FLOOD CONTROL DISTRICT
OF
MARICOPA COUNTY

Reed Landfill Removal Study

Phase I Summary Report

Contract FCD 88-48 — Job No. 2179J110

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June 6, 1989

Mr. Nicholas P. Karan, P.E.
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RE: REED LANDFILL REMOVAL STUDY, PHASE I SUMMARY REPORT. CONTRACT FCD-88-48. WTI JOB NO. 2179J110.

Dear Mr. Karan:

Western Technologies Inc. (WTI) is pleased to submit the Phase I Summary Report for the Reed Landfill Removal Study. This report is submitted under the terms of Contract No. FCD-88-48.

A draft of this report was submitted to the Flood Control District for agency review. This draft responds to comments and suggestions provided by Flood Control District staff.

Grid and boundary surveys were conducted, sampling locations were staked on the site, and exact property boundaries were established.

A landfill characterization study was conducted. Within the limitations of the soil screening and composite sample analysis performed, no evidence of hazardous waste was found. Landfill depths at each sampling location were noted.

An estimated volume for Reed Landfill was calculated using the Brooks, Hersey & Associates (BHA) AUTOCAD system. Reed Landfill contains approximately 70,600 cubic yards of demolition materials based on our studies.

Various disposal site/haul route options were evaluated. Engineering estimates were prepared for each option. The lowest cost option proposes the use of the Calmat - Litchfield disposal site (formerly the Allied Landfill). The estimated total cost for this option is $944,500.00.

Landfill removal and monitoring plans have been prepared for the Flood Control (FCD). These plans can be the basis for the satisfactory removal and disposal of the Reed Landfill contents.

Flood Control District of Maricopa County
Job No. 2179J110

WTI and its subcontractor, Brooks, Hersey & Associates, appreciate the opportunity to perform this initial phase for the Flood Control District. If you need additional information, please contact us at (602) 437-3737.

Sincerely,
WESTERN TECHNOLOGIES INC.

Registered Professional Engineer (Mechanical)
CERTIFICATE NO. 12197
WESLEY A. SHOMERD
DATE SIGNED
Arizona U. S. A.

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Attachments

Copies to Addressee: (2)
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SECTION NO. 1

INTRODUCTION AND SCOPE OF WORK

The Reed Landfill was operated as a construction debris landfill in violation of the Flood Control District (FCD) of Maricopa County regulations as specified in FCD Case No. FV 83-10. The site consists of parcels 7D, 7T and 7U of Book 104, Map 71 in the SE 1/4 of the SE 1/4 of Section 25, T1N,R1E. It is approximately 1,350 feet north of Southern Avenue on 67th Avenue (see Figures 1.1 and 1.2). The site is approximately 5 acres in size. FCD is planning to remove the deposited materials to an authorized disposal site(s) at minimum cost. To accomplish this purpose, the following work tasks were established by the FCD:

- Site investigations to determine more accurately the content of the landfill material.
- Site investigations to determine more accurately the volume of material in the landfill.
- Determination of disposal sites and haul route options that are available for the landfill material.
- Development of a monitoring procedure to be used during the actual landfill removal.
- Development of procedures for the handling of hazardous waste materials should they be met.
- Preparation of plans, construction special provisions and engineer's estimate for a removal contract.

Western Technologies Inc. (WTI) was selected by the FCD to submit a technical proposal for this project. WTI's final revised proposal (Ref. No. 2178A474, Revision No. 1) dated January 12, 1988, was accepted by the FCD and is incorporated by reference for this report.

The scope of work to accomplish the work tasks listed above was divided into two phases, as follows:

- Phase I will consist of site investigations, determination of disposal site and haul route options, development of monitoring and hazardous waste handling procedures, and preparation of an engineer's estimate

- Phase II will consist of the advertisement-ready preparation of plans, technical specifications, and bidding schedules for removal of the landfill.

There will be about a 30-day to 60-day delay between the completion of Phase I and a decision by the District to proceed with Phase II. It is understood that Phase II may not proceed.

A summary of the Phase I activities are presented below:

- Backhoe sampling locations were accurately established and located on a 50-foot by 100-foot grid as shown in Figure 2.1. Surface elevations were established. Details are given in Section 2.1.

- A landfill characterization study was performed. Soil/refuse samples were obtained and field tested. Composite samples were submitted for analyses. Landfill depths were determined at each location. Details are given in Section 2.2.

- Cross-sectional diagrams were prepared showing the depths of fill materials at the sampling locations. A boundary survey was performed to delineate the horizontal extent of the landfill. The landfill volume has been estimated. Details are given in Section 2.4.

- Available disposal sites were identified for the landfill materials. Information concerning distances and costs were obtained, and the best disposal location(s) were recommended. Details are given in Section 3.0.

- Excavation equipment was recommended. Estimated costs for excavation, transportation and disposal were provided. Recommended disposal site based on cost was presented. Details are given in Section 4.0.

- Federal, State and County permitting requirements were reviewed. Permits from ADEQ and the Maricopa Air Pollution Control District will be required. Details are given in Section 5.0.

- Three landfill removal plans are provided for FCD review. Details are given in Section 6.0.

- A landfill removal monitoring program was developed. The plan included the monitoring of excavated materials, hazardous waste handling procedures, appropriate jobsite safety and health requirements to protect workers, nearby populations, and populations along transport routes to the new disposal sites. Details are given in Section 7.0.

- If hazardous wastes were found in the landfill characterization study, an appropriate landfill removal program including waste segregation would have been developed. Because no hazardous wastes were found, this element in the work scope was not performed.

- This Phase I Summary Report describes field activities and presents the required information as stated in the above scope of work. Time line schedules, disposal site/haul route options, and engineers estimates are provided.

SECTION 2.0

LANDFILL CHARACTERIZATION STUDY

This section describes the surveying, sampling and analytical tasks of the landfill characterization study. Characterizations of landfill contents are also presented.

2.1 SURVEYS

To determine the volume of landfill materials a 50' X 100' grid system was surveyed to fit the Reed Landfill site. Marked stakes were placed at grid coordinates with surface elevations at each coordinate recorded. After pits were excavated to bottom limits at each coordinate, bottom of landfill elevations were recorded.

After the grid survey located the proposed sampling locations, as shown in Figure 2.1, certain sampling locations were omitted because they were located in native materials. Therefore, no useful information would be derived from the locations. Figure 2.2 shows the actual sampled locations.

Using an AUTOCAD earthwork program, data were entered such as coordinate system, landfill surface and bottom elevations at each coordinate, property skew angles and limits of landfill. Visuals (Blueprint) produced include a surface contour map and cross sections (Sheet 1). Landfill volume was calculated to be 70,600 cubic yards.

An apparent problem was met in the initial boundary survey of the Reed Landfill property. An irregularity of the section boundary and center of section, from which the Reed Landfill property description was referenced, was found. Because of this, originally

marked boundary corners on the Reed property, according to the legal description and normal survey practices, may have been off the proper locations by up to as much as 4 feet.

The Maricopa County Flood Control District representatives felt an exact property boundary determination should be determined because some of the landfill material encroached onto adjoining property. Therefore, a search for available records and maps, a thorough search in the field for existing documentation, and necessary discussions with adjacent land owners was conducted to obtain parol evidence in determining the location of center of section. This research found a "recorded results of survey map", which changes the bearings from the legal description.

Using the corrected bearings, the parcel boundary was resurveyed and posts were placed on the correct parcel corners. These correct corners are shown on Sheet 1.

An additional survey was conducted to measure encroachments of landfill materials onto adjoining properties. These encroachments are shown were indicated on the site plan map.

2.2 EXCAVATION, SAMPLING AND FIELD TESTING

On March 17, 1989, Wrights Excavation trackhoes were used to excavate through the fill materials into native subsurface soils at each location. Each pit was logged in general accordance with the Unified Soil Classifications System and photographed (Appendix A). The depth to the top of native soils was determined in each pit. In some cases, surface obstructions were moved so excavation could occur at the designated location. After all field samples and measurements were taken, the excavated material was placed back into the pit. Figure 2.2 shows the approximate landfill

boundaries; sampling locations and depths of materials.

Locations 1A through F were located just off the east face of the landfill. Virtually no landfilled material was found at these locations. An initial estimate of the depth of fill was made by assuming that the depths reached in corresponding Row 2 location also applied to Row 1. Thus, an estimated depth of the landfill just west of location 1C is 18.5 feet, the same as location 2C. A similar situation occurred at 2F; the 2E depth of 17.5 feet was used for 2F. It should be noted that the formal estimate of volume prepared by BHA utilized additional elevations along this eastern edge to provide a more accurate estimate of landfill volume.

A field decision was made to use a Case 580 backhoe to perform the clean-up functions after the trackhoe's had completed their excavation. This allowed the excavation and sampling functions to proceed continuously which significantly reduced the time and costs for this work element.

Separate representative duplicate samples of the fill materials and the native subsurface soils were obtained by the field engineers. Each sample was placed into a 500-gram glass jar with teflon-coated lids. Each sample was uniquely identified with a label, and chain-of-custody records were maintained.

A small portion of each sample was field examined for hazardous waste characteristics. A copy of these procedures, Fingerprint Tests, is presented in Appendix B. All observations and readings were recorded on a specially developed field activity report sheet. An example of the field activity report is presented as Figure 2.3. The completed field activity reports are presented in Appendix C. No indications of hazardous wastes were detected in any of the

field screened samples.

2.3 ANALYTICAL CHEMISTRY

All soil/debris samples were collected and analyzed in general accordance with SW-846, U.S. Environmental Protection Agency document, "Test Methods for Evaluating Solid Waste."

Sample sets were taken along the north-south rows (1-8). Each set was composited into a single sample for analysis of the Tier 1 parameters. Thus, a single composite sample for fill material and a single composite sample of the subsurface native soils for each row were submitted for analysis.

The Tier 1 parameters examined the waste for the most commonly found hazardous waste characteristics. If the Tier 1 test for a given sample showed the waste was possibly hazardous; WTI would have recommended that Tier 2 analyses be performed.

Tier 1 Analytical Tests	Tier 2 Analytical Tests
GC/MS Solvent Screen	Physical Description
EP Toxicity - Metals (8)	Total Cyanides
Ignitability	Total Sulfides
Corrosivity (pH)	Specific Gravity
Reactivity	Percent Moisture

The individual sample jars were placed in WTI's analytical laboratory refrigerator at the end of the sampling activities on March 17, 1989. Sample compositing was performed inside the refrigerator on March 20, 1989, so that volatilization of any solvents would be minimized by the low temperature (40 degrees Fahrenheit). Approximately equal amounts of each refuse sample or soil sample along the north-south rows were composited into another

500 gram sample jar. These jars were also labeled and listed on the chain-of-custody records before submittal to the laboratory. Chain-of-custody records are presented in Appendix D.

All chemical analysis were performed in accordance with WTI's established quality assurance/quality control (QA/QC) procedures. These procedures are presented in Appendix E.

2.4 CONCLUSIONS

The field excavation and sampling proceeded smoothly and photographs and landfill depth data were obtained. The landfill depth data were given to BHA for calculation of the landfill volume. An AUTOCAD earthwork system was used to produce a surface contour map and cross sections. The calculated landfill volume is 70,600 cubic yards. This is higher than the FCD estimated volume of 41,000 cubic yards.

No hazardous waste characteristics were found during the field fingerprint testing. This was confirmed by the analytical chemistry runs on landfill debris and subsurface soil composite samples. No detectable (above 10 mg/kg) concentrations of common solvents were found in any of the analyzed samples. No concentrations exceeding the RCRA hazardous waste criteria for metals, ignitability (flashpoint), corrosivity (pH), or reactivity were detected. No hazardous wastes were met during the landfill characterization study, based on the described field sampling, fingerprint testing, and analytical chemistry. No areas of predominantly asbestos wastes were observed.

In summary, the wastes encountered were typical of demolition debris: rock, soil, concrete, asphaltic concrete, wood (lumber, tree limbs, brush), miscellaneous metal, and a few tires.

Construction debris (concrete, asphaltic concrete, wood, wire, metal) was approximately 10-25% of the landfills contents. The remaining material was sand and rock. No hazardous wastes were detected through the field and analytical testing. Boundary and grid surveys have been performed. The in-situ landfill volume has been estimated at 70,600 cubic yards.

SECTION 3.0
DISPOSAL SITE/HAUL ROUTE STUDY

The Disposal Site/Haul Route Study assumes that non-hazardous demolition debris is contained in the Reed Landfill. This conclusion is based on the Landfill characterization study findings presented in Section 2.0. This study examined prospective disposal sites and haul routes. Cost estimates and procedures must be revised if hazardous wastes are met during the excavation.

3.1 DISPOSAL SITES

The Solid Waste Unit of ADEQ was contacted and a March, 1989 list of approved sanitary landfills and rubbish landfills was obtained. A portion of this list is presented in Appendix F.

Eight potential disposal sites were initially selected for study. These are shown in Figure 3.1. The selection criteria were: proximity to Reed Landfill, and likelihood of disposal of the Reed Landfill contents.

All eight of these landfills were visited. Photographs taken at the landfills are presented in Appendix A (Photographs 50-60). Tentative haul routes from the project site to each disposal facility were delineated. Each route was driven, and data on travel time and mileage were recorded. These data were used in the calculation of the engineers estimate for each site.

During site visits, available information on disposal costs and unacceptable wastes were obtained. Typically, tires were an item that were not accepted or they were subject to higher disposal

rates. Available price lists are presented in Appendix G. Table 3.1 (page 12) is a summary of disposal fees for mixed demolition debris.

The City of Phoenix Landfill Department was contacted to determine if any Phoenix sites could accept the wastes. Mr. Bruce Henning stated that the wastes would not be accepted because Reed Landfill was not located within the city limits.

The Central Avenue landfill is nearing the end of its useful life. Mr. Jack Willsey, the landfill operations superintendent, stated that the landfill will be closed by the time excavation begins.

Technically, the Rainbow Valley site is operated as a transfer station by the Maricopa County Landfill Department. Mr. Nick Sciarro, Landfill Administrator, stated that he had some capacity for disposal in one area of the completed fill. Photographs 50 and 51 show this area. Because an estimated 10,000 cubic yards of material could be placed in this area, the Rainbow Valley was included in the Disposal Site/Haul Route Study.

3.2 HAUL ROUTE EVALUATION

Routes from the Reed Landfill to a disposal site were driven. Time and mileage data were recorded. These data are summarized on Table 3.2.

When multiple routes were evaluated, only the most efficient route's data were listed on Table 3.2. The Weinberger Topsoil Landfill, located at 3410 South 39th Avenue in Phoenix, appears to be the most feasible site based only on haul times or distances. This appearance was not substantiated when the actual engineer's estimates (Section 4.0) were prepared.

TABLE 3.1

DISPOSAL FEES

Disposal Site	Fee
COP - 27th Avenue	N/A
Calmat - Litchfield	$27.50/20-ton load
40th Street (Bradley)	$125/20-ton load
Central Avenue	N/A
City of Glendale	$14/ton
Hassayampa	$10.50/ton
Rainbow Valley	$10.50/ton
Weinberger Topsoil	$123/20-ton load

TABLE 3.2

ROUND TRIP TIME AND MILEAGE

Disposal Site	Time(min.)	Distance (miles)
COP - 27th Avenue	24.9	15.4
Calmat - Litchfield	37.1	27.6
40th Street	45.0	27.8
City of Glendale	41.5	32.2
Hassayampa	98.6	73.2
Rainbow Valley	72.4	54.8
Weinberger Topsoil	17.9	11.4

SECTION 4.0

ENGINEER'S ESTIMATES

This section presents the steps to prepare the engineer's estimate for each disposal site.

4.1 EXCAVATION COSTS

Actual excavation costs for the Reed Landfill will depend on the following factors:

- Landfill volume
- Equipment costs
- Landfill excavation monitoring costs.

The estimated in-situ landfill volume is 70,600 cubic yards, as discussed in Section 2.4. Volume expansion (swell factor) will occur during the excavation process. This will increase the volume for disposal. An expansion factor of 20% was used for this project. This results in an estimated disposal volume of 84,720 cubic yards.

4.1.1 Equipment Costs

The selection of the excavation equipment is important. Equipment that is too small can increase overall costs because of the longer times and number of loads required to complete a task.

For example, WTI recently participated in the excavation of demolition debris in the New River channel. The equipment used on the project loaded 21 cubic yard end-dump trucks in about 4 minutes. A Caterpillar 988B rubber tire loader with a 7.5 cubic yard bucket was used to load the trucks. A Caterpillar D-8 or D-9 bulldozer pushed debris to the loading site. This minimized the

time the loader was used for primary excavation. A Caterpillar 14G blade was used for haul road maintenance. A Caterpillar 621E water truck was used for dust control on the landfill face and roads. Because equipment with these capabilities should be able to load 21 cubic yard dump trucks in 4 minutes or less, WTI recommends that this equipment mix be used on this project.

Assuming a 4 minute loading cycle time and 15 cubic yards/load, 1800 cubic yards of landfill will be removed each day. This results in a minimum of 47 days of excavation to remove the Reed Landfill. Calculation details are presented in Appendix H.

Daily and weekly equipment rental rates and equipment hourly operating costs were obtained from the April 1988 edition of the Rental Rate Bluebook (Appendix H). In addition, labor rates for equipment operators were estimated from a WTI project in 1987.

4.1.2 Landfill Monitoring Costs

Landfill monitoring is recommended during excavation. If hazardous wastes are met, a trained environmental specialist should be available to assist in the safe handling of the situation. WTI does not expect hazardous wastes to be encountered. However, WTI believes it is appropriate that continuous monitoring be performed. Based on our own experience, WTI has estimated the total cost of $32,900.00.

4.1.3 Summary of Estimated Excavation Costs

An estimated excavation cost, was calculated using the following assumptions:

- Landfill Volume = 84,720 cubic yards
- 4-minute truck loading cycle time
- Truck capacity = 15 cubic yards (20 tons)
- Monthly equipment rental rates, including operating costs, reduced to an hourly rate

WTI contacted several general contractors for estimated hourly rental rates for 21 cubic yard end-dump trucks. These conversations established a $45.00/hour rate.

An estimated hourly cost for a 21 cubic yard truck and operator was prepared using the Rental Rate Blue Book. Specific data sheets are presented in Appendix H. The estimated hourly rate for a truck/operator is $63.85 which was used for estimating costs for this project.

The number of trucks used will affect the transportation cost. The number of trucks will increase as the total length of time for loading, transportation and disposal increases. For example, assuming a loading cycle time of 4 minutes, five trucks would be sufficient if the total round trip time was 15 minutes. A truck would always be in a loading mode. If the total round trip time increased to 60 minutes, 16 trucks would be required. If each truck/operator costs $510.80/day, five trucks would result in a $2,554.00/day transportation cost; 16 trucks would cost $8,172.80/day. The same quantity of material would be excavated/transported/and disposed under both scenarios.

Table 3.2 in Section 3.2 presented the measured round trip times and distances to each landfill. Actual transportation times will probably be higher due to variable traffic volumes and the slower acceleration of fully loaded trucks. To account for these variables two modifications were made to the estimates. The measured times were increased by 15 percent and a 15-minute period for covering and adjusting loads and waiting time at the landfill was added. Table 4.2 presents the estimated transportation times and number of trucks necessary for each disposal site with the modifications.

TABLE 4.2

ESTIMATED TRAVEL TIMES AND NUMBER OF VEHICLES

Disposal Site	Travel Time (min)	No. of Trucks
Calmat-Litchfield	58	16
40th Street	67	18
City of Glendale	63	17
Hassayampa	128	33
Rainbow Valley	98	26
Weinberger Topsoil	36	10

Total transportation costs for each disposal site are presented in Table 4.3. The costs for the Rainbow Valley facility assume only 10,000 cubic yards will be disposed there, the remainder will go to the Hassayampa Landfill.

TABLE 4.3

TOTAL TRANSPORTATION COSTS

Disposal Site	Est. Cost
Calmat-Litchfield	$384,300
40th Street	$432,300
City of Glendale	$408,300
Hassayampa/rainbow Valley	$771,000
Weinberger Topsoil	$240,300

4.4 TOTAL PROJECT COSTS

Total estimated project costs are presented in Figure 4.1. Use of the Calmat-Litchfield disposal site has the lowest overall project costs. This is due to the lower disposal charges, which are about 20 percent of the next lowest facility. The ranking of disposal sites/haul route based on overall cost is presented in Table 4.4.

TABLE 4.4

DISPOSAL SITE RANKING

Disposal Site	Total Cost
Calmat-Litchfield	$ 944,500
Weinberger Topsoil	$1,429,800
40th Street	$1,684,000
Hassayampa/Rainbow Valley	$2,695,200
Glendale	$2,735,700

SECTION 5.0

PERMITTING REQUIREMENTS

This section discusses the federal, state, county and city permitting requirements for removal, transportation and disposal of the contents of the Reed Landfill. It is assumed that no hazardous wastes will be encountered. Section 6.0 discusses the operational procedures to be followed if suspected hazardous wastes are found.

5.1 FEDERAL AGENCIES

The Reed Landfill site could be considered to be within the Salt River Channel/flood plain system. This landfill is impacted during high flow/flood conditions. Section 404 of the Clean Water Act requires any "disposal of dredged material" be permitted. The U.S. Army Corps of Engineers currently administers this program. The FCDMC has asked the Corps to determine if the Section 404 requirements apply to this project.

5.2 STATE AGENCIES

The principal environmental regulatory agency is the Arizona Department of Environmental Quality (ADEQ). This agency administers the hazardous waste, plan review, and groundwater protection permitting for landfills. Two units will be primarily involved - Solid Waste Unit and the Water Permits Unit.

Mr. Barry Abbott, Manager, Solid Wastes Unit stated that a plan of closure for Reed Landfill must be approved by ADEQ. He agreed that this report would satisfy the requirements since the material will be disposed at other permitted disposal sites. Mr. Abbott felt that 4 weeks would be sufficient for the review/approval process.[1]

1 "Personal communication by W. Shonerd with B. Abbott, April 5, 1989, Re: Closure Plan Approval Process.

The Water Permits Unit administers the Groundwater Protection Permit program. Mr. Abbott stated that they would review the closure plan for potential groundwater impacts. Because this review would be part of the Solid Waste Unit's review, - no separate submittal will be necessary.

5.3 COUNTY AGENCIES

Three Maricopa County agencies may be involved in this project. An air pollution permit for construction project dust abatement must be obtained from the Air Pollution Division, Environmental Health Services. This permit will cost approximately $85.00 for a parcel less than 5 acres in size. It can be obtained in person at Air Pollution Division's office.

The usage of 21 cubic yard trucks will not require permits from the County Highway Department if standard axle load limits and county size limits are not exceeded. However, usage of the recommended flagman will require a permit ($5.00 fee) from the Permits Section. Allow one week for permit processing.

The Maricopa County Landfill Department will be involved if one of their disposal sites is used for disposal. Truck permits will be necessary for disposal at County disposal sites.

5.4 CITY AGENCIES

Three departments of the City of Phoenix were contacted. Two departments, Police and Building Safety, did not require any permits for this project as described herein. The Right-of-Way department requires haul permits for this project if trucks travel over Phoenix roads.

A haul plan must be submitted for review and approval. The haul plan checklist is presented in Appendix H. Ten working days for approval will be required. A haul plan review fee of $240/page is charged. Another fee is charged based on the excavated volume. This fee is estimated at $1,000.00 assuming a volume of 84,720 cubic yards.

SECTION 6.0
LANDFILL REMOVAL PLAN

This section presents information on a three landfill removal methods. All plans assume that the recommended equipment, or approved equal, presented in Section 4.1 will be used.

6.1 COMMON PLAN FEATURES

This section will describe those features which are common to all three of the proposed plans.

Before excavation, all utilities should be turned off and any powerpoles removed. A Blue Stake survey should also be performed to located underground utilities. Salvageable equipment should be removed by the owner.

Trucks will drive to the west side of the Reed Landfill for loading. The bulldozer will push material towards the loading area, where it will be picked up by the loader. The loader will place the material into the truck. When the truck is full from about 2 scoops from the loader, the truck will move forward. The load will be inspected and covered, if necessary.

Initially, the western edge of the landfill will be excavated along north-south rows. This will continue each day, with the landfill being progressively excavated in an easterly direction. This will allow for excavation and preparation of the temporary storage area. Once it is prepared, all vehicles, trailers and other equipment/material will be moved to the temporary storage areas.

Vehicles or equipment may be located in the temporary storage area before excavation. They will be moved out of the way to allow for initial excavation.

All the recommended plans will require Temporary Construction Easements (TCEs) on various parcels. Figures 6.1, 6.2 and 6.3 show the TCE locations and dimensions. These TCEs will allow for removal of landfill material that is located off the Reed Property itself. The TCE's will also, in certain instances, be used for truck ingress/egress to the loading area.

The following is a speculative evaluation of the adjacent materials on Parcels 7C and 7J. The majority of this material within 10-15 feet of the landfill boundary was probably the result of the landfill operation. Surface materials, such as cars, trucks and metal salvage, may have been placed over the landfill material by the parcel's owners. This is especially true for Parcel 7J. All materials on Parcel 7C probably resulted from landfill operations and/or illegal dumping. It should be relatively easy on Parcel 7C to identify and separate the landfill materials to be removed from illegally disposed trash.

Removal of material on Parcel 7C will use the bulldozer to push this material towards the loading area. The Parcel 7C TCE will allow space for the bulldozer to move the material. A similar TCE is located on Parcel 6.

Removal of landfill contents on Parcel 7J is more difficult. Initially, an inventory of items on Parcel 7J within 25 feet of the southern boundary of the Reed Property must be performed. The inventory will identify those items belonging to the parcel owner (Korpi) and those that are part of the landfill. It is assumed

that all items belonging to Korpi will be moved outside of the TCE or otherwise identified.

A small backhoe (Case 580 or equivalent), along with two laborers, will pull all landfill material onto the Reed Property. This will require careful attention, especially along the building and fence at the northeast side of Parcel 7J. Laborers using shovels will be used to remove material resting against the building.

All cost estimates include a person to watch for tires and asbestos products (transite pipe, etc.). This person is in addition to landfill monitoring personnel. If a tire is found in the excavated material, it will be removed and stockpiled in the temporary storage area. The tires will be disposed at a Maricopa County Landfill.

A flagman will control truck traffic at the point where the trucks enter onto a road.

Landfill excavation monitoring will occur during all excavation. The monitoring process is identified in Section 7.0.

6.2 PLAN NO. 1

Plan No. 1 uses Parcels 6 and 7N (Figures 1.2, 6.1) for truck ingress/egress.

This plan keeps waiting trucks off 67th Avenue to reduce traffic congestion. It also allows unrestricted truck traffic on or near the Reed Landfill parcels. No traffic is planned for Parcel 7C. A flagman will be required where the trucks enter Parcel 7N.

Work on Parcels 6 and 7N will require the grading of a temporary road. This should not present any unusual problems. A utility cable/line is located along the east side of Parcel 7N and may need protection during excavations.

6.3 PLAN NO. 2

Plan No. 2 would route truck traffic onto either the Reed Landfill property or 67th Avenue while waiting for loading. Figure 6.2 shows the vicinity map for this plan.

One disadvantage is a potential lack of room on the Reed Landfill after significant excavation occurrs. The landfill area, where the trucks wait for loading, will slowly disappear as excavation continues. Trucks might have to park alongside 67th Avenue while waiting for loading.

Another disadvantage is that the bulldozer must push material uphill to the loader. This should not increase the load cycle time beyond the 4 minutes allowed.

A flagman will be required at the entrance of the Reed Landfill.

6.4 PLAN NO. 3

This plan uses a TCE on Parcel 7C (Clifton) for truck ingress/egress. This plan allows for two starting points for excavation. Excavation can begin on the west end as previously described. Or, appropriate location(s) along the north landfill boundary can be selected.

This plan requires the removal of trees for the haul road construction and landfill removal. This could increase bid costs. If water levels in the Salt River rise, ponding water could hamper

truck flow and excavation, possibly delaying the work. This could be significant if the project is performed during the traditional rainy season.

A flagman will be required at Parcel 7C for traffic control.

This plan allows for off-road parking of trucks while waiting to load. This minimizing TCE's on other parcels.

6.5 PLAN COST COMPARISONS

Cost estimates for the excavation were based on maintaining a maximum loading cycle time of 4 minutes per truck.

Plan No. 2 requires the vehicles to travel on top of the landfill for loading. Traffic congestion could create additional safety concerns and increase loading times. If the cycling time is maintained the cost estimates should be valid.

Plan No. 1 requires TCE's on four parcels. Obtaining these TCE's may be difficult and cost more than the other two plans. No attempt was made to estimate TCE costs.

Plan No. 3 requires the removal of trees to prepare a haul road as discussed in Section 6.4. This could result in increased bid costs.

SECTION NO. 7.0
SITE SAFETY AND MONITORING PLAN

The goal of the site/safety and monitoring plan is to allow for the safe excavation of landfill materials, protection of workers at the excavation site and evaluation of suspicious materials for appropriate disposal.

7.1 ORGANIZATION

While this plan is designed to address all reasonably foreseeable events, it is possible for highly unusual events to occur. A qualified industrial hygienist should be available to advise for any unusual situations that might arise.

All on-site field representatives should be experienced in landfill removal operations or similar projects.

7.2 LINE OF AUTHORITY

The on-site project health and safety officer or his designee will have complete on-site authority for all safety and health procedures. This includes the stoppage of any work where situations of imminent danger occur.

7.3 MONITORING PROCEDURE

This section describes the monitoring procedures that will be used on this project. This plan assumes that some information of the excavated materials is known.

7.3.1 Initial Excavation Monitoring

A brief visual survey of the site should be made before beginning excavation of the landfill. The survey's purpose would be to detect any materials disposed at the site since the

characterization study. If no environmentally significant items are discovered, the landfill characterization study can be used as the initial excavation monitoring survey. A third party, unfamiliar with the landfill and this investigation, may be responsible for landfill monitoring. If so, the following procedure may have to be followed.

Prior to initial excavation, the site will be visually examined for any unusual signs of significant environmental impairment. These signs will include large oil/solvent stains, soil discoloration, localized areas of dead vegetation, unusual noxious odors, smoke, fir and drums. If the visual evaluation detects no potentially hazardous wastes, additional field screening will be performed.

Field Screening will involve the following tests:

- HNU PI101 photoionization detector - volatile organic compounds (VOCs)
- Explosive gas meter - methane
- Analytical "fingerprint tests" screening.

As the initial excavation site is surveyed, a field screening of the soils will be performed using a HNU PI101 photoionization detector (HNU). The screening will proceed in the following manner:

- A small (2 to 4 inch) hole will be dug into the soil using a hand trowel
- The HNU probe will be placed into the hole
- The reading will be observed and noted.

If the reading exceeds ambient air concentrations, a soil sample will be placed in a ziplock bag. After 1 to 2 minutes, the HNU probe will be pushed through the bag and the reading will again be noted. If a significant discrepancy is noted between the two readings, the "ziplock" bag readings will be considered the more accurate.

Concurrently with the HNU evaluation, an explosive gas meter will be used to evaluate the possibility of fires or explosions from methane pockets. These could occur from sparks generated by excavation equipment hitting concrete and metal objects in the fill.

Earth and fill samples will be taken and field screened using the "fingerprint tests" as described in Appendix B. These "fingerprint tests" quickly examine the soil for characteristics of hazardous wastes (40 CFR 231 et seq.).

If any of the above procedures suggest the presence of hazardous wastes, a soil and fill sample will be taken for chemical analysis. No excavation is to be performed in the sampled area or adjacent locations until the full extent of the potential contamination is known. Chain-of-custody procedures will be followed for all sampling. A chain-of-custody record form is presented in Appendix E.

If an area is identified to contain hazardous or toxic contamination, the FCD Project Manager shall be notified immediately. Arrangements will be made with an EPA-registered hazardous waste transport to move the materials to an EPA-permitted facility for treatment or disposal in accordance with applicable federal, state and local regulations.

7.3.2 Daily Monitoring

The landfill excavation work shall be continuously monitored by the Health and Safety Officer or his designee. Twice daily, or when excavation activities uncover suspected hazardous/toxic materials, the following procedure will be implemented.

- All excavation work will stop until field test data is available.

- A sample of the suspected hazardous/toxic material shall be taken immediately. The sample shall be placed in a 500g glass sample container that can be tightly closed. Personnel taking the sample may wear a Tyvek coverall suit, hard hat with face shield, disposal vinyl/rubber lined gloves and neoprene rubber outer gloves and boots. The time of sampling, date, and location shall be recorded on the field activity report (FAR) (Figure 7.1).

- The sample will be taken to a testing area away from the contamination source for the following tests and observations (fingerprint test procedures, Appendix B):

  -- Physical Description

  - odor
  - viscosity
  - layering
  - color
  - physical state
  - presence of free liquid

  -- pH Screen for Corrosivity

  -- Water Mix Noting:

  - solubility
  - specific gravity
  - emulsion
  - pH

  -- Ignitability

  -- Reactive Sulfide for Reactivity

  -- HNU VOC screen.

- Results of the above tests will be recorded on the FAR. The original FAR's will be placed in a 3-ring binder and kept at the project site. If hazardous materials are shown by the testing, excavation will be halted and an evaluation will be performed to determine the appropriate level of personal protection. Soil samples will be taken for analysis. The samples will be submitted following instructions from the FCD.

The twice daily fingerprinting will provide field data regarding the materials being disposed. The lowest cost disposal site, Calmat, has requested certification (Appendix G) that all materials are demolition debris and not hazardous wastes. Any assurances would depend on the landfill characterization survey already performed and connecting that day's excavated material, via its fingerprint data, to the survey.

If any of the above procedures suggest the presence of hazardous wastes, a soil and fill sample will be taken for chemical analysis. No excavation is to be performed in the sampled area or adjacent locations until the full extent of the potential contamination is known. Chain-of-custody procedures will be followed for all sampling. A chain-of-custody record form is presented in Appendix E.

If the presence of hazardous materials is confirmed, remedial action shall be proposed to the FCD Project Manager in writing. Any corrective action taken shall be recorded and submitted to the FCD Project Manager. After completion of the project, all documents shall be submitted to the Project Manager.

If an area is identified to contain hazardous or toxic contamination, the FCD Project Manager shall be notified immediately. Arrangements will be made with an EPA-registered

hazardous waste transporter to move the materials to an EPA-permitted facility for treatment or disposal under applicable federal, state and local regulations.

7.3.3 Health and Safety

It is important that the on-site safety program be designed to protect personnel from direct skin contact, inhalation, or ingestion of potentially hazardous of toxic materials that may be met at the site. The safety program will also familiarize the worker with appropriate first aid procedures in the event of a harmful exposure. To do this, the potentially hazardous properties of the materials and their toxic effects must be understood.

7.3.3.1 Personnel Protection - The personnel protection plan for this project will be designed to prevent monitoring personnel from exposure to potentially harmful chemicals that may be present on site.

To prevent direct skin contact, the following protective clothing will be available to be worn by monitoring personnel as necessary while working on site:

- Hard hat
- Goggles or safety glasses to guard against splash unless
- Face shield is used
- Tyvek coveralls,
- Disposable vinyl/rubber gloves,
- Boots with steel toes.

The type of gloves to be used will be specified in considered of the type of work being performed. Sampling personnel will wear disposable vinyl gloves when handling any sample. Because the sampling personnel will have minimal contact with the samples,

vinyl gloves, changed regularly, will provide adequate skin protection for the samplers.

If there is significant dust produced during the drilling or sampling operations, an appropriate level of respiratory protection will be required.

No eating, drinking, or smoking will be allowed in any work areas. A separate area should be designated on site for these activities.

7.3.3.2 Medical Monitoring - All monitoring personnel must participate in a medical monitoring program before clearance is given by the project industrial hygienist to perform on-site evaluation work. Additionally, medical clearance is required before respirator fit testing and usage.

7.3.3.3 Procedures - Personal protective equipment shall be donned before entering the suspected contaminated area. The sleeves of the coveralls, if used, shall be outside of the cuffs of the gloves to help remove clothing with the least contamination to personnel. If the protective clothing (coveralls, boots, or gloves) become torn, wet or contaminated, they will be removed in a decontaminated area immediately.

7.3.3.4 Decontamination Procedures - If hazardous/toxic wastes are met, the following procedures will be used for the safe removal and decontamination of protective equipment.

- Boots and gloves will be washed with Alconox and tap water, then rinsed before removal.
- Boots and coveralls will be removed before the gloves are removed.

- o Disposable clothing will be placed in plastic bags and disposed of properly.
- o Gloves will then be removed and hands washed.

7.3.3.5 First Aid - On-site personnel will be informed of the symptoms related to exposure to significant concentrations of the compounds that may be met. Workers will be warned of immediate symptoms such as: irritation of the eyes, nose, and skin; headache; dizziness, lightheadedness; nausea; and vomiting. In the event that any on-site personnel experience such symptoms, operations will be stopped and medical attention will be obtained for the victim as required.

First aid for chemical exposure is as follows:

- o Direct Contact
  - -- Skin - Remove contaminated clothing immediately. Flush affected area immediately with ample water, then wash with soap and water.
  - -- Eyes - Hold the eyelid open and flush with copius amounts of water.
- o Inhalation
  - -- Remove the victim to fresh air immediately and give artificial respiration as necessary.

7.3.3.6 Emergency Services - The following emergency numbers apply to the area where site work will be conducted:

- Paramedics: 911
- Fire: 911
- Police: 911 or 932-4350 Maricopa County Sheriffs Office
- Hospital: 848-5200 Maryvale Samaritan Memorial

In case of a major exposure of any kind, medical help should be obtained immediately.

SECTION 8.0
PROJECT SCHEDULE

The following project schedule is estimated for FCD review purposes.

PROJECT SCHEDULE

Item	Calendar Days
Notice to Proceed	1
Mobilization/Site Preparation completed, Initial site survey	15
Begin excavation	16
Complete excavation	87
Complete incidental clean-up	101
Complete post excavation survey	115

SECTION 9.0

SUMMARY AND CONCLUSIONS

The Reed Landfill Removal Study, Phase I has been performed under the FCDMC contract 88-48.

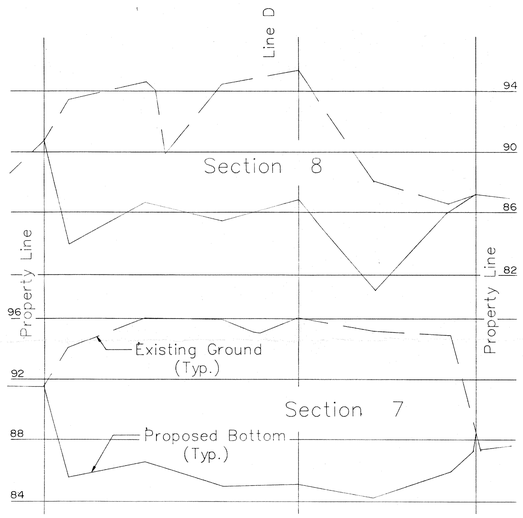
Grid and boundary surveys were conducted. Sampling locations were staked on the site. Exact property boundaries were also found.

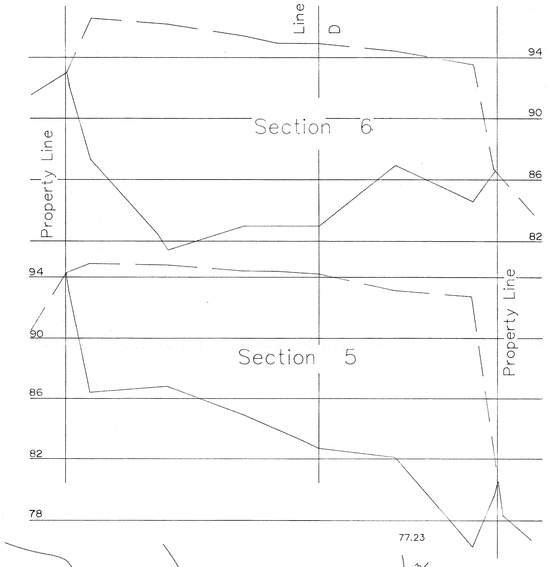
A landfill characterization study was conducted. No evidence of hazardous wastes was found based on the limited soil screening and composite sample analysis performed. Landfill depths at each sampling location were noted.

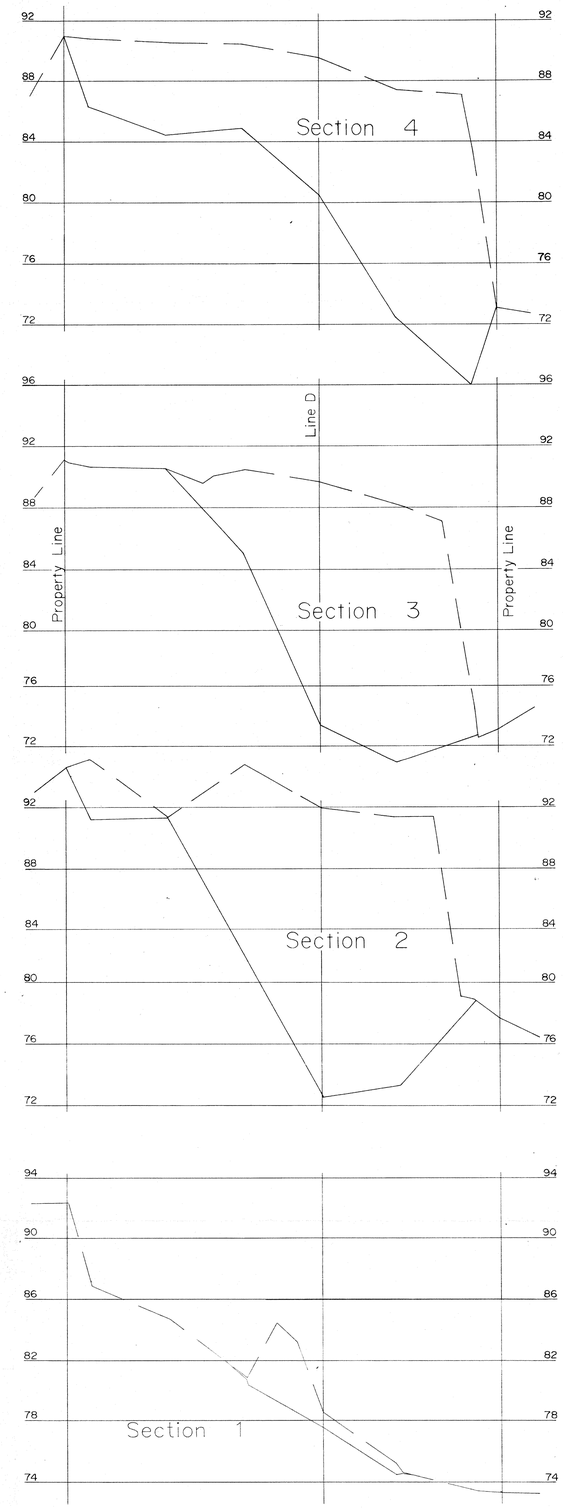
An estimated volume for Reed Landfill was calculated using the BHA AUTOCAD system. Reed Landfill contains approximately 70,600 cubic yards of demolition materials in place. Using a 20% excavation expansion factor results in an estimated disposal volume of 84,720 cubic yards.

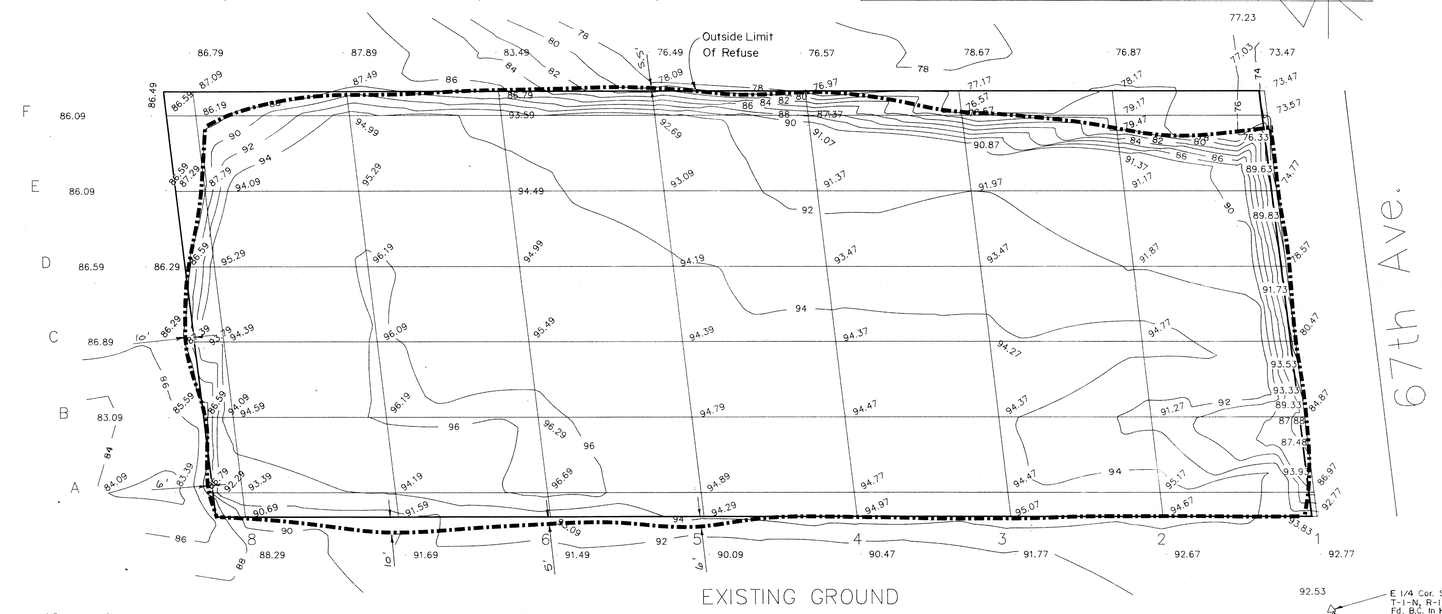
Various disposal site/haul route options were evaluated. Engineer's estimates were prepared for each option. The lowest cost option would use the Calmat-Litchfield disposal site, formerly the Allied Landfill. The estimated total cost for this option is $944,500.00.

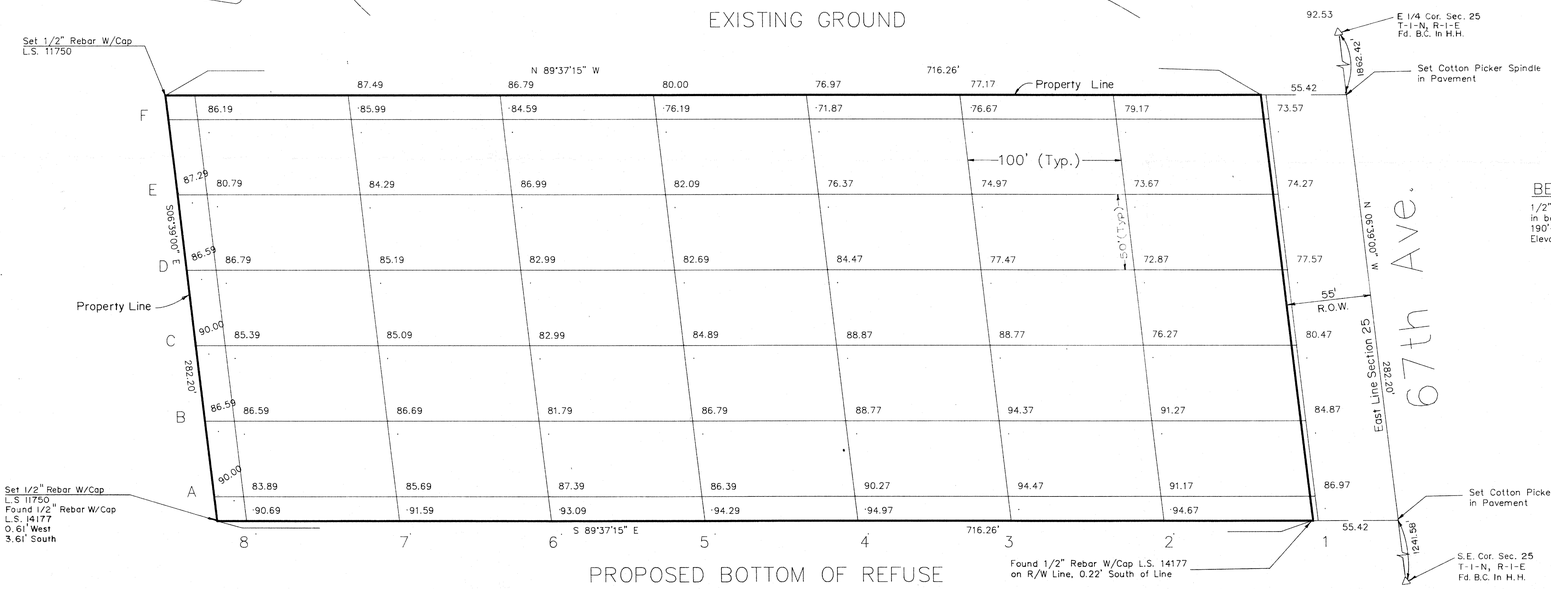
Landfill removal and monitoring plans have been prepared for the FCD. These plans, or equal, should result in the satisfactory removal and disposal of the contents of the Reed Landfill.











NORTH

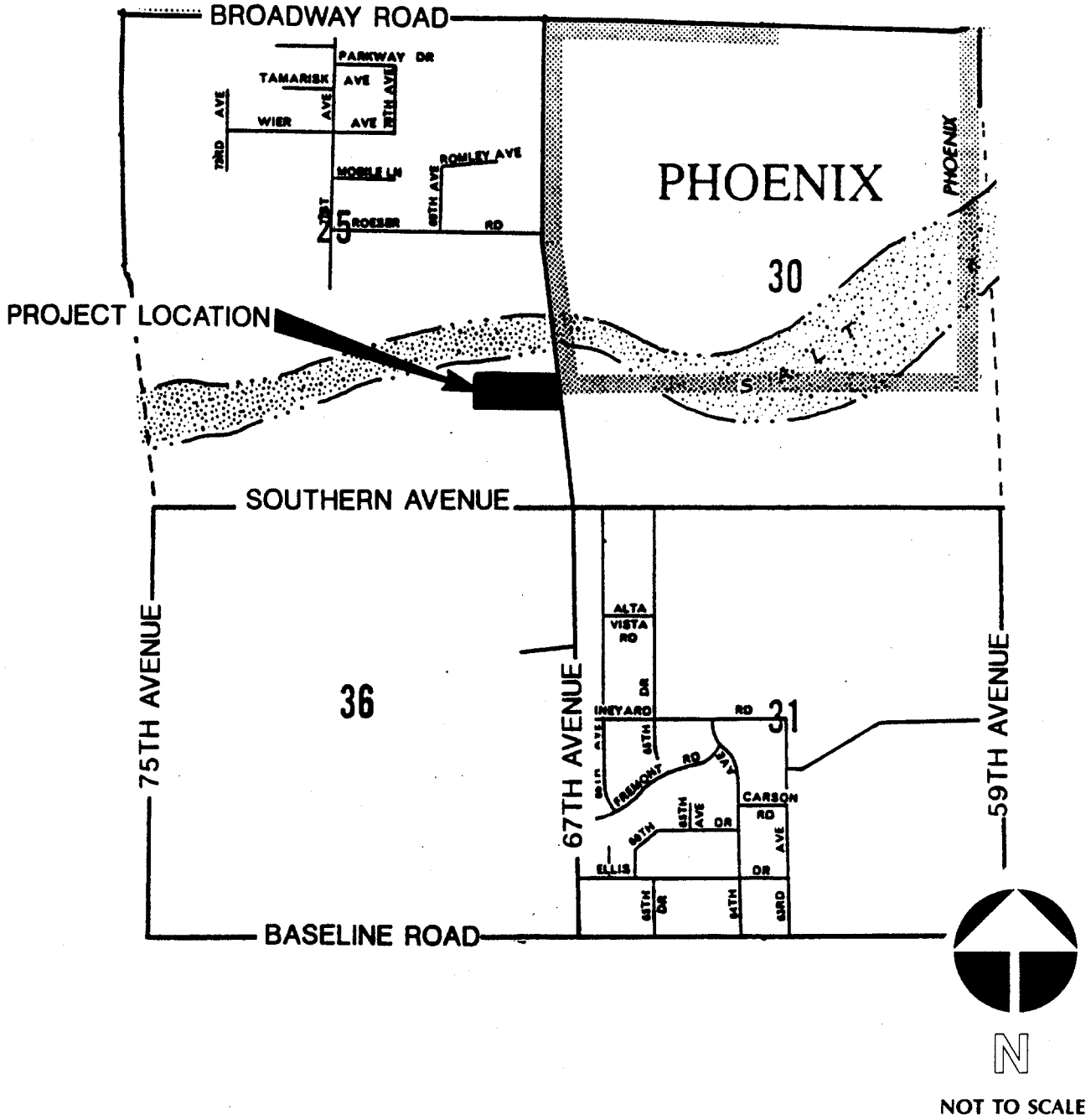
Note
Sections were plotted looking West

BENCH MARK

1/2" Rebar 2'+/- West of twin power pole
in bottom of Salt River, East side of 67th Ave
190'+/- North of 7/16 Cor. Sec. 25
Elevation 980.10

Design:	5246 S. 40th St. Phoenix, AZ 85040 (602) 437-3733	BROOKS, HERSEY & ASSOCIATES, INC. ENGINEERS/SURVEYORS
Drawn: B.H.A.		REED LANDFILL
Check: S.S.H.		
Scale: Horiz.: 1" = 40' Vert.: 1" = 4'	Date: April, 1989	Job No. 247-06-NX — Sheet 1 of 1

Reed Landfill Removal Study
Flood Control District of Maricopa County
Vicinity Map
Figure 1.1



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PREPARED	MAXWELL

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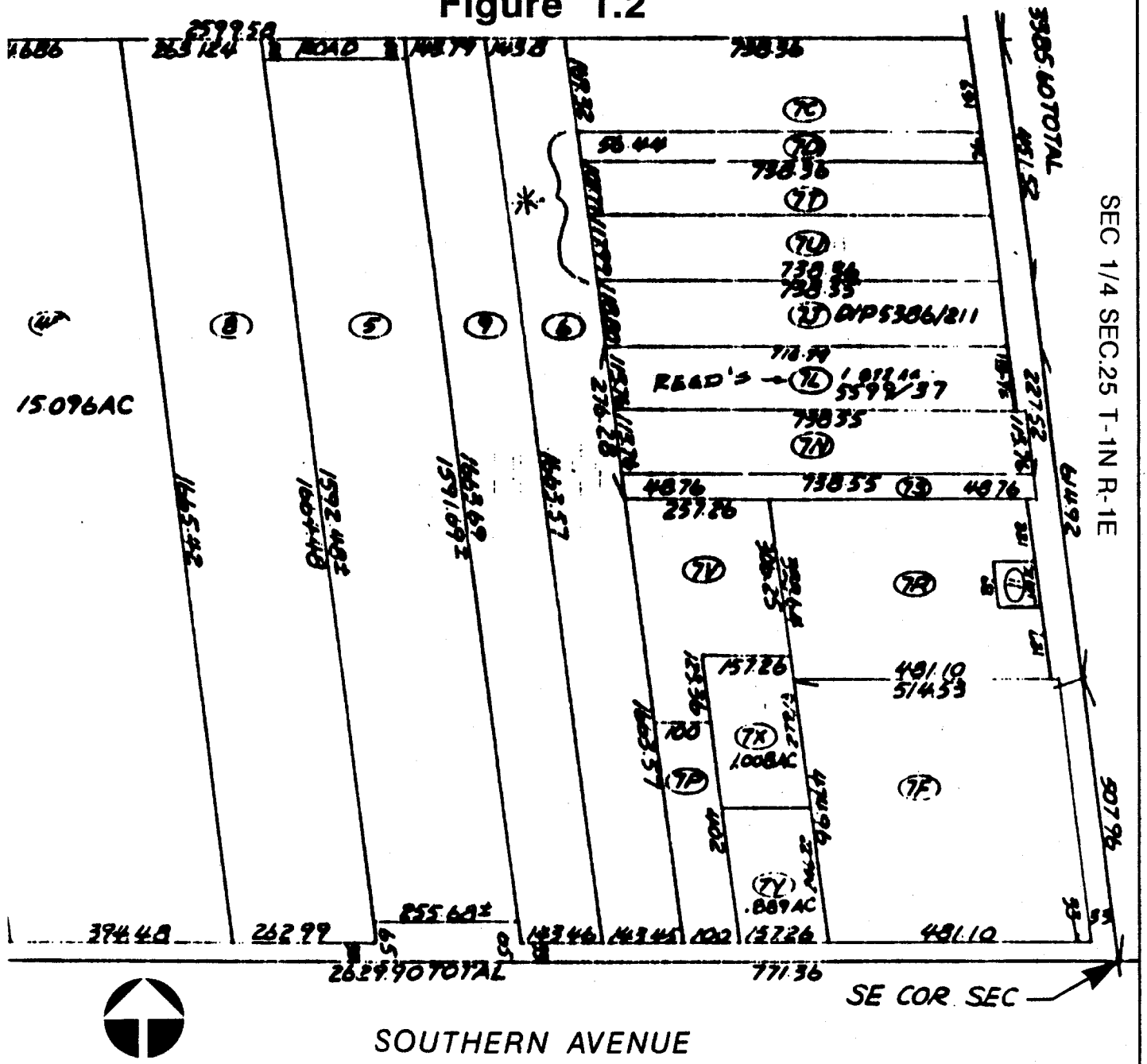
Reed Landfill Removal Study

Flood Control District of Maricopa County

County Parcel Map

Figure 1.2



BOOK 104
MAP 71

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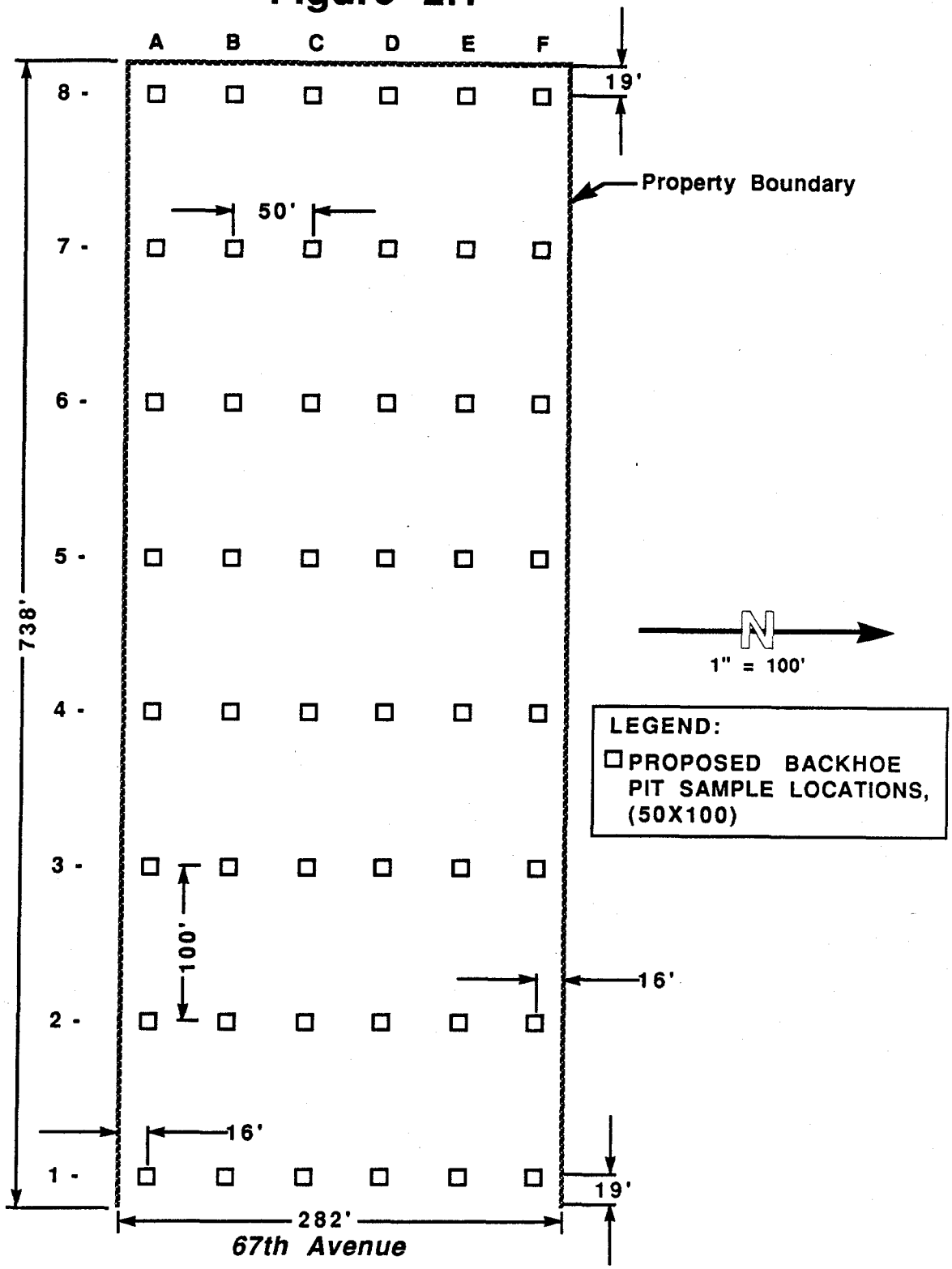
Flood Control District of Maricopa County

Proposed Sampling Grid

Figure 2.1



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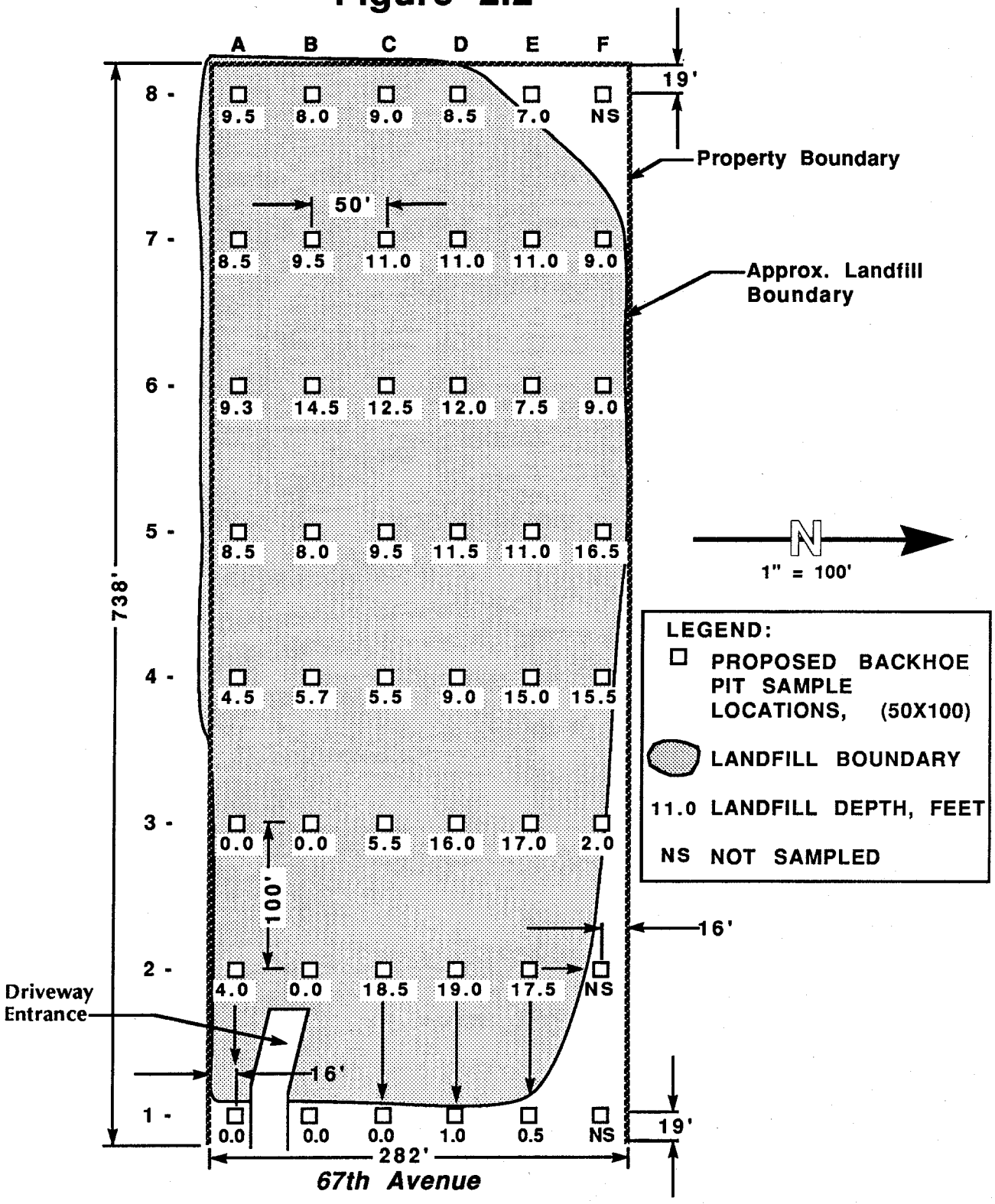
Flood Control District of Maricopa County

Actual Sampling Grid Locations

Figure 2.2



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Reed Landfill Removal Study

Flood Control District of Maricopa County
Figure 2.3

Field Activity Report

Environmental Specialist _____ Arrival Time _____ Departure Time _____ Date _____

COMMENTS

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

FINGERPRINT TEST					
	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5
Time					
HNU Screen					
Combustible Gas Meter					
Igniteability					
Physical Description					
Odor					
Color					
Viscosity					
Physical State					
Free Liquids					
Water Reactivity					
Reactive					
Soluble					
Heavier / Lighter					
Emulsifies					
Precipitates					
pH					
Reactive Sulfides					
Sample Taken ?					

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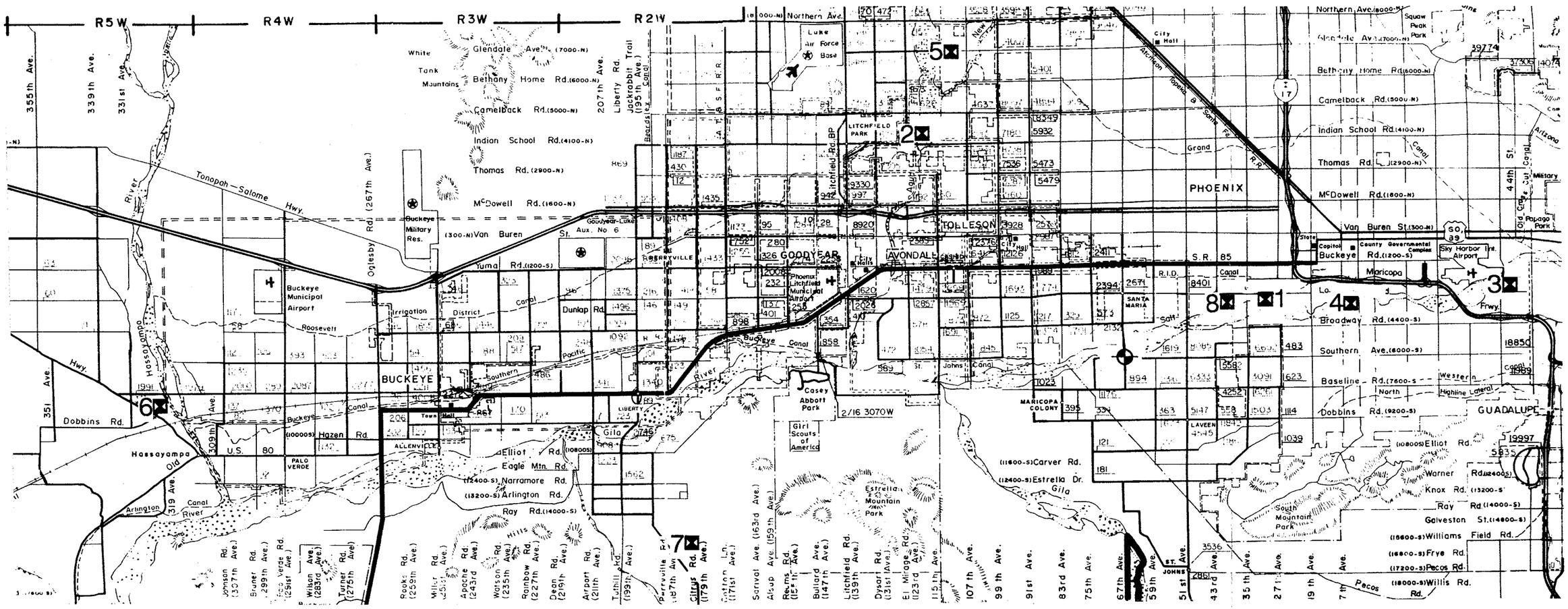
Reed Landfill Removal Study

Flood Control District of Maricopa County
Site & Disposal Locations Diagram
Figure 3.1



LANDFILLS

1. COP-27TH AVE.
2. CALMAT-LITCHFIELD (ALLIED)
3. 40TH STREET (BRADLEY)
4. CENTRAL AVENUE
5. CITY OF GLENDALE
6. HASSAYAMPA
7. RAINBOW VALLEY
8. WEINBERGER TOPSOIL

DISPOSAL SITES

PROJECT SITE

NOT TO SCALE

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Reed Landfill Removal Study
Total Project Costs
Figure 4.1

Disposal Site	Excavation Costs	Trans. Costs	Disposal Costs	Monitoring Costs	Overhead*	Total Cost
Calmat-Litchfield	195,300	384,300	155,700	32,900	176,300	$944,500
40th Street	195,300	432,300	706,600	32,900	316,900	$1,684,000
Glendale	195,300	408,300	1,582,300	32,900	516,900	$2,735,700
Hassayampa/ Rainbow Valley	195,300	771,000	1,186,800	32,900	509,200	$2,695,200
Weinberger	195,300	240,300	695,300	32,900	266,000	$1,429,800

*Overhead includes labor burden, profit, taxes, insurance, etc.

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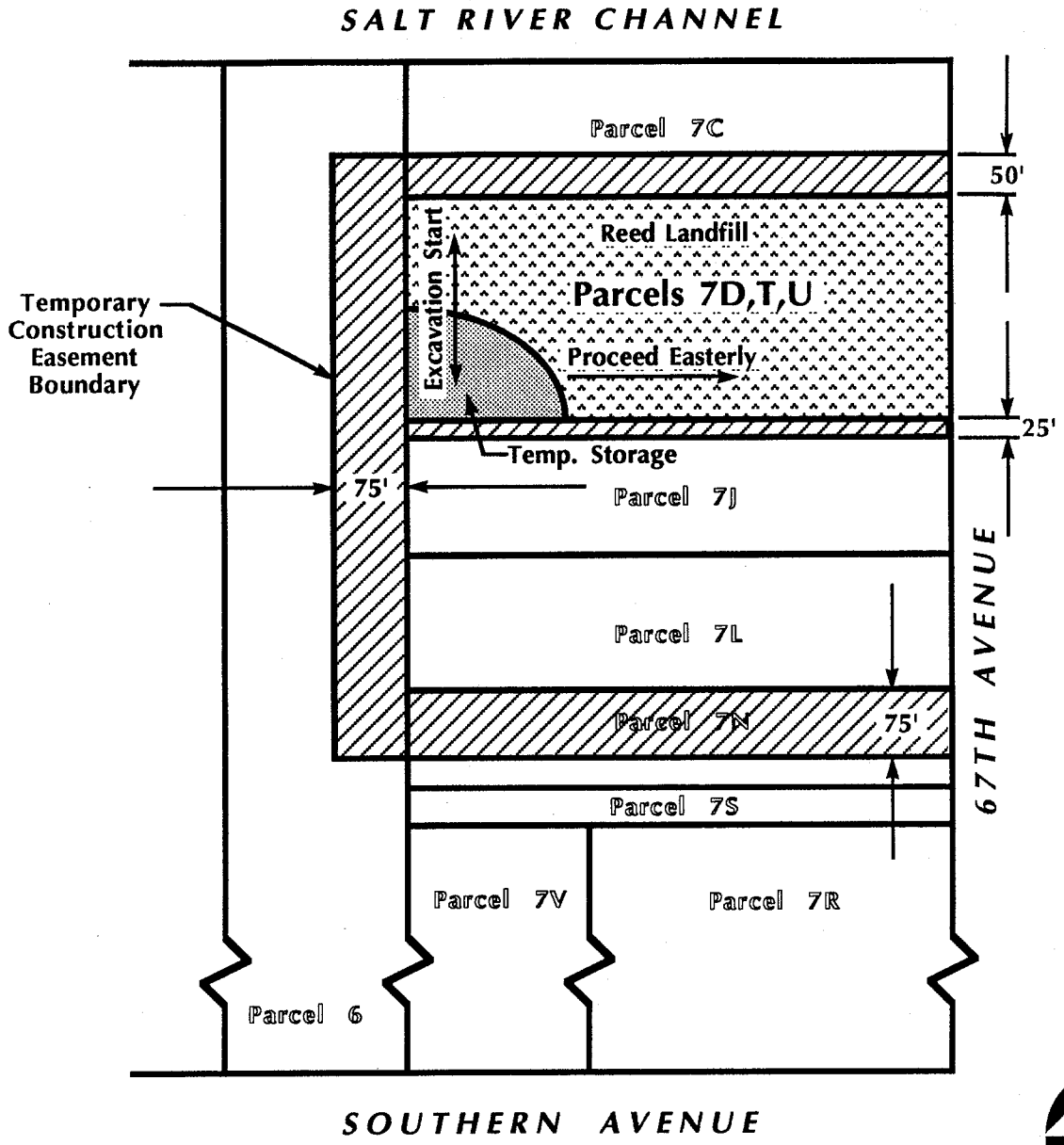
Reed Landfill Removal Study
Flood Control District of Maricopa County
Vicinity Map
Figure 6.1
Plan No.1



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NOT TO SCALE

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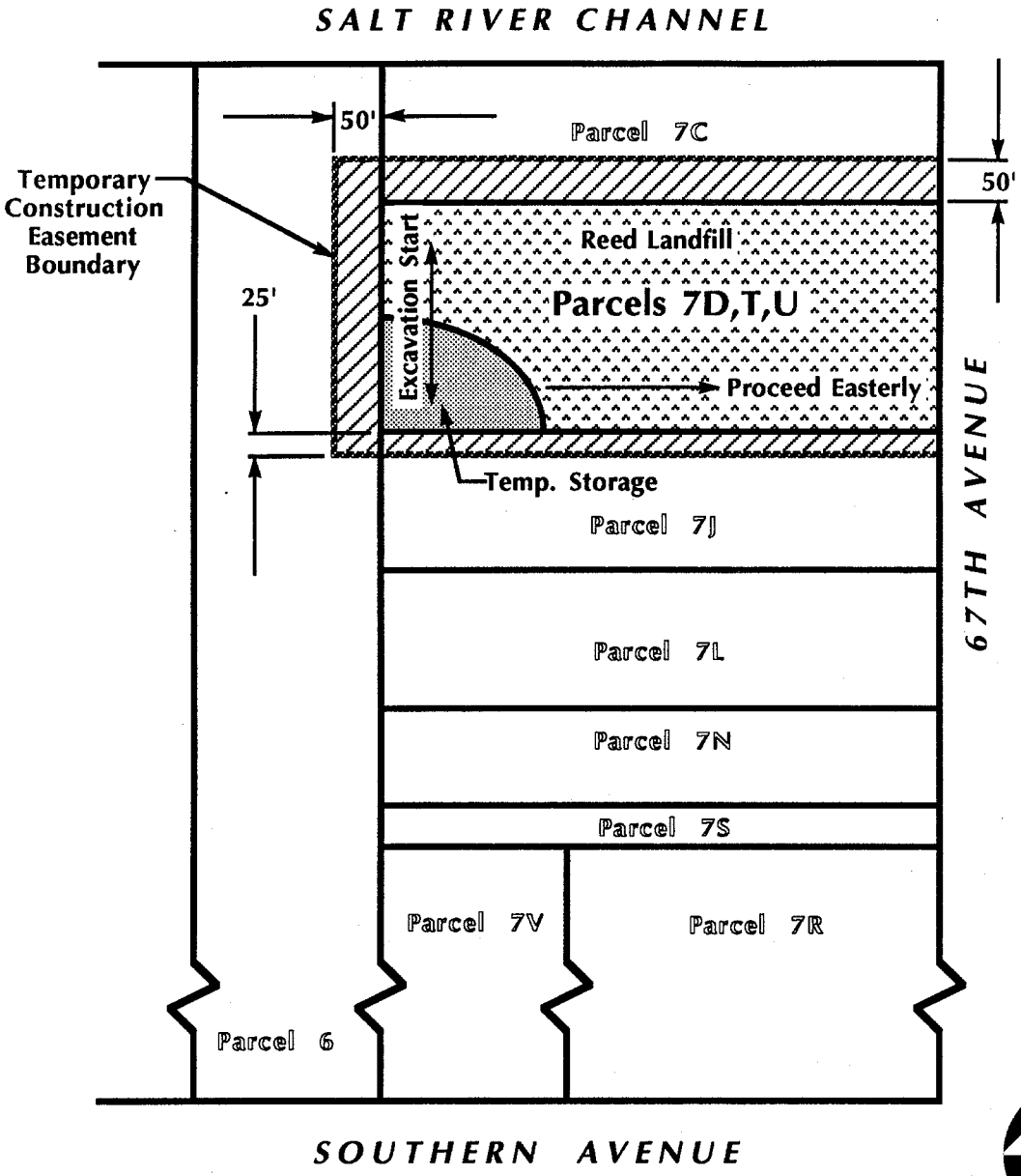
Reed Landfill Removal Study
Flood Control District of Maricopa County
Vicinity Map
Figure 6.2
Plan No. 2



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NOT TO SCALE

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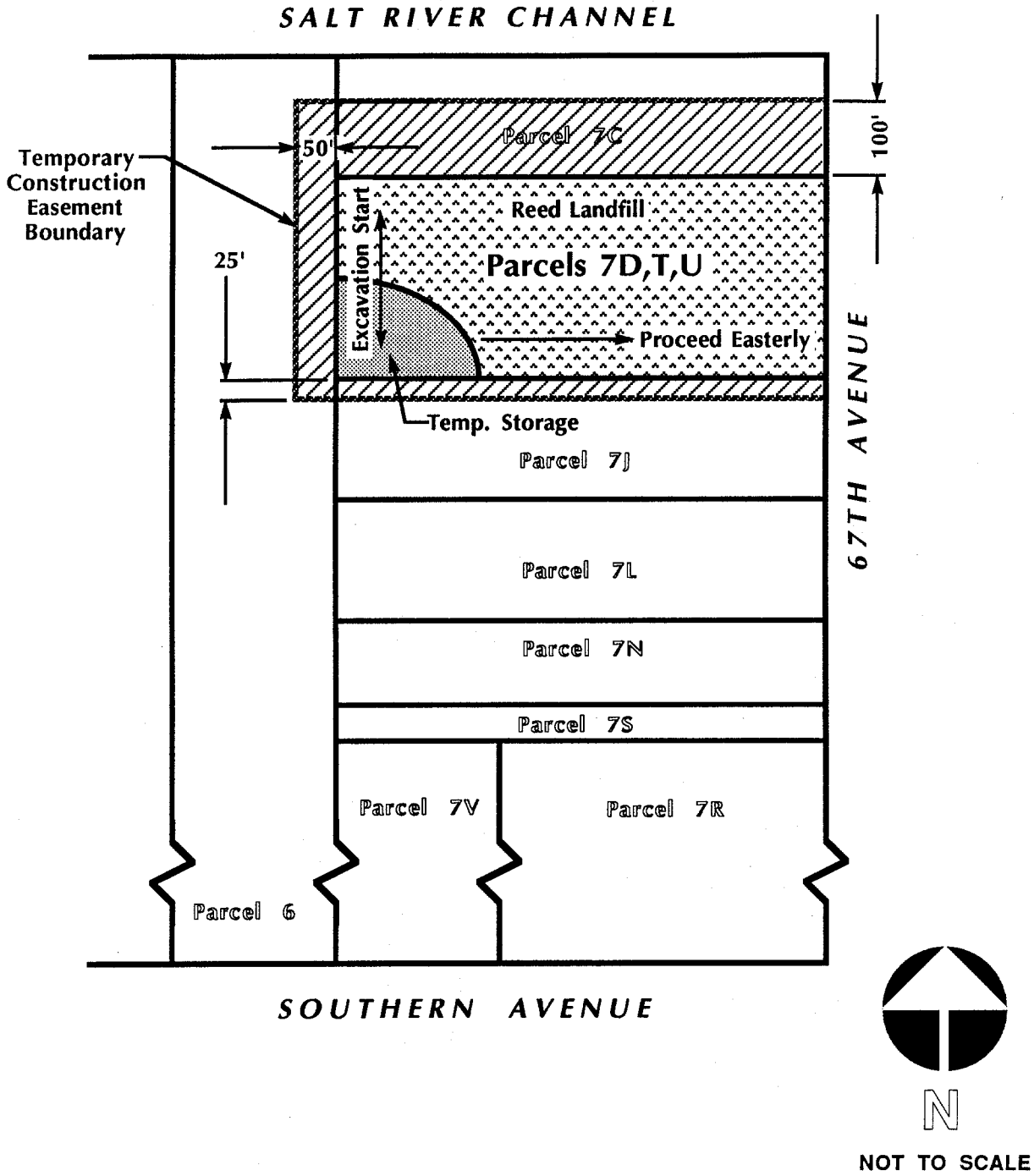
Reed Landfill Removal Study
Flood Control District of Maricopa County
Vicinity Map
Figure 6.3
Plan No. 3



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Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 1
Reed Landfill East From F-7.
(location marker mismarked)

Photograph No. 2
Reed Landfill Southeast From F-7.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 3
Reed Landfill South From F-7.

Photograph No. 4
Trackhoe Excavating at F-7.

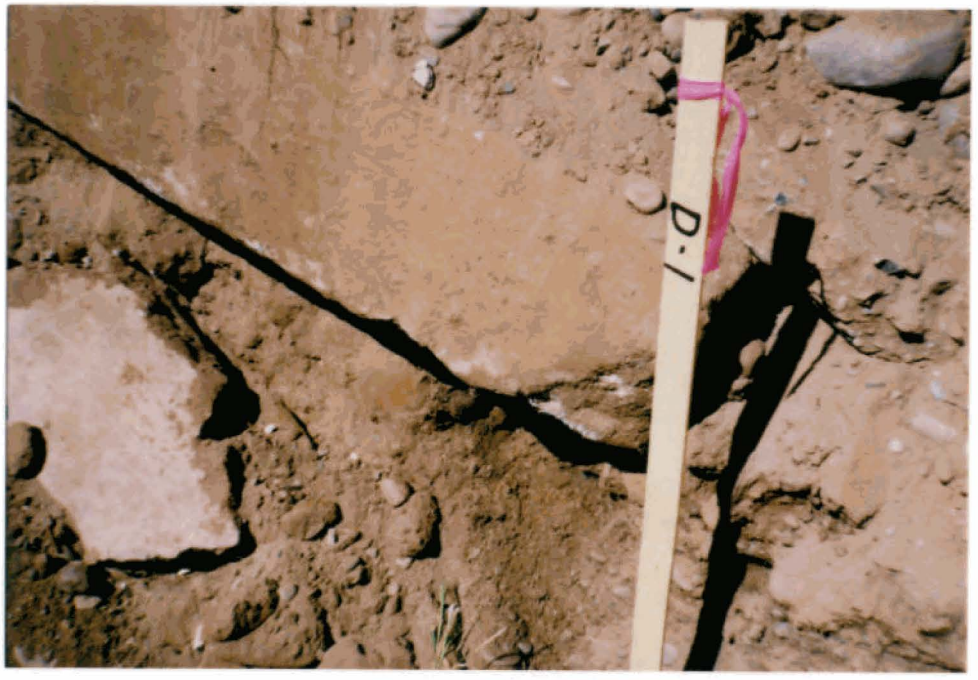
Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 5
Grid Location A-1.

Photograph No. 6
Grid Location B-1.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 7
Grid Location C-1.



Photograph No. 8
Grid Location D-1.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 9
Grid Location E-1.

Photograph No. 10
Grid Location A-2.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 11
Grid Location B-2.

Photograph No. 12
Grid Location C-2.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 13
Grid Location D-2.

Photograph No. 14
Grid Location E-2.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 15
Grid Location A-3.

Photograph No. 16
Grid Location B-3.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 19
Grid Location E-3.

Photograph No. 20
Grid Location F-3.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 21
Grid Location A-4.

Photograph No. 22
Grid Location B-4.

Flood Control District of Maricopa County
Job No. 2179J110

NO PICTURE AVAILABLE

Photograph No. 23
Grid Location C-4.

Photograph No. 24
Grid Location D-4.

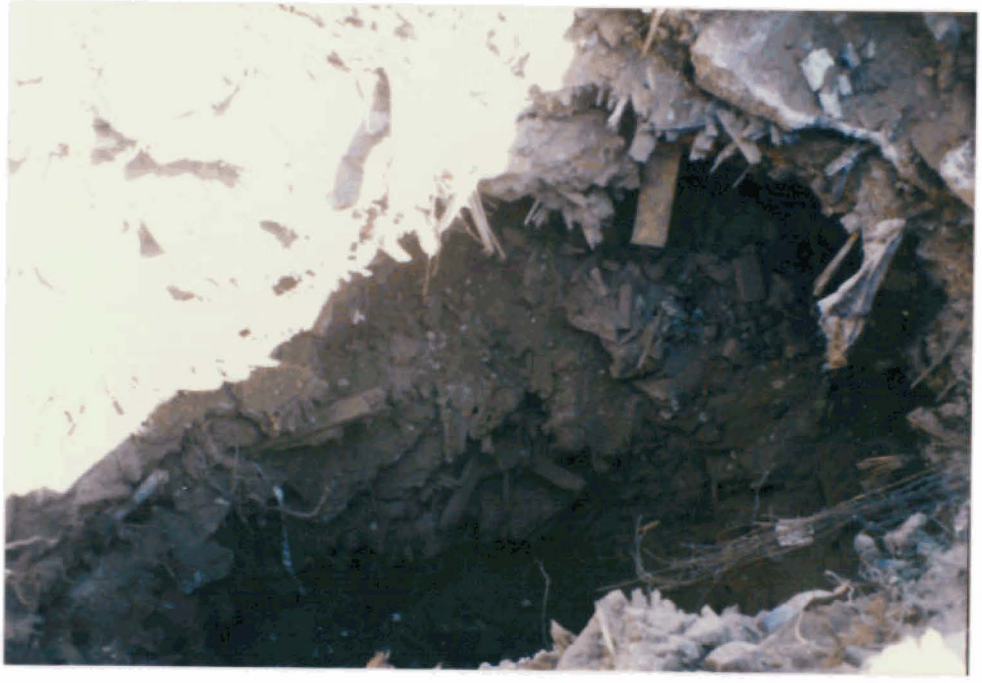
Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 25
Grid Location E-4.

Photograph No. 26
Grid Location F-4.

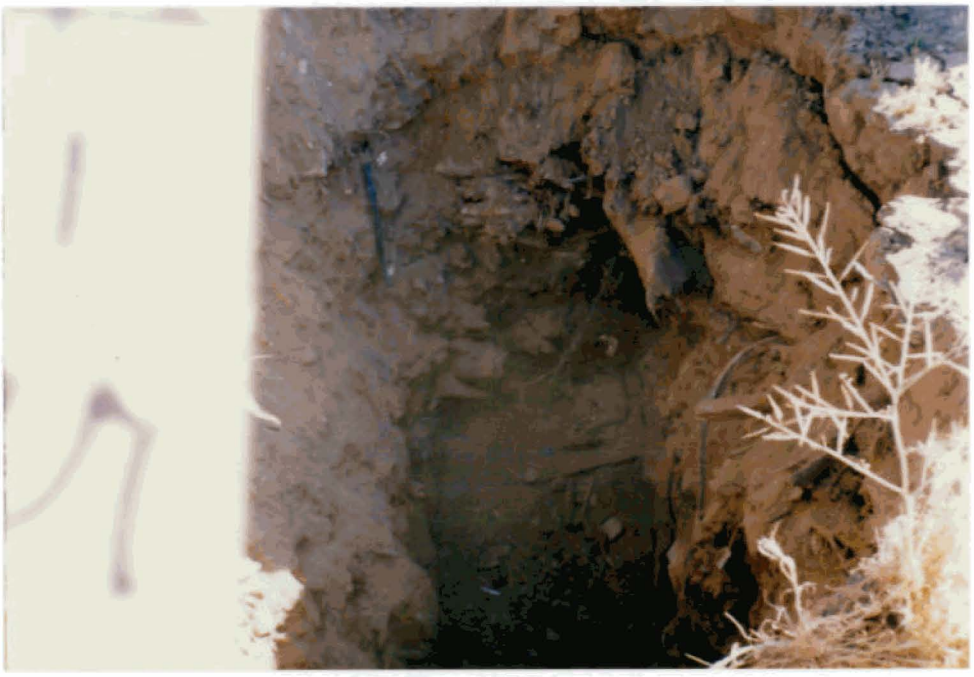
Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 17
Grid Location C-3.



Photograph No. 18
Grid Location D-3.

Flood Control District of Maricopa County
Job No. 2179J110

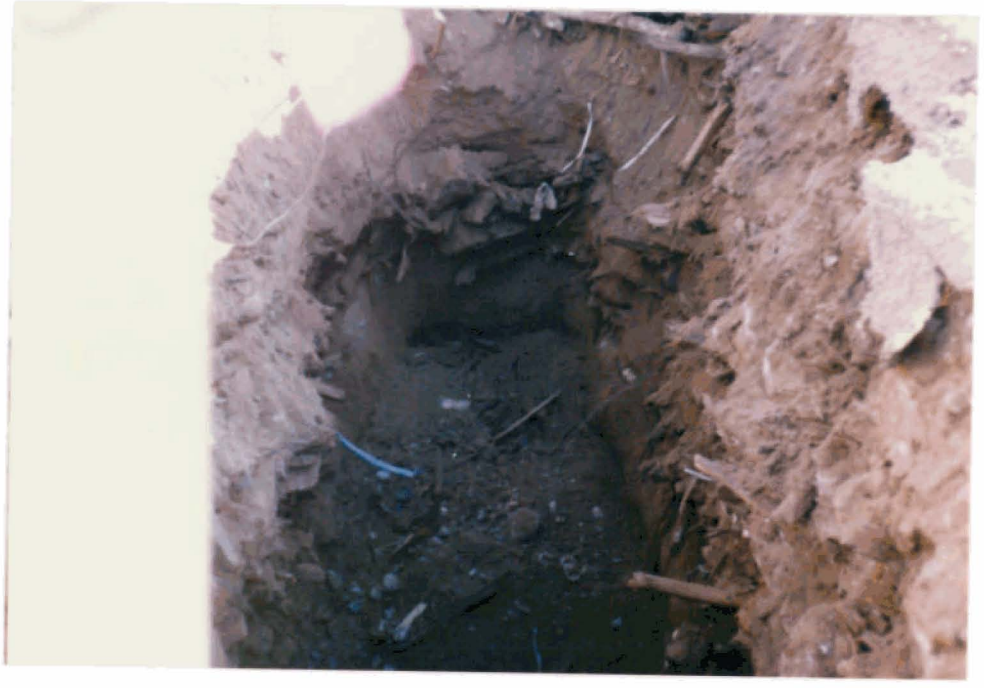


Photograph No. 27
Grid Location A-5.

Photograph No. 28
Grid Location B-5.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 29
Grid Location C-5.



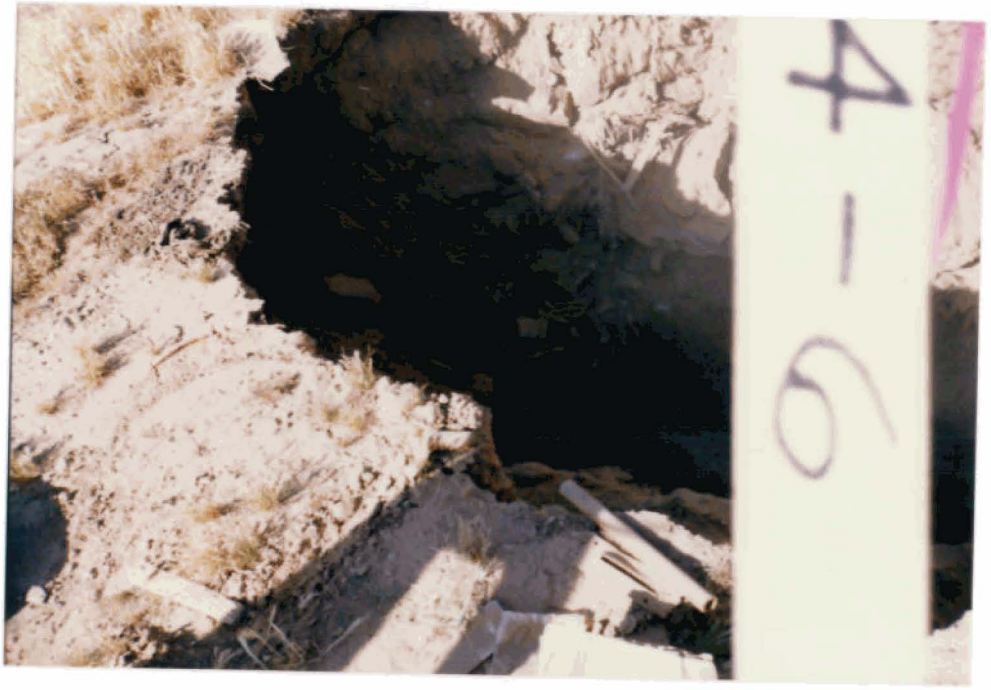
Photograph No. 30
Grid Location D-5.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 31
Grid Location E-5.

Photograph No. 32
Grid Location F-5.

Flood Control District of Maricopa County
Job No. 2179J110



Photograph No. 33
Grid Location A-6.

Photograph No. 34
Grid Location B-6.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 35
Grid Location C-6.

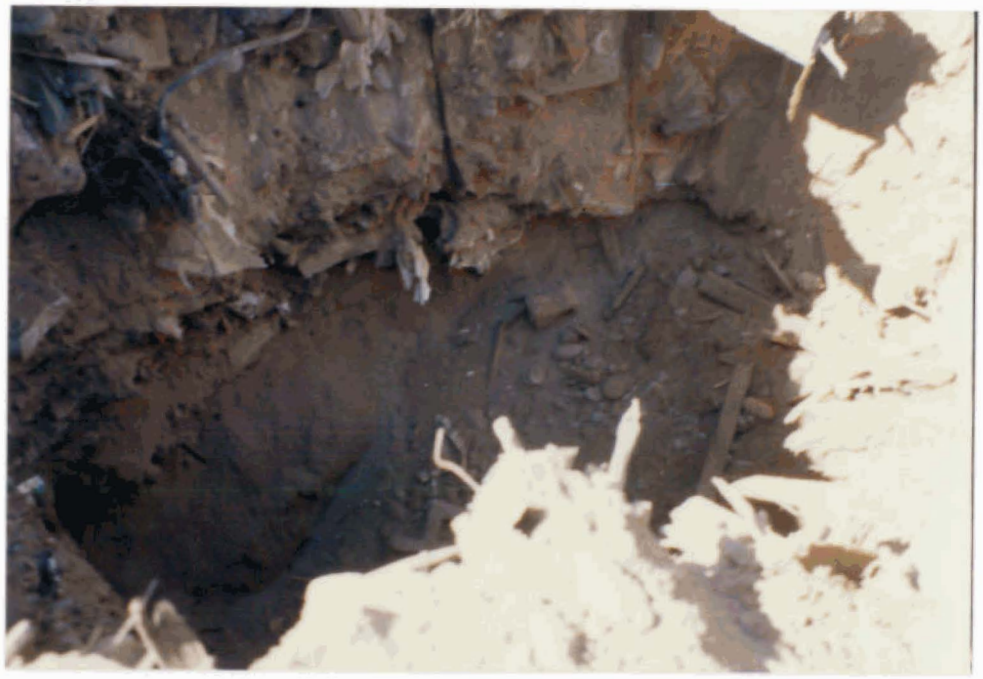
Photograph No. 36
Grid Location D-6.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 37
Grid Location E-6.

Photograph No. 38
Grid Location F-6.

Flood Control District of Maricopa County
Job No. 2179J110



Photograph No. 39
Grid Location A-7.

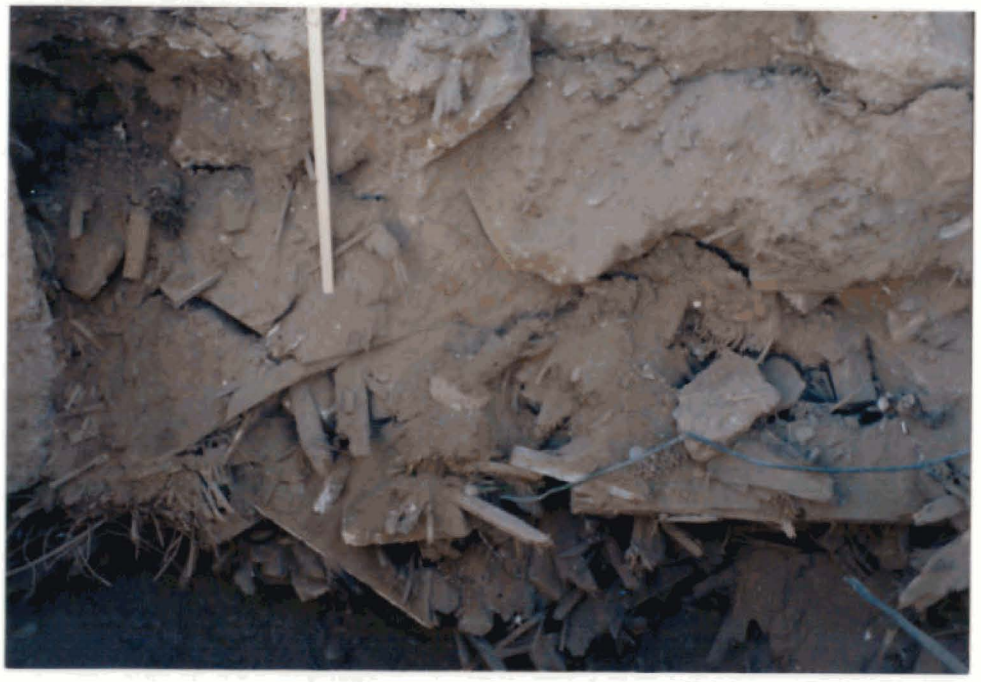
Photograph No. 40
Grid Location B-7.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 41
Grid Location C-7.

Photograph No. 42
Grid Location D-7.

Flood Control District of Maricopa County
Job No. 2179J110



Photograph No. 43
Grid Location E-7.

Photograph No. 44
Grid Location F-7.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 45
Grid Location A-8.

Photograph No. 46
Grid Location B-8.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 47
Grid Location C-8.

Photograph No. 48
Grid Location D-8.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 49
Grid Location E-8.

Photograph No. 50
Rainbow Valley Pit Viewing North.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 51
Rainbow Valley Pit Viewing South.

Photograph No. 52
Hassayampa Landfill, Main Trench.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 53
Hassayampa Landfill Asbestos Disposal Area.

Photograph No. 54
40th Street Landfill.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 55
40th Street Landfill.

Photograph No. 56
Weinberger Landfill.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 57
Weinberger Landfill.

Photograph No. 58
Calmat - Litchfield (Allied) Landfill.

Flood Control District of Maricopa County
Job No. 2179J110

Photograph No. 59
Calmat - Litchfield (Allied) Landfill.

Photograph No. 60
City of Glendale Landfill.

FINGERPRINT TESTS

These are analytical procedures designed to identify or screen specific waste characteristics. They have been developed based upon operating experience as rapid but effective means for establishing key decision parameters pertinent to proper waste management.

A small sample is examined using an HNU photoionization detector, explosion gas meter or similar. Positive levels will be noted.

Physical Description: Samples are inspected and the physical appearance of the waste is recorded, including:

- Odor
- Color
- Viscosity
- Physical state (solid, semi-solid or liquid)
- Layering - if multiple phases are present, color and viscosity are reported for each phase
- Presence of free liquid

pH Screen: Full-range pH paper or a pH meter is used directly on liquid samples and on the free liquid portion of liquid/solid samples. For solid samples, a 10:1 water-to-solid mixture is made and tested.

Water Mix: Approximately 2 grams of waste is mixed with water. If the waste is a solid or oily, it is added to about 10 ml of water under cover of a hood. For liquid wastes, water is added to the waste. If the waste is water-reactive, generation of gases, heat, or turbulence is recorded. If the reaction is questionable, the amount of the sample is scaled up 10 times for the same amount of water and re-tested, noting the following properties:

- Gross solubility in water
- Waste is heavier (or lighter) than water
- Waste forms an emulsion
- pH

<u>Ignitable Screen</u>: A small amount of a liquid waste sample, or about 2 to 5 grams of a solid sample, is placed into an aluminum weighing boat. A flame is very briefly applied to the sample. For solids, whether the sample ignites with more vigorous heating or does not burn is reported. Any appropriate observations such as melting are also reported For liquid samples, the flash point is recorded as less than 70°F (or room temperature) if the sample ignites immediately. If the liquid sample ignites with more sustained heating, the flash point is recorded as greater than 70°F. If the sample does not ignite after sustained heating or boiling is observed, the flash point is recorded as greater than 140°F. Halogenated solvents typically give off vapors that burn with a yellow, smokey flame in the presence of an external flame. Wastes with this type of non-sustaining flame are reported as having a flash point greater than 140°F.

<u>Reactive Sulfides Screen</u>: To a beaker containing approximately 20 ml of sample, enough concentrated acid is slowly added to bring the pH down to 1.0 or less. Immediately after adding the acid, a wet strip of lead acetate paper is held over the beaker while agitating the contents. If the paper turns brown or silvery black, the presence of sulfides in the sample is indicated. If there is no color change, then reactive sulfides are reported as non-detectable.

FIGURE 4

Field Activity Report

Environmental Specialist Campbell Arrival Time _____ Departure Time _____ Date 3-17-89

COMMENTS

Row 1 Holes E through A Sheet 1 of 2

	EIR	EIS	DIR	DIS	CIES
FINGERPRINT TEST					
	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5
Time	12:40	12:40	12:50	12:50	12:55
HNU Screen	Ø	Ø	Ø	Ø	Ø
~~Combustible Gas Meter~~ Igniteability	No	No	No	No	No
Physical Description					
Odor	None	None	None	None	None
Color	Brown	Brown	Brown	Brown	Brown
Viscosity	Solid	Solid	Solid	Solid	Solid
Physical State	Solid	Solid	"	"	"
Free Liquids	None	None	None	None	None
Water Reactivity					
Reactive	No	No	No	No	No
Soluble	No	No	No	No	No
Heavier / Lighter	Heavier	Heavier	Heavier	Heavier	Heavier
Emulsifies	No	No	No	No	No
Precipitates	None	None	None	None	None
pH	7	7	7	7	7.
Reactive Sulfides	Neg	Neg	Neg	Neg	Neg
Sample Taken ?	yes	yes	yes	yes	yes

FIGURE 4

Field Activity Report

Environmental Specialist Campbell Arrival Time _____ Departure Time _____ Date 3-17-89

COMMENTS

Row 1 Sheet 2 of 2

	B1S	A1S			
FINGERPRINT TEST					
	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5
Time	1:10	1:10			
HNU Screen	Ø	Ø			
~~Combustible Gas Meter~~					
Igniteability	No	No			
Physical Description					
Odor	None	None			
Color	Brown	Brown			
Viscosity	Solid	Solid			
Physical State	Solid	Solid			
Free Liquids	None	None			
Water Reactivity					
Reactive	No	No			
Soluble	No	NO			
Heavier / Lighter	Heavier	Heavier			
Emulsifies	No	No			
Precipitates	None	None			
pH	7	7			
Reactive Sulfides	Neg	Neg			
Sample Taken ?	yes	yes			

FIGURE 4

Field Activity Report

Environmental Specialist Campbell Arrival Time _____ Departure Time _____ Date 3-17-89

COMMENTS
Row 2 Sheet 1 of 2

	A2 R	A2S	B2S	C2R	C2S

FINGERPRINT TEST

	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5
Time	1:25	1:25	1:20	2:30	2:30
HNU Screen	Ø	Ø	Ø	2.0 PPM	1.5 PPM
~~Combustible Gas Meter~~					
Igniteability	No	No	No	No	No
Physical Description					
Odor	None	None	None	None	None
Color	Brown	Brown	Brown	Brown	Brown
Viscosity	Solid	Solid	Solid	Solid	Solid
Physical State	Solid	Solid	"	"	"
Free Liquids	None	None	None	None	None
Water Reactivity					
Reactive	No	No	No	No	No
Soluble	No	No	No	No	No
Heavier / Lighter	Heavier	Heavier	Heavier	Heavier	Heavier
Emulsifies	No	No	No	No	No
Precipitates	None	None	None	None	None
pH	7	7	7	7	7
Reactive Sulfides	Neg	Neg	Neg	Neg	Neg
Sample Taken ?	yes	yes	yes	yes	yes

FIGURE 4

Field Activity Report

Environmental Specialist Campbell Arrival Time _____ Departure Time _____ Date 3-17-89

COMMENTS

Row 2 Sheet 2 of 2

	D2R	D2S	E2R	E2S	
FINGERPRINT TEST					
	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5
Time	3:00	3:00	3:35	3:35	
HNU Screen	1.5 PPM	1.5 PPM	Ø	Ø	
~~Combustible Gas Meter~~					
Igniteability	No	No	No	No	
Physical Description					
Odor	None	None	None	None	
Color	Brown	Black	Black	Brown	
Viscosity	Solid	Solid	Solid	Solid	
Physical State	Solid	Solid	"	"	
Free Liquids	None	None	None	None	
Water Reactivity					
Reactive	No	No	No	No	
Soluble	No	No	No	No	
Heavier / Lighter	Heavier	Heavier	Heavier	Heavier	
Emulsifies	No	No	No	No	
Precipitates	None	None	None	None	
pH	7	7	7	7	
Reactive Sulfides	Neg	Neg	Neg	Neg	
Sample Taken ?	Yes	Yes	Yes	Yes	

FIGURE 4

Field Activity Report

Environmental Specialist Campbell Arrival Time _____ Departure Time _____ Date 3-17-89

COMMENTS
Row 3 Sheet 1 of 2

	A3S	B3S	C3R	C3S	F3S
FINGERPRINT TEST					
	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5
Time	1:35	1:45	1:50	1:50	2:20
HNU Screen	Ø	Ø	Ø	Ø	Ø
~~Combustible Gas Meter~~					
Igniteability	No	No	No	No	No
Physical Description					
Odor	None	None	None	None	None
Color	Brown	Brown	Brown	Brown	Brown
Viscosity	Solid	Solid	Solid	Solid	Solid
Physical State	Solid	Solid	Solid	Solid	Solid
Free Liquids	None	None	None	None	None
Water Reactivity					
Reactive	No	No	No	No	No
Soluble	No	No	No	No	No
Heavier / Lighter	Heavier	Heavier	Heavier	Heavier	Heavier
Emulsifies	No	No	No	No	No
Precipitates	None	None	None	None	None
pH	7	7	7	7	7
Reactive Sulfides	Neg	Neg	Neg	Neg	Neg
Sample Taken ?	yes	yes	yes	yes	yes

FIGURE 4

Field Activity Report

Environmental Specialist Campbell Arrival Time _____ Departure Time _____ Date 3-12-85

COMMENTS
Row 3 Sheet 2 of 2

	D3R	D3S	E3R	E3S	
FINGERPRINT TEST					
	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5
Time	2:45	2:45	3:05	3:05	
HNU Screen	Ø	Ø	Ø	Ø	
~~Combustible Gas Meter~~ Igniteability	No	No	No	No	
Physical Description					
Odor	None	None	None	None	
Color	Brown	Brown	Brown	Brown	
Viscosity	Solid	Solid	Solid	Solid	
Physical State	Solid	Solid	Solid	Solid	
Free Liquids	None	None	None	None	
Water Reactivity					
Reactive	No	No	No	No	
Soluble	No	No	No	No	
Heavier / Lighter	Heavier	Heavier	Heavier	Heavier	
Emulsifies	No	No	No	No	
Precipitates	None	None	None	None	
pH	7	7	7	7	
Reactive Sulfides	Neg	Neg	Neg	Neg	
Sample Taken ?	yes	yes	yes	yes	

FIGURE 4

Field Activity Report

Environmental Specialist Campbell Arrival Time _____ Departure Time _____ Date 3-17-89

COMMENTS
Row 4 F-B Sheet 1 of 2

	F4R	F4S	D4R	D4S	E4R
FINGERPRINT TEST					
	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5
Time	1:15	1:15	1:30	1:30	1:45
HNU Screen	Ø	Ø	Ø	Ø	Ø
~~Combustible Gas Meter~~					
Igniteability	No	No	No	NO	NO
Physical Description					
Odor	None	None	None	None	None
Color	Brown	Brown	Brown	Brown	Brown
Viscosity	Solid	Solid	Solid	Solid	Solid
Physical State	Solid	Solid	Solid	Solid	Solid
Free Liquids	None	None	None	None	None
Water Reactivity					
Reactive	No	No	No	No	No
Soluble	No	No	No	No	No
Heavier / Lighter	Heavier	Heavier	Heavier	Heavier	Heavier
Emulsifies	No	No	No	No	No
Precipitates	None	None	None	None	None
pH	7	7	7	7	7
Reactive Sulfides	Neg	Neg	Neg	Neg	Neg
Sample Taken ?	yes	yes	yes	yes	yes

FIGURE 4

Field Activity Report

Environmental Specialist Campbell Arrival Time _____ Departure Time _____ Date 3-17-87

COMMENTS
Row 4 Sheet 2 of 2

	E4S	C4R	C4S	B4R	B4S
	FINGERPRINT TEST				
	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5
Time	1:45	2:00	2:00	2:15	2:15
HNU Screen	Ø	1.5 ppm	Ø	Ø	Ø
~~Combustible Gas Meter~~					
Igniteability	No	No	No	No	No
Physical Description					
Odor	None	None	None	None	None
Color	Brown	Brown	Brown	Brown	Brown
Viscosity	Solid	Solid	Solid	Solid	Solid
Physical State	Solid	Solid	Solid	"	"
Free Liquids	None	None	None	None	None
Water Reactivity					
Reactive	No	No	No	No	No
Soluble	No	No	No	No	No
Heavier / Lighter	Heavier	Heavier	Heavier	Heavier	Heavier
Emulsifies	No	No	No	No	No
Precipitates	None	None	None	None	None
pH	7	7	7	7	7
Reactive Sulfides	Neg	Neg	Neg	Neg	Neg
Sample Taken ?	yes	yes	yes	yes	yes

FIGURE 4

Field Activity Report

Environmental Specialist Campbell Arrival Time _____ Departure Time _____ Date 3-17-89

COMMENTS

~~Sh~~ Row 5 F-C,A Sheet 1 of 2

	FBR	FBS	E5R	E5S	D5R
FINGERPRINT TEST					
	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5
Time	8:20	8:20	8:30	8:30	8:50
HNU Screen	Ø	Ø	Ø	Ø	Ø
~~Combustible Gas Meter~~					
Igniteability	Neg	Neg	Neg	Neg	Neg
Physical Description					
Odor	None	None	None	None	None
Color	Brown	Brown	Brown	Brown	Brown
Viscosity	Solid	Solid	Solid	Solid	Solid
Physical State	"	"	"	"	"
Free Liquids	None	None	None	None	None
Water Reactivity					
Reactive	No	No	No	NO	NO
Soluble	No	No	No	NO	NO
Heavier / Lighter	Heavier	Heavier	Heavier	Heavier	Heavier
Emulsifies	No	No	NO	NO	NO
Precipitates	None	None	None	None	None
pH	7	7	7	7	7
Reactive Sulfides	None	None	None	None	None
Sample Taken ?	yes	yes	Yes	yes	yes

FIGURE 4

Field Activity Report

Environmental Specialist Campbell Arrival Time _____ Departure Time _____ Date 3-17-89

COMMENTS

Row 5 sheet 2

	D5S	C5R	C5S	A5R	A5S
FINGERPRINT TEST					
	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5
Time	8:50	9:00	9:00	9:20	9:20
HNU Screen	Ø	Ø	Ø	Ø	Ø
~~Combustible Gas Meter~~					
Igniteability	Neg	Neg	Neg	Neg	Neg
Physical Description					
Odor	None	None	None	None	None
Color	Brown	Brown	Brown	Brown	Brown
Viscosity	Solid	Solid	Solid	Solid	Solid
Physical State	"	"	"	"	"
Free Liquids	None	None	None	None	None
Water Reactivity					
Reactive	No	No	No	NO	NO
Soluble	No	No	No	NO	No
Heavier / Lighter	Heavier	Heavier	Heavier	Heavier	Heavier
Emulsifies	No	No	NO	No	NO
Precipitates	None	None	None	None	None
pH	7	7	7	7	7
Reactive Sulfides	None	None	None	None	None
Sample Taken ?	yes	yes	yes	yes	yes

FIGURE 4

Field Activity Report

Environmental Specialist Campbell Arrival Time _____ Departure Time _____ Date 3-17-89

COMMENTS
Row 6 A-F Sheet 1 of 3

	A6R	A6S	B6R	B6S	C6R
FINGERPRINT TEST					
	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5
Time	9:40	9:40	10:00	10:00	10:40
HNU Screen	Ø	Ø	Ø	Ø	Ø
~~Combustible Gas Meter~~					
Igniteability	Neg	Neg	Neg	Neg	Neg
Physical Description					
Odor	None	None	None	None	None
Color	Brown	Brown	Brown	Brown	Brown
Viscosity	Solid	Solid	Solid	Solid	Solid
Physical State	solid	Solid	"	"	solid
Free Liquids	None	None	None	None	None
Water Reactivity					
Reactive	No	No	No	No	No
Soluble	No	No	No	No	No
Heavier / Lighter	~~Heg~~ Heavier	Heavier	Heavier	Heavier	Heavier
Emulsifies	No	No	No	No	No
Precipitates	None	None	None	None	None
pH	7	7	7	7	7
Reactive Sulfides	Neg	Neg	Neg	Neg	Neg
Sample Taken ?	yes	yes	yes	yes	yes

FIGURE 4

Field Activity Report

Environmental Specialist Campbell Arrival Time _____ Departure Time _____ Date 3-17-89

COMMENTS

Row 6 Sheet 2 of 3

	C6S	D6R	D6S	E6R	E6S
FINGERPRINT TEST					
	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5
Time	10:40	10:50	10:50	11:00	11:00
HNU Screen	Ø	Ø	Ø	Ø	Ø
~~Combustible Gas Meter~~					
Igniteability	Neg	Neg	Neg	Neg	Neg
Physical Description					
Odor	None	None	None	None	None
Color	Brown	Brown	Brown	Brown	Brown
Viscosity	Solid	Solid	Solid	Solid	Solid
Physical State	"	"	"	"	"
Free Liquids	None	None	None	None	None
Water Reactivity					
Reactive	No	No	No	No	No
Soluble	No	No	No	No	No
Heavier / Lighter	Heavier	Heavier	Heavier	Heavier	Heavier
Emulsifies	No	No	No	No	No
Precipitates	None	None	None	None	None
pH	7	7	7	7	7
Reactive Sulfides	Neg	Neg	Neg	Neg	Neg
Sample Taken ?	yes	yes	yes	yes	yes

FIGURE 4

Field Activity Report

Environmental Specialist Campbell Arrival Time _____ Departure Time _____ Date 3-17-89

COMMENTS
Row 6 Sheet 3 of 3

	F6R	F6S			
FINGERPRINT TEST					
	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5
Time	11:15	11:15			
HNU Screen	Ø	Ø			
~~Combustible Gas Meter~~					
Igniteability	Neg	Neg			
Physical Description					
Odor	None	None			
Color	Brown	Brown			
Viscosity	Solid	Solid			
Physical State	Solid	Solid			
Free Liquids	None	None			
Water Reactivity					
Reactive	No	No			
Soluble	No	No			
Heavier / Lighter	Heavier	Heavier			
Emulsifies	No	No			
Precipitates	None	None			
pH	7	7			
Reactive Sulfides	Neg	Neg			
Sample Taken ?	yes	yes			

FIGURE 4

Field Activity Report

Environmental Specialist Campbell Arrival Time _____ Departure Time _____ Date 3-17-89

COMMENTS
Row 7 F-A Sheet 1 of 3

	F9B R	F9R F7B	E7R	E7S	D7R
FINGERPRINT TEST					
	~~NO. 1~~	NO. 2	NO. 3	NO. 4	NO. 5
Time	8:10	8:10	8:35	8:35	8:55
HNU Screen	Ø ppm	Ø	Ø	Ø	Ø
~~Combustible Gas Meter~~					
Igniteability	Neg	Neg	Neg	Neg	Neg
Physical Description					
Odor	None	None	None	None	None
Color	Brown	Brown	Brown	Brown	Brown
Viscosity	Solid	Solid	Solid	Solid	Solid
Physical State	Solid	Solid	Solid	Solid	"
Free Liquids	None	None	None	None	None
Water Reactivity					
Reactive	Neg	Neg	Neg	Neg	Neg
Soluble	Neg	Neg	Neg	Neg	Neg
Heavier / Lighter	Heavier	Heavier	Heavier	Heavier	Heavier
Emulsifies	No	No	No	No	No
Precipitates	None	None	None	None	None
pH	7	7	7	7	7
Reactive Sulfides	Neg	Neg	Neg	Neg	Neg
Sample Taken ?	Yes	Yes	Yes	Yes	Yes

FIGURE 4

Field Activity Report

Environmental Specialist Campbell Arrival Time _____ Departure Time _____ Date 3-17-89

COMMENTS
Row 7 Sheet 2 of 3

	D7S	C7R	C7S	B7R	B7S
FINGERPRINT TEST					
	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5
Time	8:55	9:15	9:15	9:45	9:45
HNU Screen	Ø	Ø	Ø	Ø	Ø
~~Combustible Gas Meter~~ Igniteability	Neg	Neg	Neg	Neg	Neg
Physical Description					
Odor	None	None	None	None	None
Color	Brown	Brown	Brown	Brown	Brown
Viscosity	Solid	Solid	Solid	Solid	Solid
Physical State	"	"	"	"	"
Free Liquids	None	None	None	None	None
Water Reactivity					
Reactive	Neg	Neg	Neg	Neg	Neg
Soluble	Neg	Neg	Neg	Neg	Neg
Heavier / Lighter	Heavier	Heavier	Heavier	Heavier	Heavier
Emulsifies	No	No	No	No	No
Precipitates	None	None	None	None	None
pH	7	7	7	7	7
Reactive Sulfides	Neg	Neg	Neg	Neg	Neg
Sample Taken ?	yes	yes	yes	yes	yes

FIGURE 4

Field Activity Report

Environmental Specialist Campbell Arrival Time _____ Departure Time _____ Date 3-17-89

COMMENTS
Row 7 Sheet 3 of 3

	A7R	A7S			
		FINGERPRINT TEST			
	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5
Time	10:00	10:00			
HNU Screen	Ø	Ø			
~~Combustible Gas Meter~~					
Igniteability	Neg	Neg			
Physical Description					
Odor	None	None			
Color	Brown	Brown			
Viscosity	Solid	Solid			
Physical State	Solid	Solid			
Free Liquids	None	None			
Water Reactivity					
Reactive	No	No			
Soluble	No	No			
Heavier / Lighter	Heavier	Heavier			
Emulsifies	No	No			
Precipitates	None	None			
pH	7	7			
Reactive Sulfides	Neg	Neg			
Sample Taken ?	yes	yes			

FIGURE 4

Field Activity Report

Environmental Specialist Campbell Arrival Time _____ Departure Time _____ Date 3-17-89

COMMENTS
Row 8 A-E Sheet 1 of 2

	A8R	A8S	B8R	B8S	C8R
FINGERPRINT TEST					
	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5
Time	10:25	10:25	10:55	10:55	11:10
HNU Screen	Ø	Ø	1.5 PPM	Ø	Ø
~~Combustible Gas Meter~~					
Igniteability	No	No	No	No	NO
Physical Description					
Odor	None	None	None	None	None
Color	Brown	Brown	Brown	Brown	Brown
Viscosity	Solid	Solid	Solid	Solid	Solid
Physical State	"	"	"	"	"
Free Liquids	None	None	None	None	None
Water Reactivity					
Reactive	Neg	Neg	Neg	Neg	Neg
Soluble	No	No	No	No	No
Heavier / Lighter	Heavier	Heavier	Heavier	Heavier	Heavier
Emulsifies	No	No	No	No	No
Precipitates	None	None	None	None	None
pH	7	7	7	7	7
Reactive Sulfides	Neg	Neg	Neg	Neg	Neg
Sample Taken ?	yes	yes	yes	yes	yes

FIGURE 4

Field Activity Report

Environmental Specialist Campbell Arrival Time _____ Departure Time _____ Date 3-17-89

COMMENTS
Row 8 Sheet 2of2

	C8S	D8R	D8S	E8R	E8S
FINGERPRINT TEST					
	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5
Time	11:10	11:30	11:30	12:30	12:30
HNU Screen	Ø	Ø	Ø	Ø	Ø
~~Combustible Gas Meter~~					
Igniteability	No	No	NO	NO	NO
Physical Description					
Odor	None	None	None	None	None
Color	Brown	Brown	Brown	Brown	Brown
Viscosity	Solid	Solid	Solid	Solid	Solid
Physical State	Solid	"	"	"	"
Free Liquids	None	None	None	None	None
Water Reactivity					
Reactive	Neg	Neg	Neg	Neg	Neg
Soluble	NO	No	NO	NO	No
Heavier / Lighter	Heavier	Heavier	Heavier	Heavier	Heavier
Emulsifies	NO	NO	NO	NO	No
Precipitates	None	None	None	None	None
pH	7	7	7	10	7
Reactive Sulfides	Neg	Neg	Neg	Neg	Neg
Sample Taken ?	yes	yes	yes	yes	yes

FIGURE 4

Field Activity Report

Environmental Specialist Campbell Arrival Time _____ Departure Time _____ Date 3-17-89

COMMENTS
B5 & A4

	B5R	B5S	A4R	A4S	
FINGERPRINT TEST					
	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5
Time	3:25	3:25	3:45	3:45	
HNU Screen	Ø	Ø	Ø	Ø	
~~Combustible Gas Meter~~					
Igniteability	No	No	No	No	
Physical Description					
Odor	None	None	None	None	
Color	Brown	Brown	Brown	Brown	
Viscosity	Solid	Solid	Solid	Solid	
Physical State	"	"	"	"	
Free Liquids	None	None	None	None	
Water Reactivity					
Reactive	No	No	No	No	
Soluble	No	No	No	No	
Heavier / Lighter	Heavier	Heavier	Heavier	Heavier	
Emulsifies	No	No	No	No	
Precipitates	None	None	None	None	
pH	7	7	7	7	
Reactive Sulfides	Neg	Neg	Neg	Neg	
Sample Taken ?	yes	yes	yes	yes	

WESTERN TECHNOLOGIES INC.

3737 East Broadway Road
P.O. Box 21387
Phoenix, Arizona 85036
(602) 437-3737

LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903008
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : 1-CR
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
EP-Tox Arsenic	1.1	mg/L
EP-Tox Barium	<1.	mg/L
EP-Tox Cadmium	<0.5	mg/L
EP-Tox Chromium	<0.1	mg/L
EP-Tox Lead	<0.5	mg/L
EP-Tox Mercury	<0.01	mg/L
EP-Tox Selenium	<0.5	mg/L
EP-Tox Silver	<0.5	mg/L
pH	7.8	S.U.
Specific Gravity	2.09	@ 60/60 F
Flash Point	>200.	Fahrenheit
Reactive In Water	Neg.	

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LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903008
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 1 OF 2

CLIENT SAMPLE ID : 1-CR
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

REMARKS -

GC/MS SOLVENT SCREEN

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
Benzene	<10.	mg/kg
1-Butanol (N-Butyl Alcohol)	<10.	mg/kg
2-Butanone (Methyl Ethyl Ketone)	<10.	mg/kg
2-Butoxyethanol (Butyl Cellosolve)	<10.	mg/kg
2-(2-Butoxyethanol) Ethanol (Butyl Carbitol)	<10.	mg/kg
Butyl Ester Acetic Acid (Butyl Acetate)	<10.	mg/kg
Carbon Tetrachloride	<10.	mg/kg
1,1-Dichloroethane(1,1-DCA)	<10.	mg/kg
1,2-Dichloroethane(1,2-DCA)	<10.	mg/kg
1,1-Dichloroethene(1,1-DCE)	<10.	mg/kg
1,2-Dichloroethene(1,2-DCE)	<10.	mg/kg
Dimethylbenzene(Xylene)	<10.	mg/kg
1,4-Diethylene Dioxide(Dioxane)	<10.	mg/kg
1,2-Ethanidiol(Ethylene Glycol)	<10.	mg/kg
Ethanol(Ethyl Alcohol)	<10.	mg/kg
2-Ethoxyethanol(Cellosolve)	<10.	mg/kg
2-Ethoxyethyl Acetate (Cellosolve Acetate)	<10.	mg/kg
Ethylbenzene	<10.	mg/kg
Ethyl Ester Acetic Acid (Ethyl Acetate)	<10.	mg/kg
2-Methoxyethanol(Methyl Cellosolve)	<10.	mg/kg
Methylbenzene(Toluene)	<10.	mg/kg
Methyl Ester Acetic Acid (Methyl Acetate)	<10.	mg/kg

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Phoenix, AZ 85009

SAMPLE NO. : 8903008
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 2 OF 2

****
* D A T A T A B L E (Cont.) *
****

PARAMETER	RESULT	UNIT
2-Methyl-1-Propanol (Isobutyl Alcohol)	<10.	mg/kg
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	<10.	mg/kg
1-Propanol(Propyl Alcohol)	<10.	mg/kg
2-Propanol(Iso Propyl Alcohol)	<10.	mg/kg
2-Propanone(Acetone)	<10.	mg/kg
1,1,2,2-Tetrachloroethane	<10.	mg/kg
Tetrachloroethane	<10.	mg/kg
Tetrahydrofuran	<10.	mg/kg
1,1,1-Trichloroethane	<10.	mg/kg
1,1,2-Trichloroethane	<10.	mg/kg
Trichloroethene	<10.	mg/kg
Trichloromethane	<10.	mg/kg
1,1,2-Trichloro-1,2,2-Trifluoro-ethane(Freon 113)	<10.	mg/kg
Trimethylbenzene	<10.	mg/kg

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LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903009
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : 1-CS
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

DATA TABLE

PARAMETER	RESULT	UNIT
EP-Tox Arsenic	0.8	mg/L
EP-Tox Barium	<1.	mg/L
EP-Tox Cadmium	<0.5	mg/L
EP-Tox Chromium	<0.1	mg/L
EP-Tox Lead	<0.5	mg/L
EP-Tox Mercury	<0.01	mg/L
EP-Tox Selenium	<0.5	mg/L
EP-Tox Silver	<0.5	mg/L
pH	8.3	S.U.
Specific Gravity	2.57	@ 60/60 F
Flash Point	>200.	Fahrenheit
Reactive In Water	Neg.	

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Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903009
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 1 OF 2

CLIENT SAMPLE ID : 1-CS
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

REMARKS -

GC/MS SOLVENT SCREEN

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
Benzene	<10.	mg/kg
1-Butanol (N-Butyl Alcohol)	<10.	mg/kg
2-Butanone (Methyl Ethyl Ketone)	<10.	mg/kg
2-Butoxyethanol (Butyl Cellosolve)	<10.	mg/kg
2-(2-Butoxyethanol) Ethanol (Butyl Carbitol)	<10.	mg/kg
Butyl Ester Acetic Acid (Butyl Acetate)	<10.	mg/kg
Carbon Tetrachloride	<10.	mg/kg
1,1-Dichloroethane(1,1-DCA)	<10.	mg/kg
1,2-Dichloroethane(1,2-DCA)	<10.	mg/kg
1,1-Dichloroethene(1,1-DCE)	<10.	mg/kg
1,2-Dichloroethene(1,2-DCE)	<10.	mg/kg
Dimethylbenzene(Xylene)	<10.	mg/kg
1,4-Diethylene Dioxide(Dioxane)	<10.	mg/kg
1,2-Ethanidiol(Ethylene Glycol)	<10.	mg/kg
Ethanol(Ethyl Alcohol)	<10.	mg/kg
2-Ethoxyethanol(Cellosolve)	<10.	mg/kg
2-Ethoxyethyl Acetate (Cellosolve Acetate)	<10.	mg/kg
Ethylbenzene	<10.	mg/kg
Ethyl Ester Acetic Acid (Ethyl Acetate)	<10.	mg/kg
2-Methoxyethanol(Methyl Cellosolve)	<10.	mg/kg
Methylbenzene(Toluene)	<10.	mg/kg
Methyl Ester Acetic Acid (Methyl Acetate)	<10.	mg/kg

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Phoenix, AZ 85009

SAMPLE NO. : 8903009
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 2 OF 2

****
* D A T A T A B L E (Cont.) *
****

PARAMETER	RESULT	UNIT
2-Methyl-1-Propanol (Isobutyl Alcohol)	<10.	mg/kg
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	<10.	mg/kg
1-Propanol(Propyl Alcohol)	<10.	mg/kg
2-Propanol(Iso Propyl Alcohol)	<10.	mg/kg
2-Propanone(Acetone)	<10.	mg/kg
1,1,2,2-Tetrachloroethane	<10.	mg/kg
Tetrachloroethane	<10.	mg/kg
Tetrahydrofuran	<10.	mg/kg
1,1,1-Trichloroethane	<10.	mg/kg
1,1,2-Trichloroethane	<10.	mg/kg
Trichloroethene	<10.	mg/kg
Trichloromethane	<10.	mg/kg
1,1,2-Trichloro-1,2,2-Trifluoro-ethane(Freon 113)	<10.	mg/kg
Trimethylbenzene	<10.	mg/kg

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LABORATORY REPORT

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of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903010
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : 2-CR
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

DATA TABLE

PARAMETER	RESULT	UNIT
EP-Tox Arsenic	<0.5	mg/L
EP-Tox Barium	<1.	mg/L
EP-Tox Cadmium	<0.5	mg/L
EP-Tox Chromium	<0.1	mg/L
EP-Tox Lead	<0.5	mg/L
EP-Tox Mercury	<0.01	mg/L
EP-Tox Selenium	<0.5	mg/L
EP-Tox Silver	<0.5	mg/L
pH	7.8	S.U.
Specific Gravity	2.50	@ 60/60 F
Flash Point	>200.	Fahrenheit
Reactive In Water	Neg.	

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Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903010
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 1 OF 2

CLIENT SAMPLE ID : 2-CR
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

REMARKS -

GC/MS SOLVENT SCREEN

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
Benzene	<10.	mg/kg
1-Butanol (N-Butyl Alcohol)	<10.	mg/kg
2-Butanone (Methyl Ethyl Ketone)	<10.	mg/kg
2-Butoxyethanol (Butyl Cellosolve)	<10.	mg/kg
2-(2-Butoxyethanol) Ethanol (Butyl Carbitol)	<10.	mg/kg
Butyl Ester Acetic Acid (Butyl Acetate)	<10.	mg/kg
Carbon Tetrachloride	<10.	mg/kg
1,1-Dichloroethane(1,1-DCA)	<10.	mg/kg
1,2-Dichloroethane(1,2-DCA)	<10.	mg/kg
1,1-Dichloroethene(1,1-DCE)	<10.	mg/kg
1,2-Dichloroethene(1,2-DCE)	<10.	mg/kg
Dimethylbenzene(Xylene)	<10.	mg/kg
1,4-Diethylene Dioxide(Dioxane)	<10.	mg/kg
1,2-Ethanidiol(Ethylene Glycol)	<10.	mg/kg
Ethanol(Ethyl Alcohol)	<10.	mg/kg
2-Ethoxyethanol(Cellosolve)	<10.	mg/kg
2-Ethoxyethyl Acetate (Cellosolve Acetate)	<10.	mg/kg
Ethylbenzene	<10.	mg/kg
Ethyl Ester Acetic Acid (Ethyl Acetate)	<10.	mg/kg
2-Methoxyethanol(Methyl Cellosolve)	<10.	mg/kg
Methylbenzene(Toluene)	<10.	mg/kg
Methyl Ester Acetic Acid (Methyl Acetate)	<10.	mg/kg

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LABORATORY REPORT

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Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903010
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 2 OF 2

****
* DATA TABLE (Cont.) *
****

PARAMETER	RESULT	UNIT
2-Methyl-1-Propanol (Isobutyl Alcohol)	<10.	mg/kg
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	<10.	mg/kg
1-Propanol(Propyl Alcohol)	<10.	mg/kg
2-Propanol(Iso Propyl Alcohol)	<10.	mg/kg
2-Propanone(Acetone)	<10.	mg/kg
1,1,2,2-Tetrachloroethane	<10.	mg/kg
Tetrachloroethane	<10.	mg/kg
Tetrahydrofuran	<10.	mg/kg
1,1,1-Trichloroethane	<10.	mg/kg
1,1,2-Trichloroethane	<10.	mg/kg
Trichloroethene	<10.	mg/kg
Trichloromethane	<10.	mg/kg
1,1,2-Trichloro-1,2,2-Trifluoro-ethane(Freon 113)	<10.	mg/kg
Trimethylbenzene	<10.	mg/kg

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LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903011
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: DR
PAGE : 1 OF 1

CLIENT SAMPLE ID : 2-CS
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

DATA TABLE

PARAMETER	RESULT	UNIT
EP-Tox Arsenic	0.5	mg/L
EP-Tox Barium	<1.	mg/L
EP-Tox Cadmium	<0.5	mg/L
EP-Tox Chromium	<0.1	mg/L
EP-Tox Lead	<0.5	mg/L
EP-Tox Mercury	<0.01	mg/L
EP-Tox Selenium	<0.5	mg/L
EP-Tox Silver	<0.5	mg/L
pH	8.4	S.U.
Specific Gravity	2.50	@ 60/60 F
Flash Point	>200.	Fahrenheit
Reactive In Water	Neg.	

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LABORATORY REPORT

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3335 W. Durango Street
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SAMPLE NO. : 8903011
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 1 OF 2

CLIENT SAMPLE ID : 2-CS
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

REMARKS -

GC/MS SOLVENT SCREEN

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
Benzene	<10.	mg/kg
1-Butanol (N-Butyl Alcohol)	<10.	mg/kg
2-Butanone (Methyl Ethyl Ketone)	<10.	mg/kg
2-Butoxyethanol (Butyl Cellosolve)	<10.	mg/kg
2-(2-Butoxyethanol) Ethanol (Butyl Carbitol)	<10.	mg/kg
Butyl Ester Acetic Acid (Butyl Acetate)	<10.	mg/kg
Carbon Tetrachloride	<10.	mg/kg
1,1-Dichloroethane(1,1-DCA)	<10.	mg/kg
1,2-Dichloroethane(1,2-DCA)	<10.	mg/kg
1,1-Dichloroethene(1,1-DCE)	<10.	mg/kg
1,2-Dichloroethene(1,2-DCE)	<10.	mg/kg
Dimethylbenzene(Xylene)	<10.	mg/kg
1,4-Diethylene Dioxide(Dioxane)	<10.	mg/kg
1,2-Ethanidiol(Ethylene Glycol)	<10.	mg/kg
Ethanol(Ethyl Alcohol)	<10.	mg/kg
2-Ethoxyethanol(Cellosolve)	<10.	mg/kg
2-Ethoxyethyl Acetate (Cellosolve Acetate)	<10.	mg/kg
Ethylbenzene	<10.	mg/kg
Ethyl Ester Acetic Acid (Ethyl Acetate)	<10.	mg/kg
2-Methoxyethanol(Methyl Cellosolve)	<10.	mg/kg
Methylbenzene(Toluene)	<10.	mg/kg
Methyl Ester Acetic Acid (Methyl Acetate)	<10.	mg/kg

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SAMPLE NO. : 8903011
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 2 OF 2

****
* D A T A T A B L E (Cont.) *
****

PARAMETER	RESULT	UNIT
2-Methyl-1-Propanol (Isobutyl Alcohol)	<10.	mg/kg
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	<10.	mg/kg
1-Propanol(Propyl Alcohol)	<10.	mg/kg
2-Propanol(Iso Propyl Alcohol)	<10.	mg/kg
2-Propanone(Acetone)	<10.	mg/kg
1,1,2,2-Tetrachloroethane	<10.	mg/kg
Tetrachloroethane	<10.	mg/kg
Tetrahydrofuran	<10.	mg/kg
1,1,1-Trichloroethane	<10.	mg/kg
1,1,2-Trichloroethane	<10.	mg/kg
Trichloroethene	<10.	mg/kg
Trichloromethane	<10.	mg/kg
1,1,2-Trichloro-1,2,2-Trifluoro-ethane(Freon 113)	<10.	mg/kg
Trimethylbenzene	<10.	mg/kg

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LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903012
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : 3-CR
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
EP-Tox Arsenic	<0.5	mg/L
EP-Tox Barium	<1.	mg/L
EP-Tox Cadmium	<0.5	mg/L
EP-Tox Chromium	<0.1	mg/L
EP-Tox Lead	<0.5	mg/L
EP-Tox Mercury	<0.01	mg/L
EP-Tox Selenium	<0.5	mg/L
EP-Tox Silver	<0.5	mg/L
pH	7.8	S.U.
Specific Gravity	2.94	@ 60/60 F
Flash Point	>200.	Fahrenheit
Reactive In Water	Neg.	

(1) Copy to Client

WESTERN TECHNOLOGIES INC.
3737 East Broadway Road
P.O. Box 21387
Phoenix, Arizona 85036
(602) 437-3737

LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903012
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 1 OF 2

CLIENT SAMPLE ID : 3-CR
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

REMARKS -

GC/MS SOLVENT SCREEN

****
* D A T A T A B L E *
****

[---------- PARAMETER --------]	[- RESULT -]	[- UNIT -]
Benzene .....:	<10.	mg/kg
1-Butanol (N-Butyl Alcohol) .....:	<10.	mg/kg
2-Butanone (Methyl Ethyl Ketone) ...:	<10.	mg/kg
2-Butoxyethanol (Butyl Cellosolve) ..:	<10.	mg/kg
2-(2-Butoxyethanol) Ethanol .....: (Butyl Carbitol)	<10.	mg/kg
Butyl Ester Acetic Acid .....: (Butyl Acetate)	<10.	mg/kg
Carbon Tetrachloride .....:	<10.	mg/kg
1,1-Dichloroethane(1,1-DCA) .....:	<10.	mg/kg
1,2-Dichloroethane(1,2-DCA) .....:	<10.	mg/kg
1,1-Dichloroethene(1,1-DCE) .....:	<10.	mg/kg
1,2-Dichloroethene(1,2-DCE) .....:	<10.	mg/kg
Dimethylbenzene(Xylene) .....:	<10.	mg/kg
1,4-Diethylene Dioxide(Dioxane) ....:	<10.	mg/kg
1,2-Ethanidiol(Ethylene Glycol) ....:	<10.	mg/kg
Ethanol(Ethyl Alcohol) .....:	<10.	mg/kg
2-Ethoxyethanol(Cellosolve) .....:	<10.	mg/kg
2-Ethoxyethyl Acetate .....: (Cellosolve Acetate)	<10.	mg/kg
Ethylbenzene .....:	<10.	mg/kg
Ethyl Ester Acetic Acid .....: (Ethyl Acetate)	<10.	mg/kg
2-Methoxyethanol(Methyl Cellosolve)..:	<10.	mg/kg
Methylbenzene(Toluene) .....:	<10.	mg/kg
Methyl Ester Acetic Acid .....: (Methyl Acetate)	<10.	mg/kg

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Attn: Don Rerick
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SAMPLE NO. : 8903012
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK

****
* D A T A T A B L E (Cont.) *
****

PARAMETER	RESULT	UNIT
2-Methyl-1-Propanol (Isobutyl Alcohol)	<10.	mg/kg
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	<10.	mg/kg
1-Propanol(Propyl Alcohol)	<10.	mg/kg
2-Propanol(Iso Propyl Alcohol)	<10.	mg/kg
2-Propanone(Acetone)	<10.	mg/kg
1,1,2,2-Tetrachloroethane	<10.	mg/kg
Tetrachloroethane	<10.	mg/kg
Tetrahydrofuran	<10.	mg/kg
1,1,1-Trichloroethane	<10.	mg/kg
1,1,2-Trichloroethane	<10.	mg/kg
Trichloroethene	<10.	mg/kg
Trichloromethane	<10.	mg/kg
1,1,2-Trichloro-1,2,2-Trifluoro-ethane(Freon 113)	<10.	mg/kg
Trimethylbenzene	<10.	mg/kg

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LABORATORY REPORT

CLIENT Flood Control District
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Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903013
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : 3-CS
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

DATA TABLE

PARAMETER	RESULT	UNIT
EP-Tox Arsenic	0.8	mg/L
EP-Tox Barium	<1.	mg/L
EP-Tox Cadmium	<0.5	mg/L
EP-Tox Chromium	<0.1	mg/L
EP-Tox Lead	<0.5	mg/L
EP-Tox Mercury	<0.01	mg/L
EP-Tox Selenium	<0.5	mg/L
EP-Tox Silver	<0.5	mg/L
pH	8.1	S.U.
Specific Gravity	5.93	@ 60/60 F
Flash Point	>200.	Fahrenheit
Reactive In Water	Neg.	

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LABORATORY REPORT

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SAMPLE NO. : 8903013
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 1 OF 2

CLIENT SAMPLE ID : 3-CS
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

REMARKS -

GC/MS SOLVENT SCREEN

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
Benzene	<10.	mg/kg
1-Butanol (N-Butyl Alcohol)	<10.	mg/kg
2-Butanone (Methyl Ethyl Ketone)	<10.	mg/kg
2-Butoxyethanol (Butyl Cellosolve)	<10.	mg/kg
2-(2-Butoxyethanol) Ethanol (Butyl Carbitol)	<10.	mg/kg
Butyl Ester Acetic Acid (Butyl Acetate)	<10.	mg/kg
Carbon Tetrachloride	<10.	mg/kg
1,1-Dichloroethane(1,1-DCA)	<10.	mg/kg
1,2-Dichloroethane(1,2-DCA)	<10.	mg/kg
1,1-Dichloroethene(1,1-DCE)	<10.	mg/kg
1,2-Dichloroethene(1,2-DCE)	<10.	mg/kg
Dimethylbenzene(Xylene)	<10.	mg/kg
1,4-Diethylene Dioxide(Dioxane)	<10.	mg/kg
1,2-Ethanidiol(Ethylene Glycol)	<10.	mg/kg
Ethanol(Ethyl Alcohol)	<10.	mg/kg
2-Ethoxyethanol(Cellosolve)	<10.	mg/kg
2-Ethoxyethyl Acetate (Cellosolve Acetate)	<10.	mg/kg
Ethylbenzene	<10.	mg/kg
Ethyl Ester Acetic Acid (Ethyl Acetate)	<10.	mg/kg
2-Methoxyethanol(Methyl Cellosolve)	<10.	mg/kg
Methylbenzene(Toluene)	<10.	mg/kg
Methyl Ester Acetic Acid (Methyl Acetate)	<10.	mg/kg

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SAMPLE NO. : 8903013
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 2 OF 2

****
* DATA TABLE (Cont.) *
****

PARAMETER	RESULT	UNIT
2-Methyl-1-Propanol (Isobutyl Alcohol)	<10.	mg/kg
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	<10.	mg/kg
1-Propanol(Propyl Alcohol)	<10.	mg/kg
2-Propanol(Iso Propyl Alcohol)	<10.	mg/kg
2-Propanone(Acetone)	<10.	mg/kg
1,1,2,2-Tetrachloroethane	<10.	mg/kg
Tetrachloroethane	<10.	mg/kg
Tetrahydrofuran	<10.	mg/kg
1,1,1-Trichloroethane	<10.	mg/kg
1,1,2-Trichloroethane	<10.	mg/kg
Trichloroethene	<10.	mg/kg
Trichloromethane	<10.	mg/kg
1,1,2-Trichloro-1,2,2-Trifluoro-ethane(Freon 113)	<10.	mg/kg
Trimethylbenzene	<10.	mg/kg

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LABORATORY REPORT

CLIENT Flood Control District
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Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903014
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: DTW
PAGE : 1 OF 1

CLIENT SAMPLE ID : 4-CR
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

DATA TABLE

PARAMETER	RESULT	UNIT
EP-Tox Arsenic	0.9	mg/L
EP-Tox Barium	<1.	mg/L
EP-Tox Cadmium	<0.5	mg/L
EP-Tox Chromium	<0.1	mg/L
EP-Tox Lead	<0.5	mg/L
EP-Tox Mercury	<0.01	mg/L
EP-Tox Selenium	<0.5	mg/L
EP-Tox Silver	<0.5	mg/L
pH	7.9	S.U.
Specific Gravity	1.48	@ 60/60 F
Flash Point	>200.	Fahrenheit
Reactive In Water	Neg.	

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of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903014
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 2 OF 2

****
* DATA TABLE (Cont.) *
****

PARAMETER	RESULT	UNIT
2-Methyl-1-Propanol (Isobutyl Alcohol)	<10.	mg/kg
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	<10.	mg/kg
1-Propanol(Propyl Alcohol)	<10.	mg/kg
2-Propanol(Iso Propyl Alcohol)	<10.	mg/kg
2-Propanone(Acetone)	<10.	mg/kg
1,1,2,2-Tetrachloroethane	<10.	mg/kg
Tetrachloroethane	<10.	mg/kg
Tetrahydrofuran	<10.	mg/kg
1,1,1-Trichloroethane	<10.	mg/kg
1,1,2-Trichloroethane	<10.	mg/kg
Trichloroethene	<10.	mg/kg
Trichloromethane	<10.	mg/kg
1,1,2-Trichloro-1,2,2-Trifluoro-ethane(Freon 113)	<10.	mg/kg
Trimethylbenzene	<10.	mg/kg

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LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903015
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: [illegible]
PAGE : 1 OF 1

CLIENT SAMPLE ID : 4-CS
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
EP-Tox Arsenic	<0.5	mg/L
EP-Tox Barium	<1.	mg/L
EP-Tox Cadmium	<0.5	mg/L
EP-Tox Chromium	<0.1	mg/L
EP-Tox Lead	<0.5	mg/L
EP-Tox Mercury	<0.01	mg/L
EP-Tox Selenium	<0.5	mg/L
EP-Tox Silver	<0.5	mg/L
pH	8.7	S.U.
Specific Gravity	2.56	@ 60/60 F
Flash Point	>200.	Fahrenheit
Reactive In Water	Neg.	

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LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903015
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 1 OF 2

CLIENT SAMPLE ID : 4-CS
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

REMARKS -

GC/MS SOLVENT SCREEN

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
Benzene	<10.	mg/kg
1-Butanol (N-Butyl Alcohol)	<10.	mg/kg
2-Butanone (Methyl Ethyl Ketone)	<10.	mg/kg
2-Butoxyethanol (Butyl Cellosolve)	<10.	mg/kg
2-(2-Butoxyethanol) Ethanol (Butyl Carbitol)	<10.	mg/kg
Butyl Ester Acetic Acid (Butyl Acetate)	<10.	mg/kg
Carbon Tetrachloride	<10.	mg/kg
1,1-Dichloroethane(1,1-DCA)	<10.	mg/kg
1,2-Dichloroethane(1,2-DCA)	<10.	mg/kg
1,1-Dichloroethene(1,1-DCE)	<10.	mg/kg
1,2-Dichloroethene(1,2-DCE)	<10.	mg/kg
Dimethylbenzene(Xylene)	<10.	mg/kg
1,4-Diethylene Dioxide(Dioxane)	<10.	mg/kg
1,2-Ethanidiol(Ethylene Glycol)	<10.	mg/kg
Ethanol(Ethyl Alcohol)	<10.	mg/kg
2-Ethoxyethanol(Cellosolve)	<10.	mg/kg
2-Ethoxyethyl Acetate (Cellosolve Acetate)	<10.	mg/kg
Ethylbenzene	<10.	mg/kg
Ethyl Ester Acetic Acid (Ethyl Acetate)	<10.	mg/kg
2-Methoxyethanol(Methyl Cellosolve)	<10.	mg/kg
Methylbenzene(Toluene)	<10.	mg/kg
Methyl Ester Acetic Acid (Methyl Acetate)	<10.	mg/kg

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SAMPLE NO. : 8903015
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 2 OF 2

****
* D A T A T A B L E (Cont.) *
****

PARAMETER	RESULT	UNIT
2-Methyl-1-Propanol (Isobutyl Alcohol)	<10.	mg/kg
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	<10.	mg/kg
1-Propanol(Propyl Alcohol)	<10.	mg/kg
2-Propanol(Iso Propyl Alcohol)	<10.	mg/kg
2-Propanone(Acetone)	<10.	mg/kg
1,1,2,2-Tetrachloroethane	<10.	mg/kg
Tetrachloroethane	<10.	mg/kg
Tetrahydrofuran	<10.	mg/kg
1,1,1-Trichloroethane	<10.	mg/kg
1,1,2-Trichloroethane	<10.	mg/kg
Trichloroethene	<10.	mg/kg
Trichloromethane	<10.	mg/kg
1,1,2-Trichloro-1,2,2-Trifluoro-ethane(Freon 113)	<10.	mg/kg
Trimethylbenzene	<10.	mg/kg

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LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903016
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : 5-CR
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

DATA TABLE

PARAMETER	RESULT	UNIT
EP-Tox Arsenic	0.6	mg/L
EP-Tox Barium	<1.	mg/L
EP-Tox Cadmium	<0.5	mg/L
EP-Tox Chromium	<0.1	mg/L
EP-Tox Lead	<0.5	mg/L
EP-Tox Mercury	<0.01	mg/L
EP-Tox Selenium	<0.5	mg/L
EP-Tox Silver	<0.5	mg/L
pH	8.0	S.U.
Specific Gravity	1.62	@ 60/60 F
Flash Point	>200.	Fahrenheit
Reactive In Water	Neg.	

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LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
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Phoenix, AZ 85009

SAMPLE NO. : 8903016
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 1 OF 2

CLIENT SAMPLE ID : 5-CR
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

REMARKS -

GC/MS SOLVENT SCREEN

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
Benzene	<10.	mg/kg
1-Butanol (N-Butyl Alcohol)	<10.	mg/kg
2-Butanone (Methyl Ethyl Ketone)	<10.	mg/kg
2-Butoxyethanol (Butyl Cellosolve)	<10.	mg/kg
2-(2-Butoxyethanol) Ethanol (Butyl Carbitol)	<10.	mg/kg
Butyl Ester Acetic Acid (Butyl Acetate)	<10.	mg/kg
Carbon Tetrachloride	<10.	mg/kg
1,1-Dichloroethane(1,1-DCA)	<10.	mg/kg
1,2-Dichloroethane(1,2-DCA)	<10.	mg/kg
1,1-Dichloroethene(1,1-DCE)	<10.	mg/kg
1,2-Dichloroethene(1,2-DCE)	<10.	mg/kg
Dimethylbenzene(Xylene)	<10.	mg/kg
1,4-Diethylene Dioxide(Dioxane)	<10.	mg/kg
1,2-Ethanidiol(Ethylene Glycol)	<10.	mg/kg
Ethanol(Ethyl Alcohol)	<10.	mg/kg
2-Ethoxyethanol(Cellosolve)	<10.	mg/kg
2-Ethoxyethyl Acetate (Cellosolve Acetate)	<10.	mg/kg
Ethylbenzene	<10.	mg/kg
Ethyl Ester Acetic Acid (Ethyl Acetate)	<10.	mg/kg
2-Methoxyethanol(Methyl Cellosolve)	<10.	mg/kg
Methylbenzene(Toluene)	<10.	mg/kg
Methyl Ester Acetic Acid (Methyl Acetate)	<10.	mg/kg

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INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 2 OF 2

****
* DATA TABLE (Cont.) *
****

PARAMETER	RESULT	UNIT
2-Methyl-1-Propanol (Isobutyl Alcohol)	<10.	mg/kg
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	<10.	mg/kg
1-Propanol(Propyl Alcohol)	<10.	mg/kg
2-Propanol(Iso Propyl Alcohol)	<10.	mg/kg
2-Propanone(Acetone)	<10.	mg/kg
1,1,2,2-Tetrachloroethane	<10.	mg/kg
Tetrachloroethane	<10.	mg/kg
Tetrahydrofuran	<10.	mg/kg
1,1,1-Trichloroethane	<10.	mg/kg
1,1,2-Trichloroethane	<10.	mg/kg
Trichloroethene	<10.	mg/kg
Trichloromethane	<10.	mg/kg
1,1,2-Trichloro-1,2,2-Trifluoro-ethane(Freon 113)	<10.	mg/kg
Trimethylbenzene	<10.	mg/kg

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LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903017
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: [illegible]
PAGE : 1 OF 1

CLIENT SAMPLE ID : 5-CS
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
EP-Tox Arsenic	<0.5	mg/L
EP-Tox Barium	<1.	mg/L
EP-Tox Cadmium	<0.5	mg/L
EP-Tox Chromium	<0.1	mg/L
EP-Tox Lead	<0.5	mg/L
EP-Tox Mercury	<0.01	mg/L
EP-Tox Selenium	<0.5	mg/L
EP-Tox Silver	<0.5	mg/L
pH	8.4	S.U.
Specific Gravity	2.64	@ 60/60 F
Flash Point	>200.	Fahrenheit
Reactive In Water	Neg.	

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LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903017
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 1 OF 2

CLIENT SAMPLE ID : 5-CS
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

REMARKS -

GC/MS SOLVENT SCREEN

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
Benzene	<10.	mg/kg
1-Butanol (N-Butyl Alcohol)	<10.	mg/kg
2-Butanone (Methyl Ethyl Ketone)	<10.	mg/kg
2-Butoxyethanol (Butyl Cellosolve)	<10.	mg/kg
2-(2-Butoxyethanol) Ethanol (Butyl Carbitol)	<10.	mg/kg
Butyl Ester Acetic Acid (Butyl Acetate)	<10.	mg/kg
Carbon Tetrachloride	<10.	mg/kg
1,1-Dichloroethane(1,1-DCA)	<10.	mg/kg
1,2-Dichloroethane(1,2-DCA)	<10.	mg/kg
1,1-Dichloroethene(1,1-DCE)	<10.	mg/kg
1,2-Dichloroethene(1,2-DCE)	<10.	mg/kg
Dimethylbenzene(Xylene)	<10.	mg/kg
1,4-Diethylene Dioxide(Dioxane)	<10.	mg/kg
1,2-Ethanidiol(Ethylene Glycol)	<10.	mg/kg
Ethanol(Ethyl Alcohol)	<10.	mg/kg
2-Ethoxyethanol(Cellosolve)	<10.	mg/kg
2-Ethoxyethyl Acetate (Cellosolve Acetate)	<10.	mg/kg
Ethylbenzene	<10.	mg/kg
Ethyl Ester Acetic Acid (Ethyl Acetate)	<10.	mg/kg
2-Methoxyethanol(Methyl Cellosolve)	<10.	mg/kg
Methylbenzene(Toluene)	<10.	mg/kg
Methyl Ester Acetic Acid (Methyl Acetate)	<10.	mg/kg

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WESTERN TECHNOLOGIES INC.
3737 East Broadway Road
P.O. Box 21387
Phoenix, Arizona 85036
(602) 437-3737

LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903017
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK

****
* D A T A T A B L E (Cont.) *
****

PARAMETER	RESULT	UNIT
2-Methyl-1-Propanol (Isobutyl Alcohol)	<10.	mg/kg
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	<10.	mg/kg
1-Propanol(Propyl Alcohol)	<10.	mg/kg
2-Propanol(Iso Propyl Alcohol)	<10.	mg/kg
2-Propanone(Acetone)	<10.	mg/kg
1,1,2,2-Tetrachloroethane	<10.	mg/kg
Tetrachloroethane	<10.	mg/kg
Tetrahydrofuran	<10.	mg/kg
1,1,1-Trichloroethane	<10.	mg/kg
1,1,2-Trichloroethane	<10.	mg/kg
Trichloroethene	<10.	mg/kg
Trichloromethane	<10.	mg/kg
1,1,2-Trichloro-1,2,2-Trifluoro-ethane(Freon 113)	<10.	mg/kg
Trimethylbenzene	<10.	mg/kg

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LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903018
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : 6-CR
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

DATA TABLE

PARAMETER	RESULT	UNIT
EP-Tox Arsenic	<0.5	mg/L
EP-Tox Barium	<1.	mg/L
EP-Tox Cadmium	<0.5	mg/L
EP-Tox Chromium	<0.1	mg/L
EP-Tox Lead	<0.5	mg/L
EP-Tox Mercury	<0.01	mg/L
EP-Tox Selenium	<0.5	mg/L
EP-Tox Silver	<0.5	mg/L
pH	8.3	S.U.
Specific Gravity	1.63	@ 60/60 F
Flash Point	>200.	Fahrenheit
Reactive In Water	Neg.	

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of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903018
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: PJK
PAGE : 1 OF 2

CLIENT SAMPLE ID : 6-CR
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

REMARKS -

GC/MS SOLVENT SCREEN

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
Benzene	<10.	mg/kg
1-Butanol (N-Butyl Alcohol)	<10.	mg/kg
2-Butanone (Methyl Ethyl Ketone)	<10.	mg/kg
2-Butoxyethanol (Butyl Cellosolve)	<10.	mg/kg
2-(2-Butoxyethanol) Ethanol (Butyl Carbitol)	<10.	mg/kg
Butyl Ester Acetic Acid (Butyl Acetate)	<10.	mg/kg
Carbon Tetrachloride	<10.	mg/kg
1,1-Dichloroethane(1,1-DCA)	<10.	mg/kg
1,2-Dichloroethane(1,2-DCA)	<10.	mg/kg
1,1-Dichloroethene(1,1-DCE)	<10.	mg/kg
1,2-Dichloroethene(1,2-DCE)	<10.	mg/kg
Dimethylbenzene(Xylene)	<10.	mg/kg
1,4-Diethylene Dioxide(Dioxane)	<10.	mg/kg
1,2-Ethanidiol(Ethylene Glycol)	<10.	mg/kg
Ethanol(Ethyl Alcohol)	<10.	mg/kg
2-Ethoxyethanol(Cellosolve)	<10.	mg/kg
2-Ethoxyethyl Acetate (Cellosolve Acetate)	<10.	mg/kg
Ethylbenzene	<10.	mg/kg
Ethyl Ester Acetic Acid (Ethyl Acetate)	<10.	mg/kg
2-Methoxyethanol(Methyl Cellosolve)	<10.	mg/kg
Methylbenzene(Toluene)	<10.	mg/kg
Methyl Ester Acetic Acid (Methyl Acetate)	<10.	mg/kg

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Phoenix, AZ 85009

SAMPLE NO. : 8903018
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK

****
* D A T A T A B L E (Cont.) *
****

PARAMETER	RESULT	UNIT
2-Methyl-1-Propanol (Isobutyl Alcohol)	<10.	mg/kg
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	<10.	mg/kg
1-Propanol(Propyl Alcohol)	<10.	mg/kg
2-Propanol(Iso Propyl Alcohol)	<10.	mg/kg
2-Propanone(Acetone)	<10.	mg/kg
1,1,2,2-Tetrachloroethane	<10.	mg/kg
Tetrachloroethane	<10.	mg/kg
Tetrahydrofuran	<10.	mg/kg
1,1,1-Trichloroethane	<10.	mg/kg
1,1,2-Trichloroethane	<10.	mg/kg
Trichloroethene	<10.	mg/kg
Trichloromethane	<10.	mg/kg
1,1,2-Trichloro-1,2,2-Trifluoro-ethane(Freon 113)	<10.	mg/kg
Trimethylbenzene	<10.	mg/kg

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LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903019
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : 6-CS
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
EP-Tox Arsenic	<0.5	mg/L
EP-Tox Barium	<1.	mg/L
EP-Tox Cadmium	<0.5	mg/L
EP-Tox Chromium	<0.1	mg/L
EP-Tox Lead	<0.5	mg/L
EP-Tox Mercury	<0.01	mg/L
EP-Tox Selenium	<0.5	mg/L
EP-Tox Silver	<0.5	mg/L
pH	8.6	S.U.
Specific Gravity	2.79	@ 60/60 F
Flash Point	>200.	Fahrenheit
Reactive In Water	Neg.	

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LABORATORY REPORT

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Attn: Don Rerick
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Phoenix, AZ 85009

SAMPLE NO. : 8903019
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 1 OF 2

CLIENT SAMPLE ID : 6-CS
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

REMARKS -

GC/MS SOLVENT SCREEN

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
Benzene	<10.	mg/kg
1-Butanol (N-Butyl Alcohol)	<10.	mg/kg
2-Butanone (Methyl Ethyl Ketone)	<10.	mg/kg
2-Butoxyethanol (Butyl Cellosolve)	<10.	mg/kg
2-(2-Butoxyethanol) Ethanol (Butyl Carbitol)	<10.	mg/kg
Butyl Ester Acetic Acid (Butyl Acetate)	<10.	mg/kg
Carbon Tetrachloride	<10.	mg/kg
1,1-Dichloroethane(1,1-DCA)	<10.	mg/kg
1,2-Dichloroethane(1,2-DCA)	<10.	mg/kg
1,1-Dichloroethene(1,1-DCE)	<10.	mg/kg
1,2-Dichloroethene(1,2-DCE)	<10.	mg/kg
Dimethylbenzene(Xylene)	<10.	mg/kg
1,4-Diethylene Dioxide(Dioxane)	<10.	mg/kg
1,2-Ethanidiol(Ethylene Glycol)	<10.	mg/kg
Ethanol(Ethyl Alcohol)	<10.	mg/kg
2-Ethoxyethanol(Cellosolve)	<10.	mg/kg
2-Ethoxyethyl Acetate (Cellosolve Acetate)	<10.	mg/kg
Ethylbenzene	<10.	mg/kg
Ethyl Ester Acetic Acid (Ethyl Acetate)	<10.	mg/kg
2-Methoxyethanol(Methyl Cellosolve)	<10.	mg/kg
Methylbenzene(Toluene)	<10.	mg/kg
Methyl Ester Acetic Acid (Methyl Acetate)	<10.	mg/kg

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SAMPLE NO. : 8903019
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 2 OF 2

****
* DATA TABLE (Cont.) *
****

PARAMETER	RESULT	UNIT
2-Methyl-1-Propanol (Isobutyl Alcohol)	<10.	mg/kg
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	<10.	mg/kg
1-Propanol(Propyl Alcohol)	<10.	mg/kg
2-Propanol(Iso Propyl Alcohol)	<10.	mg/kg
2-Propanone(Acetone)	<10.	mg/kg
1,1,2,2-Tetrachloroethane	<10.	mg/kg
Tetrachloroethane	<10.	mg/kg
Tetrahydrofuran	<10.	mg/kg
1,1,1-Trichloroethane	<10.	mg/kg
1,1,2-Trichloroethane	<10.	mg/kg
Trichloroethene	<10.	mg/kg
Trichloromethane	<10.	mg/kg
1,1,2-Trichloro-1,2,2-Trifluoro-ethane(Freon 113)	<10.	mg/kg
Trimethylbenzene	<10.	mg/kg

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LABORATORY REPORT

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of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903020
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: [illegible]
PAGE : 1 OF 1

CLIENT SAMPLE ID : 7-CR
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
EP-Tox Arsenic	<0.5	mg/L
EP-Tox Barium	<1.	mg/L
EP-Tox Cadmium	<0.5	mg/L
EP-Tox Chromium	<0.1	mg/L
EP-Tox Lead	<0.5	mg/L
EP-Tox Mercury	<0.01	mg/L
EP-Tox Selenium	<0.5	mg/L
EP-Tox Silver	<0.5	mg/L
pH	8.0	S.U.
Specific Gravity	2.05	@ 60/60 F
Flash Point	>200.	Fahrenheit
Reactive In Water	Neg.	

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(602) 437-3737

LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903020
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 1 OF 2

CLIENT SAMPLE ID : 7-CR
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

REMARKS -

GC/MS SOLVENT SCREEN

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
Benzene	<10.	mg/kg
1-Butanol (N-Butyl Alcohol)	<10.	mg/kg
2-Butanone (Methyl Ethyl Ketone)	<10.	mg/kg
2-Butoxyethanol (Butyl Cellosolve)	<10.	mg/kg
2-(2-Butoxyethanol) Ethanol (Butyl Carbitol)	<10.	mg/kg
Butyl Ester Acetic Acid (Butyl Acetate)	<10.	mg/kg
Carbon Tetrachloride	<10.	mg/kg
1,1-Dichloroethane(1,1-DCA)	<10.	mg/kg
1,2-Dichloroethane(1,2-DCA)	<10.	mg/kg
1,1-Dichloroethene(1,1-DCE)	<10.	mg/kg
1,2-Dichloroethene(1,2-DCE)	<10.	mg/kg
Dimethylbenzene(Xylene)	<10.	mg/kg
1,4-Diethylene Dioxide(Dioxane)	<10.	mg/kg
1,2-Ethanidiol(Ethylene Glycol)	<10.	mg/kg
Ethanol(Ethyl Alcohol)	<10.	mg/kg
2-Ethoxyethanol(Cellosolve)	<10.	mg/kg
2-Ethoxyethyl Acetate (Cellosolve Acetate)	<10.	mg/kg
Ethylbenzene	<10.	mg/kg
Ethyl Ester Acetic Acid (Ethyl Acetate)	<10.	mg/kg
2-Methoxyethanol(Methyl Cellosolve)	<10.	mg/kg
Methylbenzene(Toluene)	<10.	mg/kg
Methyl Ester Acetic Acid (Methyl Acetate)	<10.	mg/kg

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SAMPLE NO. : 8903020
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 2 OF 2

****
* D A T A T A B L E (Cont.) *
****

PARAMETER	RESULT	UNIT
2-Methyl-1-Propanol (Isobutyl Alcohol)	<10.	mg/kg
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	<10.	mg/kg
1-Propanol(Propyl Alcohol)	<10.	mg/kg
2-Propanol(Iso Propyl Alcohol)	<10.	mg/kg
2-Propanone(Acetone)	<10.	mg/kg
1,1,2,2-Tetrachloroethane	<10.	mg/kg
Tetrachloroethane	<10.	mg/kg
Tetrahydrofuran	<10.	mg/kg
1,1,1-Trichloroethane	<10.	mg/kg
1,1,2-Trichloroethane	<10.	mg/kg
Trichloroethene	<10.	mg/kg
Trichloromethane	<10.	mg/kg
1,1,2-Trichloro-1,2,2-Trifluoro-ethane(Freon 113)	<10.	mg/kg
Trimethylbenzene	<10.	mg/kg

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LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903021
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: [illegible]
PAGE : 1 OF 1

CLIENT SAMPLE ID : 7-CS
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

DATA TABLE

PARAMETER	RESULT	UNIT
EP-Tox Arsenic	0.7	mg/L
EP-Tox Barium	<1.	mg/L
EP-Tox Cadmium	<0.5	mg/L
EP-Tox Chromium	<0.1	mg/L
EP-Tox Lead	<0.5	mg/L
EP-Tox Mercury	<0.01	mg/L
EP-Tox Selenium	<0.5	mg/L
EP-Tox Silver	<0.5	mg/L
pH	8.1	S.U.
Specific Gravity	1.77	@ 60/60 F
Flash Point	>200.	Fahrenheit
Reactive In Water	Neg.	

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LABORATORY REPORT

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Attn: Don Rerick
3335 W. Durango Street
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SAMPLE NO. : 8903021
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 1 OF 2

CLIENT SAMPLE ID : 7-CS
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

REMARKS -

GC/MS SOLVENT SCREEN

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
Benzene	<10.	mg/kg
1-Butanol (N-Butyl Alcohol)	<10.	mg/kg
2-Butanone (Methyl Ethyl Ketone)	<10.	mg/kg
2-Butoxyethanol (Butyl Cellosolve)	<10.	mg/kg
2-(2-Butoxyethanol) Ethanol (Butyl Carbitol)	<10.	mg/kg
Butyl Ester Acetic Acid (Butyl Acetate)	<10.	mg/kg
Carbon Tetrachloride	<10.	mg/kg
1,1-Dichloroethane(1,1-DCA)	<10.	mg/kg
1,2-Dichloroethane(1,2-DCA)	<10.	mg/kg
1,1-Dichloroethene(1,1-DCE)	<10.	mg/kg
1,2-Dichloroethene(1,2-DCE)	<10.	mg/kg
Dimethylbenzene(Xylene)	<10.	mg/kg
1,4-Diethylene Dioxide(Dioxane)	<10.	mg/kg
1,2-Ethanidiol(Ethylene Glycol)	<10.	mg/kg
Ethanol(Ethyl Alcohol)	<10.	mg/kg
2-Ethoxyethanol(Cellosolve)	<10.	mg/kg
2-Ethoxyethyl Acetate (Cellosolve Acetate)	<10.	mg/kg
Ethylbenzene	<10.	mg/kg
Ethyl Ester Acetic Acid (Ethyl Acetate)	<10.	mg/kg
2-Methoxyethanol(Methyl Cellosolve)	<10.	mg/kg
Methylbenzene(Toluene)	<10.	mg/kg
Methyl Ester Acetic Acid (Methyl Acetate)	<10.	mg/kg

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SAMPLE NO. : 8903021
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: PJK
PAGE : 2 OF 2

****
* D A T A T A B L E (Cont.) *
****

PARAMETER	RESULT	UNIT
2-Methyl-1-Propanol (Isobutyl Alcohol)	<10.	mg/kg
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	<10.	mg/kg
1-Propanol(Propyl Alcohol)	<10.	mg/kg
2-Propanol(Iso Propyl Alcohol)	<10.	mg/kg
2-Propanone(Acetone)	<10.	mg/kg
1,1,2,2-Tetrachloroethane	<10.	mg/kg
Tetrachloroethane	<10.	mg/kg
Tetrahydrofuran	<10.	mg/kg
1,1,1-Trichloroethane	<10.	mg/kg
1,1,2-Trichloroethane	<10.	mg/kg
Trichloroethene	<10.	mg/kg
Trichloromethane	<10.	mg/kg
1,1,2-Trichloro-1,2,2-Trifluoro-ethane(Freon 113)	<10.	mg/kg
Trimethylbenzene	<10.	mg/kg

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LABORATORY REPORT

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Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903022
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : 8-CR
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

DATA TABLE

PARAMETER	RESULT	UNIT
EP-Tox Arsenic	0.8	mg/L
EP-Tox Barium	1.3	mg/L
EP-Tox Cadmium	<0.5	mg/L
EP-Tox Chromium	0.1	mg/L
EP-Tox Lead	<0.5	mg/L
EP-Tox Mercury	<0.01	mg/L
EP-Tox Selenium	<0.5	mg/L
EP-Tox Silver	<0.5	mg/L
pH	10.0	S.U.
Specific Gravity	2.62	@ 60/60 F
Flash Point	>200.	Fahrenheit
Reactive In Water	Neg.	

(1) Copy to Client

WESTERN TECHNOLOGIES INC.
3737 East Broadway Road
P.O. Box 21387
Phoenix, Arizona 85036
(602) 437-3737

LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903022
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 1 OF 2

CLIENT SAMPLE ID : 8-CR
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

REMARKS -

GC/MS SOLVENT SCREEN

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
Benzene	<10.	mg/kg
1-Butanol (N-Butyl Alcohol)	<10.	mg/kg
2-Butanone (Methyl Ethyl Ketone)	<10.	mg/kg
2-Butoxyethanol (Butyl Cellosolve)	<10.	mg/kg
2-(2-Butoxyethanol) Ethanol (Butyl Carbitol)	<10.	mg/kg
Butyl Ester Acetic Acid (Butyl Acetate)	<10.	mg/kg
Carbon Tetrachloride	<10.	mg/kg
1,1-Dichloroethane(1,1-DCA)	<10.	mg/kg
1,2-Dichloroethane(1,2-DCA)	<10.	mg/kg
1,1-Dichloroethene(1,1-DCE)	<10.	mg/kg
1,2-Dichloroethene(1,2-DCE)	<10.	mg/kg
Dimethylbenzene(Xylene)	<10.	mg/kg
1,4-Diethylene Dioxide(Dioxane)	<10.	mg/kg
1,2-Ethanidiol(Ethylene Glycol)	<10.	mg/kg
Ethanol(Ethyl Alcohol)	<10.	mg/kg
2-Ethoxyethanol(Cellosolve)	<10.	mg/kg
2-Ethoxyethyl Acetate (Cellosolve Acetate)	<10.	mg/kg
Ethylbenzene	<10.	mg/kg
Ethyl Ester Acetic Acid (Ethyl Acetate)	<10.	mg/kg
2-Methoxyethanol(Methyl Cellosolve)	<10.	mg/kg
Methylbenzene(Toluene)	<10.	mg/kg
Methyl Ester Acetic Acid (Methyl Acetate)	<10.	mg/kg

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LABORATORY REPORT

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of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903022
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK

****
* D A T A T A B L E (Cont.) *
****

PARAMETER	RESULT	UNIT
2-Methyl-1-Propanol (Isobutyl Alcohol)	<10.	mg/kg
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	<10.	mg/kg
1-Propanol(Propyl Alcohol)	<10.	mg/kg
2-Propanol(Iso Propyl Alcohol)	<10.	mg/kg
2-Propanone(Acetone)	<10.	mg/kg
1,1,2,2-Tetrachloroethane	<10.	mg/kg
Tetrachloroethane	<10.	mg/kg
Tetrahydrofuran	<10.	mg/kg
1,1,1-Trichloroethane	<10.	mg/kg
1,1,2-Trichloroethane	<10.	mg/kg
Trichloroethene	<10.	mg/kg
Trichloromethane	<10.	mg/kg
1,1,2-Trichloro-1,2,2-Trifluoro-ethane(Freon 113)	<10.	mg/kg
Trimethylbenzene	<10.	mg/kg

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(602) 437-3737

LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903023
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : 8-CS
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

****
* D A T A T A B L E *
****

PARAMETER	RESULT	UNIT
EP-Tox Arsenic	0.6	mg/L
EP-Tox Barium	<1.	mg/L
EP-Tox Cadmium	<0.5	mg/L
EP-Tox Chromium	<0.1	mg/L
EP-Tox Lead	1.1	mg/L
EP-Tox Mercury	<0.01	mg/L
EP-Tox Selenium	<0.5	mg/L
EP-Tox Silver	<0.5	mg/L
pH	8.9	S.U.
Specific Gravity	2.59	@ 60/60 F
Flash Point	>200.	Fahrenheit
Reactive In Water	Neg.	

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WESTERN TECHNOLOGIES INC.
3737 East Broadway Road
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Phoenix, Arizona 85036
(602) 437-3737

LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903023
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 1 OF 2

CLIENT SAMPLE ID : 8-CS
SAMPLE TYPE .....: Soil
SAMPLE SOURCE ...: --
SAMPLED BY .....: WTI/B. Campbell
SUBMITTED BY ....: WTI/W. Shonerd

AUTHORIZED BY: FCD/D. Rerick
CLIENT P.O. : --

SAMPLE DATE .: 03-20-89
SUBMITTED ON : 03-20-89

REMARKS -

GC/MS SOLVENT SCREEN

****
* DATA TABLE *
****

PARAMETER	RESULT	UNIT
Benzene	<10.	mg/kg
1-Butanol (N-Butyl Alcohol)	<10.	mg/kg
2-Butanone (Methyl Ethyl Ketone)	<10.	mg/kg
2-Butoxyethanol (Butyl Cellosolve)	<10.	mg/kg
2-(2-Butoxyethanol) Ethanol (Butyl Carbitol)	<10.	mg/kg
Butyl Ester Acetic Acid (Butyl Acetate)	<10.	mg/kg
Carbon Tetrachloride	<10.	mg/kg
1,1-Dichloroethane(1,1-DCA)	<10.	mg/kg
1,2-Dichloroethane(1,2-DCA)	<10.	mg/kg
1,1-Dichloroethene(1,1-DCE)	<10.	mg/kg
1,2-Dichloroethene(1,2-DCE)	<10.	mg/kg
Dimethylbenzene(Xylene)	<10.	mg/kg
1,4-Diethylene Dioxide(Dioxane)	<10.	mg/kg
1,2-Ethanidiol(Ethylene Glycol)	<10.	mg/kg
Ethanol(Ethyl Alcohol)	<10.	mg/kg
2-Ethoxyethanol(Cellosolve)	<10.	mg/kg
2-Ethoxyethyl Acetate (Cellosolve Acetate)	<10.	mg/kg
Ethylbenzene	<10.	mg/kg
Ethyl Ester Acetic Acid (Ethyl Acetate)	<10.	mg/kg
2-Methoxyethanol(Methyl Cellosolve)	<10.	mg/kg
Methylbenzene(Toluene)	<10.	mg/kg
Methyl Ester Acetic Acid (Methyl Acetate)	<10.	mg/kg

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Phoenix, Arizona 85036
(602) 437-3737

LABORATORY REPORT

CLIENT Flood Control District
of Maricopa County
Attn: Don Rerick
3335 W. Durango Street
Phoenix, AZ 85009

SAMPLE NO. : 8903023
INVOICE NO.: 2179W110
DATE : 04-04-89
REVIEWED BY: FJK
PAGE : 2 OF 2

****
* D A T A T A B L E (Cont.) *
****

PARAMETER	RESULT	UNIT
2-Methyl-1-Propanol (Isobutyl Alcohol)	<10.	mg/kg
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	<10.	mg/kg
1-Propanol(Propyl Alcohol)	<10.	mg/kg
2-Propanol(Iso Propyl Alcohol)	<10.	mg/kg
2-Propanone(Acetone)	<10.	mg/kg
1,1,2,2-Tetrachloroethane	<10.	mg/kg
Tetrachloroethane	<10.	mg/kg
Tetrahydrofuran	<10.	mg/kg
1,1,1-Trichloroethane	<10.	mg/kg
1,1,2-Trichloroethane	<10.	mg/kg
Trichloroethene	<10.	mg/kg
Trichloromethane	<10.	mg/kg
1,1,2-Trichloro-1,2,2-Trifluoro-ethane(Freon 113)	<10.	mg/kg
Trimethylbenzene	<10.	mg/kg

(1) Copy to Client

CHAIN OF CUSTODY RECORD

№ 952

JOB NO. 2179J110

PROJECT NAME Reed Landfill Pg 1

SAMPLERS: (SIGNATURE) Bruce Eybell

SAMPLE IDENTIFICATION	DATE	TIME	COMP.	CRAB	SAMPLE LOCATION	NUMBER OF CONTAINERS	VACSAM	SOIL SCOOP	SOIL AUGAR	SPLIT-SPOON			REMARKS (PHYSICAL APPEARANCE, etc.)	LABORATORY IDENTIFICATION
E1R	3-17	12:40		X	Row 1 Pit E	2		X						
E1S		12:40			" "	2								
D1R		12:50			Row 1 Pit D	2								
D1S		12:50			" "	2								
C1S		12:55			" C	2								
B1S		1:10			"	2								
A1S		1:10			"	2								
1CR	3/20	9:49	X		composite R	1							Moist soil some sand	8903008
1CS	3/20	9:52	X		composite S	1							Moist soil -gravel	8903009
A2R	3/17	1:25		X	Row 2 Pit A	2								
A2S		1:25			" "	2								
~~A~~ B2S		1:20			" Pit B	2								
C2S		2:30			" Pit C	2								
C2R		2:30			" "	2								
D2R		3:00			" Pit D	2								
D2S		3:00			" "	2								

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)
Bruce Eybell	3/20/89	10:50	Wesley Thomas				
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE	TIME	REMARKS	
Wesley Thomas	3/20/89	11:40	James Hull	3/20/89	11:40		

WESTERN TECHNOLOGIES INC.
3737 East Broadway Road
P.O. Box 21387
Phoenix, Arizona 85036
602-437-3737

White–Testing Laboratory; Yellow–Field Sampler; Pink–Department Job File

CHAIN OF CUSTODY RECORD

№ 953

JOB NO. 2179J110

PROJECT NAME Reed Landfill

SAMPLERS: (SIGNATURE) Bruce Cybell

SAMPLE IDENTIFICATION	DATE	TIME	COMP.	CRAB	SAMPLE LOCATION	NUMBER OF CONTAINERS	VACSAM	SOIL SCOOP	SOIL AUGAR	SPLIT-SPOON			REMARKS (PHYSICAL APPEARANCE, etc.)	LABORATORY IDENTIFICATION
E2R	3-17	3:35		X	Row 2 Pit E	2		X						
E2S		3:35		X	" "	2								
2CR	3/20	10:00	X		Composite Row 2 R	1							moist soil - gravel	8903010
2CS	3/20	10:00	X		Composite Row 2S	1							Sand, Gravel, cobble	8903011
A3S	3/17	1:35		X	Row 3 Pit A	2								
B3S		1:45		X	Row 3 Pit B	2								
C3R		1:50		X	" Pit C	2								
C3S		1:50		X	" "	2								
F3S		2:20		X	" Pit F	2								
D3R		2:45		X	" Pit D	2								
D3S		2:45		X	" "	2								
E3R		3:05		X	" Pit E	2								
E3S		3:05		X	" "	2								
3CR	3/20	10:10	X		Composite Row 3 R	1							Moist soil, Gravel, wood	8903012
3CS	3/20	10:15	X		Composite Row 3S	1							moist soil sand + Gravel	8903013

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)
Bruce Cybell	3/20/89	10:50	Wesley Shomed				
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE	TIME	REMARKS	
Wesley Shomed	3/20/89	11:40	Jamie Dull	3/20/89	11:40		

WESTERN TECHNOLOGIES INC.
3737 East Broadway Road
P.O. Box 21387
Phoenix, Arizona 85036
602-437-3737

White–Testing Laboratory; Yellow–Field Sampler; Pink–Department Job File

CHAIN OF CUSTODY RECORD

№ 955

JOB NO. 2179J110

PROJECT NAME Reed Landfill

SAMPLERS: (SIGNATURE) Bruce Tyrell

SAMPLE IDENTIFICATION	DATE	TIME	COMP.	CRAB	SAMPLE LOCATION	NUMBER OF CONTAINERS	VACSAM	SOIL SCOOP	SOIL AUGAR	SPLIT-SPOON			REMARKS (PHYSICAL APPEARANCE, etc.)	LABORATORY IDENTIFICATION
E5R	3-17	8:30		X	Row5 pit E	2		X						
E5S		"			" "									
D5R		8:50			" pit D									
D5S		"			" "									
C5R		9:00			" Pit C									
C5S		"			" "									
B5R		9:20			" Pit B									
B5S		"			" "									
A5R		9:20			" Pit A									
A5S		"			" "									
5CR	3/20	10:20	X		Composite Row5R	1							Moist soil, Gravel, wood	89030016
5CS	3/20	10:22	X		" " " S	1							Sand, gravel	89030017
A6R	3/17	9:40		X	Row6 Pit A	2								
A6S		"			" "									
B6R		10:00			" Pit B									
B6S					" "									

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)
Bruce Tyrell	3/20/89	10:50	Washy Howard				
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE	TIME	REMARKS	
Washy Howard	3/20/89	11:40	Jamie Hall	3/20/89	11:40		

WESTERN TECHNOLOGIES INC.
3737 East Broadway Road
P.O. Box 21387
Phoenix, Arizona 85036
602-437-3737

White-Testing Laboratory; Yellow-Field Sampler; Pink- Department Job File

CHAIN OF CUSTODY RECORD

№ 956

JOB NO. 2179J110

PROJECT NAME Reed Landfill

SAMPLERS: (SIGNATURE) Bruce Eybell

SAMPLE IDENTIFICATION	DATE	TIME	COMP.	CRAB	SAMPLE LOCATION	NUMBER OF CONTAINERS	VACSAM	SOIL SCOOP	SOIL AUGAR	SPLIT-SPOON			REMARKS (PHYSICAL APPEARANCE, etc.)	LABORATORY IDENTIFICATION
6R	3-17	10:40		X	Row 6 Pit C	2		X						
C6S		"			" "	2								
D6R		10:50			" Pit D									
D6S		"			" "									
E6R		11:00			" Pit E									
E6S		"			" "									
F6R		11:15			" Pit F									
F6S		11:15			" "									
6CR	3/20	10824	X		Composite Row 6R	1							Moist soil + wood, sand	8903018
6CS	3/20	10:27	X		" " " S	1							Sand Gravel	8903019
F7R	3/17	8:10		X	Row 7 Pit F	2								
F7S		"			" "									
E7R		8:35			" Pit E									
E7S		"			" "									
D7R		8:55			" Pit D									
D7S		"			" "									

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)
Bruce Eybell	3/20/89	10:50	Wesley Thomas				
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE	TIME	REMARKS	
Wesley Thomas	3/20/89	11:40	Jamie Bell	3/20/89	11:40		

WESTERN TECHNOLOGIES INC.
3737 East Broadway Road
P.O. Box 21387
Phoenix, Arizona 85036
602-437-3737

White-Testing Laboratory; Yellow-Field Sampler; Pink-Department Job File

CHAIN OF CUSTODY RECORD

№ 957

JOB NO. 2179J110

PROJECT NAME Reed Landfill

SAMPLERS: (SIGNATURE) Bruce Eybell

SAMPLE IDENTIFICATION	DATE	TIME	COMP.	CRAB	SAMPLE LOCATION	NUMBER OF CONTAINERS	VACSAM	SOIL SCOOP	SOIL AUGAR	SPLIT-SPOON			REMARKS (PHYSICAL APPEARANCE, etc.)	LABORATORY IDENTIFICATION
C7R	3-17	9:15		X	Row 7 Pit C	2		X						
C7S		"			" "									
B7R		9:45			" Pit B									
B7S		"			" "									
A7R		10:00			" Pit A									
A7S		"			" "									
7CR	3/20/89	10:35	X		composite Row 7R	1							~~Sand~~ Soil, smoke, wood	89030020
7CS	3/20/89	10:40	X		" " " S	1							Soil, sand, gravel	89030021
A8R		10:25		X	Row 8 Pit A	2								
A8S		"			" "									
B8R		10:55			" Pit B									
B8S		"			" "									
C8R		11:10			" Pit C									
C8S		"			" "									
D8R		11:30			" Pit D									
D8S		"			" "									

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)
Bruce Eybell	3/20/89	10:50	Wesley Thorend				
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE	TIME	REMARKS	
Wesley Thorend	3/20/89	11:40	Jamie Dull	3/21/89	11:40		

WESTERN TECHNOLOGIES INC.
3737 East Broadway Road
P.O. Box 21387
Phoenix, Arizona 85036
602-437-3737

White–Testing Laboratory; Yellow–Field Sampler; Pink–Department Job File

CHAIN OF CUSTODY RECORD

№ 951

JOB NO. 2179J110

PROJECT NAME Reed Landfill

SAMPLERS: (SIGNATURE) Bruce Tyrbell

SAMPLE IDENTIFICATION	DATE	TIME	COMP.	CRAB	SAMPLE LOCATION	NUMBER OF CONTAINERS	VACSAM	SOIL SCOOP	SOIL AUGAR	SPLIT-SPOON			REMARKS (PHYSICAL APPEARANCE, etc.)	LABORATORY IDENTIFICATION
E8R	3:17	12:30		X	Row 8 Pit E	2		X						
E8S	"	12:30		X	" "	2								
8CR	3:20	10:43	X		composite Row 8R	1							Soil, sand, some wood	8903022
8CS	3:20	10:46	X		" " " S	1							Sand, gravel, soil	8903023

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)
Bruce Tyrbell	3/20/89	10:50	Wesley Thorne				
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE	TIME	REMARKS	
Wesley Thorne	3/20/89	11:40	Jamie Hull	3/20/89	11:40		

WESTERN TECHNOLOGIES INC.
3737 East Broadway Road
P.O. Box 21387
Phoenix, Arizona 85036
602-437-3737

White–Testing Laboratory; Yellow–Field Sampler; Pink–Department Job File

QUALITY ASSURANCE PROCEDURES

QUALITY ASSURANCE PROCEDURES

Quality Control Program

To assure the highest quality analytical services, Western Technologies Inc. adheres to a comprehensive quality control program which has been approved by the Arizona Department of Health Services and has been presented to the U.S. Environmental Protection Agency (Region IX). The basic elements of the quality control program are summarized in Exhibit I.

Western Technologies Inc. will also analyze duplicate and blind samples as provided or requested, in addition to routine quality control procedures.

The Western Technologies Chemistry Laboratory also takes part in external quality control programs. Western Technologies Inc. currently receives metals, nutrients, pesticide and herbicide performance check samples from the Arizona Department of Health Services, and receives volatile organics, purgeable organics, PCB, and pesticide performance check samples from the Environmental Protecton Agency.

Chain of Custody Procedures

Western Technologies Inc. will provide a supply of Chain of Custody Forms (Exhibit II) and data report forms (Exhibit III). A Chain of Custody procedure is outlined below.

1. Upon collection or receipt of sample, client shall document appropriate requested information on the Chain of Custody form, including the signature of the receiver or collector.

2. Photocopies should be retained by the client.

3. Upon shipping samples to the laboratory, the shipper shall sign off on the Chain of Custody form.

4. Upon receipt of the sample at the Western Technologies Inc. laboratory, each receiver shall document receipt on the Chain of Custody form.

5. Upon receipt at the Western Technologies Inc. laboratory, the sample shall be logged into a special sample log designated for client samples. The Chain of Custody form shall remain on file.

6. If return of the samples is requested, the shipment of the samples shall be documented on the Chain of Custody form. The form shall be photocopied, and a copy returned with the samples to the client.

7. Upon receipt of returned samples, the receiver shall document receipt on the Chain of Custody form. The form shall then be maintained on file.

8. If the sample is not returned, Western Technologies Inc. personnel will discard the sample 30 days after the report has been released. The discard date and person discarding the sample shall be noted on the Chain of Custody form prior to placing the form in the Western Technologies Inc. permanent file.

Reporting

The data report form presented in Exhibit III shall be used by Western Technologies Inc. Appropriate units of measurement and other sample information will be included on the typed report. Copies of the final report and related documents shall be mailed to the client as requested.

Western Technologies Inc. shall modify report forms as requested by the client to best serve their needs.

EXHIBITS

Exhibit I

Western Technologies Inc.

CHEMISTRY LABORATORY QUALITY ASSURANCE POLICIES

A. Program Overview

1. Specifications of responsiblities, including QC duites are outlined for all laboratory personnel.

2. Outline of sampling techniques, preservatives (when necessary) and appropriate containers for the desired analyses, and outline of the chain of custody protocol.

3. Maintenance of an up to date manual of approved analytical methods (Standard Methods, EPA, ASTM) and quality assurance policies employed in the laboratory.

4. Means of assessing data for completeness and accuracy (data feedback and review).

5. Maintenance of a preventative maintenance program on all laboratory equipment.

B. Laboratory records:

1. Records containing all relevant data are easily accessible and kept for a specified period of time.

2. Logbooks to identify sample, collector, time of collection and analysis, and the analyst are maintained.

3. Legible workbooks or worksheets are maintained to recheck work and calculations.

4. Records are kept of all graphs and charts.

C. General policies for chemistry methods:

1. Written approved procedures for all analyses are employed.

2. Reagent, calibration standard, and control solution preparation are documented.

3. Operational procedures for equipment used, including specific set up for particular analyses (i.e., wavelength, slit width, lamp element, chromatographic column, detector, temperatures, specific gases, flow rates, voltages, etc.) are documented.

4. Calculation of results (i.e., adjustment for dilution or concentration, significant figures, proper units included in data and results, etc.) are verified.

5. Limits of detection are identified for each parameter.

6. Written quality assurance policies are maintained and followed to include the following:

   a. Cross-check arithmetic calculations.
   b. Analysis checks:
      (1) A standard reagent curve composed of a minimum of a reagent/method blank and three calibration standards covering the concentration range of the samples is prepared.
      (2) 10% of all samples are analyzed for spike recovery.
      (3) 10% of all samples are analyzed in duplicate (percent difference = precision in method).
      (4) Replicate determinations on a standard, control or sample are performed throughout the run (percent difference from first determination = precision in the run).
      (5) In general, in the event that a particular run is "out of control", i.e., the spike or duplicate value is outside the specified limits for each parameter, the known control standard is re-run. If this value is outside specified limits, a new calibration curve is obtained by remaking standards and/or recalibrating the instrument and again analyzing the control standard. Specific instructions are detailed in each SOP (Standard Operating Procedure) available for every parameter analyzed.

D. Organic chemistry:

In addition to the applicable quality assurance policies given under general chemistry methods, the following apply:

1. Retention times for each organic component measured (specify columns, gases, flow rates, temperatures and detector used) are recorded.

2. An appropriate internal standard where possible is used to monitor the chromatographic system. External standards are used for quantitation purposes.

E. Preventative maintenance program:

Log and/or documentation is kept for the following:

1. Calibration checks on analytical balances with Class S weights.

2. Volumetric checks on pipets (particularly micropipets).

3. Thermometer verification against NBS standard.

4. Log of gas cylinder changes.

5. Log of filter and molecular sieve changes on gas lines.

6. Record of service contracts on equipment.

7. Record of routine checks made on equipment on a daily, weekly, monthly, quarterly, semi-annual and annual basis.

Methods (EPA-600/4-80-032, 133P)

CHAIN OF CUSTODY RECORD

EXHIBIT II

JOB NO.	PROJECT NAME
SAMPLERS: (SIGNATURE)	

SAMPLE IDENT.	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NUMBER OF CONTAINERS	VACSAM	SOIL SCOOP	SOIL AUGER	SPLIT-SPOON				REMARKS (PHYSICAL APPEARANCE, etc.)	LAB I.D.

RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED BY (SIGNATURE)
RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED BY (SIGNATURE)
RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE / TIME	REMARKS	

WESTERN TECHNOLOGIES INC.
3737 East Broadway Road
P.O. Box 21387
Phoenix, Arizona 85036

EXHIBIT III

LABORATORY REPORT

Client

Job No.

Lab./Invoice No.

Date of Report

Reviewed By

Project

Location

Material/Specimen

Sampled By

Date

Source

Submitted By

Date

Test Procedure

Authorized By

Date

RESULTS

_____ samples were received for analysis. The analysis methods and results are attached.

SAMPLE NUMBER	---------	---------	EPA METHOD ANALYSIS
CLIENT IDENTIFICATION	---------	---------	

PARAMETER	RESULT/UNITS	RESULT/UNITS	EPA METHOD NO.
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FACILITY, COUNTY & CONTACT PERSON	OPERATOR NAME AND ADDRESS	LAND OWNER NAME AND ADDRESS	DIRECTIONS, LOCATIONS TOWNSHIPS, RANGES AND SECTIONS SPECIAL WASTES HANDLED
SAFFORD MSWLF GRAHAM ROBERT PORTER	CITY OF SAFFORD P.O. BOX 272 SAFFORD, AZ 85546 (602) 428-2762	CITY OF SAFFORD P.O. BOX 272 SAFFORD, AZ 85546 (602) 428-2762	3.5 MILES NORTH OF SAFFORD ON 8TH AVE. T 06S R 26E Sec 31 1/4 NE NE NE LIQUIDS? N ASBESTOS? N
SAN JOSE VSWLF GRAHAM	GRAHAM COUNTY 800 MAIN STREET SAFFORD, AZ 85546 (602) 428-1962	BLM, SAFFORD DIST. OFFICE 425 EAST 4TH STREET SAFFORD, AZ 85546	.3 MILES NORTH OF U.S. 70 AT SAN JOSE, EAST .2 MILES TO ENTRANCE. T 07S R 27E Sec 21 1/4 SE SE NE LIQUIDS? N ASBESTOS? N
BLUE VSWLF GREENLEE LYNN KARTCHNER	GREENLEE COUNTY P.O. BOX 908 CLIFTON, AZ 85533 (602) 865-4762	USFS-APACHE SITGREAVES P.O. BOX 640 SPRINGERVILLE 85938	AT BLUE ARIZONA. T 03N R 31E Sec 14 1/4 LIQUIDS? N ASBESTOS? N
LOMA LINDA MSWLF GREENLEE LYNN KARTCHNER	GREENLEE COUNTY P.O. BOX 908 CLIFTON, AZ 85533 (602) 865-4762	BLM, SAFFORD DIST. OFFICE 425 EAST 4TH STREET SAFFORD, AZ 85546	1.5 MILES EAST OF U.S. 666 ON WARDS CANYON ROAD, .2 MILES SOUTH. T 05S R 30E Sec 15 1/4 SW SE NE LIQUIDS? Y ASBESTOS? N
SOUTH COUNTY MSWLF GREENLEE LYNN KARTCHNER	GREENLEE COUNTY P.O. BOX 908 CLIFTON, AZ 85533 (602) 865-4762	BLM, SAFFORD DIST. OFFICE 425 EAST 4TH STREET SAFFORD, AZ 85546	6 MILES NORTH OF DUNCAN OF THE EAST SIDE OF AZ. 75. T 08S R 31E Sec 34 1/4 NE SE LIQUIDS? N ASBESTOS? N
CO. RIVER TRIBES MSWLF LA PAZ	CO. RIVER INDIAN TRIBE ROUTE 1, BOX 23-B PARKER, AZ 85344	CO. RIVER INDIAN TRIBE ROUTE 1, BOX 23-B PARKER, AZ 85344	1 MILE NORTH OF THE PARKER AIRPORT ON AZ. 95, .5 MILES EAST. T 09N R 19W Sec 04 1/4 NW NW NW LIQUIDS? Y ASBESTOS? N
QUARTZSITE MSWLF LA PAZ	LA PAZ COUNTY P.O. BOX BP PARKER, AZ 85344 (602) 669-6158	BLM, YUMA DISTRICT OFFICE 3150 WINSOR DRIVE YUMA, AZ 85364 (602) 762-6300	2.5 MILES NORTH OF I-10 ON THE WEST SIDE OF AZ. 95. T 04N R 19W Sec 09 1/4 NE SE LIQUIDS? Y ASBESTOS? N
27TH AVENUE MSWLF MARICOPA DAN SITES	CITY OF PHOENIX 1724 EAST INDIAN SCHOOL PHOENIX, AZ 85016 (602) 256-3307	CITY OF PHOENIX 1724 EAST INDIAN SCHOOL PHOENIX, AZ 85016	THE SOUTHWEST CORNER OF 27TH AVENUE AND LOWER BUCKEYE ROAD IN PHOENIX. T 01N R 02E Sec 23 1/4 NE NE LIQUIDS? N ASBESTOS? N

FACILITY, COUNTY & CONTACT PERSON	OPERATOR NAME AND ADDRESS	LAND OWNER NAME AND ADDRESS	DIRECTIONS, LOCATIONS TOWNSHIPS, RANGES AND SECTIONS SPECIAL WASTES HANDLED
AGUILA MSWLF MARICOPA NICK SCIARRO	MARICOPA COUNTY 3325 WEST DURANGO PHOENIX, AZ 85009 (602) 269-2661	AZ. STATE LAND DEPARTMENT 1624 WEST ADAMS PHOENIX, AZ 85007	3.1 MILES WEST OF AQUILA ON THE SOUTH SIDE OF U.S. 60. T 07N R 09W Sec 29 1/4 NE NE NE LIQUIDS? N ASBESTOS? N
ALLIED RLF MARICOPA	CALMAT OF ARIZONA 1801 EAST UNIVERSITY PHOENIX, AZ 85072	CALMAT OF ARIZONA 1801 EAST UNIVERSITY PHOENIX, AZ 85072	SOUTH OF INDIAN SCHOOL ROAD, WEST SIDE OF THE AUGUA FRIA RIVER. T R Sec 1/4 LIQUIDS? N ASBESTOS? N
ARIZONIA CRUSHERS RLF MARICOPA	ARIZONA CRUSHERS INC. P.O. BOX 9129 PHOENIX, AZ 85068	AZ. STATE LAND DEPARTMENT 1624 WEST ADAMS PHOENIX, AZ 85007	ON THE NORTH WEST CORNER OF 7TH STREET AND BEARDSLEY ROAD IN PHOENIX T R Sec 1/4 LIQUIDS? N ASBESTOS? N
BRADLEY RLF MARICOPA JOHN BRADLEY	BRADLEY INVESTMENT CO. 2425 SOUTH 40TH STREET PHOENIX, AZ 85036	BRADLEY INVESTMENT CO. 2425 SOUTH 40TH STREET PHOENIX, AZ 85036	EAST SIDE OF 40TH STREET .25 MILES NORTH OF UNIVERSITY, PHOENIX. T 01N R 04E Sec 18 1/4 SE SW LIQUIDS? N ASBESTOS? N
CAVE CREEK MSWLF MARICOPA NICK SCIARRO	MARICOPA COUNTY 3325 WEST DURANGO PHOENIX, AZ 85009 (602) 269-2661	BLM, PHOENIX DIST. OFFICE 2015 WEST DEER VALLEY RD. PHOENIX, AZ 85027	8.3 MILES EAST OF I-17 ON THE SOUTH SIDE OF AZ. 74. T 05N R 04E Sec 07 1/4 NE NW NW LIQUIDS? N ASBESTOS? N
CENTRAL AVENUE RLF MARICOPA	UNION ROCK AND MATERIALS P.O. BOX 8007 PHOENIX, AZ 85066	UNION ROCK AND MATERIALS P.O. BOX 8007 PHOENIX, AZ 85066	.25 MILES SOUTH OF I-10 ON CENTRAL AVE., WEST .25 MILES ON WATKINS. T 01N R 03E Sec 20 1/4 NE NE LIQUIDS? N ASBESTOS? N
CHANDLER MSWLF MARICOPA NORM GUMINEK	CITY OF CHANDLER 200 EAST COMMENWEALTH CHANDLER, AZ 85224 (602) 786-2897	CITY OF CHANDLER 200 EAST COMMONWEALTH CHANDLER, AZ 85224 (602) 786-2897	NORTHWEST CORNER OF OCOTILLO AND MCQUEEN ROADS, CHANDLER. T R Sec 1/4 LIQUIDS? N ASBESTOS? N
EL MIRAGE RLF MARICOPA KEN BOYCE	KEN BOYCE 11141 NORTH 115TH AVE. EL MIRAGE, AZ 85335	MUCHO DINERO 1111 LAS VEGAS BLVD SOUTH LAS VEGAS, NV 89104	SOUTH SIDE OF AZ. 93 AND THE AGUA FRIA RIVER, EL MIRAGE. T 03N R 01E Sec 18 1/4 SW NW NW LIQUIDS? N ASBESTOS? N

FACILITY, COUNTY & CONTACT PERSON	OPERATOR NAME AND ADDRESS	LAND OWNER NAME AND ADDRESS	DIRECTIONS, LOCATIONS TOWNSHIPS, RANGES AND SECTIONS SPECIAL WASTES HANDLED
FIRST STREET RLF MARICOPA	KACHINA READY-MIX 1976 EAST PIMA STREET TEMPE, AZ 85281	KACHINA READY-MIX 1976 EAST PIMA STREET TEMPE, AZ 85281	NORTHEAST CORNER OF FIRST STREET AND CLARK DRIVE, TEMPE. T R Sec 1/4 LIQUIDS? N ASBESTOS? N
GILA BEND MSWLF MARICOPA NICK SCIARRO	MARICOPA COUNTY 3325 WEST DURANGO PHOENIX, AZ 85009 (602) 269-2661	BLM, PHOENIX DIST. OFFICE 2015 WEST DEER VALLEY RD. PHOENIX, AZ 85027	3.4 MILES NORTH OF AZ. 85 ON WEST SIDE OF U.S. 80. T 05S R 04W Sec 16 1/4 NE SW LIQUIDS? N ASBESTOS? N
GLENDALE MSWLF MARICOPA BOBBY PARKER	CITY OF GLENDALE P.O. BOX, 1556 GLENDALE, AZ 85311 (602) 931-5588	CITY OF GLENDALE P.O. BOX 1556 GLENDALE, AZ 85311	NORTH SIDE OF GLENDALE AVENUE EAST OF THE AGUA FRIA RIVER. T 02N R 01E Sec 06 1/4 SW LIQUIDS? N ASBESTOS? N
HASSAYAMPA MSWLF MARICOPA NICK SCIARRO	MARICOPA COUNTY 3325 WEST DURANGO PHOENIX, AZ 85009 (602) 269-2661	MARICOPA COUNTY 3325 WEST DURANGO PHOENIX, AZ 85009	SALOME ROAD WEST TO THE JUNCTION OF WICKENBURG AND WARD ROADS. T 01N R 05W Sec 03 1/4 NE SE LIQUIDS? Y ASBESTOS? Y
KNOECHEL BROTHERS RLF MARICOPA HERB KNOECHEL	KNOECHEL BROTHERS INC. 18227 NORTH 13TH AVENUE PHOENIX, AZ 85023 (602) 942-6041	AZ. STATE LAND DEPARTMENT 1624 WEST ADAMS PHOENIX, AZ 85007	THE SOUTHWEST CORNER OF 16TH STREET AND HAPPY VALLEY ROAD. T 04N R 03E Sec 09 1/4 SW NE LIQUIDS? N ASBESTOS? N
MORRISTOWN MSWLF MARICOPA NICK SCIARRO	MARICOPA COUNTY 3325 WEST DURANGO PHOENIX, AZ 85009 (602) 269-2661	AZ. STATE LAND DEPARTMENT 1624 WEST ADAMS PHOENIX, AZ 85007	1 MILE SOUTH OF U.S. 60 OFF OF THE MORRISTOWN OVERPASS. T 06N R 03W Sec 19 1/4 NE NW SE LIQUIDS? N ASBESTOS? N
NEW RIVER MSWLF MARICOPA NICK SCIARRO	MARICOPA COUNTY 3325 WEST DURANGO PHOENIX, AZ 85009 (602) 269-2661	BLM, PHOENIX DIST. OFFICE 2015 WEST DEER VALLEY RD. PHOENIX, AZ 85027	4.3 MILES WEST OF I-17 ON THE EAST SIDE OF LAKE PLESANT ROAD. T 06N R 02E Sec 17 1/4 NW SW LIQUIDS? Y ASBESTOS? N
NORTHWEST REGIONAL MSWLF MARICOPA NICK SCIARRO	MARICOPA COUNTY 3325 WEST DURANGO PHOENIX, AZ 85009 (602) 269-2661	MARICOPA COUNTY 3325 WEST DURANGO PHOENIX, AZ 85009	3.5 MILES WEST OF U.S. 89 ON DEER VALLEY ROAD. T 04N R 02W Sec 21 1/4 LIQUIDS? N ASBESTOS? N

GLENN WEINBERGER TOPSOIL, INC.

LANDFILL - INVENTORY ITEM NUMBERS July 5, 1988 #L.30

1st - 3rd Digits	4th Digit		Price
510 Roofing	-1	Lt Bobtail	26.00
	-2	Heavy Bobtail	40.00
	-3	10 Whlr Light	39.00
	-4	10 Whlr Heavy	62.00
	-5	Semi Light	57.00
	-6	Semi Heavy	89.00
	-7	1 Ton Light	18.00
	-8	1 Ton Heavy	29.00
	-9	P/U Light	16.00
520 Regular	-1	Part. Bobtail Debris	28.00
	-2	Bobtail Debris	44.00
	-3	Part. 10 Whlr Debris	44.00
	-4	10 Whlr Debris	62.00
	-6	Semi Debris	89.00
	-7	Part. 1 Ton Debris	18.00
	-8	1 Ton Debris	28.00
	-9	Partial P/U	14.00
530 Bins	-0	12 Yard	32.00
	-1	17 Yard	42.00
	-2	20 Yard	48.00
	-3	25 Yard	60.00
	-4	30 Yard	77.00
	-6	40 Yard	93.00
	-7	40 Yard Special	56.00
	-8	50 Yard	99.00
540 Mixture	-1	Pt Bobtail Mix Debris	32.00
	-2	Bobtail Mix Debris	50.00
	-3	Pt 10 Whlr Mix Debris	50.00
	-4	10 Whlr Mix Debris	93.00
	-6	Semi Mix Debris	123.00
	-7	Pt 1 Ton Mix Debris	19.00
	-8	1 Ton Mix Debris	32.00
	-9	Pt P/U Mix Debris	16.00
550 Misc.	-0	Misc Landfill	
10 Salvage		Landfill Salvage	

CalMat
of Arizona
The CalMat Companies

RECEIVED
APR
WESTERN TECHNOLOGIES, INC.
PHOENIX, ARIZONA

April 18, 1989

Western Technologies
P.O. Box 21387
Phoenix, AZ 85036

Attention: Wesley Shonerd

Dear Wes,

In response to your request for a firm price quotation at CalMat's landfill located near 119th Avenue and Indian School Road CalMat is pleased to quote $27.50 per load with the following special conditions.

1. This price is per semi end dump truck load at approximately 20 tons per load.

2. That all material is certified, in writing, as demolition debris.

3. That CalMat will be held harmless against any other type of waste including, but not limited to hazardous material.

4. That all material covered under this price comes from the Maricopa County landfill site located near 67th Avenue and Southern Avenue.

5. The final date of the price is December 31, 1989.

The above conditions are in addition to normal operating procedure at Calmat's landfill.

If there are any questions or clarifications needed please do not hesitate to call me at 602-254-8465.

Sincerely,

Wayne Stamper

Wayne Stamper
General Sales Manager

WS/cc

<S-2305>

3/23/89

MARICOPA COUNTY LANDFILL DEPARTMENT

USER FEES AND PROVISIONS

I. LANDFILL USER FEES. All users must pay disposal fees according to the fee schedule below. Residents may have fees for beyond limits set forth in Class 4. Fees are calculated by cubic yards or in pounds where weighing scales are available. The size of the load will be evaluated by the landfill station attendant.

CLASS 1 GARBAGE WASTE (SEE PROHIBITED WASTE LIST, PART III, Section A AND B)

A. Commercial Garbage, Compactor Trucks, Bins, Compactor or Open Containers, etc.

RATES:

Per Cubic Yard: $3.00 (container measured: length x width x height divided by 27 equals cubic yards). Note: Where cubic yardage is less than one yard, a minimum charge will be 1 yard x $3.00 per yard.

Per Ton: $10.50 (2,000 pounds equal one ton). Note: Minimum charge is $10.50 for 1 ton (or 2,000 pounds). Increments in 100 pounds thereafter.

CLASS 2 GENERAL WASTES (SEE MANIFEST CONDITIONS, Part VI)

Note: Where cubic yardage is less than one yard, charge is 1 yard x rate shown below.

Note: Minimum charge is 1 ton (or 2,000 pounds) for all class 2 general wastes. Increments in 100 pounds thereafter.

	PRICE/Cu.Yd.	PRICE/TON	EACH
A. Tires	$15	$45	$15/Tractor or Earth Moving Equipment Tire(s)
B. Wire (cable, electrical wire, barbed wire etc.)	$15	$30	
C. Barrels: Whole	$10	$20	
Quartered	$5	$10	
D. Tree stumps, branches, poles, large pipe over 3" diameter, logs	$10	$20	
E. Mattresses, box springs and appliances	$10	$20	
F. Grass, palm fronds, tree leaves, brush	$5	$20	
G. Manure, barn yard and stable droppings consisting of livestock excretion, feed and straw combinations	$6.50	$13	
H. Foods: canned or containerized; farming rejects, produce, dairy products, egg wastes, etc	$6.50	$13	
I. Demolition Material	$5.25	$10.50	
J. Partial buildings: industrial, residential, school etc	$10	$20	
K. Medical waste (non-infectious): drapes, clothes, paper, syringes, glass bottles, plastic items	$32.50	$65	$5/bag(up to 55 gal. bag size)
L. Vehicles and large equipment: cars, trucks, boats, trailers, machinery (industrial and military), water tanks, etc. MUST HAVE TITLE and/or PERSONAL IDENTIFICATION			$50

A. User fees for solid waste are based on size (volume) and/or weight measured in tons. For landfills without scales, user fees will be based on the volume in cubic yards of the waste container whether full or partially full. For example, if a truck with a capacity of 10 cubic yards hauls 7 cubic yards of waste, the payment will be calculated on the full 10 yards. For landfills with scales, user fees will be based on the actual tonnage weight of the waste.

B. User fees for liquid waste are based on gallons whether full or partially full.

C. Payments at Landfills. Direct payment for scale weight will be accepted at the Northwest Regional Landfill only. All other landfill locations will not accept cash or check payments.

D. Delinquent Payments. Processing fees will be charged to users for payment not received by the 15th of the month following the statement billing. Processing fees will be assessed for delinquent payment accounts in accordance with the following schedule:

Accounts not paid within 30 days after statement billing:
1. $5.00 late fee for charges of $200 or less.
2. 5% late fee for charges above $200 but less than $750.
3. 10% late fee for charges exceeding $750.

Invoices not paid in full within 60 days after invoice date:
1. 10% late fee added regardless of amount.

Invoices not paid in full within 90 days after invoice date:
1. 10% late fee added regardless of amount.
2. Account will be referred to Revenue and Collections for recovery of charges due and landfill dumping privilege will be terminated.
3. Reopening established delinquent accounts after payment is received in full will require $100 permit fee for the remainder of the year; and thereafter $50.00 annually.

VIII. **MANIFESTS (ASBESTOS, MEDICAL, CONTAINERS AND LIQUID WASTES).** Any party who wishes to dispose of asbestos, medical, containers, liquid or other special wastes must complete a manifest as provided by the Landfill Department. Manifests must accompany all loads of special wastes transported to the landfill and be completed and signed prior to disposal of wastes. Conditions listed on the manifest must be followed or waste disposal may be refused.

Manifest information is available at the Durango Landfill Office.

IX. **LANDFILL OFFICE.** The Maricopa County Landfill Department is located at 3325 West Durango Street, Phoenix, Arizona 85009. (602) 269-2661. Office hours are from 7:30 a.m. to 5:00 p.m. Monday through Friday. The office and the landfills are closed on all county celebrated holidays. For dates or questions, please call.

LANDFILL LOCATIONS AND OPERATING HOURS

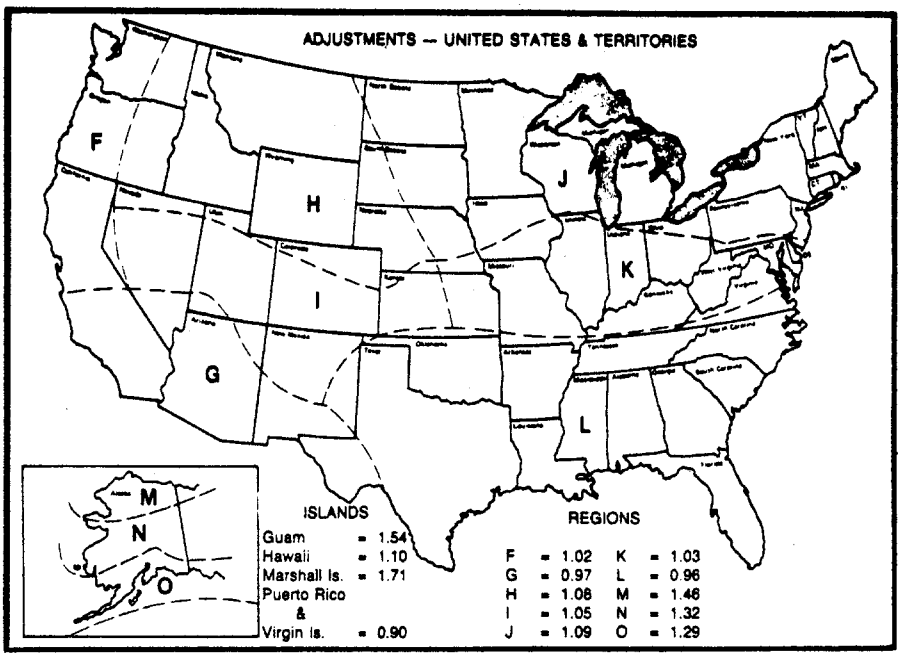
The landfills and transfer stations are closed on all county celebrated legal holidays and on the days of the week indicated.

A. LANDFILLS (COMMERCIAL AND RESIDENTIAL WASTE)

CAVE CREEK LANDFILL	3 MILES WEST OF CAVE CREEK ROAD ON CAREFREE HIGHWAY CLASSES 1 & 4 CLASS 2 EXCEPT K, O, Q & R	OPEN DAILY COMMERCIAL HOURS 7:30-3:30 RESIDENT HOURS 7:30-3:45 SOLID WASTE; NO LIQUIDS
GILA BEND LANDFILL	3 MILES NORTH OF THE TOWN OF GILA BEND ON OLD U.S. HIGHWAY 80 CLASSES 1, 3 & 4 CLASS 2 EXCEPT K, O, Q & R	OPEN TUESDAY-SATURDAY COMMERCIAL HOURS 8:30-5:00 RESIDENT HOURS 8:30-5:00 LIQUID & SOLID WASTES ACCEPTED
HASSAYAMPA LANDFILL	SALOME HIGHWAY & WARD RD./BASELINE RD. 1/2 MI. EAST OF 331ST AVE. CLASSES 1, *2, 3 & 4	OPEN DAILY COMMERCIAL HOURS 7:30-3:30 RESIDENT HOURS 7:30-3:45 LIQUID & SOLID WASTES ACCEPTED *ASBESTOS WASTE 7:30-1:30 ONLY
NEW RIVER LANDFILL	3 1/2 MILES WEST OF I-17 ON NEW RIVER RD. CLASSES 1, 3 & 4 CLASS 2 EXCEPT K, O, Q & R	COMMERCIAL HRS. 7:30-3:30; Mon.-Sat. RESIDENT HRS. 7:30-4:15; DAILY LIQUID & SOLID WASTES ACCEPTED
NORTHWEST REGIONAL LANDFILL	DEER VALLEY ROAD & 195TH AVENUE CLASSES 1 & 4 CLASS 2 EXCEPT K, O, Q & R	OPEN DAILY COMMERCIAL HOURS 7:30-5:00 RESIDENT HOURS 7:30-5:30 SOLID WASTE; NO LIQUIDS
QUEEN CREEK LANDFILL	1/2 MI. SOUTH OF CHANDLER HEIGHTS ROAD ON HAWES RD CLASSES 1, 3 & 4 CLASS 2 EXCEPT K, O, Q & R	OPEN MONDAY-SATURDAY COMMERCIAL HOURS 7:30-3:30 RESIDENT HOURS 7:30-3:45 LIQUID & SOLID WASTES ACCEPTED

B. TRANSFER STATIONS (RESIDENTIAL WASTES ONLY)

AGUILA TRANSFER STATION	3 MILES WEST OF THE TOWN OF AGUILA ON U.S. HIGHWAY 60 CLASS 4 ONLY	OPEN WEDNESDAY-SUNDAY RESIDENT HOURS 7:30-3:30 SOLID WASTE & NO LIQUIDS
MORRISTOWN TRANSFER STATION	NORTH OF U.S. 60-89-93, BY THE MORRISTOWN OVERPASS CLASS 4 ONLY	OPEN MONDAY-SATURDAY RESIDENT HOURS 7:30-3:45 SOLID WASTE & NO LIQUIDS
RAINBOW VALLEY TRANSFER STATION	3 MILES SOUTH OF RAY RD ON RAINBOW VALLEY RD CLASS 4 ONLY RAINBOW VALLEY RESIDENTS ONLY	OPEN DAILY RESIDENT HOURS 8:00-4:15 SOLID WASTE & NO LIQUIDS



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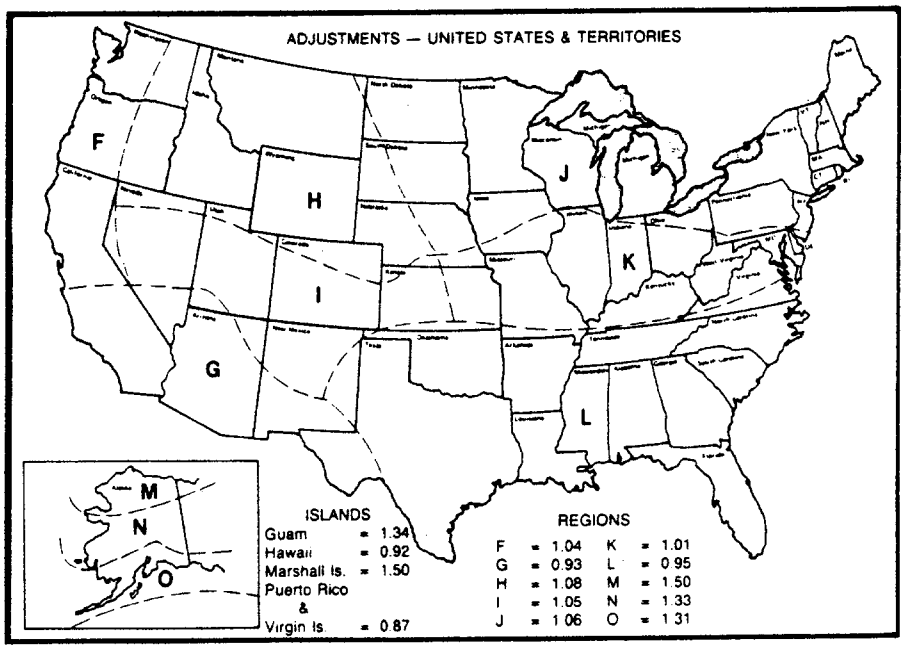

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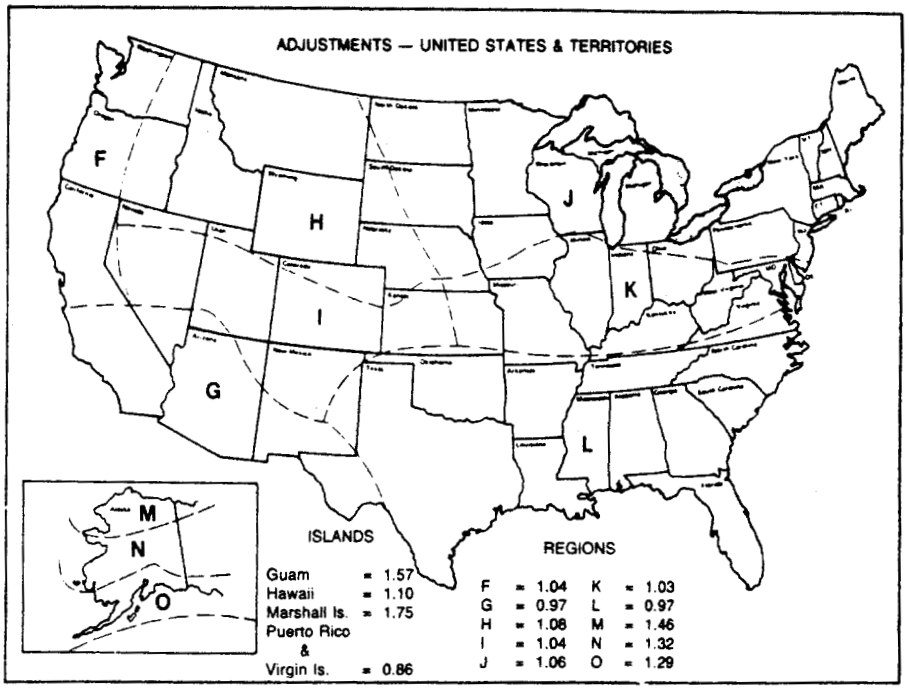
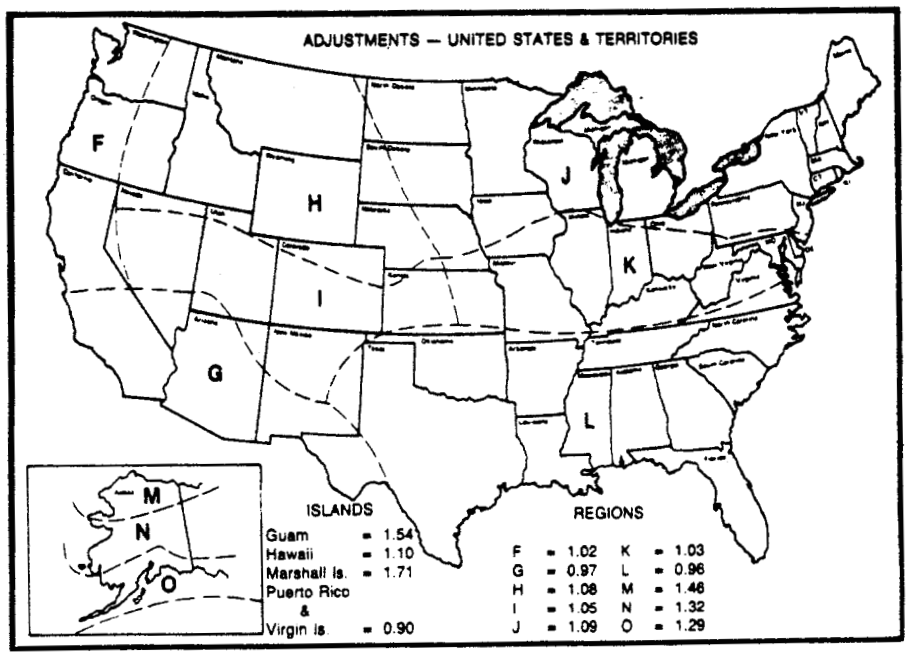
TRAILERS



TRUCKS



TRACTORS & EARTHMOVING

LOADERS — WHEEL (STANDARD)

Standard Bucket & ROPS Included

Model (Yr. Disc.)	Bucket Capacity	HP	Monthly	Weekly	Daily	Hourly	Estimated Operating Cost/Hr.
DIESEL POWERED (Cont.)							
CATERPILLAR (Cont.)							
950E	3 Cu. Yd.	160	$5,035.00	$1,710.00	$530.00	$79.50	$16.45
* 966D (1987)	4 Cu. Yd.	200	5,905.00	2,005.00	620.00	93.25	20.55
966E	4 Cu. Yd.	218	7,050.00	2,400.00	745.00	112.50	22.85
980C	5-1/4 Cu. Yd.	270	8,185.00	2,785.00	865.00	130.00	28.95
980C Hi-Lift	5 Cu. Yd.	270	8,490.00	2,885.00	895.00	135.00	30.55
988B	7 Cu. Yd.	375	10,795.00	3,670.00	1,140.00	170.00	42.00
988B Hi-Lift	6-1/2 Cu. Yd.	375	11,035.00	3,750.00	1,165.00	175.00	42.50
992C	13-1/2 Cu. Yd.	690	20,000.00	6,800.00	2,110.00	315.00	89.00
992C Hi-Lift	12 Cu. Yd.	690	20,615.00	7,010.00	2,175.00	325.00	90.55

* DISCONTINUED MODEL

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TRACTORS & EARTHMOVING

TRACTORS — CRAWLER

ROPS & Dozer Included

Model (Yr. Disc.)	Dozer	Trans.	HP	Monthly	Weekly	Daily	Hourly	Estimated Operating Cost/Hr.
DIESEL POWERED (Cont.)								
CATERPILLAR (Cont.)								
* D-7G LGP (1986)	7S Special	3-Sp. PS	200	$7,420.00	$2,525.00	$780.00	$117.50	$21.70
D-7G SA		DD	250	6,565.00	2,235.00	690.00	105.00	18.50
D7H	7S Straight	3-Sp. PS	215	8,360.00	2,845.00	880.00	132.50	21.50
D7HLGP	7S Straight	3-Sp. PS	215	9,575.00	3,255.00	1,010.00	152.50	23.70
D-8L	8S Straight	PS	335	10,805.00	3,675.00	1,140.00	170.00	28.50
D-8L SA		PS	400	10,285.00	3,495.00	1,085.00	162.50	28.90
D8N	8SU Semi-U	PS	285	10,240.00	3,480.00	1,080.00	162.50	26.55
D-9L	9S Straight	3-Sp. PS	460	14,360.00	4,885.00	1,515.00	227.50	41.25
D9N	9SU Semi-U	3-Sp. PS	370	11,810.00	4,015.00	1,245.00	187.50	33.70
* D-10 (1986)	10C Cushioned	3-Sp. PS	700	15,660.00	5,325.00	1,650.00	247.50	64.55
* D-10 (1986)	10S Straight	3-Sp. PS	700	19,940.00	6,780.00	2,100.00	315.00	65.95
D10N	10SU Semi-U	3-Sp. PS	520	15,950.00	5,425.00	1,680.00	252.50	46.10
D11N	11S Straight	3-Sp. PS	770	27,040.00	9,195.00	2,850.00	427.50	74.85
561D Pipelayer	. . .	DD	105	5,480.00	1,865.00	580.00	86.75	12.00
571G Pipelayer	. . .	3-Sp. PS	200	8,430.00	2,865.00	890.00	132.50	20.60

* DISCONTINUED MODEL

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TRACTORS & EARTHMOVING

MOTOR GRADERS

Model (Yr. Disc.)	Trans.	HP	Monthly	Weekly	Daily	Hourly	Estimated Operating Cost/Hr.
DIESEL POWERED (Cont.)							
CMI							
* AG-65B (1983)	Hydrostatic	375	$8,340.00	$2,155.00	$670.00	$100.00	$29.30
* G-65B (1983)	Hydrostatic	375	6,820.00	2,250.00	700.00	105.00	28.30
CATERPILLAR							
120 "G"	6-Sp. PS	125	4,390.00	1,490.00	485.00	69.50	10.90
130 "G"	6-Sp. PS	135	5,050.00	1,720.00	530.00	79.75	12.20
140 "G"	6-Sp. PS	150	5,585.00	1,900.00	590.00	88.25	13.55
12 "G"	6-Sp. PS	135	5,515.00	1,875.00	580.00	87.25	12.95
14 "G"	8-Sp. PS	180	7,690.00	2,615.00	810.00	122.50	18.65
16 "G"	PS	250	10,285.00	3,495.00	1,085.00	162.50	27.15
CHAMPION							
710R	8-Sp. PS	135	3,955.00	1,345.00	415.00	62.50	10.55
710A	8-Sp. PS	135	4,210.00	1,430.00	445.00	66.50	10.95

* DISCONTINUED MODEL

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TRUCKS

WATER TANKER

OFF HIGHWAY

Capacity (Gallons)	HP	Monthly	Weekly	Daily	Hourly	Estimated Operating Cost/Hr.
DIESEL POWERED						
5,000	150	$3,890.00	$1,205.00	$300.00	$45.25	$13.75
6,000	330	6,980.00	2,165.00	540.00	81.25	27.35
7,000	330	7,160.00	2,220.00	555.00	83.25	27.50
8,000	450	10,030.00	3,110.00	775.00	117.50	38.85
10,000	450	10,640.00	3,300.00	825.00	122.50	39.95
12,000	550	12,555.00	3,895.00	975.00	145.00	47.25
14,000	550	13,150.00	4,075.00	1,020.00	152.50	48.30

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TRACTORS & EARTHMOVING

LOADERS — WHEEL (STANDARD)

Standard Bucket & ROPS Included

Model (Yr. Disc.)	Bucket Capacity	HP	Monthly	Weekly	Daily	Hourly	Estimated Operating Cost/Hr
DIESEL POWERED (Cont.)							
CASE (Cont.)							
* 480 LL (1986)	7/8 Cu. Yd.	47	$1,080.00	$365.00	$115.00	$17.00	$3.70
480E LL-2WD	7/8 Cu. Yd.	51	1,160.00	395.00	120.00	18.30	3.75
480E LL-4WD	7/8 Cu. Yd.	57	1,425.00	485.00	150.00	22.50	4.40
* 580D-2WD (1984)	1 Cu. Yd.	55	1,295.00	440.00	135.00	20.40	4.35
* 580D-4WD (1984)	1 Cu. Yd.	55	1,525.00	520.00	160.00	24.10	4.95
* 580 Super D-2WD (1984)	1 Cu. Yd.	60	1,380.00	470.00	145.00	21.80	4.75
* 580 Super D-4WD (1984)	1 Cu. Yd.	60	1,610.00	550.00	170.00	25.50	5.30
580 Super E-2WD	1 Cu. Yd.	63	1,375.00	470.00	145.00	21.70	4.45
580 Super E-4WD	1 Cu. Yd.	63	1,630.00	555.00	170.00	25.75	4.90
580K-2WD	1 Cu. Yd.	63	1,550.00	530.00	165.00	24.50	4.75
580K-4WD	1 Cu. Yd.	63	1,815.00	620.00	190.00	28.75	5.20

* DISCONTINUED MODEL

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TRACTORS & EARTHMOVING

TRACTOR ATTACHMENTS

Add to Basic Machine

Engine Horsepower	Monthly	Weekly	Daily	Hourly	Estimated Operating Cost/Hr
REAR RIPPER					
(Three Shanks)					
To 85	$185.00	$63.00	$19.50	$2.95	$.30
86-115	355.00	120.00	37.25	5.60	.60
116-165	455.00	155.00	48.00	7.20	.75
166-200	595.00	200.00	62.50	9.40	1.00
201-299	925.00	315.00	97.50	14.60	1.55
300-399	1,320.00	450.00	140.00	20.90	2.30
400-525	1,780.00	605.00	190.00	28.25	3.15
550 & Up	2,505.00	850.00	265.00	39.50	4.40
(One Deep Shank)					
300-399	2,285.00	775.00	240.00	36.00	2.40
400-525	2,925.00	995.00	310.00	46.25	3.05
550 & Up	3,820.00	1,300.00	405.00	60.50	4.00

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TRUCKS
REAR DUMP
ON/OFF HIGHWAY

NOTE: Highway type rear dump equipment presents a broad variance in list price for similar load rated capacities. Engine, axle, and transmission combinations can significantly vary the rate. Rates listed here reflect an average purchase price and are presented only for comparative purposes.

GVW (Lbs.)	Struck Capacity (Cu. Yd.)	HP	Monthly	Weekly	Daily	Hourly	Estimated Operating Cost/Hr.
DIESEL POWERED (Cont.)							
6x4/6x2							
35,000–40,000	8–10	250	$2,495.00	$775.00	$195.00	$29.00	$11.55
45,000–50,000	10–12	275	2,785.00	865.00	215.00	32.50	12.95
55,000–70,000	12–18	375	3,185.00	985.00	245.00	37.00	16.25
75,000–85,000	16–20	400	3,555.00	1,100.00	275.00	41.25	17.55
6x4 (w/Bogie Axle)							
35,000–40,000	8–10	275	2,645.00	820.00	205.00	30.75	12.95
45,000–50,000	10–12	300	2,925.00	905.00	225.00	34.00	14.35
55,000–70,000	12–18	350	3,325.00	1,030.00	260.00	38.75	16.40
75,000–85,000	16–20	400	3,700.00	1,150.00	285.00	43.00	18.30

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TRAILERS
HIGHWAY TYPE
REAR DUMP

Type	Capacity (Cu. Yd.)	Capacity (Tons)	Monthly	Weekly	Daily	Hourly	Estimated Operating Cost/Hr.
STANDARD							
	20	24	$980.00	$335.00	$100.00	$15.00	$2.35
	21	24	990.00	335.00	100.00	15.20	2.40
PUP TRAILERS							
	8–10	N/A	1,290.00	440.00	130.00	19.70	2.85
TRANSFER TRAILERS							
	11 Front/12-1/2 Rear		1,510.00	515.00	155.00	23.10	3.25
	12 Front/13-1/2 Rear		1,530.00	520.00	155.00	23.40	3.25
	13 Front/14-1/2 Rear		1,555.00	530.00	160.00	23.80	3.30

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GROUP	CLASSIFICATION	HOURLY	FRINGES	TOTAL
	Operating Engineers			
Special	H.D. Mechanic	17.77	3.08	20.85
Special	Field Service	16.79	3.08	19.87
Special	Field Service - Night	16.94	3.08	20.02
Special	Operator Foreman	18.11	3.08	21.19
8	Blade, 980 & 125B Ldr, Crane	17.61	3.08	20.69
7	Dozer, 630-633-210 Scraper	17.10	3.08	20.18
6	Fnd, Roller, 613 Scraper Laydown	16.63	3.08	19.71
5	Grade Checker, Screen	15.82	3.08	18.90
2	Wheel Tractor & Skiploader	13.75	3.08	16.83
	Teamster			
Special	H.D. Mechanic	17.67	2.67	20.34
Special	Field Service	16.85	2.67	19.52
8	Wtr Wagon 8M-10M, 613, Rock Trk	16.34	2.67	19.01
4	5 Axle Dump - Prior to 6-1-86	13.48	2.67	16.15
4	5 Axle Dump - After 6-1-86	12.28	2.67	14.95
3	Tireman, 2500 to 3900 GA Wtr Trk	13.64	2.67	16.31
2+	Combo - Flat Rack Driver	13.60	2.67	16.27
2	3 Axle Flat Rack	13.30	2.67	15.97
	Laborer			
5	Powderman, Air Trac Driller	15.31	2.97	18.28
4	Tamper, Raker, Jackhammer	13.76	2.97	16.73
3	Vibrator, Guinea Chaser	13.49	2.97	16.46
2	Chuck Tender	12.91	2.97	15.88
1	General Laborer, Flagman	10.38	2.97	13.35
Special	Curb & Gutter C.M. Tender	12.16	2.97	15.13
Special	Curb & Gutter Gen. Laborer	9.80	2.97	12.77
	CARPENTERS			
	Carpenter Foreman	17.745	2.55	20.295
	Journeyman-before 6-1-86	16.125	2.55	18.675
	New Journeyman-after 6-1-86	12.09	2.55	14.64

	HOURLY	FRINGES	TOTAL
Cement Masons			
Cement Mason Foreman	16.50	3.05	19.55
Journeyman	15.00	3.05	18.05
Foreman	20.875	3.08	23.955

Burden Rates:

Safety Program.....1.00%
Workman's Compensation.....5.47
Public Liability and Public Damage.....1.37
F.I.C.A. Social Security.....7.15
State Unemployment.....1.73
Federal Unemployment.....8.00

Burden Rate applying to all Total Hourly Rates.....24.72%

MORE THAN 10,000 yd^3
" " 20 days.
OCT 23, 1985
10,001 - 100,000 - 381.00 1ST 10,000
$80.- FOR ea. Addit. 10,000 OR FRACTION.

HAUL PLAN CHECK LIST

Information required on a Haul Plan shall include the following:

100,001 yd^3 - $1,096.00
1ST 100,000 yd^3
$80 ea. 10,000
$240 / PAGE OF HAUL PLAN.

1) General Information Required.

A) Plan to be on a 24" X 36" reproducible medium.

B) Vicinity Map.

C) Owners Name, Address and Phone Number.

D) Contractors Name, address and Phone Number.

E) North Arrow and Bar Scale.

F) ~~Registered Civil Engineer's Seal and Signature.~~

G) Address of Project Location. In the event of more than one fill site request, a separate haul plan for each site will be required.

H) Legend identifying Grades or Symbols.

I) General Notes:

a) A Haul Permit is required under Chapter 36 of the Phoenix City Code.

b) Haul Permits must be obtained prior to or concurrently with the Grading and Drainage Permit.

c) Excavating Contractor must give location for wasting excess excavation and a letter from the owner giving permission for dumping. The dumping site will require a Grading and Drainage Permit.

d) City Engineer's office shall be notified before any hauling begins, telephone 262-4960.

e) An approved Haul Plan shall be on the job site at all times. Deviations from the plan must be proceeded by an approved plan revision.

f) Contractor is responsible for locating and confirming depths of all the existing utility lines within proposed excavation areas.

J) Details at property lines.

K) Limits of fill or excavation including elevations.

L) Amount of fill or excavation.

2) A Detailed Traffic Control Plan Showing:

   A) Access to site.

   B) Hours of operation.

   C) Number of trucks to be used.

   D) Frequency of trucks entering and leaving site.

   E) Haul route to be used to and from origin or destination of haul.

   F) Traffic control methods including police officers, flagmen, signs, etc.

3) A Written Plan of Action Detailing Methods to:

   A) Prevent dust, spillage, tracking and blow off.

   B) Provide continuous clean-up and final clean-up of all streets used for hauling.

   C) Inspect and repair street damage on the route caused by the haul.

4) All notes and details on the plans must be readable when reproduced on microfilm.

5) Plans review fees will be charged for the Haul Plan at $240/Sheet. Fees will be collected when the plan is submitted.

6) Payment of a $500 Cash Bond is required per Ordinance G-2817. The bond is required to secure the cost of the removal of any spillage in the City Right-of-Way. Bond is returned after project acceptance upon the recommendation of the inspector.

7) Permit fees are required per Ordinance G-2817.

CDW:gs

6/1/88

INTERNAL WORK SHEETS

Project/Subject FCA - REED LANDFILL Job No. 2109J110

Checked/Revised 6/12/89 WAS Date 8/17/89 Sheet 1 of 10

By W. Chound.

chkd by Dal N. Wakefield

I. LANDFILL VOLUME

BROOKS, HERSEY + ASSOCIATES (BHA) SURVEY ≈ 70,600 yd^3

USING AN EXPANSION FACTOR OF 20%,

EXCAVATED VOLUME = 1.2 x 70,600 = ~~84~~,720 yd^3 ✓

II EXCAVATION TIME

ASSUME: 4 MIN. LOADING CYCLE TIME FOR 20 yd^3 TRUCKS

EACH TRUCK CARRIES 15 yd^3 (20 TON) PER LOAD ✓

THUS, 4 MIN. LOADING WILL RESULT IN:

$$\frac{8\ HR}{DAY} \cdot \frac{60\ MIN}{HR} \cdot \frac{1\ TRIP}{4\ MIN} \cdot \frac{15\ yd^3}{TRIP} = 1800\ yd^3/day$$ ✓

$$\text{MIN. EXCAVATION TIME} = \frac{84{,}720\ yd^3}{1800\ yd^3/day} = 47.1\ days \simeq 47\ days$$ ✓

WESTERN TECHNOLOGIES INC.

INTERNAL WORK SHEETS

Project/Subject FCD Rural Landfill Job No. 2179 J110

chkd/revised 6/21/89 Date 5/10/89 Sheet 2 of 10

By W. Phoenix

chkd By Dal N. Wakefield

III EXCAVATION COSTS

EQUIP. Rental Rates – BLUE BOOK, APP. H.

EQUIP.	MONTHLY RATE	ADJ. FACTOR	HOURLY RATE	OPERATING COST/HR	TOTAL EQUIP. COST/HR	OPERATORS COST/HR
CAT 988B LOADER	10795 ✓	G=.93 ✓	57.93 ✓	42.00 ✓	99.93 ✓	23.50 ✓
CAT D9L DOZER W/RIPPER	14,360 + 1780 ✓	G=.93 ✓	86.61 ✓	41.25 ✓	127.86 ✓	23.50 ✓
CAT 14G GRADER	7690 ✓	G=.93 ✓	41.27 ✓	18.65 ✓	59.92 ✓	23.50 ✓
7000 GAL. WATER TANKER	7160 ✓	G=.97 ✓	40.08 ✓	27.50 ✓	67.58 ✓	21.50 ✓

$$\text{HOURLY COST} = \frac{(\text{MONTHLY RATE} \times G)}{173.3 \text{ HRS/MONTH}} \checkmark$$

3 MONTHS ≡ 13 WEEKS ; $\frac{13 \text{ WK}}{3 \text{ MON.}} \times 8 \text{ HRS/DAY} \times 5 \text{ DAY/WK} = 173.3 \frac{\text{WORK HR}}{\text{MONTH}}$ ✓

TOTAL EQUIPMENT HOURLY COST = 355.29 ✓

TOTAL EQUIP. CAST – GENERAL EXCAVATION

47 DAYS x 8 HRS/DAY x 355.29 = **133,589.04** ✓

LABOR COSTS

LOADER, DOZER, GRADER OPERATORS – 23.50/HR. EACH ✓

WATER TANKER OPERATOR – 21.50/HR. ✓

FOREMAN - 26.00/HR. ✓
FLAGMAN - 15.00/HR ✓
GEN. LABORER - 15.00/HR ✓

TOTAL PREBURDEN LABOR COST

47 DAY x 8 HRS/DAY x [3(23.50) + 21.50 + 26.00 + 2(15.00)] = 55,648.

SPECIAL EXCAVATION - SMALL EQUIPMENT, MANUAL LABOR TO MOVE DEBRIS ALONG SOUTH BOUNDARY IN PARCEL 7J AND OTHER TIGHT LOCATIONS

ASSUME: CASE 580 BACKHOE - HOURLY COST W/ OPERATOR IS $55/HR BASED ON ACTUAL PROJECT COST ✓

DATAQUEST pg 9-52

CASE 580 D-2WD
WEEKLY COST = 470.00 ✓
ADJ. FACTOR = G = .93 ✓
HOURLY RATE = 10.93 ✓
OPERATING COST/HR = 4.35 ✓

$$\text{HOURLY RATE} = \frac{\text{WEEKLY COST} \times G}{40}$$

TOTAL HOURLY COST/HR = 15.28 ✓

ASSUME 3 DAYS W/ EQUIPMENT + 2 LABORERS ✓

EQUIPMENT COST = 3 x 8 x 15.28 = 366.72 ✓

Project/Subject FCD-Rend Job No. 2109T110

Checked/reviewed 6/21/89 Date 5/10/89 Sheet 4 of 10

By W. Howard

chkd by Dale R. Wakefield

LABOR: OPERATOR - 23.50/HR ✓

LABORERS - 15.00/HR each ✓

TOTAL LABOR COST = 3 x 8 x [23.50 + 2 (15.00)] = 1284 ✓

Site Preparation - Includes movement of vehicles, etc to initial and final storage areas. Construction of Haul roads, mobe/demobe not included per 5/10/89 meeting. The CAT 988B loader could lift/tow all vehicles/material to appropriate area. Foreman and 2 laborers would be needed.

EQUIPMENT -

CAT 988B - $99.93/hour ✓

Assume 3 days => 3 x 8 x 99.93 = 2398.32 ✓

LABOR

Foreman - 26.00 x 8 x 3 = 624 ✓

Loader Operator - 23.50 x 8 x 3 = 564 ✓

2 laborers - 2(15.00) x 8 x 3 = 720 ✓

TOTAL LABOR 1908 ✓

INTERNAL WORK SHEETS

Project/Subject PCO-Red Landfill

Job No. 2179 T110

Checked/reviewed 6/12/89 WAH

Date 5/17/89 Sheet 5 of 10

By W. Shound

Chkd by Walt H. Wakefield

SPECIAL WASTES

A) TIRES

B) ASBESTOS

C) HAZARDOUS WASTES

A) Tires - Must be segregated and disposed at Maricopa County Landfill. One laborer has been included to look and remove tires. Must add costs of transportation, loading + disposal of tires. Assume 20 yd³ of tires will be disposed at end in 1 load; 3 hours of Truck/trailer time, 1 hours of 988B time. Disposal fee = $15.00/yd³

Disposal — 15 × 20 = $300.00 ✓

Transport. — 3 (63.85) = 191.55 ✓ (HOURLY RATE IS CALCULATED IN NEXT SECTION)

LOADING — 1 (99.93) = 99.93 ✓

TOTAL EQUIPMENT = 99.93 ✓

TOTAL MATERIALS/SUBCONTRACT = 491.55 ✓ (300 + 191.55)

TOTAL LABOUR = 1 hr (23.50) = 23.50 ✓

WESTERN TECHNOLOGIES INC.

INTERNAL WORK SHEETS

Project/Subject FCD - Red Landfill Job No. 7199T110

checked/revised 6/2/89 Date 05/12/89 Sheet 6 of 10

By W. Chenard

Chkd by Dale N. Wakefield

B/C. No asbestos or hazardous wastes were observed. If hazardous wastes are encountered, project will stop and certified haz. waste firms will be contracted to remove / dispose these wastes. No estimate of costs will be placed into this project's cost estimate.

Asbestos could be found - i.e., pieces of transite pipe or similar materials. If found, special procedures for gentle removal to a special area for placement in plastic bags. In my opinion - highly unlikely. I recommend no cost estimate should be made. Specs should have a unit cost for handling and disposal of any asbestos.

TOTAL EXCAVATION COSTS.

EQUIPMENT: Gen. excavation + Special excavation + Site preparation + Special Wastes ⇒

133,589.04 + 3662.32 + 2398.32 + 99.93 = 136,454.01

This figure is transferred to cost est. sheet.

INTERNAL WORK SHEETS

Project/Subject FCD - Reed Landfill — Job No. 2179J110

Date 5/16/89 Sheet 7 of 10

By W. Shomer

chkd by Dal N. Wakefield

LABOR : General Ex + Special Ex. + Site Prep. + Special Wastes

55,648 + 1284.00 + 1908 + 23.50 = 58,863.50

IV MONITORING COST

EST. Daily COST FROM EXPERIENCE — $700/DAY

TOTAL COST = 47 x 700 = 32,900

PLACED IN MATERIALS/SUBCONTRACT SECTION OF COST EST. FORM

V TRANSPORTATION COST

DISPOSAL SITE	TABLE 3.2 TIME	TABLE 4.2 TIME	NO. TRUCKS
CALMAT-LITCH.	37.1	58	16
40TH ST.	45.0	67	18
GLENDALE	41.5	63	17
HASAYAMPA	98.6	128	33
RAINBOW VALLEY	72.4	98	26
WEINBERGER	17.9	36	10

TABLE 4.2 TIME = (TABLE 3.2 TIME) x 1.15 + 15 min

NO. TRUCKS = $\frac{\text{ROUND TRIP TIME}}{\text{CYCLE TIME (9 min)}}$ + 1

WESTERN TECHNOLOGIES INC.

INTERNAL WORK SHEETS

Project/Subject FCD-Rural Landfill

Job No. 2095110

Checked/reviewed 6/12/89 WAW

Date 5/19/89 Sheet 8 of 10

By W. Chenard

Chkd by Walt. Wakefield

PER DISCUSSIONS WITH MAYA CONST., PETER KIEWITT - HOURLY COST FOR 21 yd³ TRUCK + DRIVER — $45.00/HR.

RENTAL BLUEBOOK (DATAQUEST)

EQUIP.	MONTHLY RATE	ADJ. FACTOR	HOURLY RATE	OPERATING COST/HR	TOTAL EQUIP COST/HR
16-20 yd³ TRUCK	3700	G=0.97	20.71	18.30	39.01
20 yd³ TRAILER	980	G=0.97	5.49	2.35	7.84

TOTAL EQUIPMENT COST = $46.85/HR.

LABOR - DRIVER HOURLY COST = $17.00/HR.

TOTAL HOURLY COST = 46.85 + 17.00 = 63.85

TOTAL TRANSPORTATION COST, per City

47 Days × 8 hr/day × 63.85 × # TRUCKS + TIRE TRANS. COST

See page 5

CALMAT: 47 × 8 × 63.85 × 16 = 384,122 + 191.55 = 384,313

40th St: 47 × 8 × 63.85 × 18 = 432,137 + 191.55 = 432,328

GLENDALE: 47 × 8 × 63.85 × 17 = 408,129 + 191.55 = 408,321

WEINBERGER: 47 × 8 × 63.85 × 10 = 240,076 + 191.55 = 240,268

HASSAYAMPA / RAINBOW VALLEY - FIRST 10,000 yd³ TO RAINBOW VALLEY, REMAINDER TO HASSAYAMPA

RAINBOW VALLEY - $\frac{10{,}000\ yd^3}{1500\ yd^3/day} = 5.6\ D \approx 6$ days

R.U. = 6 x 8 x 63.85 x 26 = 79684.80

HASSAYAMPA = 47d - 6d = 41 days

= 41 x 8 x 63.85 x 33 = 691,112

TOTAL HASS/R.U. = 691,112 + 79684.80 + 19655 = 770,989

V DISPOSAL COSTS.

TABLE 4.1 DISPOSAL FEES / 20 T. TRUCK LOAD

SITE	FEE	TOTAL DISPOSAL COSTS
CALMAT	22.50	155,325 + 300 = 155,625
40th St.	125.00	706,250 + 300 = 706,550
GLENDALE	280.00	1,582,000 + 300 = 1,582,300
HASSAYAMPA / RAINBOW VALLEY	210.00	1,186,500 + 300 = 1,186,800
WEINBERGER	123.00	694,950 + 300 = 695,250

TOTAL # LOADS = $\frac{84720 \text{ yd}^3}{15 \text{ yd}^3/\text{LOAD}}$ = 5648 ≃ 5650 LOADS

TOTAL DISPOSAL COSTS = 5650 x FEE

VI TOTAL PROJECT COSTS.

See Cost Estimating Sheets and Fig 4.1

INTERNAL WORK SHEETS

Project/Subject FCO - Red Landfill Job No. 21197710

Checked/reviewed 4/12/89 Date 5/19/89 Sheet 10 of 10

WAJ By W. Chand

Chkd By Dale M. Wakefield

LABOR: Gen. Excavation + Special Excavation + Site Prep. + Special Wastes

~~60,384~~ 55,648 + 1284. + 1908 + 23.50 = ~~63,599.50~~ 58,863.50

EQUIPMENT: Gen. Excavation + Special Excavation + Site Prep + Special Wastes

~~$144,958.32~~ 133,589.04 + 366.72 + 2398.32 + 99.93 = ~~147,823.29~~ 136,454.01

MATERIALS/SUBCONTRACTS: Disposal Fees, Monitoring, Transportation

These (Disposal, Transportation) will vary by site.

Estimated Cost Sheets will include Overhead/Profit/Taxes in arriving at Total Cost

CALMAT — 944,536 ✓

40th St. — 1,684,019 ✓

Glendale — ~~2,735,712~~ 2,843,082

R.V./HASS. — 2,695,173

Wanberger — 1,429,698 ✓

COMPUTATION OF ~~ACTUAL~~ COST ~~PAYMENT~~

AGUA FRIA RIVER IMPROVEMENTS BUCKEYE ROAD TO I-10
Contract No. FCD 85-37

JOB NO. 2156J003
Date 5/19/89

For: CALMAT LANDFILL

LABOR:

Classification	Hours	Wage Rate (incl's fringes)	Extension
EXCAVATION			58,864 ✓

(A) Total Wages Paid 58864 ✓
(B) 0.2472 X (A) = Labor Burden 14551 ✓
(C) 0.15 X (A+B) 11012 ✓

MATERIALS:

Item	Invoice Cost	Freight	Sum of Cost
DISPOSAL FEES			155,675 ✓
MONITORING			32,900 ✓
TRANSPORTATION			384,313 ✓

(D) Total Materials Cost 572,888 ✓
(E) 0.15 X (D) 85,933 ✓

EQUIPMENT:

Description	Hours Worked	Rate	Hours Standby	Standby Rate	Extension
EXCAVATION					136,454 ✓

(F) Total Equipment Cost 136,454 ✓

(G) = Sum (A) thru (F) Subtotal Labor, Materials & Equipment 879,702 ✓

OTHER:

Description	Cost Basis	Calculation	Extension
Bonds, Insurance, and Taxes:	Tax plus 1.37% of income	(0.06 + 0.0137) X (G)	64834 ✓

(H) Subtotal 64834 ✓

TOTAL PAYMENT (G) + (H) = 944,536 ✓

Calc. By _____
~~Contractor~~

Chkd by Dale M. Wakefield
~~Owner's Representative~~

FORM3

COMPUTATION OF ~~ACTUAL~~ COST ~~PAYMENT~~

AGUA FRIA RIVER IMPROVEMENTS BUCKEYE ROAD TO I-10 — JOB NO. 2156J003

Contract No. FCD 85-37 — Date _____

For: 40th Street

LABOR:

Classification	Hours	Wage Rate (incl's fringes)	Extension
EXCAVATION			58,864

(A) Total Wages Paid 58,864

(B) 0.2472 X (A) = Labor Burden 14,551

(C) 0.15 X (A+B) 14,012

MATERIALS:

Item	Invoice Cost	Freight	Sum of Cost
Asphalt Fuel			206,550
Mandrels			32,900
Transportation			432,328

(D) Total Materials Cost 671,778

(E) 0.15 X (D) 125,267

EQUIPMENT:

Description	Hours Worked	Rate	Hours Standby	Standby Rate	Extension
EXCAVATION					136,454

(F) Total Equipment Cost 136,454

(G) = Sum (A) thru (F) Subtotal Labor, Materials & Equipment 1,568,426

OTHER:

Description	Cost Basis	Calculation	Extension
Bonds, Insurance, and Taxes:	Tax plus 1.37% of income	(0.06 + 0.0137) X (G)	115,593

(H) Subtotal 115,593

TOTAL PAYMENT (G) + (H) = 1,684,019

Contractor

Chkd by Dal N. Wakefield

~~Owners Representative~~

FORM3

COMPUTATION OF ~~ACTUAL~~ COST ~~PAYMENT~~

AGUA FRIA RIVER IMPROVEMENTS BUCKEYE ROAD TO I-10 — JOB NO. 2156J003

Contract No. FCD 85-37 — Date _____

For: Glendale

LABOR:

Classification	Hours	Wage Rate (incl's fringes)	Extension
EXCAVATION			58,864 ✓

(A) Total Wages Paid 58,864 ✓

(B) 0.2472 X (A) = Labor Burden 14,551 ✓

(C) 0.15 X (A+B) 11,012 ✓

MATERIALS:

Item	Invoice Cost	Freight	Sum of Cost
Disposal Fee			1,582,300 ✓
Monitoring			32,900 ✓
Transportation			408,321 ✓

(D) Total Materials Cost 2,023,521 ✓

(E) 0.15 X (D) 303,528 ✓

EQUIPMENT:

Description	Hours Worked	Rate	Hours Standby	Standby Rate	Extension
EXCAVATION					136,454 ✓

(F) Total Equipment Cost 136,454 ✓

(G) = Sum (A) thru (F) Subtotal Labor, Materials & Equipment 2,847,930

2,547,930 - correct amt

OTHER:

Description	Cost Basis	Calculation	Extension
Bonds, Insurance, and Taxes:	Tax plus 1.37% of income	(0.06 + 0.0137) X (G)	~~195,152~~ ~~187,782~~ 187,782
			195,152

(H) Subtotal ~~187,782~~ 187,782

TOTAL PAYMENT (G) + (H) = ~~2,735,712~~ 2,843,082

2,735,712 OK amt

Contractor

Chkd by Dal M. Wakefield

~~Owners Representative~~

FORM3

COMPUTATION OF ~~ACTUAL~~ COST ~~PAYMENT~~

AGUA FRIA RIVER IMPROVEMENTS BUCKEYE ROAD TO I-10 — JOB NO. 2156J003

Contract No. FCD 85-37 — Date _____

For: Hassayampa/Rainbow Valley

LABOR:

Classification	Hours	Wage Rate (incl's fringes)	Extension
EXCAVATION			58864

(A) Total Wages Paid 58864

(B) 0.2472 X (A) = Labor Burden 14551

(C) 0.15 X (A+B) 11012

MATERIALS:

Item	Invoice Cost	Freight	Sum of Cost
Disposal Fees			1,186,800
Monitoring			32,900
Transportation			270,989

(D) Total Materials Cost 1,990,689

(E) 0.15 X (D) 298,603

EQUIPMENT:

Description	Hours Worked	Rate	Hours Standby	Standby Rate	Extension
EXCAVATION					136,454

(F) Total Equipment Cost 136,454

(G) = Sum (A) thru (F) Subtotal Labor, Materials & Equipment 2,510,773

OTHER:

Description	Cost Basis	Calculation	Extension
Bonds, Insurance, and Taxes:	Tax plus 1.37% of income	(0.06 + 0.0137) X (G)	185,000

(H) Subtotal 185,000

TOTAL PAYMENT (G) + (H) = ~~2,695,773~~ 2,695,773 — Amt

Chkd by Earl M. Wakefield

Contractor — ~~Owners Representative~~

FORM3

COMPUTATION OF ~~ACTUAL~~ COST ~~PAYMENT~~

AGUA FRIA RIVER IMPROVEMENTS BUCKEYE ROAD TO I-10 — JOB NO. 2156J003

Contract No. FCD 85-37 — Date _____

For: Winterger

LABOR:

Classification	Hours	Wage Rate (incl's fringes)	Extension
EXCAVATION			58864

(A) Total Wages Paid 58864

(B) 0.2472 X (A) = Labor Burden 14,551

(C) 0.15 X (A+B) 11,012

MATERIALS:

Item	Invoice Cost	Freight	Sum of Cost
DISPOSAL FEES			695,250
Monitoring			32,900
Transportation			240,268

(D) Total Materials Cost 968,418

(E) 0.15 X (D) 145,263

EQUIPMENT:

Description	Hours Worked	Rate	Hours Standby	Standby Rate	Extension
EXCAVATION					136,454

(F) Total Equipment Cost 136454

(G) = Sum (A) thru (F) Subtotal Labor, Materials & Equipment 1,334,562

OTHER:

Description	Cost Basis	Calculation	Extension
Bonds, Insurance, and Taxes:	Tax plus 1.37% of income	(0.06 + 0.0137) X (G)	98,357

(H) Subtotal 98,357

TOTAL PAYMENT (G) + (H) = 1,432,919

Chkd by Dale N. Wakefield

Contractor

~~Owners Representative~~

FORM3