684
PK-013	0017	Alethea Park	31.78662	-106.49931
PK-013	0018	Alethea Park	31.78641	-106.49859
PK-014	0019	Mission Hills Park	31.79068	-106.50197
PK-014	0020	Mission Hills Park	31.79037	-106.50236
PK-015	0021	Doniphan Park	31.76210	-106.50878
PK-016	0022	El Paso Library	31.76058	-106.49047
PK-017	0023	Cleveland Park	31.76010	-106.49077
PK-018	0024	Galatzan Park & Rec. Center	31.81571	-106.53211

Table 2				
Final Sample Locations and Geographic Coordinates				
El Paso and Dona Ana Counties Metals Survey				
Parcel	Master Sample No.	General Location	Latitude	Longitude
PK-018	0025	Galatzan Park & Rec. Center	31.81571	-106.53211
PK-018	0026	Galatzan Park & Rec. Center	31.81530	-106.5318
PK-019	0027	Crestmont Park	31.82138	-106.53697
PK-020	0028	Pacific Park	31.81782	-106.55687
PK-021	0029	Buena Vista Park	31.80853	-106.53706
SD-001	0030	Mesita Elementary	31.78440	-106.50286
SD-001	0031	Mesita Elementary	31.78440	-106.50286
SD-001	0032	Mesita Elementary	31.78285	-106.50437
SD-002	0033	Vilas Elementary	31.76071	-106.4999
SD-002	0034	Vilas Elementary	31.76163	-106.50044
SD-003	0035	El Paso High	31.77326	-106.48932
SD-003	0036	El Paso High	31.77360	-106.49114
SD-004	0037	Lamar Elementary	31.77631	-106.4812
SD-004	0038	Lamar Elementary	31.77583	-106.48212
SD-005	0039	Wiggs Middle	31.77515	-106.48212
SD-005	0040	Wiggs Middle	31.77540	-106.48304
SD-006	0041	Alamo Elementary	31.77538	-106.48289
SD-006	0042	Alamo Elementary	31.75631	-106.47588
SD-007	0043	Roosevelt Elementary	31.75298	-106.48068
SD-007	0044	Roosevelt Elementary	31.75350	-106.48151
SD-008	0045	Hart Elementary	31.75178	-106.47239
SD-008	0046	Hart Elementary	31.75238	-106.47186
SD-009	0047	Guillen Middle	31.75382	-106.4728
SD-009	0048	Guillen Middle	31.75382	-106.4728
SD-009	0049	Guillen Middle	31.75365	-106.47291
SD-010	0050	Carlos Cordova Middle	31.78183	-106.47078
SD-010	0051	Carlos Cordova Middle	31.78029	-106.47137
SD-012	0054	Highland Annex Elementary	31.78247	-106.46964
SD-012	0055	Highland Annex Elementary	31.78247	-106.47074
SD-013	0056	Moreno Elementary	31.78738	-106.46965
SD-013	0057	Moreno Elementary	31.78704	-106.46967
SD-013	0060	Moreno Elementary	31.78738	-106.46965
SD-015	0061	Houston Elementary	31.78540	-106.4645
SD-015	0062	Houston Elementary	31.78531	-106.4641
SD-016	0063	Beall Elementary	31.78570	-106.46255
SD-016	0064	Beall Elementary	31.77111	-106.46019
SD-017	0065	Douglas Elementary	31.76616	-106.46571
SD-017	0066	Douglas Elementary	31.76542	-106.46607
SD-018	0067	Dr. Green Elementary	31.82268	-106.5102

Table 2				
Final Sample Locations and Geographic Coordinates				
El Paso and Dona Ana Counties Metals Survey				
Parcel	Master Sample No.	General Location	Latitude	Longitude
SD-018	0068	Dr. Green Elementary	31.82270	-106.51109
SD-019	0069	Morehead Middle	31.82188	-106.52182
SD-019	0070	Morehead Middle	31.82188	-106.52182
SD-019	0071	Morehead Middle	31.82034	-106.52131
SD-020	0072	Johnson Elementary	31.82004	-106.52254
SD-020	0073	Johnson Elementary	31.82143	-106.52365
SD-021	0074	Sunland Park Elementary	31.79251	-106.57511
SD-021	0075	Sunland Park Elementary	31.79264	-106.57441
SD-022	0076	Desert View Elementary	31.79498	-106.58326
SD-022	0077	Desert View Elementary	31.79476	-106.58091
SD-023	0078	Riverside Elementary	31.81648	-106.59945
SD-023	0079	Riverside Elementary	31.81641	-106.60009
PK-011	0080	Arroyo Park	31.78043	-106.49315
PK-011	0081	Arroyo Park	31.78173	-106.49228
PK-011	0082	Arroyo Park	31.78266	-106.491
PK-011	0083	Arroyo Park	31.78345	-106.48952
PK-011	0084	Arroyo Park	31.78401	-106.48802
PK-022	0085	Sunland Park City Hall	31.79668	-106.55556
PK-023	0086	Ileana Park	31.79815	-106.57877
MZ-001	0087	End of Westway Drive	31.95720	-106.56665
MZ-002	0088	Trans Mountain Road	31.90641	-106.55495
SD-024	0089	Olga Kohlberg Elmentary	31.87675	-106.56203
SD-024	0090	Olga Kohlberg Elmentary	31.87675	-106.56203
MZ-003	0091	End of Westway Drive	31.96031	-106.55848
MZ-004	0092	Trans Mountain Road	31.90619	-106.56573
PK-011	0094	Arroyo Park	31.78401	-106.48802
SD-021	0095	Sunland Park Elementary	31.79264	-106.57441
PK-024	0096	Mt. Cristo Rey Park	31.78405	-106.55737
PK-024	0097	Mt. Cristo Rey Park	31.78957	-106.54238
PK-024	0098	Mt. Cristo Rey Park	31.79191	-106.54157
PK-024	0099	Mt. Cristo Rey Park	31.79191	-106.54157
PK-025	0100	Red Mender Park	31.80144	-106.54461
PK-026	0101	Meadow Vista WT	31.79070	-106.58332
PK-027	0102	Levee Park	31.79947	-106.55888
PK-027	0103	Levee Park	31.79925	-106.55499
PK-028	0104	Riverside Park	31.81924	-106.59952
PK-029	0105	McNutt @ Racetrack WT	31.79405	-106.54975
SD-001	0106	Mesita Elementary	31.78369	-106.5031
SD-001	0107	Mesita Elementary	31.78407	-106.50241

Table 2				
Final Sample Locations and Geographic Coordinates				
El Paso and Dona Ana Counties Metals Survey				
Parcel	Master Sample No.	General Location	Latitude	Longitude
UT-001	0108	TNRCC Air Monitoring	31.76860	-106.50117
UT-002	0109	Biology Bldg Lawn	31.76824	-106.50369
UT-003	0110	Liberal Arts Bldg. Lawn	31.76991	-106.50295
UT-004	0111	Arroyo east of L. A. Bldg	31.77064	-106.50191
UT-005	0112	Memorial Triangle	31.77056	-106.50468
UT-006	0113	Leech Grove	31.76965	-106.50433
UT-007	0114	Union Lawn @ Kerbey Ave.	31.77115	-106.50393
UT-008	0115	Northeast of Education Bldg.	31.77279	-106.50302
UT-009	0116	Practice Field @ Baltimore	31.77593	-106.50632
UT-010	0117	Soccer Field Center	31.78182	-106.50957

3.1 Sampling Methodology/Overview

At the time of sampling, site-specific conditions (e.g., topography, visual evidence of contamination) were evaluated and incorporated into the final placement of collection locations. Verbal approval was obtained from the EPA Site Assessment Manager (SAM) prior to any significant deviations from the original work plan. Conditions contributing to deviation from the original work plan included: the modification of sample collection techniques at some locations due to difficulty in reaching a desired soil sampling depth and the deletion of a park (PK-030) location due to limited access and the park's questionable existence. Other deviations from the work plan included the deletion of two originally proposed school sampling locations (SD-011 and SD-014) due to their proximity to each other in combination with adjacent schools already proposed for sampling.

The EPA investigation team collected 112 surface soil samples from 0 to 6 inches below ground surface (BGS) for Target Analyte List (TAL) total metals analyses. Surface soil samples were collected using dedicated, individually packaged, polyethylene scoops. At multiple locations, hand tools (shovel or stainless steel trowel) were employed to loosen the surrounding perimeter soils at individual sample locations to the desired depth of 6 inches. The soils were then collected using polyethylene scoops and placed in a dedicated plastic resealable bag. The collected material was labeled and homogenized thoroughly. The homogenized sample was returned to a central location, processed, and then placed into lot-number-traceable, precleaned glass sample container with a Teflon lid.

At each of these 112 locations, a co-located grab soil sample was collected in the same manner from 0 to 1 inch BGS for arsenic and lead analyses only. The soils were collected using the individually packaged polyethylene scoops and placed in a dedicated plastic resealable bag. The collected material was labeled and homogenized thoroughly. The homogenized sample was returned to a central location, processed, and then placed into lot-number-traceable, precleaned glass sample container with a Teflon lid. These samples were prepared and analyzed in accordance with guidance presented in *TRW Recommendations for Sampling and Analysis of Soil at Lead [Pb] Sites*, EPA-540-F-00-010, OSWER 9285.7-38, April 2000. This guidance document indicates that incidental ingestion is the major pathway of exposure to lead in soil and dust. The assumption implicit in this exposure pathway is that ingested soil and dust lead is best represented by the lead concentration in the particle size fraction that sticks to hands. Several studies indicate that the particle size fraction of soil and dust that sticks to hands is the fine fraction and that a reasonable upper-bound for this size fraction is 250 microns (passing through a No. 60 sieve [ASTM1999]). This is also the particle size fraction most likely to accumulate in the indoor environment, as a result of deposition of wind-blown soil and transport of soil on clothes, shoes, pets, toys and other objects. In addition, the coarse fraction (material passing through a No. 10 sieve) and the unsieved sample were also analyzed to evaluate the distribution of the metals in the soil fractions.

The 0 to 1-inch BGS samples, were prepared by the laboratory for analysis as follows:

- Aliquots of the sample were collected from the sample container for moisture determination and arsenic/ lead analyses.
- The remaining sample was dried at 95°C to a constant weight.
- The dried sample was passed through a No. 10 sieve. An aliquot of the material passing through the sieve was collected for arsenic and lead analysis.
- The remaining sieved material was passed through a No. 60 sieve. An aliquot of the material passing through the sieve was collected for arsenic and lead analysis.

At 12 El Paso Independent School District schools and two other miscellaneous locations (MZ-001 and MZ-002), a single grab sample was collected from the 1- to 2- foot BGS depth interval. These samples were collected using either a stainless steel slam-bar lined with a dedicated, disposable acetate sleeve, or they were excavated with hand tools. The lower 1-foot of the soil column collected from this horizon was homogenized to represent one sample at 1 to 2 feet BGS for that specific location. Collected material was removed from the acetate sleeve or collected using the individually packaged polyethylene scoops and

placed in a dedicated plastic resealable bag. The collected material was labeled and homogenized thoroughly. The homogenized sample was returned to a central location, processed, and then placed into lot-number-traceable, precleaned, glass sample container with a Teflon lid.

To ensure that proper sample collection and laboratory quality control (QC) procedures were incorporated, and to assess matrix homogeneity, 42 co-located field duplicate soil samples were collected for the three unique soil horizons. The locations of these duplicate samples are identified in Attachment D.1.

All samples were identified using the sample locations/numbers assigned by E & E, and sample documentation and collection were completed in accordance with the original work plan guidance and procedures. Samples collected for TAL total metals analyses and arsenic/lead only analyses were maintained under chain-of-custody; these samples were stored and shipped to an outside contract laboratory, via overnight express service, in coolers with ice at 4° C (see Attachment E).

The remaining aliquot of all sample material collected after the necessary quantity of sample material needed to satisfy outside laboratory requirements had been removed and placed into glass jars was reserved for future X-ray fluorescence (XRF) analysis. These samples represent a true split of the sample material, which remained in the original resealable plastic bag in which it was initially collected. These samples were processed under EPA chain-of-custody procedures, with one sample delivery group being released under EPA chain-of-custody to an EPA On-Scene Coordinator, and the remainder being shipped under EPA chain-of-custody to the EPA Region 6 Superfund Technical Assistance and Response Team II contractor.

Dedicated and disposable personal protective equipment and sample collection equipment were used during the sampling effort to avoid cross-contamination. Field decontamination methods were used at locations to remove residual particulate material from sampling devices such as trowels or shovels that had been used to loosen surrounding soil material at densely compacted or rocky soil locations. All polyethylene scoops used for actual sample material collection were considered disposable. Following use, all hand tools used to loosen surrounding soils were cleaned with a water spray and paper towel. All investigation-derived wastes were managed in a manner consistent with EPA guidance set forth in *Management of Investigation Derived Wastes During Site Inspections*, EPA/540/G-91/9009.

4 ANALYTICAL RESULTS

The total analytical results for the sampling effort are presented in Attachment D. Data validation reviews are included in Attachment D.2. Figures identifying sample locations and concentrations are presented in Attachment A, and photographs from the sampling effort are presented in Attachment C.

Samples originating from school grounds were identified with the prefix “SD” and any other hyphenated alpha or numerical designation appropriate (e.g., SD-XXX-ZZZZ, where “XXX” equals the numerical parcel code of the sampling location and “ZZZZ” represents the unique sample number and respective depth or preparation at that location). Samples collected at public parks are identified by the prefix “PK”, while miscellaneous samples are identified by the prefix “MZ”. Samples collected from UTEP are identified by the prefix “UT”. Sample numbers initiated with a zero (0) represent the master sample location collected from 0 to 6 inches BGS and were analyzed for TAL metals. Sample numbers in the one thousand series (1ZZZ) identify samples co-located with the master sample and collected from 0 to 1 inch BGS. The one-thousand series group is subdivided into three subdivisions: without an alphabetical designator; with an “A” designation trailing the sample number; and with “B” designation trailing the sample number. Sample numbers without an “A” or “B” designator indicate samples that were analyzed for arsenic and lead and were not subjected to sieving at the laboratory. Sample numbers with an “A” designation indicate samples that were screened using an ASTM No. 10 sieve prior to being analyzed for arsenic and lead. Sample numbers with a “B” designation indicate samples that were also screened using an ASTM No. 60 sieve prior to analysis for arsenic and lead. In subsequent discussion, these individual aliquots are considered separate samples.

Arsenic and lead results in each individual sample are summarized in Table 3, with results exceeding the EPA screening level highlighted by shading and bold print. For the purpose of this sampling effort, EPA-established screening levels were determined to be equal to or greater than 20 ppm for arsenic and equal to or greater than 500 ppm for lead. Sample locations with concentrations exceeding EPA-determined screening levels are discussed in greater detail within each respective section below according to their parcel designation.

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
PK-001			San Jacinto Plaza Park , Mesa Street at Main	735T	31 45' 35.0"	106 29' 17.0"
	0001	GS6	Description:		5.25	58.6
	1001	GS1	Sparsely vegetated, grass/sod		2.76	15.0
	1001A	GS1A	Maintained park		2.62	13.6
	1001B	GS1B			3.26	20.7
PK-002			Mundy Park , Prospect at Lawton	735S	31 45' 50.1	106 30' 03.6"
	0002	GS6	Description:		7.98	112.0
	1002	GS1	Moderately vegetated, grass/sod		6.84	91.0
	1002A	GS1A	Maintained park		6.12	90.7
	1002B	GS1B			8.03	118.0
PK-003			Houston Square Park , Yandell @ St. Vrain	735P	31 46' 03.0"	106 29' 05.2"
	0003	GS6	Description:		11.0	90.3 JL
	1003	GS1	Moderately vegetated, maintained		7.43	42.2 JH
	1003A	GS1A	Downtown park		4.94	34.5
	1003B	GS1B			6.43	48.4
PK-004			Tula Irrobali Park , Father Rahm@ Tays	735V	31 45' 19.1"	106 28' 30.3"
	0004	GS6	Description:		6.25	56.9
	1004	GS1	Moderately vegetated, grass/sod		5.92	46.2
	1004A	GS1A	Maintained park		4.92	54.9
	1004B	GS1B			6.37	71.9

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsc0	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
PK-005			Chihuahuita Park , Holoquin Pl.	735X	31 44' 59.5"	106 29' 22.7"
	0005	GS6	Description:		6.02	53.6
	1005	GS1	Moderately vegetated, grass/sod		7.30	69.9
	1005A	GS1A	Maintained park		5.31	41.3
	1005B	GS1B			5.74	57.0
PK-006			Marcos B. Armijo Park , 6th @Campbell	735Y	31 45' 08.0"	106 28' 51.4"
	0006	GS6	Description:		3.95	25.3
	1006	GS1	Moderately vegetated, grass/sod		3.30	11.6
	1006A	GS1A	Maintained park		2.60	7.11
	1006B	GS1B			4.97	20.0
PK-007			Paseo de los Heroes Park , 8th @ Campbell	735Y	31 45' 04.2"	106 28' 48.9"
	0007	GS6	Description:		11.7	154.0
	1007	GS1	Sparsely vegetated, grass		9.87	110.0
	1007A	GS1A	High traffic area, maintained park		11.2	96.1
	1007B	GS1B			9.56	115.0
PK-008			Dunn Park , El Paso @ Crosby	735N	31 46' 02.7"	106 29' 50.2"
	0008	GS6	Description:		8.05	14.8
	1008	GS1	Moderately vegetated, grass/sod		4.45	13.0
	1008A	GS1A	Maintained park		5.84	12.0
	1008B	GS1B			6.21	26.2

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
PK-009			Roger Brown Ballfield, Alabama @ Grant	736E	31 47' 04.6"	106 27' 55.0"
	0009	GS6	Description:		6.41	66.9 JL
	1009	GS1	Maintained, baseball diamond		6.31	20.4 JH
	1009A	GS1A	unvegetated		5.71	14.6
	1009B	GS1B			6.39	18.2
PK-010			Tom Lea Upper Park, Murchison	735K	31 46' 42.9"	106 29' 15.3"
	0010	GS6	Description:		2.91	4.58 JL
	1010	GS1	Playground area, unvegetated		3.89	9.91 JH
	1010A	GS1A	Suspect sand/gravel fill material		3.05	7.85
	1010B	GS1B			4.56	14.1
	0011	GS6	Co-located Duplicate of 0010 (QA/QC)		3.11	5.06 JL
	1011	GS1	Co-located Duplicate of 1010 (QA/QC)		4.08	8.64 JH
	1011A	GS1A	Co-located Duplicate of 1010A (QA/QC)		3.97	7.14
	1011B	GS1B	Co-located Duplicate of 1010B (QA/QC)		4.02	10.4
				735K	31 46' 43.7"	106 29' 15.3"
	0012	GS6	Description:		8.34	103.0 JL
	1012	GS1	Moderately vegetated, maintained		8.03	114.0 JH
	1012A	GS1A	Downtown park		6.81	108.0
	1012B	GS1B			7.25	117.0

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
PK-011			Arroyo Park , Rim Road	735F	31 46' 41.3"	106 29' 47.4"
	0013	GS6	Description:		21.9	220.0
	1013	GS1	Native soil type, unvegetated		24.8	307.0
	1013A	GS1A			25.2	324.0
	1013B	GS1B			22.8	301.0
				735F	31 46' 43.9"	106 29' 43.5"
	0014	GS6	Description:		8.34	30.6
	1014	GS1	Native soil type, unvegetated		7.75	29.5
	1014A	GS1A			7.38	23.0
	1014B	GS1B			9.08	55.2
				735F	31 46' 45.1"	106 29' 38.4"
	0015	GS6	Description:		37.6	425.0
	1015	GS1	Native soil type, unvegetated		32.9	410.0
	1015A	GS1A			35.6	476.0
	1015B	GS1B			50.0	679.0
				735F	31 46' 49.6"	106 29' 35.3"
	0080	GS6	Description:		16.7	169.0
	1080	GS1	Native soil type, unvegetated		17.2	178.0
	1080A	GS1A			17.7	177.0
	1080B	GS1B			21.6	222.0

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
				735F	31 46' 54.2"	106 29' 32.2"
	0081	GS6	Description:		26.0	151.0
	1081	GS1	Native soil type, unvegetated		26.1	203.0
	1081A	GS1A			32.9	294.0
	1081B	GS1B			34.1	304.0
				735F	31 46' 57.6"	106 29' 27.6"
	0082	GS6	Description:		27.6	130.0
	1082	GS1	Native soil type, unvegetated		23.0	161.0
	1082A	GS1A			33.3	252.0
	1082B	GS1B			38.6	322.0
				735F	31 47' 00.4"	106 29' 22.3"
	0083	GS6	Description:		25.2	88.7
	1083	GS1	Native soil type, unvegetated		24.1	186.0
	1083A	GS1A			25.6	178.0
	1083B	GS1B			26.9	213
				735F	31 47' 02.5"	106 29' 16.9"
	0084	GS6	Description:		27.0	223.0
	1084	GS1	Native soil type, unvegetated		35.7	493.0
	1084A	GS1A			37.9	499.0
	1084B	GS1B			36.3	493.0

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
	0094	GS6	Co-located Duplicate of 0084 (QA/QC)		28.8	257.0
	1094	GS1	Co-located Duplicate of 1084 (QA/QC)		30.4	404.0
	1094A	GS1A	Co-located Duplicate of 1084A (QA/QC)		31.6	417.0
	1094B	GS1B	Co-located Duplicate of 1084B (QA/QC)		33.6	452.0
PK-012			Madeline Park, Kern @ Cincinnati	735E	31 46' 58.1"	106 29' 48.6"
	0016	GS6	Description:		11.1	250.0
	1016	GS1	Heavily vegetated, maintained grass/sod		5.94	74.5
	1016A	GS1A			5.76	72.0
	1016B	GS1B			7.58	107.0
PK-013			Alethea Park, Alethea Park @ Moore	735E	31 47' 11.8"	106 29' 57.5"
	0017	GS6	Description:		15.6	212.0
	1017	GS1	Heavily vegetated, maintained soccer field, grass sod		11.2	135.0
	1017A	GS1A			12.0	147.0
	1017B	GS1B			15.3	187.0
				735E	31 47' 11.1"	106 29' 54.9"
	0018	GS6	Description:		24.4	52.1
	1018	GS1	Vegetated, maintained soccer field, grass/sod		12.6	218.0
	1018A	GS1A			11.3	205.0
	1018B	GS1B			10.1	181.0

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
PK-014			Mission Hills Park , Stanton @ O'Keefe	735A	31 47' 26.5"	106 30' 07.1"
	0019	GS6	Description:		12.4	186
	1019	GS1	Playground area, moderately vegetated		4.62	19.6
	1019A	GS1A			4.34	16.7
	1019B	GS1B			5.17	22.8
				735A	31 47' 25.3"	106 30' 08.5"
	0020	GS6	Description:		5.01	13.2
	1020	GS1	Playground area, moderately vegetated		4.76	19.6
	1020A	GS1A			4.66	18.6
	1020A	GS1B			6.18	26.6
PK-015			Doniphan Park , Paisano Drive	734V	31 45' 43.6"	106 30' 31.6"
	0021	GS6	Description:		37.6	695
	1021	GS1	Moderately vegetated area, grass/sod		31.8	562.0
	1021A	GS1A	Near Camino Real Marker		32.0	556.0
	1021B	GS1B			32.6	538.0
PK-016			El Paso Library , Missouri @ El Paso	735T	31 45' 38.1"	106 29' 25.7"
	0022	GS6	Description:		16.4	154.0
	1022	GS1	Unvegetated, high traffic area		23.2	334.0
	1022A	GS1A			20.4	342.0
	1022B	GS1B			22.0	454.0

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
PK-017			Cleveland Park , El Paso @ Santa Fe	735T	31 45' 36.4"	106 29' 26.8"
	0023	GS6	Description:		12.8	267.0
	1023	GS1	Moderately vegetated, grass/sod		15.3	388.0
	1023A	GS1A	Maintained park		14.1	344.0
	1023B	GS1B			13.8	350.0
PK-018			Galatzan Park & Rec. Center , Wallenberg	704N	31 48' 56.6"	106 31' 55.6"
	0024	GS6	Description:		2.71	9.35
	1024	GS1	Moderately vegetated, maintained, playfield, grass/sod		4.03	13.8
	1024A	GS1A			6.08	31.6
	1024B	GS1B			3.73	11.3
	0025	GS6	Co-located Duplicate of 0024 (QA/QC)		2.83	6.47
	1025	GS1	Co-located Duplicate of 1024 (QA/QC)		3.48	11.9
	1025A	GS1A	Co-located Duplicate of 1024A (QA/QC)		4.81	15.2
	1025B	GS1B	Co-located Duplicate of 1024B (QA/QC)		3.54	11.0
				704N	31 48' 55.1"	106 31' 54.5"
	0026	GS6	Description:		6.07	21.0
	1026	GS1	Unvegetated area, maintained park		4.07	19.1
	1026A	GS1A			4.52	28.0
	1026B	GS1B			4.00	20.0

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
PK-019			Crestmont Park , Sunland Park @ Chermont	704N	31 49' 17.0"	106 32' 13.1"
	0027	GS6	Description:		3.76	6.27
	1027	GS1	Playground area, unvegetated,		4.35	6.36
	1027A	GS1A	suspect fill material		3.28	4.77
	1027B	GS1B			4.03	6.38
PK-020			Pacific Park , Rio @ Hidden Way	703Q	31 49' 04.2"	106 33' 24.7"
	0028	GS6	Description:		7.93	84.1
	1028	GS1	Sparsely vegetated, maintained park		5.54	45.9
	1028A	GS1A			5.28	42.1
	1028B	GS1B			6.54	54.4
PK-021			Buena Vista Park , Mesquite Ct.	704S	31 48' 30.7"	106 32' 13.4"
	0029	GS6	Description:		7.31	16.8
	1029	GS1	Moderately vegetated, maintained park		6.53	19.1
	1029A	GS1A			6.28	19.4
	1029B	GS1B			7.71	25.7
PK-022			City of Sunland Park City Hall, Sunland Park, NM	733C	31 47' 48.1"	106 33' 20.0"
	0085	GS6	Description:		3.90	15.8
	1085	GS1	Unvegetated, City Hall grounds		2.48	8.80
	1085A	GS1A			3.10	8.20
	1085B	GS1B			3.10	11.6

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
PK-023			Ileana Park, Meadow @Buena Vista, Sunland Park, NM	702Z	31 47' 53.4"	106 34' 43.6"
	0086	GS6	Description:		3.04	8.01
	1086	GS1	Playground, high traffic area, unvegetated		2.90	8.39
	1086A	GS1A			2.87	7.17
	1086B	GS1B			3.56	12.0
PK-024			Mt. Cristo Rey Park	733D	31 47' 02.6"	106 33' 26.5"
	0096	GS6	Description:		9.81	64.3
	1096	GS1	Unvegetated, native soil		9.28	63.1
	1096A	GS1A			9.53	68.4
	1096B	GS1B			9.30	67.9
					31 47' 22.5"	106 32' 32.6"
	0097	GS6	Description:		124.0	875.0
	1097	GS1	Unvegetated, native soil		99.8	670.0
	1097A	GS1A			85.5	591.0
	1097B	GS1B			128.0	837.0
					31 47' 30.9"	106 32' 29.7"
	0098	GS6	Description:		7.87	40.2
	1098	GS1	Unvegetated, native soil		7.83	42.0
	1098A	GS1A			7.08	35.6
	1098B	GS1B			7.82	52.1

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
	0099	GS6	Co-located Duplicate of 0098 (QA/QC)		7.47	28.0
	1099	GS1	Co-located Duplicate of 1098 (QA/QC)		8.28	72.9
	1099A	GS1A	Co-located Duplicate of 1098A (QA/QC)		7.60	32.0
	1099B	GS1B	Co-located Duplicate of 1098B (QA/QC)		7.61	42.1
PK-025			Red Mender Park, Second @ McNutt, Sunland Park, NM	703Z	31 48' 05.2"	106 32' 40.6"
	0100	GS6	Description:		4.57	14.1
	1100	GS1	Playground area, unvegetated		3.42	9.73
	1100A	GS1A			3.34	9.20
	1100B	GS1B			3.53	9.52
PK-026			Meadow Vista WT, Sunland Park, NM	732H	31 47' 26.6"	106 35' 00.0"
	0101	GS6	Description:		5.78	20.6
	1101	GS1	Unvegetated area near fenceline		5.09	19.3
	1101A	GS1A			7.20	29.6
	1101B	GS1B			6.65	24.4
PK-027			Levee Park, Sunland Park, NM	703Y	31 47' 58.1"	106 33' 32.0"
	0102	GS6	Description:		17.6	41.0
	1102	GS1	Sparsely vegetated area		15.8	32.0
	1102A	GS1A			17.9	32.9
	1102B	GS1B			15.4	32.7

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
					31 47' 57.3"	106 33' 18.0"
	0103	GS6	Description:		6.14	18.8
	1103	GS1	Sparsely vegetated, playground area		5.71	15.8
	1103A	GS1A			5.65	14.5
	1103B	GS1B			6.40	17.1
PK-028			Riverside Park, Cedar Ct., Sunland Park, NM	702P	31 49' 09.3"	106 35' 58.3"
	0104	GS6	Description:		2.34	5.96
	1104	GS1	Playground area, sand, unvegetated		2.24	6.80
	1104A	GS1A			2.02	5.91
	1104B	GS1B			2.70	7.95
PK-029			McNutt @ Racetrack WT, Sunland Park, NM	733C	31 47' 38.6"	106 32' 59.1"
	0105	GS6	Description:		65.2	215.0
	1105	GS1	Visually undisturbed, native soil type		172.0	1070.0
	1105A	GS1A	Unvegetated		169.0	1080.0
	1105B	GS1B			197.0	1210.0

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
El Paso and Gadsden Independent Schools						
SD-001			Mesita Elementary , 500 Alethea Park Dr.	734H	31 47' 03.8"	106 30' 10.3"
	0030	GS6	Description:		7.49	20.9
	1030	GS1	Elevated playground, suspect fill material		4.45	15.2
	1030A	GS1A	unvegetated		3.07	8.83 JL
	1030B	GS1B			4.52	16.1 JL
	2030	GSUB			6.10	6.95
	0031	GS6	Co-located Duplicate of 0030 (QA/QC)		8.04	21.4
	1031	GS1	Co-located Duplicate of 1030 (QA/QC)		4.07	12.7
	1031A	GS1A	Co-located Duplicate of 1030A (QA/QC)		2.84	45.4 JL
	1031B	GS1B	Co-located Duplicate of 1030B (QA/QC)		5.66	24.2 JL
	2031	GSUB	Co-located Duplicate of 2030 (QA/QC)		6.30	6.87
					31 46' 58.3"	106 30' 15.7"
	0032	GS6	Description:		17.0	60.6
	1032	GS1	Baseball diamond, unvegetated		21.9	107.0
	1032A	GS1A			19.3	63.0 JL
	1032B	GS1B			26.8	145.0 JL
	2032	GSUB			11.3	15.1

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
					31 47' 01.2"	106 30' 11.2"
	0106	GS6	Description:		7.78	33.2
	1106	GS1	Grass/sod area between class rooms		10.6	59.6
	1106A	GS1A			9.70	60.1 JL
	1106B	GS1B			10.4	62.2 JL
					31 47' 02.6	106 30' 08.7"
	0107	GS6	Description:		9.97	28.2
	1107	GS1	Elevated playground, suspect fill material		7.76	27.1
	1107A	GS1A	Unvegetated		6.90	21.3 JL
	1107B	GS1B			6.97	30.4 JL
SD-002			Vilas Elementary , 220 Lawton Dr.	735S	31 45' 38.6"	106 29' 59.7"
	0033	GS6	Description:		6.25	15.9
	1033	GS1	Designated play area, sand fill material,		5.10	12.6
	1033A	GS1A	Unvegetated		5.24	12.4
	1033B	GS1B			6.12	16.1
	2033	GSUB			6.04	22.1
					31 45' 41.9"	106 30' 01.6"
	0034	GS6	Description:		21.2	490.0
	1034	GS1	Grass/sod area, front lawn area		13.3	190.0
	1034A	GS1A			12.4	194.0
	1034B	GS1B			14.3	254.0

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
SD-003			El Paso High , 800 E. Schuster Ave.	735K	31 46' 23.8"	106 29' 21.5"
	0035	GS6	Description:		9.20	17.9
	1035	GS1	Maintained, vegetated lawn area		6.14	21.7
	1035A	GS1A			5.91	19.6
	1035B	GS1B			7.26	26.7
	2035	GSUB			9.17	15.4
					31 46' 25.0"	106 29' 28.1"
	0036	GS6	Description:		8.32	432.0
	1036	GS1	Unvegetated, barren soil area between		7.30	2020.0
	1036A	GS1A	building and parking lot		7.89	266.0 JL
	1036B	GS1B			6.81	333.0 JL
SD-004			Lamar Elementary , 1440 Cliff Dr.	735L	31 46' 34.7"	106 28' 52.3"
	0037	GS6	Description:		2.42	4.65
	1037	GS1	Elevated playground area, unvegetated,		3.07	5.49
	1037A	GS1A	Suspect fill area		3.15	4.18
	1037B	GS1B			3.27	6.66
	2037	GSUB			2.68	3.71
					31 46' 33.0"	106 28' 55.6"
	0038	GS6	Description:		9.58	23.3
	1038	GS1	Elevated playground area, unvegetated,		5.85	29.3
	1038A	GS1A	Suspect fill area		6.57	24.0 JH
	1038B	GS1B			7.59	35.6 JH

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
SD-005			Wiggs Middle , 1300 Circle Dr.	735L	31 46' 30.5"	106 28' 55.6"
	0039	GS6	Description:		7.37	14.4
	1039	GS1	Sparsely vegetated area		6.31	13.4
	1039A	GS1A			5.95	12.9
	1039B	GS1B			6.45	15.7
	2039	GSUB			7.01	12.0
					31 46' 31.5"	106 28' 58.9"
	0040	GS6	Description:		4.85	15.1
	1040	GS1	Moderately vegetated area, grass/sod		4.33	11.3
	1040A	GS1A			4.30	13.1 JK
	1040B	GS1B			4.93	14.0 JK
SD-006			Alamo Elementary , 500 S. Hill St.	735U	31 46' 31.4"	106 28' 58.4"
	0041	GS6	Description:		10.4	135.0
	1041	GS1	Moderately vegetated area, grass/sod		14.1	328.0
	1041A	GS1A			13.2	325.0 JK
	1041B	GS1B			17.3	440.0 JK
					31 45' 22.7"	106 28' 33.2"
	0042	GS6	Description:		5.08	27.1
	1042	GS1	Sparsely vegetated, high traffic area		4.57	36.7
	1042A	GS1A			3.01	21.2 JK
	1042B	GS1B			3.68	26.7 JK

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
SD-007			Roosevelt Elementary , 616 E. Fifth St.	735Y	31 45' 10.8"	106 28' 50.4"
	0043	GS6	Description:		59.1	445.0 JL
	1043	GS1	Sparsely vegetated, sidewalk strip median,		56.9	430.0 JH
	1043A	GS1A	Adjacent to street		48.6	360.0
	1043B	GS1B			30.5	433.0
	2043	GSUB			4.87	11.5
					31 45' 12.6"	106 28' 53.4"
	0044	GS6	Description:		10.1	77.4 JL
	1044	GS1	Sparsely vegetated, adjacent to building		11.6	90.5 JH
	1044A	GS1A			11.3	90.4
	1044B	GS1B			7.46	79.1
SD-008			Hart Elementary , 1110 Park St.	735Z	31 45' 06.4"	106 28' 20.6"
	0045	GS6	Description:		14.1	239.0 JL
	1045	GS1	Heavily vegetated, grass/sod		12.6	205.0 JH
	1045A	GS1A			11.6	205.0
	1045B	GS1B			11.9	236.0
					31 45' 08.6"	106 28' 18.7"
	0046	GS6	Description:		4.39	20.4 JL
	1046	GS1	Playground, high-traffic area, unvegetated		5.50	28.9 JH
	1046A	GS1A			3.38	20.6
	1046B	GS1B			5.15	50.7

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
SD-009			Guillen Middle , 900 S. Cotton St.	735Z	31 45' 13.8"	106 28' 22.1"
	0047	GS6	Description:		11.4	107.0
	1047	GS1	Sparsely vegetated, grass/sod		12.9	91.1 JH
	1047A	GS1A			11.3	89.7
	1047B	GS1B			10.7	85.4
	0048	GS6	Co-located Duplicate of 0047 (QA/QC)		11.8	105.0
	1048	GS1	Co-located Duplicate of 1047 (QA/QC)		12.1	93.7 JH
	1048A	GS1A	Co-located Duplicate of 1047A (QA/QC)		9.82	79.9
	1048B	GS1B	Co-located Duplicate of 1047B (QA/QC)		9.49	79.9
					31 45' 13.2"	106 28' 22.5"
	0049	GS6	Description:		9.91	124.0 JL
	1049	GS1	Moderately vegetated, grass/sod		10.2	71.5 JH
	1049A	GS1A			9.32	55.2
	1049B	GS1B			10.7	132.0
SD-010			Carlos Cordova Middle , 2231 Arizona	735M	31 46' 54.6"	106 28' 14.8"
	0050	GS6	Description:		7.23	38.4
	1050	GS1	Football field, moderately vegetated		4.97	26.1
	1050A	GS1A			4.34	20.3
	1050B	GS1B			4.41	16.6
	2050	GSUB			6.19	11.4

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
					31 46' 49.1"	106 28' 16.9"
	0051	GS6	Description:		10.6	13.9
	1051	GS1	Graded area, overlain w/geotextile fabric,		9.82	17.2
	1051A	GS1A	unvegetated – collected from underlying soil		9.72	18.0
	1051B	GS1B	below geotextile fabric		8.72	20.0
SD-011			Sunset High , 2231 Arizona	735M	NOT COLLECTED	
SD-012			Highland Annex Elementary , 2300 Murchison	735H	31 46' 56.9"	106 28' 10.7"
	0054	GS6	Description:		4.45	16.3
	1054	GS1	Moderately vegetated, playground area		3.21	13.2
	1054A	GS1A			3.21	12.0
	1054B	GS1B			4.52	22.4
					31 46' 56.9"	106 28' 14.7"
	0055	GS6	Description:		7.11	25.2
	1055	GS1	Sparsely vegetated area, adjacent to new		4.72	12.3
	1055A	GS1A	building		4.15	7.89
	1055B	GS1B			4.39	9.06

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
SD-013			Moreno Elementary , 2300 San Diego	735H	31 47' 14.6"	106 28' 10.7"
	0056	GS6	Description:		6.90	7.05
	1056	GS1	Unvegetated, former building location		5.65	8.66
	1056A	GS1A			4.81	6.26 JL
	1056B	GS1B			5.38	7.55 JL
	2056	GSUB			5.60	5.84
	0060	GS6	Co-located Duplicate of 0056 (QA/QC)		6.13	5.96
	1060	GS1	Co-located Duplicate of 1056 (QA/QC)		5.57	6.90
	1060A	GS1A	Co-located Duplicate of 1056A (QA/QC)		5.29	6.37 JL
	1060B	GS1B	Co-located Duplicate of 1056B (QA/QC)		5.05	7.05 JL
					31 47' 13.3"	106 28' 10.8"
	0057	GS6	Description:		3.82	3.29
	1057	GS1	Playground, newly constructed, suspect sand		3.60	4.74
	1057A	GS1A	fill material		3.89	4.05 JL
	1057B	GS1B			3.96	5.81 JL
SD-014			Highland Elementary , 1300 Indiana	735H	NOT COLLECTED	

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
SD-015			Houston Elementary , 2851 Grant	736E	31 47' 07.5"	106 27' 52.2"
	0061	GS6	Description:		11.1	46.3
	1061	GS1	Playfield, hard compact silty sand, sparsely		7.15	21.3
	1061A	GS1A	vegetated		6.08	20.6 JL
	1061B	GS1B			7.54	26.0 JL
					31 47' 07.1"	106 27' 50.8"
	0062	GS6	Description:		5.30	10.4
	1062	GS1	Playground, suspect sand fill material, pea		4.77	14.7
	1062A	GS1A	gravel, unvegetated		4.01	13.1 JK
	1062B	GS1B			6.36	23.6 JK
SD-016			Beall Elementary , 320 S. Piedras	736N	31 47' 08.5"	106 27' 45.2"
	0063	GS6	Description:		6.41	22.4
	1063	GS1	Playground, suspect sand and gravel fill		3.14	8.60
	1063A	GS1A	material, unvegetated		3.03	6.20
	1063B	GS1B			4.13	17.3
					31 46' 16.0"	106 27' 36.7"
	0064	GS6	Description:		8.45	49.2
	1064	GS1	Unvegetated area adjacent to building		7.16	15.7
	1064A	GS1A			6.99	18.4
	1064B	GS1B			8.25	22.1

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
SD-017			Douglas Elementary , 101 S. Eucalyptus	736N	31 45' 58.2"	106 27' 56.6"
	0065	GS6	Description:		12.7	118.0
	1065	GS1	Playground area, unvegetated, suspect		3.78	17.6
	1065A	GS1A	Fill material		2.79	11.6
	1065B	GS1B			4.10	28.2
					31 45' 55.5"	106 27' 57.8"
	0066	GS6	Description:		6.65	64.2
	1066	GS1	Baseball diamond, moderately vegetated		3.43	13.2
	1066A	GS1A			3.54	19.0
	1066B	GS1B			4.41	23.4
SD-018			Dr. Green Elementary , 5430 Buckley	704R	31 49' 21.7"	106 30' 36.7"
	0067	GS6	Description:		1.90	1.68
	1067	GS1	Native soil type, unvegetated, excavated into		2.13	3.58
	1067A	GS1A	hillside		3.09	2.14 JK
	1067B	GS1B			3.98	4.00 JK
	2067	GSUB			2.81	1.90
					31 49' 21.7"	106 30' 39.9"
	0068	GS6	Description:		3.54	5.83
	1068	GS1	Unvegetated area adjacent to building and		2.99	4.43
	1068A	GS1A	playground		2.42	3.81 JK
	1068B	GS1B			2.74	4.68 JK

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
SD-019			Morehead Middle , 5625 Confetti Dr.	704Q	31 49' 18.8"	106 31' 18.6"
	0069	GS6	Description:		5.01	15.0
	1069	GS1	Unvegetated baseball diamond, unknown if		4.87	19.0
	1069A	GS1A	Fill material present		4.85	17.3 JK
	1069B	GS1B			6.76	33.6 JK
	0070	GS6	Co-located Duplicate of 0069		5.11	18.2
	1070	GS1	Co-located Duplicate of 1069 (QA/QC)		4.77	22.3
	1070A	GS1A	Co-located Duplicate of 1069A (QA/QC)		4.78	16.7 JK
	1070B	GS1B	Co-located Duplicate of 1069B (QA/QC)		6.20	41.1 JK
					31 49' 13.3"	106 31' 16.7"
	0071	GS6	Description:		5.67	15.6
	1071	GS1	Grass/sod maintained football field, irrigated		4.06	4.67
	1071A	GS1A			3.50	4.45 JK
	1071B	GS1B			4.15	5.40 JK
	2071	GSUB			5.47	6.40
SD-020			Johnson Elementary , 499 Cabaret Dr.	704P	31 49' 12.2"	106 31' 21.2"
	0072	GS6	Description:		2.75	3.79
	1072	GS1	Sparsely vegetated area, suspect fill material		3.84	20.8
	1072A	GS1A	Near playground		2.62	4.29
	1072B	GS1B			3.34	7.76
	2072	GSUB			3.73	14.6

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
					31 49' 17.2"	106 31' 25.1"
	0073	GS6	Description:		3.97	7.82
	1073	GS1	Unvegetated field, recently graded, suspect		4.70	7.03
	1073A	GS1A	Fill material		3.92	5.70
	1073B	GS1B			3.88	6.29
SD-021			Sunland Park Elementary, 225 Alto Vista (NM)	732D	31 47' 33.1"	106 34' 30.4"
	0074	GS6	Description:		3.07	9.80
	1074	GS1	Playground area, unvegetated		2.55	10.8
	1074A	GS1A			3.01	12.4
	1074B	GS1B			3.63	17.1
					31 47' 33.5"	106 34' 27.9"
	0075	GS6	Description:		3.73	8.56
	1075	GS1	Playground area, high-traffic unvegetated		3.89	9.76
	1075A	GS1A			3.64	9.67
	1075B	GS1B			5.21	16.3
	0095	GS6	Co-located Duplicate of 0075 (QA/QC)		3.81	7.55
	1095	GS1	Co-located Duplicate of 1075 (QA/QC)		3.42	9.16
	1095A	GS1A	Co-located Duplicate of 1075A (QA/QC)		3.56	8.31
	1095B	GS1B	Co-located Duplicate of 1075B (QA/QC)		4.69	14.4

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
SD-022			Desert View Elementary, 425 Valle Vista (NM)	732D	31 47' 41.9"	106 34' 59.7"
	0076	GS6	Description:		2.30	4.52
	1076	GS1	Playground, high traffic area, unvegetated		2.43	3.29
	1076A	GS1A			2.60	4.00
	1076B	GS1B			3.05	5.26
					31 47' 41.2"	106 34' 51.3"
	0077	GS6	Description:		2.34	5.56
	1077	GS1	Playground high traffic area unvegetated		2.26	4.66
	1077A	GS1A			2.54	4.88
	1077B	GS1B			3.60	9.13
SD-023			Riverside Elementary, 9001 McNutt Rd. (NM)	702P	31 48' 59.3"	106 35' 58.0"
	0078	GS6	Description:		3.26	11.0
	1078	GS1	Playground, high-traffic area, unvegetated		3.89	13.4
	1078A	GS1A			3.87	12.4
	1078B	GS1B			4.09	14.3
					31 48' 59.1"	106 36' 00.3"
	0079	GS6	Description:		3.04	8.91
	1079	GS1	Playground, high-traffic area, unvegetated		3.19	8.25
	1079A	GS1A			3.28	8.77
	1079B	GS1B			4.21	12.4

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
SD-024			Olga Kohlberg Elementary	673K	31 52' 36.3"	106 33' 43.3"
	0089	GS6	Description:		12.2	6.44
	1089	GS1	Unvegetated area, suspect fill material		6.16	3.77
	1089A	GS1A			7.23	4.43
	1089B	GS1B			6.24	5.71
	2089	GSUB			7.34	2.65
	0090	GS6	Co-located Duplicate of 0089 (QA/QC)		8.68	2.72
	1090	GS1	Co-located Duplicate of 1089 (QA/QC)		6.39	4.74
	1090A	GS1A	Co-located Duplicate of 1089A (QA/QC)		6.52	3.68
	1090B	GS1B	Co-located Duplicate of 1089B (QA/QC)		5.59	5.64
	2090	GSUB	Co-located Duplicate of 2089 (QA/QC)		7.06	2.41
			University of Texas at El Paso	734M		
UT-001			TNRCC Air Monitoring Site, Hawthorne @ Rim		31 46' 07.0"	106 30' 04.2"
	0108	GS6	Description:		125.0	3580.0 JL
	1108	GS1	Visually undisturbed, native soil type,		84.7	5260.0 JH
	1108A	GS1A	Unvegetated outcrop		34.8	428.0
	1108B	GS1B			138.0	2000.0

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
UT-002			Biology Bldg Lawn		31 46' 05.6"	106 30' 13.3"
	0109	GS6	Description:		4.56	17.9 JL
	1109	GS1	Grass/sod, vegetated area		5.80	88.1 JH
	1109A	GS1A			4.79	67.9
	1109B	GS1B			7.71	167.0
UT-003			Liberal Arts Bldg. Lawn		31 46' 11.7"	106 30' 10.6"
	0110	GS6	Description:		16.9	117.0 JL
	1110	GS1	Grass/sod, vegetated area		16.6	253.0 JH
	1110A	GS1A			15.7	238.0
	1110B	GS1B			15.6	243.0
UT-004			Arroyo east of Liberal Arts Bldg East on University		31 46' 14.4"	106 30' 06.9"
	0111	GS6	Description:		27.6	213.0 JL
	1111	GS1	Virtually undisturbed, native soil type,		17.6	121.0 JH
	1111A	GS1A	Arroyo basin		15.8	118.0
	1111B	GS1B			28.5	239.0
UT-005			Memorial Triangle		31 46' 14.1"	106 30' 16.8"
	0112	GS6	Description:		27.8	412.0 JL
	1112	GS1	Grass/sod moderately, vegetated area		52.6	1230.0 JH
	1112A	GS1A			48.6	1170.0
	1112B	GS1B			49.1	1210.0

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
UT-006			Leech Grove		31 46' 10.8	106 30' 15.6"
	0113	GS6	Description:		43.6	646.0 JL
	1113	GS1	Transition area between undisturbed, native		37.9	501.0 JH
	1113A	GS1A	soil outcrop and grass/sod area		40.0	565.0
	1113B	GS1B			58.0	775.0
UT-007			Union Lawn @ Kerbey Ave.		31 46' 16.1"	106 30' 14.1"
	0114	GS6	Description:		47.0	1200.0 JL
	1114	GS1	Maintained, vegetated lawn area		54.9	1630.0 JH
	1114A	GS1A			63.0	1760.0
	1114B	GS1B			57.4	1630.0
UT-008			Northeast of Education Bldg.		31 46' 22.0"	106 30' 10.9"
	0115	GS6	Description:		20.6	165.0 JL
	1115	GS1	Native soil type, unvegetated area		29.5	282.0 JH
	1115A	GS1A			19.2	178.0
	1115B	GS1B			50.3	477.0
UT-009			Practice Field @ Baltimore Dr.		31 46' 33.3"	106 30' 22.7"
	0116	GS6	Description:		3.28	5.42 JL
	1116	GS1	Maintained, irrigated football field, vegetated,		3.65	16.0
	1116A	GS1A	Suspect fill material		3.33	15.2
	1116B	GS1B			3.22	13.9

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
UT-010			Soccer Field Swimming/Fitness Center		31 46' 54.5"	106 30' 34.5"
	0117	GS6	Description:		82.9	563.0 JL
	1117	GS1	Native soil type, undisturbed outcrop,		78.2	656.0
	1117A	GS1A	Unvegetated		45.2	398.0
	1117B	GS1B			122.0	977.0
Miscellaneous Sample Locations						
MZ-001			End of Westway Drive	613V	31 57' 25.9"	106 34' 00.0"
	0087	GS6	Description:		6.14	6.66
	1087	GS1	Native soil type, undisturbed, unvegetated		5.86	27.8
	1087A	GS1A			6.03	24.9
	1087B	GS1B			6.03	29.2
	2087	GSUB			6.10	5.50
MZ-002			Trans Mountain Road, PSB Lands	643Z	31 54' 23.2"	106 33' 17.8"
	0088	GS6	Description:		8.63	27.6
	1088	GS1	Native soil type, undisturbed, unvegetated		7.91	39.6
	1088A	GS1A			7.63	43.5
	1088B	GS1B			6.66	50.0
	2088	GSUB			9.43	7.54

Table 3

Final Sampling Locations						
Metals Confirmation Sampling (Validated Data)						
Parcel	Sample Number	Matrix	Location/Description/Rationale	Mapsco	Latitude (N) Arsenic (mg/kg)	Longitude (W) Lead (mg/kg)
MZ-003			End of Westway Drive, PSB Lands	613V	31 57' 37.1"	106 33' 30.5"
	0091	GS6	Description:		6.88	9.34
	1091	GS1	Native soil type, undisturbed, unvegetated		7.10	14.3
	1091A	GS1A			7.17	14.5
	1091B	GS1B			6.49	13.9
MZ-004			Trans Mountain Road, PSB Lands	643X	31 54' 22.4"	106 33' 56.6"
	0092	GS6	Description:		9.75	16.1
	1092	GS1	Native soil type, undisturbed, unvegetated		8.77	22.0
	1092A	GS1A			9.18	24.5
	1092B	GS1B			7.48	27.3
KEY:			Sample locations are within El Paso County, Texas unless otherwise noted.			
GS6		Grab Surface Soil sample from 0" to 6" (inches) BGS, TAL Metals Analysis				
GS1		Grab Surface Soil sample from 0" to 1" (inches) BGS, As, Pb Unsieved				
GS1A		Grab Surface Soil sample from 0" to 1" (inches) BGS, As, Pb No. 10 Sieved				
GS1B		Grab Surface Soil sample from 0" to 1" (inches) BGS, As, Pb No. 60 Sieved				
GSUB		Grab Subsurface Soil sample from 1' to 2' (feet) BGS, TAL Metals Analysis				

4.1 Schools (SD-XXX)

Soil samples collected from four El Paso Independent Public Schools exhibited arsenic and/or lead concentrations either at or above EPA-determined screening levels. These schools include Mesita Elementary (SD-001), Vilas Elementary (SD-002), El Paso High School (SD-003), and Roosevelt Elementary (SD-007), all of which are within the city limits of El Paso.

At Mesita Elementary (SD-001), five 0- to 6-inch BGS samples were collected from four unique locations within the school property (see Attachment B, Figure SD-001). At each of these locations, including a location that served as a duplicate QC sample location, a 0- to 1-inch BGS sample series also was collected. At two locations, a total of three subsurface samples (sample nos. 2030, 2031, and 2032) was also collected. A total of 23 samples were analyzed from the four unique locations. In sample nos. 1032 and 1032B, arsenic was detected at concentrations of 21.9 ppm and 26.8 ppm, respectively. Arsenic and lead concentrations in the remaining samples did not exceed EPA screening levels.

At Vilas Elementary (SD-002), two 0- to 6-inch BGS samples were collected from two unique locations within the school property (see Attachment B, Figure SD-002). At each of these locations, the 0- to 1-inch BGS sample series also was collected. At one location, a single subsurface sample was collected. A total of nine samples was analyzed from the two unique locations. In sample no. 0034, arsenic was detected at a concentration of 21.2 ppm. Arsenic and lead concentrations in the remaining samples did not exceed EPA screening levels.

At El Paso High School (SD-003), two 0- to 6-inch BGS samples were collected from two unique locations within the school property (see Attachment B, Figure SD-003). At each of these locations, the 0- to 1-inch BGS sample series also was collected. At one location, a single subsurface sample was collected. A total of nine samples was analyzed from the two unique locations. In sample no. 1036, lead was detected at a concentration of 2,020.0 ppm. Arsenic and lead concentrations in the remaining samples did not exceed EPA screening levels.

At Roosevelt Elementary (SD-007), two 0- to 6-inch BGS samples were collected from two unique locations within the school property (see Attachment B, Figure SD-007). At each of these locations, a 0- to 1-inch BGS sample series also was collected. At one location, a single subsurface sample was collected. A total of nine samples was analyzed from the two unique locations. In sample nos. 0043, 1043, 1043A,

and 1043B, which comprise all of the samples collected from the 0- to 6-inch and 0- to 1-inch BGS soil horizons, arsenic concentrations were 59.1 ppm, 56.9 ppm, 48.6 ppm and 30.5 ppm, respectively, all of which exceeded the screening level. However, arsenic was not detected at concentrations exceeding the screening level at this location in the 1- to 2-foot BGS subsurface sample (sample no. 2043 at 4.87 ppm). Arsenic and lead concentrations in the remaining samples did not exceed EPA screening levels.

Arsenic and lead concentrations in surface and subsurface soil samples collected from the remaining schools in the El Paso Independent School District and the Gadsden, New Mexico, Independent School District did not exceed the EPA-determined screening levels.

4.2 Parks (PK-XXX) and Miscellaneous (MZ-XXX)

Soil samples collected from four City of El Paso improved park areas and two City of Sunland Park, New Mexico, unimproved park areas exhibited arsenic and/or lead concentrations either at or above EPA-determined screening levels. The parks in El Paso include Arroyo Park and Nature Preserve (PK-011), Alethea Park (PK-013), Doniphan Park (PK-015), and El Paso Library area (PK-016). Unimproved park areas in New Mexico include an area within the Mount Cristo Rey hiking trail system (PK-024) and an area adjacent to a municipal water tower near the intersection of McNutt Road and Race Track Road, in Sunland Park (PK-029).

At Arroyo Park and Nature Preserve (PK-011), nine 0- to 6-inch BGS samples were collected from eight unique locations within the park boundaries. These samples were collected on a linear vector running from southwest to northeast at approximately 0.1-mile (500 to 530 feet) intervals adjacent to and within the Crazy Cat Arroyo drainage basin (see Attachment A.1 and Attachment C). At each of these locations, including a location that served as a duplicate QC location, a 0- to 1-inch BGS sample series was also collected. A total of 36 samples was collected from the eight unique locations. In sample nos. 0013, 0015, 0080, 0081, 0082, 0083, 0084, and co-located duplicate sample 0094, detected arsenic concentrations ranged from 21.6 ppm to 50 ppm. Concentrations of arsenic exceeding the screening level were detected in 29 of the 36 samples analyzed representing the 0- to 6-inch and 0- to 1-inch BGS surface soil horizon. A single sample (no. 1015B) exhibited a concentration of lead (679 ppm) that exceeded the EPA screening level. Arsenic and lead concentrations in the remaining samples did not exceed EPA screening levels.

At Alethea Park (PK-013), two 0- to 6-inch BGS samples were collected from two unique locations within the park boundary (see Attachment A.1 and Attachment C). At each of these locations, the 0- to 1-inch

BGS sample series also was collected. A total of eight samples was analyzed from the two unique locations. In sample no. 0018, arsenic was detected at a concentration of 24.4 ppm. Arsenic and lead concentrations in the remaining samples did not exceed EPA screening levels.

At Doniphan Park (PK-015), a single 0- to 6-inch BGS sample was collected from a single location associated with the grounds near the Camino Real Historical Marker (see Attachment A.1 and Attachment C). At this location, the 0- to 1-inch BGS sample series also was collected. A total of four samples was analyzed at this location. In all four individual samples (sample no.'s 0021, 1021, 1021A, and 1021B), arsenic and lead concentrations exceeded EPA screening levels. Arsenic concentrations ranged from 31.8 ppm to 37.6 ppm, and lead concentrations ranged from 538 ppm to 695 ppm.

At the El Paso Library (PK-016), located in downtown, a single 0- to 6-inch BGS sample was collected from a single location associated with the library grounds (see Attachment A.1 and Attachment C). At this location, the 0- to 1-inch BGS sample series also was collected. A total of four samples was analyzed at this location. In sample nos. 1022, 1022A, and 1022B, arsenic was detected at concentrations of 23.2 ppm, 20.4 ppm, and 22.0 ppm, respectively. Arsenic and lead concentrations in the remaining samples did not exceed EPA screening levels.

At the Mt. Cristo Rey area (PK-024), which is located within Dona Ana County, New Mexico, four 0- to 6-inch BGS samples were collected from three unique locations within the hiking trail system (see Attachment A.2). At each of these locations, including a location that served as a duplicate QC location, the 0- to 1-inch BGS sample series also was collected. A total of 16 samples was analyzed from the three unique locations. In sample no.s 0097, 1097, 1097A, and 1097B, arsenic and lead were detected in all samples at concentrations exceeding the EPA-determined screening levels. Arsenic concentrations in samples collected from this location ranged from 85.5 ppm to 128 ppm, and lead concentrations in samples collected from this location ranged from 591 ppm to 875 ppm. Arsenic and lead concentrations in the remaining samples did not exceed EPA screening levels.

The water tower overlooking the intersection of McNutt Road and Race Track Road (PK-029) in Sunland Park, New Mexico, has not been formally recognized as an improved or accessible public recreation area, but it was included within the park (PK) nomenclature at the time of the sampling work plan development. To limit the amount of deviation from the work plan, the designation of this area from a PK to a miscellaneous parcel (MZ) was never initiated. At this location, a single 0- to 6-inch BGS sample was

collected (see Attachment A.2 and Attachment C). At this single location, the 0- to 1-inch BGS sample series also was collected. A total of four samples was analyzed from this location. At the locations represented by master sample no. 0105, arsenic was detected in all four samples, at concentrations ranging from 65.2 ppm to 197 ppm. Lead was detected in three of the four samples, at concentrations ranging from 1,070 ppm to 1,210 ppm.

Four miscellaneous sample locations were identified during the sampling event in an attempt to re-create, to the extent practicable, previous sampling efforts completed by the TACB and the masters candidates at UTEP. Two distinct areas were identified within El Paso County located on El Paso Public Service Board lands; these areas were selected to represent previously undisturbed, native land and soil types (see Attachment A.3). At these two areas, identified as the end of Westway Drive and Trans Mountain Road, two unique sample locations were situated approximately 0.5 mile apart. At the end of Westway Drive, MZ-001 and MZ-003 were collected. At each of these locations, a single 0- to 6-inch BGS sample was collected, including the associated 0- to 1-inch BGS samples. At MZ-001, a single 1- to 2-foot subsurface sample also was collected. An identical sampling strategy and methodology was completed for MZ-002 and MZ-004 from an area along Trans Mountain Road, with MZ-002 serving as the location for the subsurface sample location. Every attempt was made to place the sample location in what was visually observed to be historically undisturbed land based on the absence of any man-made debris, trash, or physical evidence of soil disturbance. The concentrations of arsenic and lead at all MZ series samples were below EPA-determined screening levels.

4.3 University of Texas at El Paso (UT-XXX)

On the UTEP campus, a total of 10 unique sampling locations were identified, resulting in locations UT-001 through UT-010. These locations were selected based upon previous sampling locations from master's theses and in coordination with UTEP representatives. This sample series was collected in the same manner as the samples collected from the neighboring schools and parks.

Sample UT-001 was collected from an undisturbed, native soil rock outcrop near the Texas Natural Resource Conservation Commission (TNRCC) ambient air monitoring station, which is located near the intersection of Hawthorne and Rim Road. At this location, a single 0- to 6-inch BGS sample was collected from a single location near the fenced air monitoring station (see Attachment A.1 and Attachment C). At this location, the 0- to 1-inch BGS sample series also was collected. A total of four samples were analyzed

at this location. In all samples, arsenic was detected at concentrations exceeding the EPA screening level; the concentrations ranged from 34.8 ppm to 138 ppm. Lead was detected at concentrations exceeding the EPA screening level in three of the four samples; the concentrations ranged from 428 ppm to 5260 ppm.

At UT-004, located in an arroyo east of the Liberal Arts Building, a single 0- to 6-inch BGS sample was collected from a single location (see Attachment A.1 and Attachment C). At this location, the 0- to 1-inch BGS sample series also was collected. A total of four samples was analyzed at this location. In sample nos. 0111 and 1111B, arsenic was detected exceeding the EPA screening level, at concentrations of 27.6 ppm and 28.5 ppm, respectively. Arsenic and lead concentrations in the remaining samples did not exceed the EPA screening level.

At UT-005, located in the lawn area known as Memorial Triangle, a single 0- to 6-inch BGS sample was collected from a single location (see Attachment A.1 and Attachment C). At this location, the 0- to 1-inch BGS sample series also was collected. A total of four samples was analyzed from this location. In all four samples, arsenic concentrations exceeded the EPA screening level, ranging from 27.8 ppm to 52.6 ppm. In three of the four samples, lead was detected at concentrations ranging from 412 ppm to 1230 ppm, exceeding the EPA screening level.

At UT-006, located in the transition area from native soils to lawn in the area known as Leech Grove, a single 0- to 6-inch BGS sample was collected from a single location (see Attachment A.1 and Attachment C). At this location, the 0- to 1-inch BGS sample series also was collected. A total of four samples was analyzed from this location. In all four samples, arsenic concentrations exceeded the EPA screening level; the concentrations ranged from 37.9 ppm to 58 ppm. The lead concentrations in all four samples also exceeded the EPA screening level; the concentrations ranged from 501 ppm to 775 ppm.

At UT-007, located in the Union Lawn area near Kerbey Avenue, a single 0- to 6-inch BGS sample was collected from a single location (see Attachment A.1 and Attachment C). At this location, the 0- to 1-inch BGS sample series also was collected. A total of four samples was analyzed from this location. In all samples, arsenic concentrations exceeded the EPA screening level; the concentrations ranged from 47 ppm to 63 ppm. The lead concentrations in all four samples also exceeded the EPA screening level; the concentrations ranged from 1,200 ppm to 1,760 ppm.

At UT-008, located in an area northeast of the Education Building, a single 0- to 6-inch BGS sample was

collected from a single location (see Attachment A.1 and Attachment C). At this location, the 0- to 1-inch BGS sample series also was collected. A total of four samples was analyzed from this location. In sample nos. 0115, 1115, and 1115B, arsenic was detected at concentrations of 20.6 ppm, 29.5 ppm, and 50.3 ppm, respectively, exceeding the EPA screening level. Arsenic and lead concentrations in the remaining samples did not exceed EPA screening levels.

At UT-010, located in an area west of the Swimming and Fitness Center soccer field, a single 0- to 6-inch BGS sample was collected from a single location outside of the fenced field (see Attachment A.1 and Attachment C). At this location, the 0- to 1-inch BGS sample series also was collected. A total of four samples was analyzed from this location. Arsenic was detected in all four samples at concentrations exceeding the EPA screening level; the concentrations ranged from 45.2 ppm to 122 ppm. Lead was detected in three of the four samples at concentrations exceeding the EPA screening level; the concentrations ranged from 398 ppm to 977 ppm.

For samples collected at locations UT-002, UT-003, and UT-009, the analytical results did not indicate the presence of arsenic or lead at concentrations exceeding EPA-determined screening levels.