EXHIBIT "C"

WORK PLAN

LOR GEOTECHNICAL GROUP, INC.
Soil Engineering ▲ Geology ▲ Environmental

REMOVAL, EXCAVATION, AND RESTORATION WORK PLAN ASTs, TRANSFER TANK, AND NEAR SURFACE DIESEL-IMPACTED SOIL CITY OF REDLANDS PROPERTY APN 0171-022-13 REDLANDS, CALIFORNIA

MAY 8, 2013

Prepared for:
City of Redlands
210 East Citrus Street
Redlands, California 92373

Prepared by:

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LOR Project No. 62934.23

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Soil Engineering ▲ Geology ▲ Environmental

May 8, 2013

City of Redlands
210 East Citrus Street
Redlands, California 92373

Project No. 62934.23

Attention: Mr. Oscar Orci, Development Services Director

Subject: Removal, Excavation, and Restoration Work Plan, ASTs, Transfer Tank, and Near Surface Diesel-Impacted Soil, City of Redlands Property, APN 0171-022-13, Redlands, California

LOR Geotechnical Group, Inc. is pleased to submit this *Removal, Excavation, and Restoration Work Plan* for the removal of aboveground storage tanks (ASTs), transfer tank, and diesel-impacted soil at Assessor's Parcel Number (APN) 0171-022-13, an approximate 1.37-acre property located on the north side of Redlands Boulevard, approximately 400 feet west of Texas Street, City of Redlands, California.

We welcome any questions or comments you have regarding this work plan. We can be reached by telephone at (951) 653-1760 or by email at mhunt@lorgeo.com or kosmun@lorgeo.com.

Respectfully submitted,
LOR Geotechnical Group, Inc.

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EXECUTIVE SUMMARY

This Removal, Excavation, and Restoration Work Plan has been prepared by LOR Geotechnical Group, Inc. for the City of Redlands to address the removal of five (5) existing aboveground storage tanks (ASTs), one (1) transfer tank, and diesel-impacted soil associated with these structures at Assessor's Parcel Number (APN) 0171-022-13. This work plan describes the logistical procedures and field work that will be carried out at the site (see Figure 1) for the removal and disposal of the sludge and water in the ASTs and transfer tank, the recycling of the ASTs, transfer tank, and piping, and the removal and disposal of associated diesel-impacted soil. After the removal of the ASTs, transfer tank, and associated diesel-impacted soil, the site will be restored to a condition that maintains the current westerly flow of runoff. All contractors working on this project shall comply with applicable Federal, state and local regulations governing health and safety, including all applicable California OSHA requirements as promulgated in Title 8 of the California Code of Regulation (8 CCR), Chapter 4, Subchapter 4, Construction Safety Orders, and Chapter 4, Subchapter 7, General Industry Safety Orders.

The Site Characterization Study (SCS) conducted by this firm documents the rough lateral and vertical extent of the hydrocarbon-impacted (mostly diesel-range hydrocarbons) soil associated with the ASTs and transfer tank. The data gathered during the SCS was used to evaluate the risks and hazards associated with leaving the ASTs, transfer tank, and associated diesel-impacted soil in place. Based on the information gathered during the SCS, removal of the ASTs and transfer tank, and excavation and offsite disposal of diesel-impacted soil was selected as the remedy to restore the site to a state acceptable for closure by the United States Environmental Protection Agency, Region IX (USEPA). The amount of diesel-impacted soil directly beneath the ASTs was not determined during the SCS; therefore, the location and removal depth of the impacted soil directly beneath the ASTs will be determined in the field after the removal of the ASTs. However, the removal of the diesel-impacted soil will not exceed a maximum depth of approximately 3 feet below ground surface (bgs) for this project.

The removal, excavation, and restoration activities are anticipated to last approximately four weeks. Site activities will begin by removing the sludge and water present in the five ASTs and transfer tank for disposal. The amount of sludge and water in the ASTs and transfer tank is roughly estimated to be 50,000 gallons. The five corrugated sheet metal ASTs and transfer tank will then be cleaned, dismantled,

and removed for recycling. Underground and aboveground piping associated with the ASTs and transfer tank is present, and should be removed, cleaned as necessary, and recycled. Once the ASTs, piping, and transfer tank are removed, the diesel-impacted soil around and under the ASTs will be removed for offsite disposal. The ASTs sit on asphalt concrete. The exact thickness was not determined, but the asphalt concrete is deteriorated and should be considered part of the removal of the impacted soil.

Based on a maximum removal depth of 3 feet below the AST area, we have estimated 400 cubic yards (cy) of diesel-impacted soil will be excavated for disposal. However, during excavation operations, yardage will increase due to the nature of earth removal operations. A factor of 30 percent was applied to arrive at an estimate of approximately 520 cy that will be removed for offsite disposal. Using a conversion factor of 1.5 for cy of soil to tons of soil gives approximately 780 tons of diesel-impacted soils for disposal.

Once excavation activities begin, the diesel-impacted soil should be removed within a week. The excavated soil may be stockpiled on and covered with plastic or placed directly into disposal containers. It is the contractors responsibility to determine the suitability of their methods and means for the removal of the diesel-impacted soil.

The diesel-impacted soil will be profiled in accordance with the requirements of the facility accepting the waste. After profile sample results are obtained and the facility provides written acceptance of the waste soil, it will be transported to the waste facility under manifest for offsite disposal. Confirmation sampling will be conducted in areas where soils in the AST area were removed to a depth of less than 3 feet bgs. For example, if the removal depth in an area was down to 2 feet bgs, then a confirmation sample would be obtained to demonstrate the diesel-range petroleum hydrocarbons were removed to the cleanup goal of 83 mg/kg or less, and continued excavation in that area is unnecessary. Once the removal of diesel-impacted soil is completed, the excavated area will be backfilled with clean import soil. The area of the ASTs and transfer tank will be brought to an elevation that allows the original drainage to remain unimpeded, that is, the site should drain to a small drainage west of the AST area.

INTRODUCTION

This Removal, Excavation, and Restoration Work Plan (Work Plan) has been prepared by LOR Geotechnical Group, Inc. (LOR) to implement the removal of the ASTs, transfer tank, and diesel-impacted soil from the City of Redlands Property, APN 0171-022-13, an approximate 1.37-acre property located on the north side of Redlands Boulevard, approximately 400 feet west of Texas Street, City of Redlands, California (Figure 1). This Work Plan describes the removal of the ASTs, transfer tank, and associated piping, the excavation, management, and disposal of diesel-impacted soil, and site restoration after removal activities are completed.

The remediation contractor is solely responsible for the safe performance of all agreed services by its employees and/or subcontracted service providers and implementation of any appropriate/required written health and safety documentation. The work to be performed will be classified as HAZWOPER and will require employees to possess 40-hour training certification. All work will be performed in accordance with applicable Federal, state and local regulations governing health and safety, including all applicable California OSHA requirements as promulgated in Title 8 of the California Code of Regulation (8 CCR), Chapter 4, Subchapter 4, Construction Safety Orders, and Chapter 4, Subchapter 7, General Industry Safety Orders.

The remediation contractor must take all reasonable steps and precautions to prevent accidents and/or injuries to site personnel, visitors, or the surrounding environment and community. The contractor will immediately report all injuries, illnesses, and accidents and provide follow-up documentation. The contractor is responsible for providing its employees with all necessary personal protective equipment (PPE) and supplies as warranted by the actions of its employees. At a minimum, contractor personnel will be required to wear the following PPE, regardless of existing site conditions/hazards; hard hat, safety-toe boots, safety glasses, chemically-protective gloves. Tank tops, shorts, or sleeveless shirts will not be permitted on-site at any time.

Implementation of this plan generally consists of the following steps:

- Prepare a site-specific Health and Safety Plan for the following work;
- Removal and disposal of the sludge and water currently in the five ASTs and one transfer tank (roughly estimated at 50,000 gallons);
- Rinse out the five corrugated steel ASTs and one corrugated steel transfer tank, and remove them and the associated steel piping for recycling;

- Excavate and remove diesel-impacted soil from beneath and around the ASTs and transfer tank to a maximum depth of 3 feet bgs, for disposal at an appropriate offsite disposal facility (estimated at 780 tons);

- Conduct profile sampling, as required by the disposal facility, for the acceptance of the waste soil;

- Conduct confirmation sampling, in those areas where less than 3 feet of diesel-impacted soil was removed to determine whether cleanup goals of less than 83 mk/kg diesel-range hydrocarbons have been satisfied, and if needed, conduct further excavation followed by additional confirmation sampling or the maximum 3-foot removal depth is attained; and

- Restore the area by obtaining clean import soil for filling, and grading to restore the site so that it drains to the existing small drainage west of the AST area (estimated 500 cubic yards).

SITE LOCATION AND BACKGROUND

The site, APN 0171-022-13, is an approximate 1.37-acre property located on the north side of Redlands Boulevard, approximately 400 feet west of Texas Street, City of Redlands, California (Figure 1). The area of concern is the northeast portion of the site where five (5) ASTs and one (1) transfer tank are located (Figure 2). The ASTs are 25 feet in diameter, and at least 15 feet tall. The ASTs are constructed of corrugated metal construction, and sit on a thin layer of deteriorating asphalt concrete. The area of the ASTs is topographically higher than the adjacent ground to the south, where an old concrete retaining wall is present.

The transfer tank, also corrugated metal construction, is approximately 6 feet deep and 6 feet in diameter, and is located between AST #2 and AST #3 (see Figure 2). It is buried in the ground with approximately 2 feet above ground, and has an easily removable top.

Underground and aboveground piping is present connecting the ASTs, and possibly, the transfer tank. No dried product was visible in the portion of the piping that was on the surface, so the piping should be cleaned out as necessary, and removed at the same time as the ASTs, and recycled.

SLUDGE, WATER REMOVAL, AND CLEANING

A vacuum truck will be needed to remove the sludge and water from the ASTs and transfer tank. Some of the ASTs have partial openings at the top, and some are closed. The removal of the top of the ASTs would seem the most cost effective method for pumping out the ASTs; however, it will be the contractor's responsibility to determine the means and methods for pumping out the sludge and water from the ASTs and transfer tank, and cleaning them for recycling. We have estimated two to three feet of sludge and water (approximately 50,000 gallons) is present in the five ASTs and transfer tank. The cleaning of the ASTs for recycling will probably require pressure washing. Entering a closed or partially closed tank(s) will require the contractor to complete the necessary permitted confined space entry requirements (California Code of Regulations, Title 8, Section 5157, *Permit-Required Confined Spaces*).

Analytical Results of the Sludge and Water

Based on the results of the referenced SCS conducted by this firm (LOR, 2012), the sludge and water in the ASTs and transfer tank had reportable concentrations of petroleum hydrocarbons in the diesel range up to 936,000 mg/kg and 46.9 milligrams per liter, respectively. Concentrations of select metals were reported in the sludge and water samples, with none above USEPA Regional Screening Levels (RSLs), except for the water sample with 0.0246 mg/L cadmium and 17.2 mg/L zinc, both of which exceed the RSLs for tap water. PCBs were reported in all of the sludge samples with Aroclor 1016 up to 3.6 mg/kg and Aroclor 1260 up to 2.9 mg/kg, and in the water sample, 36 µg/l Aroclor 1016 and 29 µg/l Aroclor 1260. The semi-volatile organic compounds (SVOCs) 2-methylnaphthalene at 298 mg/kg and phenanthrene at 388 mg/kg, and the volatile organic compounds (VOCs) naphthalene up to 6.8 mg/kg and 1,2,4,-trimethylbenzene up to 0.85 mg/kg, were reported in some of the samples. Concentrations of organochlorine pesticides (OCPs) were not reported. The table of analytical results for the ASTs sludge samples and transfer tank water sample are provided within Appendix A.

REMOVAL OF DIESEL-IMPACTED SOIL

Once the ASTs, transfer tank, and associated piping have been removed, then the underlying asphalt concrete and diesel-impacted soil can be excavated for disposal. Eleven soil borings (B-1 through B-11) were placed, where accessible, around the ASTs and transfer tank (Figure 2). Based on the analytical results, there appears to be variable depths of diesel-impacted soil around the ASTs. The area of impacted soil is roughly 60 feet by 80 feet. Equipment, appropriate for the size of the area, should be

used. The removal depth will not exceed 3 feet bgs. In areas where there is no significant indication of the presence of diesel-impacted soil and/or the removal depth is less than 3 feet bgs, then confirmation samples will be taken to document the absence of diesel-impacted soil at those locations. All impacted soil beneath 3-feet deep will be left in place, and covered with the clean fill soil during restoration activities.

Based on a maximum removal depth of 3 feet below the AST area, we have estimated 400 cubic yards (cy) of diesel-impacted soil will be excavated for disposal. However, during excavation operations, yardage will increase due to the nature of earth removal operations. A factor of 30 percent was applied to arrive at an estimate of approximately 520 cy that will be removed for offsite disposal. Using a conversion factor of 1.5 for cy of soil to tons of soil gives approximately 780 tons of diesel-impacted soils for disposal.

Profile Sampling

The number of profile samples and the analysis required will be determined by the facility accepting the liquid or solid waste. All profile samples will be tested in accordance with EPA Publication, SW-846, "Test Methods for Evaluating Solid Waste, Physical, Chemical Methods", Third Edition or as required by the waste facility.

Offsite Waste Transport

The contractor will be responsible for arranging transport of the diesel-impacted soil. The transporter will be fully licensed and insured to transport the impacted soil.

Material for offsite disposal will be transported in covered trucks to the designated disposal facility. Prior to loading, all trucks will be staged to avoid impacts to the local streets. Traffic will be coordinated in such a manner that, at any given time, no more than around three trucks will be at the site, to reduce truck traffic on surrounding surface streets and reduce dust generation during transportation. While at the site, all vehicles will be required to maintain slow speeds for safety purposes and for dust control measures.

Trucks will be loaded at the designated portion of the excavation staging area. Excavated soil will be loaded onto trucks for transportation to the designated disposal facility. Rattle gates will be utilized at the entrance to the site during the loading

operation, thereby avoiding the creation of dust in the air or dirt from the truck tires on the street. The trucks will be covered to prevent soil and/or dust from spilling out of the truck during transport to the disposal facility. Prior to leaving the load-out area, each truck will be inspected by the remediation contractor personnel to ensure that the soil is adequately covered, the trucks are cleaned of overburdened soil, and the shipment is properly manifested. Each truck will have the proper transport placards displayed and paper work. Water spray or mist, as appropriate, will be applied during soil loading operations to minimize dust.

Transportation of the excavated material will be on arterial streets and/or freeways approved for truck traffic, to minimize any potential impact on the local neighborhood. In general, the transport trucks will exit the site on Redlands Boulevard, and travel west to Tennessee or Alabama Streets, to either the I-10 or I-210 Freeway, on route to the designated facility.

The remediation contractor will be required to have a contingency plan prepared for emergency situations, including vehicle breakdown, accident, waste spill, waste leak, fire, explosion, etc. during transportation of excavated soils from the site to the designated disposal facility.

Offsite Disposal Facilities

Based on the results of the waste profile and classification, the liquid and soil will be transported to a proper offsite disposal facility. Disposal of the tank contents and rinse water and the excavated soil will be performed in accordance with all applicable laws and regulations.

Facilities that may accept the liquid/sludge, upon confirmation of analysis and profile, include; Demenno Kerdon, Crosby & Overton, Waste Management (McKitric), Republic Services (Copper Mountain), and Clean Harbors (Buttonwillow).

Facilities that may accept the diesel-impacted soil, upon confirmation of analysis and profile, include; Soil Safe - Adelanto, Clean Harbors - Buttonwillow, Republic Services (Lapaz, AZ), Republic Services (Copper Mountain),Waste Managements (Butterfield or Mckitric facilities), Waste Management, Thermal Remediation Solutions (Azusa).

The City of Redlands onsite representative will be provided with copies of shipping documentation for each truckload of material transported offsite for disposal.

Confirmation Soil Sampling Rationale

As documented in the SCS soil sample analytical data, concentrations of diesel-range hydrocarbons are present only around the ASTs. No other compounds of concern were detected at reportable or significant concentrations. Therefore, diesel-range hydrocarbons are the only compound of concern that warrants analysis for the confirmation sampling (USEPA Method 8015). The proposed cleanup goal of 83 mg/kg or less is based on the California Regional Water Quality Control Board, San Francisco Bay Region, Environmental Screening Levels (2013) for shallow residential soil (<3 m bgs) where groundwater is a current or potential source of drinking water.

Field conditions will dictate the number of confirmation samples take; however, a minimum of six confirmation samples at the bottom of the excavations should be anticipated for analysis of diesel-range hydrocarbons. The confirmation samples will be obtained by the City of Redlands onsite representative, and will have a maximum five-day turnaround time.

Analytical Results of Diesel-Impacted Soil

The analytical results include reportable concentrations of select metals, none greater than USEPA RSLs. Diesel-range hydrocarbons were reported up to 4,910 mg/kg, to a maximum depth of 15 feet bgs. Petroleum hydrocarbons, in the oil range, were reported up to 690 mg/kg at near surface depths. PCBs, reported as Aroclor 1260, were reported in four of the samples at concentrations less than USEPA RSLs. Concentrations of OCPs, VOCs, and SVOCs were not reported. No significant debris was encountered in the borings. A complete table of the analytical results for the soils around the ASTs and transfer tank are provided within Appendix B.

SITE RESTORATION

Following successful removal of the ASTs, transfer tank, and piping, and the excavation and removal of diesel-impacted soil, clean import will be used to backfill the excavation area. The contractor should determine the amount of import soil

needed after the excavation and removal operation is completed. The area of the ASTs will be contour graded to drain to the west to the shallow drainage currently present or as directed by the City of Redlands.

RECORD KEEPING

The City Redlands onsite representative will be responsible for maintaining a field logbook during the removal activities. The field logbook will serve to document observations, personnel onsite, truck arrival and departure times, and other vital project information. The field logbook may be supplemented with other documentation, including a soil sample log, photograph log, etc.

HEALTH AND SAFETY

A site-specific health and safety plan (HASP) will be prepared by the remediation contractor who will provide the methods, means, and personnel to conduct the work. The HASP will be approved by the City of Redlands. The HASP should be available onsite during field activities. All personnel working at the subject site should be familiar with the HASP and sign a daily sign-in sheet.

On a daily basis, prior to commencement of field activities, a health and safety meeting should be held to brief site personnel on chemical and physical hazards related to the project, project scope, emergency procedures, and the location and route to the nearest medical facility. Typical personal protective equipment (PPE) around heavy equipment will include steel-toed boots, long pants, hard hat, safety glasses, safety vest, and gloves.

PROJECT ORGANIZATION

A qualified and experienced project team will execute the excavation, removal, and disposal activities identified in this work plan. The following project team will apply for this project:

Owner: City of Redlands; the contact is Mr. Oscar Orci.

Environmental Consultant: LOR Geotechnical Group; the contact is Mr. M. Kevin Osmun or Mr. Mathew Hunt.

Remediation Contractor: To be determined.

Regulatory Agencies: The lead agency is the USEPA; the contact is Mr. Robert Wise.

Responsibilities of The Environmental Consultant

The Environmental Consultant will provide overall field management and technical services for the project, to include confirmation sampling of the excavation bottom and final report to the USEPA for site closure.

Responsibilities of Remediation Contractor

The City will contract with a qualified remediation contractor for the removal of the ASTs, transfer tank, and all associated piping, excavation of diesel-contaminated soil, not to exceed 3 feet bgs, offsite transportation and disposal of the non-hazardous soil, and restoring the site to a contour graded condition. The selected contractor will be fully licensed, certified, registered, permitted, and/or insured to conduct the work described.

The responsibilities of the remediation contractor will include:

- Removal of the sludge and water within the ASTs and transfer tank;
- Rinsing of the ASTs, transfer tank, and piping as necessary;
- Dismantling/removal of the ASTs, transfer tank, and piping for recycling;
- Excavation of diesel-contaminated soil to a maximum of 3 feet bgs;
- Waste profile sampling and analysis of the excavated soil for offsite disposal to an appropriate disposal facility; and

- Finish contour grading of the area for drainage into the small drainage located to the west of the AST area.

In fulfilling the above responsibilities, the remediation contractor needs to perform the following tasks:

- Obtain all appropriate permitting associated with the excavation, transport, and disposal of the non-hazardous material, complying with local, State, and Federal regulations (no underground storage tank (UST) permits will be required, per the USEPA);

- Manage the work area, including work area control (with the assistance of the City), engineering controls (including dust control), and securing the work area following daily activities;

- Develop and implement a HASP;

- Equipment decontamination; and

- Drainage control.

ESTIMATED PROJECT SCHEDULE

The project should require about four weeks to complete.

CLOSURE REPORT

A closure report will be prepared, documenting the field activities associated with the removal of the ASTs, transfer tank, piping, and diesel-contaminated soil, and restoration activities. The report will include appropriate figures, tables, photographs, disposal documentation, etc. Conclusions and recommendations will be developed within the report, supporting a request for closure of the site by the EPA. The closure of the site by the EPA does not mean that the site has unrestricted use.

CLOSURE

We appreciate this opportunity to be of service and trust this work plan provides the information desired at this time. Should questions arise, please do not hesitate to contact this office.

Respectfully submitted,

LOR Geotechnical Group, Inc.

Mathew L. Hunt, REA I 7902
Environmental Scientist

M. Kevin Osmun, CE 55116
Vice President

MKO:MLH\amp

Distribution: Addressee (2) and PDF
Mr. Robert Wise, USEPA (1)

REFERENCES

California Regional Water Quality Control Board, San Francisco Bay Region, 2013, Summary Table A, Environmental Screening Levels (ESLs), Shallow Soils (≤3 m bgs), Groundwater is Current or Potential Source of Drinking Water, February, 2013.

LOR Geotechnical Group, Inc., Sampling and Analysis Plan, Assessor's Parcel Number 0171-022-13, Redlands, California, Project Number 62934.2, dated November 7, 2012.

LOR Geotechnical Group, Inc., Site Characterization Study, Assessor's Parcel Number 0171-022-13, Redlands, California, Project Number 62934.22, dated March 1, 2013.

APPENDIX A

Table 6.1 AST and Transfer Tank Analytical Results

TABLE 6.1
AST AND TRANSFER TANK ANALYTICAL RESULTS

Sample ID	Date Sampled	Total Metals (mg/kg)	TPH-D (mg/kg)	TPH-MO (mg/kg)	OCPs (mg/kg)	VOCs (mg/kg)	PCBs (mg/kg)	SVOCs (mg/kg)
AST-1	12/12/12	Ba - 0.611, Cd - 2.32, Cu - 0.818, Pb - 31.8, Ni - 0.509, V - 1.0, Zn - 347	172,000	ND	ND	ND	Aroclor 1016 - 2.8	ND
AST-2	12/12/12	Ba - 63.3, Cu - 0.540, Pb - 38.6, Zn - 46.0	936,000	ND	ND	ND	Aroclor 1016 - 2.4	ND
AST-3	12/12/12	Ba - 3.60, Cd - 1.08, Cu - 0.886, Pb - 28.2, V - 0.833, Zn - 384	314,000	ND	ND	naphthalene - 1.1 1,2,4,-trimethylbenzene - 0.28	Aroclor 1016 - 3.2	ND
AST-4	12/12/12	Cr - 1.28, Pb - 4.73, Ni - 0.701, V - 0.516, Zn - 40.3	130,000	ND	ND	**naphthalene - 6.8** 1,2,4,-trimethylbenzene - 0.85	Aroclor 1016 - 3.6 **Aroclor 1260 - 2.9**	**2-methylnaphthalene - 298** phenanthrene - 388
AST-5	12/12/12	Ba - 1.50, Cd - 1.88, Cu - 2.71, Pb - 41.6, V - 1.10, Zn - 376	368,000	ND	ND	ND	Aroclor 1016 - 1.8	ND
TT-1	12/12/12	Ba - 0.0967*, **Cd - 0.0246***, Cu - 0.0182*, Pb - 0.902*, Ni - 0.0146*, **Zn - 17.2***	46.9*	ND	ND	ND	**Aroclor 1016 - 36**** **Aroclor 1260 - 29****	ND

Notes:
ID = identification
mg/kg = milligrams per kilogram
TPH-D = total petroleum hydrocarbons as diesel
TPH-MO = total petroleum hydrocarbons as motor oil
OCPs = organochlorine pesticides
VOCs = volatile organic compounds
PCBs = polychlorinate biphenyls
SVOCs = semi-volatile organic compounds
Ba = barium; Cd = cadmium; Cr = chromium; Cu = copper; Pb = lead; Ni = nickel; V = vanadium; and Zn = zinc
ND = not detected (ND) at the laboratory reporting limit (RL)
6.8 = analytical results greater than the United States Environmental Protection Agency Region IX Regional Screening Levels (November 2012) for residential soil or tap water are shown in **BOLD**
* = analytical result in milligrams per liter
** = analytical result in micrograms per liter

APPENDIX B

Table 6.2 Analytical Results of Soils Samples from the AST Area

TABLE 6.2
ANALYTICAL RESULTS OF SOIL SAMPLES FROM THE AST AREA

Sample ID	Date Sampled	Sample Depth (feet bgs)	Metals (mg/kg)	TPH-D (mg/kg)	TPH-MO (mg/kg)	SVOCs (mg/kg)	OCPs (mg/kg)	PCBs (mg/kg)	VOCs (mg/kg)
B-1-3	12/17/12	3	Ba - 32.3, Cr - 11.4, Co - 4.68, Cu - 8.03, Pb - 2.75, Ni - 7.38, V - 19.0, Zn - 23.3	ND	ND	ND	ND	ND	ND
B-1-9	12/17/12	9	Ba - 34.4, Cr - 10.6, Co - 5.03, Cu - 8.80, Pb - 1.86, Ni - 7.25, V - 18.8, Zn - 22.4	ND	ND	NA	NA	NA	ND
B-1-15	12/17/12	15	Ba - 33.1, Cr - 10.1, Co - 4.69, Cu - 7.57, Pb - 1.93, Ni - 6.77, V - 18.1, Zn - 20.9	ND	ND	NA	NA	NA	ND
B-1-20	12/17/12	20	Ba - 38.0, Cr - 15.4, Co - 7.32, Cu - 16.0, Pb - 2.76, Ni - 10.7, V - 30.7, Zn - 26.2	ND	ND	NA	NA	NA	ND
B-2-1	12/17/12	1	Ba - 41.3, Cd - 2.76, Cr - 11.3, Co - 4.76, Cu - 17.9, Pb - 134, Ni - 8.19, V - 22.2, Zn - 464	300	ND	ND	NA	NA	NA
B-2-3	12/17/12	3	Ba - 35.0, Cr - 13.5, Co - 5.68, Cu - 9.39, Pb - 3.00, Ni - 7.95, V - 22.5, Zn - 23.5	ND	ND	ND	ND	ND	ND
B-3-3	12/17/12	3	Ba - 46.8, Cr - 11.7, Co - 5.27, Cu - 8.68, Pb - 2.32, Ni - 7.34, V - 22.1, Zn - 23.6	400	72.0	ND	ND	Aroclor 1260 - 0.05	ND
B-3-9	12/17/12	9	Ba - 28.5, Cr - 12.6, Co - 4.97, Cu - 8.90, Pb - 2.24, Ni - 6.76, V - 27.5, Zn - 19.5	460	78.0	ND	NA	NA	NA
B-3-15	12/17/12	15	Ba - 36.6, Cr - 11.2, Co - 4.49, Cu - 8.51, Pb - 1.88, Ni - 6.45, V - 16.2, Zn - 20.6	980	96.0	ND	NA	NA	NA
B-3-20	12/17/12	20	Ba - 54.5, Cr - 14.6, Co - 6.28, Cu - 10.3, Pb - 2.44, Ni - 9.36, V - 22.0, Zn - 28.1	ND	ND	ND	NA	NA	NA
B-4-0	12/17/12	0	Ba - 37.2, Cd - 1.42, Cr - 9.70, Co - 4.38, Cu - 13.6, Pb - 37.5, Ni - 6.84, V - 16.1, Zn - 320	4,910	690	ND	NA	NA	NA
B-4-3	12/17/12	3	Ba - 35.0, Cr - 11.6, Co - 5.06, Cu - 8.16, Pb - 2.35, Ni - 7.36, V - 22.6, Zn - 22.4	56.0	ND	ND	ND	ND	ND
B-5-3	12/17/12	3	Ba - 42.7, Cr - 14.4, Co - 6.20, Cu - 13.7, Pb - 2.49, Ni - 8.94, V - 28.5, Zn - 25.9	ND	ND	ND	ND	ND	ND
B-6-3	12/17/12	3	Ba - 48.2, Cr - 15.3, Co - 7.08, Cu - 10.3, Pb - 2.72, Ni - 10.2, V - 24.9, Zn - 115	490	78.0	ND	ND	Aroclor 1260 - 0.05	ND
B-7-3	12/17/12	3	Ba - 59.1, Cr - 15.4, Co - 6.01, Cu - 10.2, Pb - 10.4, Ni - 10.2, V - 24.1, Zn - 98.0	916	ND	ND	ND	Aroclor 1260 - 0.14	ND
B-7-3 Dup	12/17/12	3	Ba - 62.4, Cr - 16.4, Co - 8.79, Cu - 10.7, Pb - 2.91, Ni - 10.5, V - 25.6, Zn - 65.4	629	ND	ND	ND	Aroclor 1260 - 0.15	ND
B-8-3	12/17/12	3	Ba - 67.5, Cr - 15.7, Co - 6.82, Cu - 10.7, Pb - 2.62, Ni - 10.3, V - 27.0, Zn - 233	ND	ND	ND	ND	ND	ND

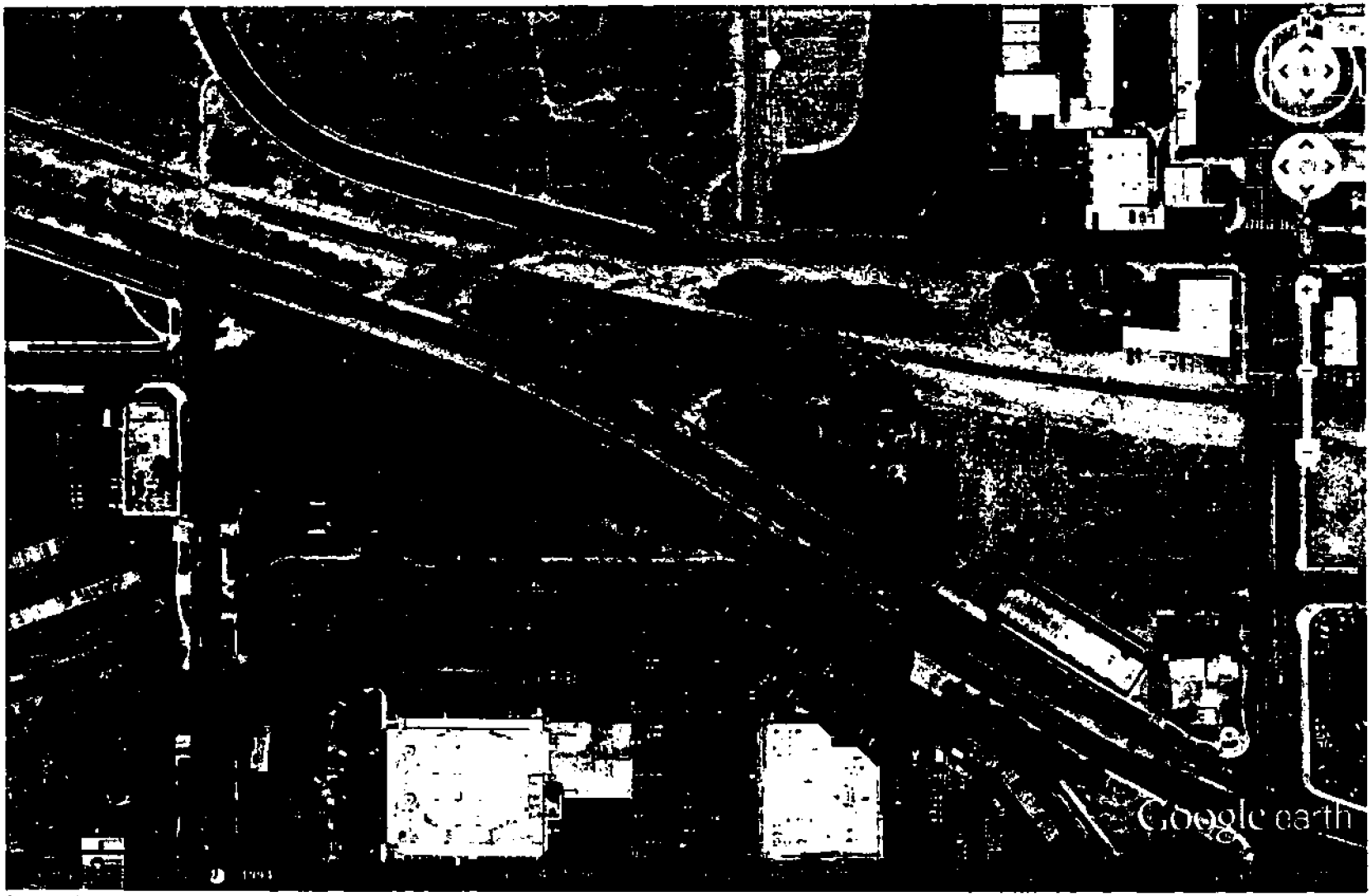
TABLE 6.2
ANALYTICAL RESULTS OF SOIL SAMPLES FROM THE AST AREA

Sample ID	Date Sampled	Sample Depth (feet bgs)	Metals (mg/kg)	TPH-D (mg/kg)	TPH-MO (mg/kg)	SVOCs (mg/kg)	OCPs (mg/kg)	PCBs (mg/kg)	VOCs (mg/kg)
B-9-3	12/17/12	3	Ba - 28.2, Cr - 9.59, Co - 4.38, Cu - 7.22, Pb - 3.74, Ni - 6.55, V - 16.7, Zn - 35.4	ND	ND	NA	ND	NA	NA
B-9-9	12/17/12	9	Ba - 36.7, Cr - 11.1, Co - 4.74, Cu - 7.71, Pb - 2.93, Ni - 7.14, V - 16.3, Zn - 31.9	ND	ND	ND	NA	NA	NA
B-9-14	12/17/12	14	Ba - 30.5, Cr - 10.4, Co - 3.87, Cu - 7.76, Pb - 1.71, Ni - 6.18, V - 14.2, Zn - 19.6	ND	ND	ND	NA	NA	NA
B-10-3	12/17/12	3	Ba - 58.7, Cr - 15.6, Co - 7.07, Cu - 12.2, Pb - 3.11, Ni - 10.8, V - 23.2, Zn - 32.5	ND	ND	NA	ND	NA	NA
B-11-3	12/18/12	3	Ba - 25.8, Cr - 8.61, Co - 3.54, Cu - 6.81, Pb - 1.91, Ni - 5.85, V - 13.5, Zn - 16.7, Hg - 0.052	ND	ND	NA	ND	NA	NA
B-11-9	12/18/12	9	Ba - 39.4, Cr - 14.4, Co - 5.91, Cu - 11.2, Pb - 2.47, Ni - 8.32, V - 26.6, Zn - 21.6	ND	ND	ND	NA	NA	NA
B-11-14	12/18/12	14	Ba - 63.8, Cr - 14.1, Co - 5.95, Cu - 8.18, Pb - 1.71, Ni - 8.79, V - 20.3, Zn - 26.9	ND	ND	ND	NA	NA	NA

Notes:
ID = identification
bgs = below ground surface
mg/kg = milligrams per kilogram
TPH-D = total petroleum hydrocarbons as diesel
TPH-MO = total petroleum hydrocarbons as motor oil
SVOCs = semi-volatile organic compounds
OCPs = organochlorine pesticides
PCBs = polychlorinated biphenyls
VOCs = volatile organic compounds
Ba = barium; Cd = cadmium; Co = cobalt; Cr = chromium; Cu = copper; Pb = lead; Hg = mercury; Ni = nickel; V = vanadium; and Zn = zinc
ND = not detected (ND) at the laboratory reporting limit (RL)
NA= not analyzed

Figures

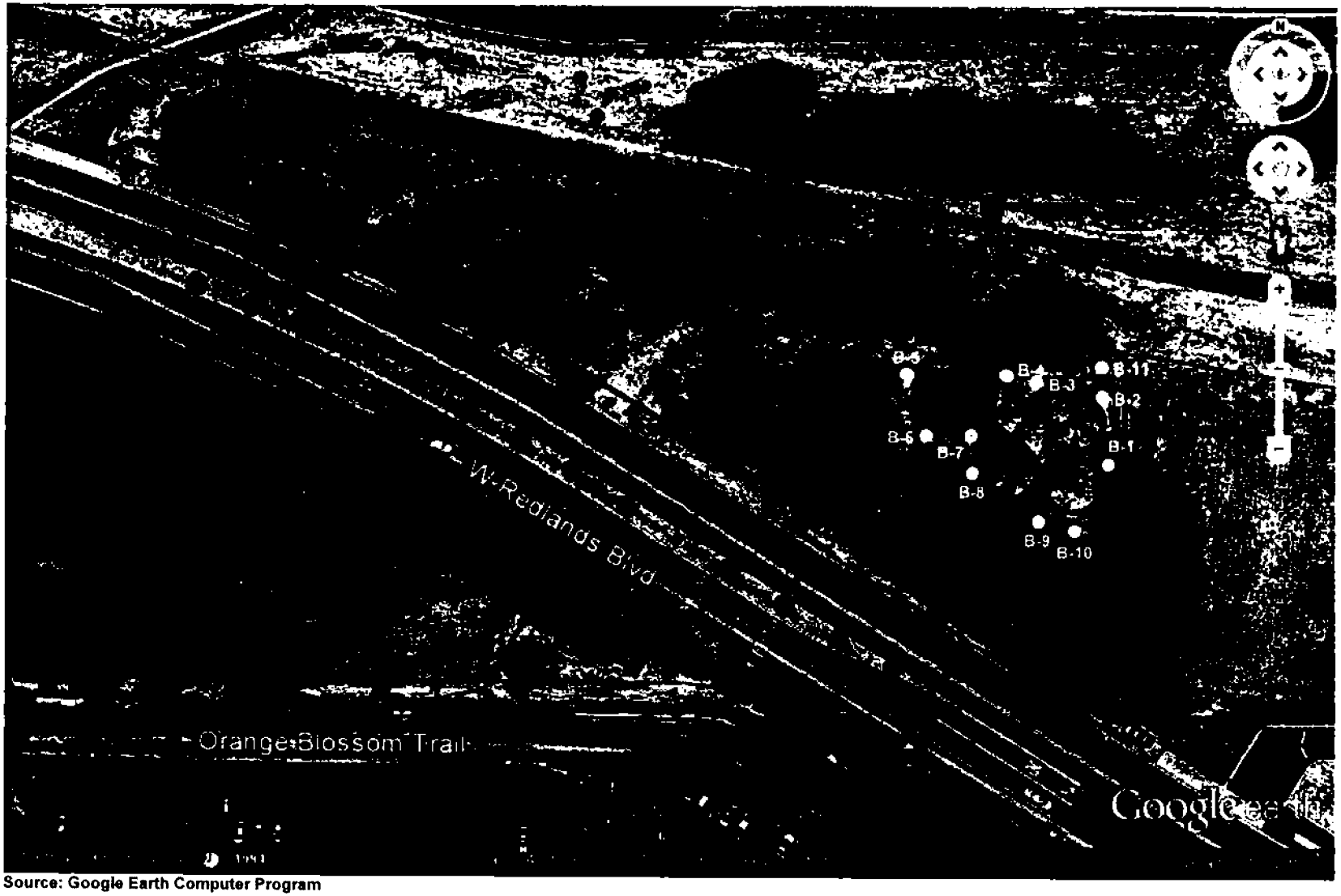
Color Aerial Photograph and
Soil Boring Locations on Color Aerial Photograph



Source: Google Earth Computer Program

COLOR AERIAL PHOTOGRAPH

PROJECT:	CITY OF REDLANDS PROPERTY, APN 0171-022-13, REDLANDS, SAN BERNARDINO COUNTY, CA	PROJECT NO.:	62934.23
CLIENT:	CITY OF REDLANDS	FIGURE:	1
LOR Geotechnical Group, Inc.		DATE:	MARCH 2013
		APPROX. SCALE:	1" = 190'



Source: Google Earth Computer Program

SOIL BORING LOCATIONS ON COLOR AERIAL PHOTOGRAPH

PROJECT:	CITY OF REDLANDS PROPERTY, APN 0171-022-13, REDLANDS, SAN BERNARDINO COUNTY, CA	PROJECT NO.:	62934.23
CLIENT:	CITY OF REDLANDS	FIGURE:	2
LOR Geotechnical Group, Inc.		DATE:	MARCH 2013
		APPROX. SCALE:	1" = 86'