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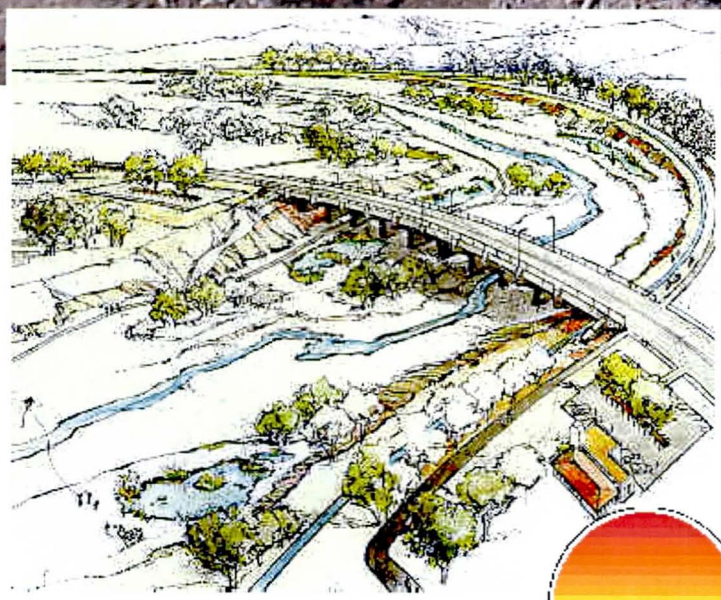
# PILOT SCALE STUDY REPORT
# WASTE SEGREGATION PROCESSING

## RIO SALADO PROJECT AREA
## PHOENIX, ARIZONA



*Prepared for:*

**City of Phoenix**
**Environmental Programs**
**200 West Washington, 14th Floor**
**Phoenix, Arizona 85003**

*Prepared by:*

**SCS Engineers**
**2702 North 44th Street, Suite 105B**
**Phoenix, Arizona**
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**April 5, 2001**

Environmental Consultants

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**SCS ENGINEERS**

April 5, 2001
File No. 10.199023.12

Donn Stoltzfus
City of Phoenix
Office Of Environmental Programs
200 West Washington Street, 14th Floor
Phoenix, Arizona 85003

Subject: Pilot Scale Study Report
Waste Segregation Processing
Rio Salado Project Area
Phoenix, Arizona

Dear Donn:

SCS Engineers (SCS) is pleased to provide this report describing the methodology and results of the Pilot Scale Study for solid waste segregation at the Rio Salado Project Area. SCS appreciates the opportunity to assist you with this project. If you have any questions, please feel free to contact either of the undersigned at (602) 840-2596.

Sincerely,

Stephen B. Smith, P.E.
Vice President

Bradley F. Johnston, P.G.
Vice President
SCS ENGINEERS

JDB/BFJ:jdb
F:\DATA\PROJECTS\9800409\well install\well install.doc

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# SECTION 1
# EXECUTIVE SUMMARY

Waste materials have been encountered during the construction of a low-flow channel as part of the Rio Salado Habitat Restoration Project (the Project). The waste materials were located in the bottom of the Salt River channel, and consist of inert debris, tires, construction debris and very small amounts of municipal solid waste. The materials are generally intermixed with soil, gravel, and cobbles.

This material was excavated from the river channel and stockpiled. As of January 2001, approximately 70,000 cubic yards of waste materials were accumulated in the stockpile area. Approximately 10,000 cubic yards of this material were processed as part of a Pilot-Scale Study to evaluate the technical and economic feasibility of the process. This report documents the findings of the Pilot-Scale Study.

Processing consisted of passing the material over an 8-inch Grizzly screen to remove large objects. Material passing through the Grizzly was then processed through a mobile screening plant equipped with 6-inch, 3-inch, and 1-inch screens.

The resulting processed materials consisted of the following:

- Material retained on the 8-inch Grizzly, consisting of tires and large pieces of concrete, metal, and wood.

- Material retained on the 6-inch screen, consisting of predominantly of cobbles and concrete, with minor amounts of metal and wood.

- Material passing the 6-inch screen and retained on the 3-inch screen, consisting of predominantly of cobbles, with minor amounts of wood, bricks and concrete, soil, and metal and plastic debris.

- Material passing the 3-inch screen and retained on the 1-inch screen, consisting of predominantly of cobbles, with minor amounts of wood, bricks and concrete, and soil.

- Material passing the 1-inch screen, consisting predominantly of soil with very minor amounts of wood particles.

Periodic sampling of the last two material types was performed to evaluate the potential presence of contaminants. This sampling did not detect the presence of volatile organic compounds, semi-volatile organic compounds, metals, or petroleum hydrocarbons exceeding Soil Remediation Levels.

Based on the results of this Pilot-Scale Study, it is recommended that this process be implemented for the remainder of the stockpiled waste material, and for any additional materials that may be encountered during Phase II of the Rio Salado channel excavation project. It is proposed that the soil passing the 1-inch screen be stockpiled and used on the Rio Salado Habitat Restoration Project for planting mix or fill that may be exposed at the surface. The 1 to 3 inch material is proposed for use on the Project as subsurface fill material, which will not be exposed at the surface.

# SECTION 2
# INTRODUCTION

## BACKGROUND

The Rio Salado Habitat Restoration Project (Project) area extends from 19th Avenue on the west to the Interstate 10 bridge on the east, and consists of the river channel, banks, and land generally extending at least 50 feet beyond the top of the river bank (see Figure 1). Some locations in and adjacent to the Project area have historically included filled areas, some of which include solid waste.

The initial phase of construction of the Project included excavation of a low-flow channel in the approximate center of the Salt River channel. This low-flow channel ranges in depth up to 14 feet, and is approximately 200 feet wide. During excavation of the low-flow channel between Central Avenue and the approximate 5th Avenue alignment, solid waste materials were encountered where previous sand and gravel mining operations had placed fill material in the 1950s. These materials consisted of inert debris, tires, construction debris and very small amounts of municipal solid waste intermixed with soil, gravel, and cobbles. There were no observations of putrescible miscellaneous solid waste or hazardous waste in the excavated areas, nor were these waste types observed during the screening process.

## STOCKPILES

In order to continue excavation of the low-flow channel on a timely basis, waste materials were moved to a stockpile area that was not affected by construction activities. The stockpile area was located within the Project boundary on the north side of the Salt River, just west of 7th Avenue (see Figure 1). The stockpile area was constructed on land that contained surficial inert debris. The inert debris on the land surface within the stockpile area was removed for proper disposal, and the area was subsequently graded to produce a uniform slope and dirt surface.

Potential storm water that could run onto the stockpile area was diverted around the area by construction of a V-notch ditch on the north side of the stockpile area. A small berm was constructed around the south and east end of the stockpile area to form a retention area to contain

potential storm water run-off and potential water produced from the stockpiling of waste. An existing drainage channel associated with a storm water outfall was located near the west end of the stockpile area. This channel was moved west, and a berm was constructed between the new channel location and the stockpile area. Public access to the stockpile area was limited by the security procedures associated with the construction activities for the Rio Salado Project.

Wind-blown litter was not present because the waste materials did not contain appreciable amounts of potential wind-blown material. Dust control was achieved by use of a water truck, and the waste materials were wet when placed and they remained moist throughout the segregation process.

# SECTION 3
# SEGREGATION PROCESS

## FIRST SEGREGATION PHASE

The first segregation phase consisted of a visual screening of stockpiled materials, and to remove and reasonably segregate large waste objects (inert debris, tires, vegetative debris, wood, lumber, metal, and other waste materials, etc.) from the stockpiled materials. This process was typically performed using a front-end loader, which removed material from the stockpile and placed it on an 8-inch stationary Grizzly screen. A second track excavator, equipped with a grappling bucket, was used to segregate the large materials that were rejected by the Grizzly.

Materials segregated during this phase included metal, tires, concrete, and large tree stumps. These materials were temporarily stockpiled adjacent to the Grizzly for eventual disposal.

## SECOND SEGREGATION PHASE

The material passing through the 8-inch Grizzly was then moved to the vibratory screening plant by the front-end loader. The vibratory screening plant included a 6-inch stationary bar screen positioned over the input to a conveyor belt. The conveyor then moved the material to 3-inch and 1-inch vibratory screens.

Four material streams were produced by the vibratory screening plant:

- 6 inches and larger, including boulders, concrete, metal, tires, and larger pieces of wood.
- 3 inches to 6 inches, consisting of approximately 85 percent native cobbles, 5 percent wood, 5 percent bricks and concrete, 3 percent soil, and 2 percent metal and plastic debris.
- 1 inch to 3 inches, consisting of approximately 85 percent native gravel, 5 percent wood, 5 percent bricks and concrete, and 5 percent soil.

- 1-inch minus (reclaimed soil), consisting of at least 99 percent clayey and silty sand and less than 1 percent wood particles.

Specific waste materials from the first material stream were stockpiled with the materials generated by the initial segregation phase. The other three material streams were placed into specific stockpiles and, where applicable, disposed of.

## MONITORING

During each phase of segregation, SCS Engineers observed the movement and processing of materials. Visual indications of hazardous or putrescible wastes were not observed.

## PROCESS RESULTS

For the purposes of disposal and re-use, the four material streams were categorized into waste types as follows:

| MATERIAL STREAM | WASTE TYPE | AMOUNTS (cubic yards) | FINAL DISPOSITION |
|---|---|---|---|
| 6 inches and larger | Tires | 100 | Butterfield Station Landfill |
| | Metal | 100 | Recycled |
| | Inert Debris (large concrete) | 1,910 | Rio Salado Landfill |
| 3 to 6 inches | Construction Debris (small concrete, wood) | 1,350 | Lone Cactus Landfill |
| 1 to 3 inches | Subsurface Fill | 1,050 | Re-Use On Site |
| 1 inch minus | Reclaimed Soil | 6,285 | Re-Use On Site |
| **TOTAL AMOUNT PROCESSED** | | **10,795** | |

All waste types except the Subsurface Fill and Reclaimed Soil have been removed from the site and disposed of at authorized facilities as shown on the table.

Photographs of the stockpile, process equipment, and material streams are provided in Appendix A.

# SECTION 4
# WASTE CHARACTERIZATION SAMPLING

## RATIONALE

In order to verify that the processed material did not contain potential contamination at levels detrimental to public health or the environment, SCS performed sampling of the material passing the 1 to 3- inch and 1-inch minus material streams. The majority of the samples were collected from the 1-inch minus material because it represents the worst-case scenario for waste characterization since the majority of any residual contamination would be contained in the soil, rather than on the surface of the rocks which make up the majority of the other material types.

## METHODOLOGY

The reclaimed soil was sampled at a frequency of approximately one sample for every 1,000 cubic yards. For non-volatile analyses, a five-location composite sample was collected from within each specified reclaimed soil volume (1,000 cubic yards). For volatile analyses, one of these five locations was randomly chosen and a discrete grab sample was collected. All samples were collected from at least two feet below the surface of the stockpile, using a backhoe or shovel to remove soil to the desired depth.

Samples were collected from the stockpile into sample containers appropriate for the types of analyses specified. For composite (non-volatile) samples, one sample aliquot from each of the five sample points within the stockpile was placed into a one-gallon ziplock bag, which was then sealed and homogenized to mix the sample. The resulting composite sample was placed directly into one or more 8-ounce sample jars.

For volatile analyses, discrete samples were collected by driving a decontaminated brass sleeve directly into the reclaimed soil at one of the five aliquot locations (randomly selected).

Soil samples were preserved on ice for transportation to the analytical laboratory under chain of custody procedures. For volatile analyses, the samples were delivered to the laboratory and extracted within two hours of collection.

A total of 11 samples were collected. Nine samples were collected from the reclaimed soil material, and two samples were collected from the 1-inch to 3-inch material.

Samples collected from the reclaimed soil were analyzed for the following:

- Semi-volatile organic compounds, EPA Method 8270
- Total Priority Pollutant metals, EPA Methods 6010/7470
- TCLP RCRA metals, EPA Methods 1311/6010/7470
- Petroleum hydrocarbons, ADHS Method 8015AZR1
- Volatile organic compounds (VOCs), EPA Method 8260

As requested by the Arizona Department of Environmental Quality (ADEQ), four of these samples were also analyzed for SPLP RCRA metals in accordance with EPA Method 1312/6010/7470 and SPLP VOCs by EPA Method 1312/8260B.

The two samples collected from the 1-inch to 3-inch material were analyzed for SPLP RCRA metals in accordance with EPA Method 1312/6010/7470 and SPLP VOCs by EPA Method 1312/8260B.

## SAMPLE RESULTS

Analytical results are summarized in Table 1, and complete laboratory reports are provided in Appendix B. Results for each waste type are discussed below.

### 1-Inch Minus (Reclaimed Soil)

Nine samples collected from this material were analyzed. Total petroleum hydrocarbons were detected in three of the samples at concentrations of 130, 181, and 140 mg/kg. These results are well below the Residential Soil Remediation Level (RSRL) of 4,100 mg/kg. Barium was the only TCLP RCRA Metal that was detected; the result of 1.1 mg/L is well below the hazardous waste characteristic threshold of 100 mg/L. Metals detected by total extraction included arsenic,

chromium, copper, lead, nickel, and zinc, but all results were indicative of naturally-occurring background levels, and were well below applicable RSRLs. Toluene was detected in one sample from the Reclaimed Soil at a concentration of 0.066 mg/kg by EPA Method 8260. Semi-volatile organic compounds, SPLP RCRA Metals, and SPLP VOCs were not detected.

**1 to 3 Inch (Subsurface Fill)**

Two samples collected from this material were analyzed for SPLP VOCs and SPLP Metals. The only detection was 0.13-mg/L toluene in one sample.

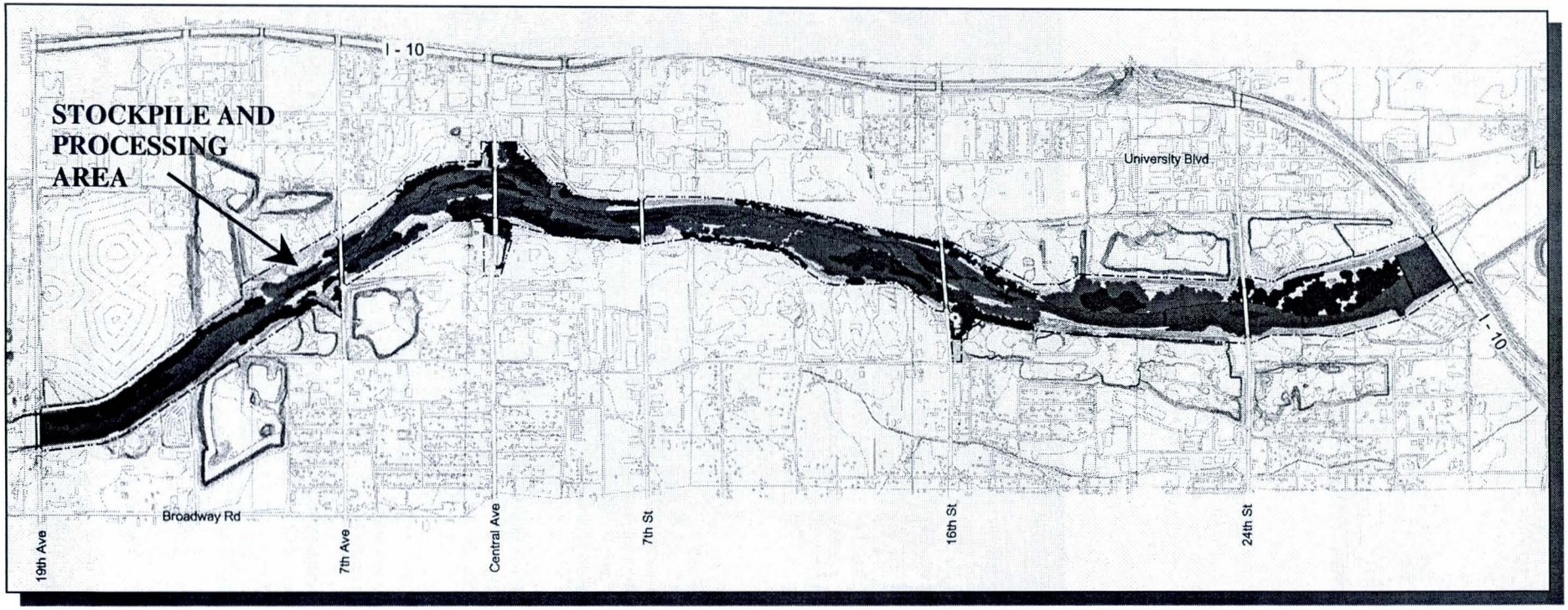
# SECTION 5
# CONCLUSIONS

This Pilot Scale Test resulted in recovery of approximately 68 percent of the processed waste as material that can be re-used on the Rio Salado Project area. Approximately 58 percent of the waste was comprised of Reclaimed Soil, and sampling of this material did not identify contaminants at concentrations exceeding regulatory thresholds for residential use. Approximately 10 percent of the waste was comprised of 1 to 3-inch diameter gravel with soil and some wood fragments. This material did not exhibit metals or volatile compounds that would leach from the material in significant amounts. It is proposed that these materials be used on the Rio Salado Project area as fill material.

Based on the results of this Pilot Scale Study, it is proposed that the remainder of the stockpiled material (as well as any new waste materials that may be encountered) be processed in a similar manner. It is proposed that reclaimed soil will be sampled for potential contamination at a frequency of one sample for every 5,000 cubic yards instead of every 1,000 cubic yards as in the Pilot Scale Test. The specifications for this process are provided in Appendix C.

# FIGURES

# FIGURE 1
# RIO SALADO PROJECT AREA




Source: City of Phoenix

**TABLE 1**

**TABLE 1**
**RIO SALADO PROJECT PILOT SCALE WASTE SEGREGATION**
**SOIL SAMPLE RESULTS**

| **Matrix →** | Soil (1" minus) | | | | | | | | | 1" to 3" | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample ID →** | 11/22-1 | 11/28-2 | 11/30-3 | 12/1-4 | 12/4-1 | 12/6-1 | 12/6-2 | 12/7-1 | 12/8-1 | Pilot3-12/8-1 | Pilot3-12/8-2 |
| **Lab WO # →** | 11195 | 11210 | 11236 | 12009 | 12023 | 12040 | 12040 | 12050 | 12062 | 12062 | 12062 |
| **Method ↓** | | | | | | | | | | | |
| TPH $C_{10-32}$ (mg/kg) | 130 | 181 | <130 | 140 | <130 | <130 | <130 | <130 | <130 | na | na |
| TCLP RCRA Metals (mg/L) | na | na | ND | ND | ND | ND | ND | ND | Ba 1.1 | na | na |
| Total Priority Metals (mg/kg) | As 6.4<br>Cr 12<br>Cu 24<br>Pb 49<br>Ni 15<br>Zn 110 | As 7.8<br>Cr 15<br>Cu 38<br>Pb 46<br>Ni 16<br>Zn 120 | As 6.5<br>Cr 14<br>Cu 21<br>Pb 42<br>Ni 18<br>Zn 130 | As 7.3<br>Cr 15<br>Cu 21<br>Pb 45<br>Ni 18<br>Zn 130 | As 6.3<br>Cr 15<br>Cu 31<br>Pb 46<br>Ni 18<br>Zn 110 | Cr 11<br>Cu 21<br>Pb 46<br>Ni 14<br>Zn 110 | Cr 11<br>Cu 29<br>Pb 46<br>Ni 15<br>Zn 110 | As 7.8<br>Cr 14<br>Cu 57<br>Pb 56<br>Ni 18<br>Zn 200 | Cr 15<br>Cu 16<br>Pb 39<br>Ni 18<br>Zn 110 | na | na |
| VOC (mg/kg) | ND | ND | ND | ND | ND | ND | ND | ND<br>acetone in lab blank | toluene 0.066 | na | na |
| SVOC (mg/kg) | ND | ND | ND | ND | ND | ND | ND | ND | ND | na | na |
| SPLP RCRA Metals (mg/L) | na | na | na | na | na | na | na | ND | ND | ND | ND |
| SPLP VOC (mg/L) | na | na | na | na | na | na | na | ND | ND | toluene 0.13 | ND |

For Total Priority Metals, only those metals that were detected are shown.
ND = not detected
na = not analyzed

# APPENDIX A
# PHOTOGRAPHS

Excavation From River Channel

Excavation From River Channel

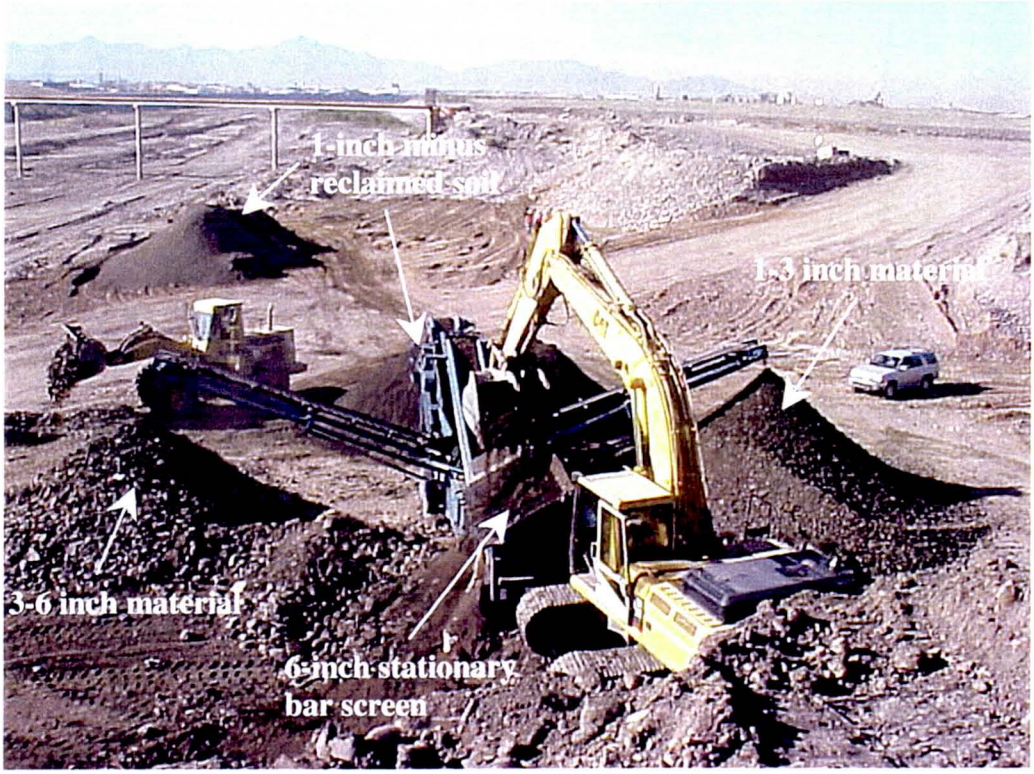
Waste Stockpile Area

Movement of Material From Stockpile to Processing Plant

First Segregation Phase - Stationary Grizzly Screen

First Segregation Phase - Stationary Grizzly Screen

Second Segregation Phase - Vibratory Screen Plant




Second Segregation Phase - Vibratory Screen Plant

8-Inch Plus Concrete

Tires and Metal

1 - 3 Inch Material

1 - 3 Inch Material

3 - 6 Inch Material

3 - 6 Inch Material

1-Inch Minus Material (Reclaimed Soil)

1-Inch Minus Material (Reclaimed Soil)

# APPENDIX B
# LABORATORY REPORTS

**TRANSWEST GEOCHEM**

December 11, 2000

Brad Johnston
SCS Engineers
2702 N. 44th St., Suite 105B
Phoenix, AZ 85008

RE: Rio Salado/199023.12
Work Order No.: 0011195

Dear Brad,

Transwest Geochem, Inc. received 1 sample on 11/22/2000 3:20:00 PM for the analyses presented in the following report.

The Case Narrative of this report addresses any Quality Control and/or Quality Assurance issues associated with this Work Order.

If you have any questions regarding these test results, please feel free to call us at (602) 437-0330.

Sincerely,

Michael E. Barber for:

Beth Proffitt
Project Manager

ADHS License No. AZM133/AZ0133

3725 E. Atlanta Ave. • Suite 2 • Phoenix, Arizona 85040 • (602) 437-0330 • 1-800-927-5183 • Fax (602) 437-0660

**Date Printed:** 11-Dec-00

**Client:** SCS Engineers
**Work Order:** 0011195
**Project Name:** Rio Salado
**Project Number:** 199023.12

# CASE NARRATIVE

Transwest Geochem, Inc. uses the methods outlined in the following references:

Methods for the Determination of Metals in Environmental Samples, EPA/600/R-94/111, Revised May 1994.

Hach, Water Analysis Handbook, 2nd Edition, 1992.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

Metals were analyzed using multi-element ICP instrumentation. Some metals reported in the QC report may not be associated with this Work Order.

Secondary Source QC Sample (LCSV) results may not be reported for all methods and/or analysis dates.

The sample introduction technique for Method 8015AZ used by this laboratory is direct injection.

All method blanks, laboratory spikes, and/or matrix spikes met quality control objectives for the parameters associated with this Work Order.

Data qualifiers ("flags") contained within this analytical report have been issued to explain a quality control deficiency, and do not affect the quality (validity) of the data unless noted otherwise in the case narrative.

Analytical Comments for Method SW8270C, Sample 0011195-01, Batch 3780: R1 flag for the analyte N-Nitrosodi-n-propylamine in the Matrix Spike/Matrix Spike Duplicate. A LCS/LCSD was extracted and analyzed with this batch and met all TGI criteria.



3725 E. Atlanta Ave. • Suite 2 • Phoenix, Arizona 85040 • (602) 437-0330 • 1-800-927-5183 • Fax (602) 437-0660

TRANSWEST GEOCHEM

**Date Printed** 08-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado
**Project Number:** 199023.12
**Work Order:** 0011195
**Date Received:** 22-Nov-00

# Work Order Sample Summary

| Client Sample ID | Lab Sample ID | Test Code | Collection Date |
|---|---|---|---|
| Pilot-11/22-1 | 0011195-01A | SW8260B | 11/22/2000 2:40:00 PM |
| | 0011195-01B | 8015AZ | 11/22/2000 2:40:00 PM |
| | | SW8270C | 11/22/2000 2:40:00 PM |
| | 0011195-01C | SW6010B | 11/22/2000 2:40:00 PM |
| | | SW7471A | 11/22/2000 2:40:00 PM |

**Date Printed** 08-Dec-00
**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado
**Project Number:** 199023.12
**Work Order:** 0011195
**Date Received:** 22-Nov-00

# Data Qualifiers

One or more of the following data qualifiers may be associated with your analytical and/or quality control data.

| | |
|---|---|
| M2 | Matrix spike recovery was low, the method control sample recovery was acceptable. |
| R | RPD outside acceptance criteria. |
| R1 | RPD exceeded the method control limit. See case narrative. |
| S | Spike or Surrogate recovery outside acceptance criteria. |

**Date Printed** 08-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado
**Project Number:** 199023.12
**Work Order:** 0011195
**Date Received:** 22-Nov-00

# Definitions

| | |
|---|---|
| Analytical Spike (AS) | The AS is a known amount of a target analyte added to a sample after it has been distilled, digested, or extracted and is ready for analysis. The AS is generally performed if the MS has failed. It is used to indicate interference that arises from sample distillation, digestion, or extraction as opposed to interference that is innate to the matrix. |
| Continuing Curve Verification (CCV) | The CCV is also referred to as a curve check. This is a standard analyzed at specified intervals during an analysis. The CCV verifies the stability and accuracy of the calibration curve. There are specific CCV recovery acceptance criteria for each method. |
| Dilution Factor (DF) | The DF is an indication of how much a sample had to be diluted in order to quantitate it on a standard curve. The DF is indicated in the reported sample result. The sample PQL increases as the dilution increases. |
| Internal Standard (IS) | The IS is a compound that is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. The same concentration of IS is added to every sample for some organic methods. |
| Laboratory Control Sample (LCS) | The LCS is also referred to as a blank spike. The LCS is an addition of a known amount of a target analyte (from the same source as calibration standards or spikes) to an aliquot of deionized water or other appropriate clean matrix. The LCS is processed through the entire method procedure in the same manner as samples. |
| Matrix Spike (MS) | The MS is a known amount of a target analyte added to a sample. The MS is processed through the entire method procedure in the same manner as samples. |
| Method Blank (MB) | The MB is an aliquot of deionized water or other appropriate clean matrix that is thought to be free of the analyte in question. The MB is processed through the entire extraction or analysis procedure and is used to indicate contamination in the lab. |
| Method Detection Limit (MDL) | The MDL is the lowest level of detection of which a method is capable. |
| Practical Quantitation Limit (PQL) | The PQL is the lowest value at which Transwest Geochem can detect an analyte in matrix with a high degree of confidence. The PQL will increase as the DF increases. The PQL is greater than or equal to the MDL. |
| Relative Percent Difference (RPD) | The RPD is a measure of precision (the ability to obtain the same result on re-analysis of the same sample). It is calculated using the result of a sample, MS, LCS, or LCSV and its associated duplicate result. |
| Secondary Source QC Sample (LCSV) | The LCSV is also referred to as a second source laboratory control sample. It is the same type of standard as a calibration or spiking standard but is obtained from a different source. The LCSV is an indication of the primary standard quality, method performance, and instrument performance. |
| Surrogate | A surrogate compound is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. When surrogates are used, they are added to every sample, blank and standard. Surrogate recovery is used as an indication of extraction and/or analytical success. |
| Trip Blank (TB) | The TB is a portion of deionized water preserved in the same manner as the samples. The TB travels from the lab, to the field, and then back to the lab with the samples from the field. The TB serves as an indication of contamination introduced during sample transportation. |

TRANSWEST GEOCHEM

**Date Printed** 08-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011195
**Lab ID:** 0011195-01
**Project Name:** Rio Salado
**Project Number:** 199023.12

**Client Sample ID:** Pilot-11/22-1
**Collection Date:** 11/22/2000 2:40:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 GRO | <20 | 20 | | mg/Kg | 1 | 8015AZ | 11/28/2000 | 11/28/00 12:22 pm | JH | FUELS2_001128A |
| C10-C22 DRO | <30 | 30 | | mg/Kg | 1 | 8015AZ | 11/28/2000 | 11/28/00 12:22 pm | JH | FUELS2_001128A |
| C22-C32 ORO | 130 | 100 | | mg/Kg | 1 | 8015AZ | 11/28/2000 | 11/28/00 12:22 pm | JH | FUELS2_001128A |
| C10-C32 SRL | 130 | 130 | | mg/Kg | 1 | 8015AZ | 11/28/2000 | 11/28/00 12:22 pm | JH | FUELS2_001128A |
| o-Terphenyl (Surrogate) | 88 | 65-123 | | %REC | 1 | 8015AZ | 11/28/2000 | 11/28/00 12:22 pm | JH | FUELS2_001128A |
| Antimony | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/28/2000 | 11/28/00 | MR | 3785 |
| Arsenic | 6.4 | 5.0 | | mg/Kg | 1 | SW6010B | 11/28/2000 | 11/28/00 | MR | 3785 |
| Beryllium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 11/28/2000 | 11/28/00 | MR | 3785 |
| Cadmium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 11/28/2000 | 11/28/00 | MR | 3785 |
| Chromium | 12 | 5.0 | | mg/Kg | 1 | SW6010B | 11/28/2000 | 11/28/00 | MR | 3785 |
| Copper | 24 | 5.0 | | mg/Kg | 1 | SW6010B | 11/28/2000 | 11/28/00 | MR | 3785 |
| Lead | 49 | 5.0 | | mg/Kg | 1 | SW6010B | 11/28/2000 | 11/28/00 | MR | 3785 |
| Nickel | 15 | 5.0 | | mg/Kg | 1 | SW6010B | 11/28/2000 | 11/28/00 | MR | 3785 |
| Selenium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/28/2000 | 11/28/00 | MR | 3785 |
| Silver | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/28/2000 | 11/28/00 | MR | 3785 |
| Thallium | <10 | 10 | | mg/Kg | 1 | SW6010B | 11/28/2000 | 11/28/00 | MR | 3785 |
| Zinc | 110 | 5.0 | | mg/Kg | 1 | SW6010B | 11/28/2000 | 11/29/00 | MR | 3785 |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 11/29/2000 | 11/29/00 | TL | 3792 |



**Confidential and Privileged**

TRANSWEST GEOCHEM

**Date Printed** 08-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011195
**Lab ID:** 0011195-01
**Project Name:** Rio Salado
**Project Number:** 199023.12

**Client Sample ID:** Pilot-11/22-1
**Collection Date:** 11/22/2000 2:40:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Acenaphthylene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Aniline | <2.0 | 2.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Anthracene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Azobenzene | <0.80 | 0.80 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Benz[a]anthracene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Benzo[a]pyrene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Benzo[b]fluoranthene | <1.0 | 1.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Benzo[g,h,i]perylene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Benzo[k]fluoranthene | <1.0 | 1.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Benzoic acid | <1.0 | 1.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Benzyl alcohol | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Bis(2-chloroethoxy)methane | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Bis(2-chloroethyl)ether | <0.70 | 0.70 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Bis(2-chloroisopropyl)ether | <0.80 | 0.80 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Bis(2-ethylhexyl)phthalate | <0.80 | 0.80 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 4-Bromophenyl phenyl ether | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Butyl benzyl phthalate | <1.0 | 1.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Carbazole | <1.0 | 1.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 4-Chloro-3-methylphenol | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 4-Chloroaniline | <0.70 | 0.70 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 2-Chloronaphthalene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 2-Chlorophenol | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 4-Chlorophenyl phenyl ether | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Chrysene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Di-n-butyl phthalate | <0.70 | 0.70 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Di-n-octyl phthalate | <1.0 | 1.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Dibenz[a,h]anthracene | <1.0 | 1.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Dibenzofuran | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 1,2-Dichlorobenzene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 1,3-Dichlorobenzene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 1,4-Dichlorobenzene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 2,4-Dichlorophenol | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Diethyl phthalate | <0.70 | 0.70 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Dimethyl phthalate | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 2,4-Dimethylphenol | <1.0 | 1.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 4,6-Dinitro-2-methylphenol | <1.0 | 1.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 2,4-Dinitrophenol | <2.0 | 2.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 2,4-Dinitrotoluene | <1.0 | 1.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 2,6-Dinitrotoluene | <1.0 | 1.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Fluoranthene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Fluorene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Hexachlorobenzene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Hexachlorobutadiene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |



**Confidential and Privileged**

TRANSWEST GEOCHEM

**Date Printed** 08-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011195
**Lab ID:** 0011195-01
**Project Name:** Rio Salado
**Project Number:** 199023.12

**Client Sample ID:** Pilot-11/22-1
**Collection Date:** 11/22/2000 2:40:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Hexachlorocyclopentadiene | <2.0 | 2.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Hexachloroethane | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Indeno[1,2,3-cd]pyrene | <1.0 | 1.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Isophorone | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 2-Methylnaphthalene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 2-Methylphenol | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 4-Methylphenol | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| N-Nitrosodi-n-propylamine | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| N-Nitrosodimethylamine | <1.0 | 1.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| N-Nitrosodiphenylamine | <0.70 | 0.70 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Naphthalene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 2-Nitroaniline | <1.0 | 1.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 3-Nitroaniline | <1.1 | 1.1 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 4-Nitroaniline | <1.0 | 1.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Nitrobenzene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 2-Nitrophenol | <1.0 | 1.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 4-Nitrophenol | <1.0 | 1.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Pentachlorophenol | <1.0 | 1.0 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Phenanthrene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Phenol | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Pyrene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 1,2,4-Trichlorobenzene | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 2,4,5-Trichlorophenol | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 2,4,6-Trichlorophenol | <0.60 | 0.60 | | mg/Kg | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 2-Chlorophenol-d4 (Surrogate) | 65 | 20-130 | | %REC | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 1,2-Dichlorobenzene-d4 (Surrogate) | 60 | 20-130 | | %REC | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 2-Fluorobiphenyl (Surrogate) | 75 | 30-115 | | %REC | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 2-Fluorophenol (Surrogate) | 55 | 25-121 | | %REC | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Nitrobenzene-d5 (Surrogate) | 74 | 23-120 | | %REC | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| Phenol-d6 (Surrogate) | 67 | 24-113 | | %REC | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 4-Terphenyl-d14 (Surrogate) | 88 | 18-137 | | %REC | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |
| 2,4,6-Tribromophenol (Surrogate) | 31 | 19-122 | | %REC | 1 | SW8270C | 11/27/2000 | 12/7/00 12:25 pm | MHH | 3780 |



**Confidential and Privileged**

TRANSWEST GEOCHEM

**Date Printed** 08-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011195
**Lab ID:** 0011195-01
**Project Name:** Rio Salado
**Project Number:** 199023.12

**Client Sample ID:** Pilot-11/22-1
**Collection Date:** 11/22/2000 2:40:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | <1.5 | 1.5 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Benzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Bromobenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Bromochloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Bromodichloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Bromoform | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Bromomethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 2-Butanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| n-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| sec-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| tert-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Carbon tetrachloride | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Chlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Chloroethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 2-Chloroethylvinylether | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Chloroform | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Chloromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 2-Chlorotoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 4-Chlorotoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Dibromochloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 1,2-Dibromoethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 1,2-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 1,3-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 1,4-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Dichlorodifluoromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 1,1-Dichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 1,2-Dichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 1,1-Dichloroethene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| cis-1,2-Dichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| trans-1,2-Dichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 1,2-Dichloropropane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 1,3-Dichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 2,2-Dichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 1,1-Dichloropropene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| cis-1,3-Dichloropropene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| trans-1,3-Dichloropropene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Ethylbenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 2-Hexanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 4-Isopropyltoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Methyl tert-butyl ether | <0.20 | 0.20 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 4-Methyl-2-pentanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Methylene chloride | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| n-Propylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Styrene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |



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TRANSWEST GEOCHEM

**Date Printed** 08-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011195
**Lab ID:** 0011195-01
**Project Name:** Rio Salado
**Project Number:** 199023.12

**Client Sample ID:** Pilot-11/22-1
**Collection Date:** 11/22/2000 2:40:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,2,2-Tetrachloroethane | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Tetrachloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Toluene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 1,2,3-Trichlorobenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 1,1,1-Trichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 1,1,2-Trichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Trichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Trichlorofluoromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 1,2,3-Trichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 1,2,4-Trimethylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 1,3,5-Trimethylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Vinyl acetate | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Vinyl chloride | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Xylenes, Total | <0.15 | 0.15 | | mg/Kg | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 4-Bromofluorobenzene (Surrogate) | 99 | 74-119 | | %REC | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Dibromofluoromethane (Surrogate) | 100 | 71-123 | | %REC | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| 1,2-Dichloroethane-d4 (Surrogate) | 98 | 69-122 | | %REC | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |
| Toluene-d8 (Surrogate) | 102 | 75-118 | | %REC | 1 | SW8260B | 11/22/2000 | 11/27/00 6:17 pm | MTB | GCMS10_001127B |



**Confidential and Privileged**

**Date:** 08-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011195
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 GRO | <20 | 20 | | mg/Kg | 1 | 8015AZ | 11/28/00 | 11/28/00 11:34 am | JH | FUELS2_001128A |
| C10-C22 DRO | <30 | 30 | | mg/Kg | 1 | 8015AZ | 11/28/00 | 11/28/00 11:34 am | JH | FUELS2_001128A |
| C22-C32 ORO | <100 | 100 | | mg/Kg | 1 | 8015AZ | 11/28/00 | 11/28/00 11:34 am | JH | FUELS2_001128A |
| C10-C32 SRL | <130 | 130 | | mg/Kg | 1 | 8015AZ | 11/28/00 | 11/28/00 11:34 am | JH | FUELS2_001128A |
| o-Terphenyl | 84 | 65-123 | | %REC | 1 | 8015AZ | 11/28/00 | 11/28/00 11:34 am | JH | FUELS2_001128A |
| Antimony | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/28/00 | 11/28/00 | MR | 3785 |
| Arsenic | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/28/00 | 11/28/00 | MR | 3785 |
| Beryllium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 11/28/00 | 11/28/00 | MR | 3785 |
| Cadmium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 11/28/00 | 11/28/00 | MR | 3785 |
| Chromium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/28/00 | 11/28/00 | MR | 3785 |
| Copper | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/28/00 | 11/28/00 | MR | 3785 |
| Lead | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/28/00 | 11/28/00 | MR | 3785 |
| Nickel | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/28/00 | 11/28/00 | MR | 3785 |
| Selenium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/28/00 | 11/28/00 | MR | 3785 |
| Silver | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/28/00 | 11/28/00 | MR | 3785 |
| Thallium | <10 | 10 | | mg/Kg | 1 | SW6010B | 11/28/00 | 11/28/00 | MR | 3785 |
| Zinc | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/28/00 | 11/28/00 | MR | 3785 |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 11/29/00 | 11/29/00 | TL | 3792 |

TRANSWEST GEOCHEM

**Date:** 08-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011195
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Acenaphthylene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Aniline | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Anthracene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Azobenzene | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Benz[a]anthracene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Benzo[a]pyrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Benzo[b]fluoranthene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Benzo[g,h,i]perylene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Benzo[k]fluoranthene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Benzoic acid | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Benzyl alcohol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Bis(2-chloroethoxy)methane | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Bis(2-chloroethyl)ether | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Bis(2-chloroisopropyl)ether | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Bis(2-ethylhexyl)phthalate | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 4-Bromophenyl phenyl ether | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Butyl benzyl phthalate | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Carbazole | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 4-Chloro-3-methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 4-Chloroaniline | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 2-Chloronaphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 2-Chlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 4-Chlorophenyl phenyl ether | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Chrysene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Di-n-butyl phthalate | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Di-n-octyl phthalate | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Dibenz[a,h]anthracene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Dibenzofuran | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 1,2-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 1,3-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 1,4-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 2,4-Dichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Diethyl phthalate | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Dimethyl phthalate | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 2,4-Dimethylphenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 4,6-Dinitro-2-methylphenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 2,4-Dinitrophenol | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 2,4-Dinitrotoluene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 2,6-Dinitrotoluene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Fluoranthene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Fluorene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Hexachlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Hexachlorobutadiene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Hexachlorocyclopentadiene | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |

Date: 08-Dec-00

License No. AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011195
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Hexachloroethane | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Indeno[1,2,3-cd]pyrene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Isophorone | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 2-Methylnaphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 2-Methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 4-Methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| N-Nitrosodi-n-propylamine | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| N-Nitrosodimethylamine | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| N-Nitrosodiphenylamine | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Naphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 2-Nitroaniline | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 3-Nitroaniline | <0.18 | 0.18 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 4-Nitroaniline | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Nitrobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 2-Nitrophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 4-Nitrophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Pentachlorophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Phenanthrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Phenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Pyrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 1,2,4-Trichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 2,4,5-Trichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 2,4,6-Trichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 2-Chlorophenol-d4 | 78 | 20-130 | | %REC | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 1,2-Dichlorobenzene-d4 | 76 | 20-130 | | %REC | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 2-Fluorobiphenyl | 80 | 30-115 | | %REC | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 2-Fluorophenol | 71 | 25-121 | | %REC | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Nitrobenzene-d5 | 67 | 23-120 | | %REC | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| Phenol-d6 | 78 | 24-113 | | %REC | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 4-Terphenyl-d14 | 89 | 18-137 | | %REC | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |
| 2,4,6-Tribromophenol | 65 | 19-122 | | %REC | 1 | SW8270C | 11/27/00 | 12/6/00 9:57 pm | MHH | 3780 |

**Date:** 08-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011195
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | <1.5 | 1.5 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Benzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Bromobenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Bromochloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Bromodichloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Bromoform | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Bromomethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 2-Butanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| n-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| sec-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| tert-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Carbon tetrachloride | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Chlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Chloroethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 2-Chloroethylvinylether | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Chloroform | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Chloromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 2-Chlorotoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 4-Chlorotoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Dibromochloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 1,2-Dibromoethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 1,2-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 1,3-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 1,4-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Dichlorodifluoromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 1,1-Dichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 1,2-Dichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 1,1-Dichloroethene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| cis-1,2-Dichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| trans-1,2-Dichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 1,2-Dichloropropane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 1,3-Dichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 2,2-Dichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 1,1-Dichloropropene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| cis-1,3-Dichloropropene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| trans-1,3-Dichloropropene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Ethylbenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 2-Hexanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 4-Isopropyltoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Methyl tert-butyl ether | <0.20 | 0.20 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 4-Methyl-2-pentanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Methylene chloride | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| n-Propylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Styrene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 1,1,2,2-Tetrachloroethane | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |

**Date:** 08-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011195
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT
## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Toluene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 1,2,3-Trichlorobenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 1,1,1-Trichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 1,1,2-Trichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Trichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Trichlorofluoromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 1,2,3-Trichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 1,2,4-Trimethylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 1,3,5-Trimethylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Vinyl acetate | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Vinyl chloride | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Xylenes, Total | <0.15 | 0.15 | | mg/Kg | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 4-Bromofluorobenzene | 106 | 74-119 | | %REC | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Dibromofluoromethane | 100 | 71-123 | | %REC | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| 1,2-Dichloroethane-d4 | 103 | 69-122 | | %REC | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |
| Toluene-d8 | 107 | 75-118 | | %REC | 1 | SW8260B | 11/22/00 | 11/27/00 5:46 pm | MTB | GCMS10_001127B |

TRANSWEST GEOCHEM

**Date:** 08-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011195
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0011208-02AS** | Batch ID: FUELS2_001128A | | | Test Code: 8015AZ | | | | Date Analyzed: 11/28/00 5:12 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 11/28/00 | | | |
| C10-C22 DRO | 463 | 30 | 500 | <30 | 93% | 65 | 121 | | | | |
| o-Terphenyl | 9.08 | N/A | 10.0 | N/A | 91% | 65 | 123 | | | | |
| Sample ID: **0011208-02ASD** | Batch ID: FUELS2_001128A | | | Test Code: 8015AZ | | | | Date Analyzed: 11/28/00 6:00 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 11/28/00 | | | |
| C10-C22 DRO | 472 | 30 | 500 | <30 | 94% | 65 | 121 | 463 | 2% | 20 | |
| o-Terphenyl | 8.86 | N/A | 10.0 | N/A | 89% | 65 | 123 | | | | |
| Sample ID: **0011134-19ASD** | Batch ID: 3785 | | | Test Code: SW6010B | | | | Date Analyzed: 11/28/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 11/28/00 | | | |
| Antimony | 25.60 | 5.0 | 50.00 | <5.0 | 51% | 75 | 125 | 23.97 | 7% | 20 | S M2 |
| Arsenic | 57.46 | 5.0 | 50.00 | 5.810 | 103% | 75 | 125 | 56.92 | 1% | 20 | |
| Beryllium | 45.23 | 2.5 | 50.00 | <2.5 | 90% | 75 | 125 | 44.19 | 2% | 20 | |
| Cadmium | 47.04 | 2.5 | 50.00 | <2.5 | 94% | 75 | 125 | 45.80 | 3% | 20 | |
| Chromium | 55.32 | 5.0 | 50.00 | 6.295 | 98% | 75 | 125 | 53.73 | 3% | 20 | |
| Copper | 68.55 | 5.0 | 50.00 | 15.98 | 105% | 75 | 125 | 67.10 | 2% | 20 | |
| Lead | 63.77 | 5.0 | 50.00 | 14.65 | 98% | 75 | 125 | 62.96 | 1% | 20 | |
| Nickel | 51.69 | 5.0 | 50.00 | 5.550 | 92% | 75 | 125 | 50.14 | 3% | 20 | |
| Selenium | 45.16 | 5.0 | 50.00 | <5.0 | 90% | 75 | 125 | 45.09 | 0% | 20 | |
| Silver | 22.48 | 5.0 | 25.00 | <5.0 | 90% | 75 | 125 | 22.50 | 0% | 20 | |
| Thallium | 46.42 | 10 | 50.00 | <10 | 93% | 75 | 125 | 45.62 | 2% | 20 | |
| Zinc | 492.6 | 5.0 | 550.0 | 23.72 | 85% | 75 | 125 | 482.1 | 2% | 20 | |
| Sample ID: **0011134-19AS** | Batch ID: 3785 | | | Test Code: SW6010B | | | | Date Analyzed: 11/28/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 11/28/00 | | | |
| Antimony | 23.97 | 5.0 | 50.00 | <5.0 | 48% | 75 | 125 | | | | S M2 |
| Arsenic | 56.92 | 5.0 | 50.00 | 5.810 | 102% | 75 | 125 | | | | |
| Beryllium | 44.19 | 2.5 | 50.00 | <2.5 | 88% | 75 | 125 | | | | |
| Cadmium | 45.80 | 2.5 | 50.00 | <2.5 | 92% | 75 | 125 | | | | |
| Chromium | 53.73 | 5.0 | 50.00 | 6.295 | 95% | 75 | 125 | | | | |
| Copper | 67.10 | 5.0 | 50.00 | 15.98 | 102% | 75 | 125 | | | | |
| Lead | 62.96 | 5.0 | 50.00 | 14.65 | 97% | 75 | 125 | | | | |
| Nickel | 50.14 | 5.0 | 50.00 | 5.550 | 89% | 75 | 125 | | | | |
| Selenium | 45.09 | 5.0 | 50.00 | <5.0 | 90% | 75 | 125 | | | | |
| Silver | 22.50 | 5.0 | 25.00 | <5.0 | 90% | 75 | 125 | | | | |
| Thallium | 45.62 | 10 | 50.00 | <10 | 91% | 75 | 125 | | | | |
| Zinc | 482.1 | 5.0 | 550.0 | 23.72 | 83% | 75 | 125 | | | | |
| Sample ID: **0011196-16ASD** | Batch ID: 3792 | | | Test Code: SW7471A | | | | Date Analyzed: 11/29/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 11/29/00 | | | |
| Mercury | 1.119 | 0.083 | 1.250 | <0.083 | 90% | 85 | 115 | 1.157 | 3% | 20 | |

TRANSWEST GEOCHEM

**Date:** 08-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011195
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0011196-16AS** | Batch ID: 3792 | | | Test Code: SW7471A | | | | Date Analyzed: 11/29/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 11/29/00 | | | |
| Mercury | 1.157 | 0.083 | 1.250 | <0.083 | 93% | 85 | 115 | | | | |
| Sample ID: **0011134-19ASD** | Batch ID: 3792 | | | Test Code: SW7471A | | | | Date Analyzed: 11/29/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 11/29/00 | | | |
| Mercury | 1.141 | 0.083 | 1.250 | <0.083 | 91% | 85 | 115 | 1.266 | 10% | 20 | |
| Sample ID: **0011134-19AS** | Batch ID: 3792 | | | Test Code: SW7471A | | | | Date Analyzed: 11/29/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 11/29/00 | | | |
| Mercury | 1.266 | 0.083 | 1.250 | <0.083 | 101% | 85 | 115 | | | | |
| Sample ID: **0011195-01B-MS** | Batch ID: 3780 | | | Test Code: SW8270C | | | | Date Analyzed: 12/7/00 1:29 pm | | | |
| Client ID: **Pilot-11/22-1** | | | | Units: mg/Kg | | | | Date Prepared: 11/27/00 | | | |
| Acenaphthene | 3.274 | 0.60 | 4.000 | <0.60 | 82% | 57 | 101 | | | | |
| 4-Chloro-3-methylphenol | 2.988 | 0.60 | 4.000 | <0.60 | 75% | 49 | 108 | | | | |
| 2-Chlorophenol | 1.942 | 0.60 | 4.000 | <0.60 | 49% | 49 | 98 | | | | |
| 1,4-Dichlorobenzene | 1.756 | 0.60 | 4.000 | <0.60 | 44% | 41 | 100 | | | | |
| 2,4-Dinitrotoluene | 1.522 | 1.0 | 4.000 | <1.0 | 38% | 50 | 120 | | | | M2 |
| N-Nitrosodi-n-propylamine | <0.60 | 0.60 | 4.000 | <0.60 | 0% | 43 | 104 | | | | M2 |
| 4-Nitrophenol | <1.0 | 1.0 | 4.000 | <1.0 | 0% | 55 | 117 | | | | M2 |
| Pentachlorophenol | <1.0 | 1.0 | 4.000 | <1.0 | 0% | 45 | 115 | | | | M2 |
| Phenol | 2.174 | 0.60 | 4.000 | <0.60 | 54% | 50 | 100 | | | | |
| Pyrene | 4.640 | 0.60 | 4.000 | <0.60 | 116% | 59 | 120 | | | | |
| 1,2,4-Trichlorobenzene | 2.126 | 0.60 | 4.000 | <0.60 | 53% | 43 | 102 | | | | |
| 2-Chlorophenol-d4 | 2.832 | N/A | 6.000 | N/A | 47% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 1.764 | N/A | 4.000 | N/A | 44% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 2.914 | N/A | 4.000 | N/A | 73% | 30 | 115 | | | | |
| 2-Fluorophenol | 2.150 | N/A | 6.000 | N/A | 36% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 2.250 | N/A | 4.000 | N/A | 56% | 23 | 120 | | | | |
| Phenol-d6 | 2.842 | N/A | 6.000 | N/A | 47% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 4.092 | N/A | 4.000 | N/A | 102% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 4.598 | N/A | 6.000 | N/A | 77% | 19 | 122 | | | | |

TRANSWEST GEOCHEM

**Date:** 08-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011195
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0011195-01B-MS** | Batch ID: 3780 | | | Test Code: SW8270C | | | | Date Analyzed: 12/7/00 2:30 pm | | | |
| Client ID: **Pilot-11/22-1** | | | | Units: mg/Kg | | | | Date Prepared: 11/27/00 | | | |
| Acenaphthene | 3.054 | 0.60 | 4.000 | <0.60 | 76% | 57 | 101 | 3.274 | 7% | 19 | |
| 4-Chloro-3-methylphenol | 2.820 | 0.60 | 4.000 | <0.60 | 70% | 49 | 108 | 2.988 | 6% | 33 | |
| 2-Chlorophenol | 1.896 | 0.60 | 4.000 | <0.60 | 47% | 49 | 98 | 1.942 | 2% | 50 | M2 |
| 1,4-Dichlorobenzene | 1.714 | 0.60 | 4.000 | <0.60 | 43% | 41 | 100 | 1.756 | 2% | 27 | |
| 2,4-Dinitrotoluene | 1.394 | 1.0 | 4.000 | <1.0 | 35% | 50 | 120 | 1.522 | 9% | 47 | M2 |
| N-Nitrosodi-n-propylamine | 0.7520 | 0.60 | 4.000 | <0.60 | 19% | 43 | 104 | <0.60 | 200% | 38 | M2, R1 |
| 4-Nitrophenol | <1.0 | 1.0 | 4.000 | <1.0 | 0% | 55 | 117 | <1.0 | 0% | 50 | M2 |
| Pentachlorophenol | <1.0 | 1.0 | 4.000 | <1.0 | 0% | 45 | 115 | <1.0 | 0% | 47 | M2 |
| Phenol | 1.998 | 0.60 | 4.000 | <0.60 | 50% | 50 | 100 | 2.174 | 8% | 35 | |
| Pyrene | 4.134 | 0.60 | 4.000 | <0.60 | 103% | 59 | 120 | 4.640 | 12% | 36 | |
| 1,2,4-Trichlorobenzene | 2.038 | 0.60 | 4.000 | <0.60 | 51% | 43 | 102 | 2.126 | 4% | 23 | |
| 2-Chlorophenol-d4 | 2.888 | N/A | 6.000 | N/A | 48% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 1.754 | N/A | 4.000 | N/A | 44% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 2.860 | N/A | 4.000 | N/A | 71% | 30 | 115 | | | | |
| 2-Fluorophenol | 2.098 | N/A | 6.000 | N/A | 35% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 2.414 | N/A | 4.000 | N/A | 60% | 23 | 120 | | | | |
| Phenol-d6 | 2.840 | N/A | 6.000 | N/A | 47% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 4.054 | N/A | 4.000 | N/A | 101% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 4.326 | N/A | 6.000 | N/A | 72% | 19 | 122 | | | | |
| Sample ID: **0011195-01AS** | Batch ID: GCMS10_001127B | | | Test Code: SW8260B | | | | Date Analyzed: 11/27/00 6:50 pm | | | |
| Client ID: **Pilot-11/22-1** | | | | Units: mg/Kg | | | | Date Prepared: 11/22/00 | | | |
| Benzene | 0.9850 | 0.050 | 1.000 | <0.050 | 99% | 72 | 119 | | | | |
| Chlorobenzene | 0.9920 | 0.050 | 1.000 | <0.050 | 99% | 73 | 114 | | | | |
| 1,1-Dichloroethene | 0.9965 | 0.10 | 1.000 | <0.10 | 100% | 52 | 130 | | | | |
| Toluene | 1.001 | 0.10 | 1.000 | <0.10 | 100% | 74 | 117 | | | | |
| Trichloroethene | 1.012 | 0.050 | 1.000 | <0.050 | 101% | 76 | 118 | | | | |
| 4-Bromofluorobenzene | 2.662 | N/A | 2.500 | N/A | 106% | 74 | 119 | | | | |
| Dibromofluoromethane | 2.587 | N/A | 2.500 | N/A | 103% | 71 | 123 | | | | |
| 1,2-Dichloroethane-d4 | 2.491 | N/A | 2.500 | N/A | 100% | 69 | 122 | | | | |
| Toluene-d8 | 2.603 | N/A | 2.500 | N/A | 104% | 75 | 118 | | | | |

**Date:** 08-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011195
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0011195-01ASD** | Batch ID: GCMS10_001127B | | | Test Code: SW8260B | | | | Date Analyzed: 11/27/00 7:22 pm | | | |
| Client ID: **Pilot-11/22-1** | | | | Units: mg/Kg | | | | Date Prepared: 11/22/00 | | | |
| Benzene | 0.9970 | 0.050 | 1.000 | <0.050 | 100% | 72 | 119 | 0.9850 | 1% | 20 | |
| Chlorobenzene | 1.016 | 0.050 | 1.000 | <0.050 | 102% | 73 | 114 | 0.9920 | 2% | 20 | |
| 1,1-Dichloroethene | 1.052 | 0.10 | 1.000 | <0.10 | 105% | 52 | 130 | 0.9965 | 5% | 20 | |
| Toluene | 1.034 | 0.10 | 1.000 | <0.10 | 103% | 74 | 117 | 1.001 | 3% | 20 | |
| Trichloroethene | 1.038 | 0.050 | 1.000 | <0.050 | 104% | 76 | 118 | 1.012 | 3% | 20 | |
| 4-Bromofluorobenzene | 2.725 | N/A | 2.500 | N/A | 109% | 74 | 119 | | | | |
| Dibromofluoromethane | 2.448 | N/A | 2.500 | N/A | 98% | 71 | 123 | | | | |
| 1,2-Dichloroethane-d4 | 2.548 | N/A | 2.500 | N/A | 102% | 69 | 122 | | | | |
| Toluene-d8 | 2.642 | N/A | 2.500 | N/A | 106% | 75 | 118 | | | | |

TRANSWEST GEOCHEM

**Date:** 08-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011195
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LFB SOIL** | Batch ID: FUELS2_001128A | | | Test Code: 8015AZ | | | | Date Analyzed: 11/28/00 1:58 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 11/28/00 | | | |
| C10-C22 DRO | 457 | 30 | 500 | <30 | 91% | 78 | 111 | | | | |
| o-Terphenyl | 8.70 | N/A | 10.0 | N/A | 87% | 65 | 123 | | | | |
| Sample ID: **LCSD-3785** | Batch ID: 3785 | | | Test Code: SW6010B | | | | Date Analyzed: 11/28/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 11/28/00 | | | |
| Antimony | 51.17 | 5.0 | 50.00 | <5.0 | 102% | 85 | 115 | 47.40 | 8% | 20 | |
| Arsenic | 52.93 | 5.0 | 50.00 | <5.0 | 106% | 85 | 115 | 49.89 | 6% | 20 | |
| Beryllium | 47.47 | 2.5 | 50.00 | <2.5 | 95% | 85 | 115 | 43.61 | 8% | 20 | |
| Cadmium | 51.75 | 2.5 | 50.00 | <2.5 | 104% | 85 | 115 | 47.57 | 8% | 20 | |
| Chromium | 52.42 | 5.0 | 50.00 | <5.0 | 105% | 85 | 115 | 48.24 | 8% | 20 | |
| Copper | 52.32 | 5.0 | 50.00 | <5.0 | 105% | 85 | 115 | 47.85 | 9% | 20 | |
| Lead | 52.61 | 5.0 | 50.00 | <5.0 | 105% | 85 | 115 | 48.19 | 9% | 20 | |
| Nickel | 50.59 | 5.0 | 50.00 | <5.0 | 101% | 85 | 115 | 46.41 | 9% | 20 | |
| Selenium | 47.32 | 5.0 | 50.00 | <5.0 | 95% | 85 | 115 | 44.04 | 7% | 20 | |
| Silver | 22.37 | 5.0 | 25.00 | <5.0 | 89% | 85 | 115 | 21.54 | 4% | 20 | |
| Thallium | 48.35 | 10 | 50.00 | <10 | 97% | 85 | 115 | 44.62 | 8% | 20 | |
| Zinc | 522.3 | 5.0 | 550.0 | <5.0 | 95% | 85 | 115 | 507.7 | 3% | 20 | |
| Sample ID: **LCS-3785** | Batch ID: 3785 | | | Test Code: SW6010B | | | | Date Analyzed: 11/28/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 11/28/00 | | | |
| Antimony | 47.40 | 5.0 | 50.00 | <5.0 | 95% | 85 | 115 | | | | |
| Arsenic | 49.89 | 5.0 | 50.00 | <5.0 | 100% | 85 | 115 | | | | |
| Beryllium | 43.61 | 2.5 | 50.00 | <2.5 | 87% | 85 | 115 | | | | |
| Cadmium | 47.57 | 2.5 | 50.00 | <2.5 | 95% | 85 | 115 | | | | |
| Chromium | 48.24 | 5.0 | 50.00 | <5.0 | 96% | 85 | 115 | | | | |
| Copper | 47.85 | 5.0 | 50.00 | <5.0 | 96% | 85 | 115 | | | | |
| Lead | 48.19 | 5.0 | 50.00 | <5.0 | 96% | 85 | 115 | | | | |
| Nickel | 46.41 | 5.0 | 50.00 | <5.0 | 93% | 85 | 115 | | | | |
| Selenium | 44.04 | 5.0 | 50.00 | <5.0 | 88% | 85 | 115 | | | | |
| Silver | 21.54 | 5.0 | 25.00 | <5.0 | 86% | 85 | 115 | | | | |
| Thallium | 44.62 | 10 | 50.00 | <10 | 89% | 85 | 115 | | | | |
| Zinc | 507.7 | 5.0 | 550.0 | <5.0 | 92% | 85 | 115 | | | | |
| Sample ID: **LCSD-3792** | Batch ID: 3792 | | | Test Code: SW7471A | | | | Date Analyzed: 11/29/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 11/29/00 | | | |
| Mercury | 1.296 | 0.083 | 1.250 | <0.083 | 104% | 85 | 115 | 1.277 | 1% | 20 | |
| Sample ID: **LCS-3792** | Batch ID: 3792 | | | Test Code: SW7471A | | | | Date Analyzed: 11/29/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 11/29/00 | | | |
| Mercury | 1.277 | 0.083 | 1.250 | <0.083 | 102% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Date:** 08-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011195
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCS-3780** | Batch ID: 3780 | | | Test Code: SW8270C | | | | Date Analyzed: 12/6/00 10:58 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 11/27/00 | | | |
| Acenaphthene | 0.6040 | 0.10 | 0.6667 | <0.10 | 91% | 57 | 101 | | | | |
| 4-Chloro-3-methylphenol | 0.5933 | 0.10 | 0.6667 | <0.10 | 89% | 49 | 108 | | | | |
| 2-Chlorophenol | 0.5523 | 0.10 | 0.6667 | <0.10 | 83% | 49 | 98 | | | | |
| 1,4-Dichlorobenzene | 0.5570 | 0.10 | 0.6667 | <0.10 | 84% | 41 | 100 | | | | |
| 2,4-Dinitrotoluene | 0.5650 | 0.17 | 0.6667 | <0.17 | 85% | 50 | 120 | | | | |
| N-Nitrosodi-n-propylamine | 0.5980 | 0.10 | 0.6667 | <0.10 | 90% | 43 | 104 | | | | |
| 4-Nitrophenol | 0.3790 | 0.17 | 0.6667 | <0.17 | 57% | 55 | 117 | | | | |
| Pentachlorophenol | 0.4240 | 0.17 | 0.6667 | <0.17 | 64% | 45 | 115 | | | | |
| Phenol | 0.5810 | 0.10 | 0.6667 | <0.10 | 87% | 50 | 100 | | | | |
| Pyrene | 0.6667 | 0.10 | 0.6667 | <0.10 | 100% | 59 | 120 | | | | |
| 1,2,4-Trichlorobenzene | 0.5500 | 0.10 | 0.6667 | <0.10 | 82% | 43 | 102 | | | | |
| 2-Chlorophenol-d4 | 0.8303 | N/A | 1.000 | N/A | 83% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 0.5610 | N/A | 0.6667 | N/A | 84% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.6103 | N/A | 0.6667 | N/A | 92% | 30 | 115 | | | | |
| 2-Fluorophenol | 0.7957 | N/A | 1.000 | N/A | 80% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 0.5643 | N/A | 0.6667 | N/A | 85% | 23 | 120 | | | | |
| Phenol-d6 | 0.8693 | N/A | 1.000 | N/A | 87% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 0.6820 | N/A | 0.6667 | N/A | 102% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 0.9243 | N/A | 1.000 | N/A | 92% | 19 | 122 | | | | |
| Sample ID: **LCSD-3780** | Batch ID: 3780 | | | Test Code: SW8270C | | | | Date Analyzed: 12/6/00 11:59 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 11/27/00 | | | |
| Acenaphthene | 0.5407 | 0.10 | 0.6667 | <0.10 | 81% | 57 | 101 | 0.6040 | 11% | 19 | |
| 4-Chloro-3-methylphenol | 0.5287 | 0.10 | 0.6667 | <0.10 | 79% | 49 | 108 | 0.5933 | 12% | 33 | |
| 2-Chlorophenol | 0.5003 | 0.10 | 0.6667 | <0.10 | 75% | 49 | 98 | 0.5523 | 10% | 50 | |
| 1,4-Dichlorobenzene | 0.4873 | 0.10 | 0.6667 | <0.10 | 73% | 41 | 100 | 0.5570 | 13% | 27 | |
| 2,4-Dinitrotoluene | 0.5207 | 0.17 | 0.6667 | <0.17 | 78% | 50 | 120 | 0.5650 | 8% | 47 | |
| N-Nitrosodi-n-propylamine | 0.5360 | 0.10 | 0.6667 | <0.10 | 80% | 43 | 104 | 0.5980 | 11% | 38 | |
| 4-Nitrophenol | 0.3743 | 0.17 | 0.6667 | <0.17 | 56% | 55 | 117 | 0.3790 | 1% | 50 | |
| Pentachlorophenol | 0.4290 | 0.17 | 0.6667 | <0.17 | 64% | 45 | 115 | 0.4240 | 1% | 47 | |
| Phenol | 0.5243 | 0.10 | 0.6667 | <0.10 | 79% | 50 | 100 | 0.5810 | 10% | 35 | |
| Pyrene | 0.5777 | 0.10 | 0.6667 | <0.10 | 87% | 59 | 120 | 0.6667 | 14% | 36 | |
| 1,2,4-Trichlorobenzene | 0.4953 | 0.10 | 0.6667 | <0.10 | 74% | 43 | 102 | 0.5500 | 10% | 23 | |
| 2-Chlorophenol-d4 | 0.7533 | N/A | 1.000 | N/A | 75% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 0.4907 | N/A | 0.6667 | N/A | 74% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.5243 | N/A | 0.6667 | N/A | 79% | 30 | 115 | | | | |
| 2-Fluorophenol | 0.7020 | N/A | 1.000 | N/A | 70% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 0.4947 | N/A | 0.6667 | N/A | 74% | 23 | 120 | | | | |
| Phenol-d6 | 0.7360 | N/A | 1.000 | N/A | 74% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 0.5793 | N/A | 0.6667 | N/A | 87% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 0.8227 | N/A | 1.000 | N/A | 82% | 19 | 122 | | | | |

**Date:** 08-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011195
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

Analytical Spike

| Analyte | Result | PQL | Units | Spike Value | Spike Ref Val | % Rec | Limit | Date Prepared | Date Analyzed | Analyst | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: 0011134-19AA | | | Test Code: | SW6010B | | | | Batch ID: | 3785 | | |
| Antimony | 46.76 | 5.0 | mg/L | 50 | <5.0 | 94% | 75 - 125 | 11/28/00 | 11/29/00 | MR | |

**TRANSWEST GEOCHEM**

3725 East Atlanta Avenue, Suite 2
Phoenix, Arizona 85040
Phone: (602) 437-0330
Fax: (602) 437-0660

# Chain of Custody

TGI Work Order No: 0011194 SH 11/22/00

Date 11/22 Page 1 of 1

| | | | |
|---|---|---|---|
| Project Manager: | Brad Johnston | | |
| Client Name: | SCS Engineers | | |
| Address: | | | |
| City, State ZIP: | | | |
| Phone: | 602-840-2596 | Fax: | |

| | | | |
|---|---|---|---|
| Bill to: | | | |
| Company: | | | |
| Address: | | | |
| City, State ZIP: | | | |
| Phone: | | Fax: | |

| | |
|---|---|
| P.O. No.: | |
| Project Name: | |
| Project Number: | |

**SAMPLE RECEIPT**

| | | | |
|---|---|---|---|
| Temperature: | Ambient / Cold | Ice: | |
| Received Intact: | Y | Absent / Present | |
| Custody Seals: | N/A | Wet / Blue | |
| Total No. of Containers: | 3 | | |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Lab ID | No. of Containers | TPH, (418.1/418.1AZ) | TPH, 8015AZR.1 | BTEX (8021B) | Volatile Organics GCMS (624/8260AZ) | SDWA Volatiles, (524.2) | Semi-Volatile Organics GCMS (625/8270) | Organochlorine Pesticides (608/8081) | PCB's, (8082) | PAH, EPA 8310 | 8 RCRA Metals | 13 Priority Pollutant Metals | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pilot-1/22-1 | Soil | 11/22 | 2:40 | 1 | 3 | | X | | X | | X | | | | | X | 5 day |

| Relinquished by: (Signature) | (Print Name) | Date/Time | Received by: (Signature) | (Print Name) | Date/Time |
|---|---|---|---|---|---|
| 1 | Arab Salam | 11/22 3:30 | | SKP Harden | 11/22/00 15:00 |
| 2 | | | | | |
| 3 | | | | | |

Revised: 6/29/00

**TRANSWEST GEOCHEM**

December 14, 2000

Brad Johnston
SCS Engineers
2702 N. 44th St., Suite 105B
Phoenix, AZ 85008

RE: Rio Salado/199023.12
Work Order No.: 0011210

Dear Brad,

Transwest Geochem, Inc. received 1 sample on 11/28/2000 2:15:00 PM for the analyses presented in the following report.

The Case Narrative of this report addresses any Quality Control and/or Quality Assurance issues associated with this Work Order.

If you have any questions regarding these test results, please feel free to call us at (602) 437-0330.

Sincerely,

Michael Barber for:

Beth Proffitt
Project Manager

ADHS License No. AZM133/AZ0133

**Client:** SCS Engineers
**Work Order:** 0011210
**Project Name:** Rio Salado
**Project Number:** 199023.12

**Date Printed:** 14-Dec-00

# CASE NARRATIVE

Transwest Geochem, Inc. uses the methods outlined in the following references:

Code of Federal Regulations, 40CFR, Part 136, Revised July 1995.

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, Revised August 1993.

Methods for the Determination of Metals in Environmental Samples, EPA/600/R-94/111, Revised May 1994.

Hach, Water Analysis Handbook, 2nd Edition, 1992.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

Metals were analyzed using multi-element ICP instrumentation. Some metals reported in the QC report may not be associated with this Work Order.

Secondary Source QC Sample (LCSV) results may not be reported for all methods and/or analysis dates.

The sample introduction technique for Method 8015AZ used by this laboratory is direct injection.

All method blanks, laboratory spikes, and/or matrix spikes met quality control objectives for the parameters associated with this Work Order.

Data qualifiers ("flags") contained within this analytical report have been issued to explain a quality control deficiency, and do not affect the quality (validity) of the data unless noted otherwise in the case narrative.

Analytical Comments for Method SW6010B, Analytical Spike 0012050-01, Batch 3811: Post-Digestion Spike for Sb, Cu, Pb, Zn passes Transwest Geochem Acceptance criteria.

Analytical Comments for Method SW6010B, Matrix Spike 0012050-01, Batch 3811: Sb, Cu, Pb, Zn,



3725 E. Atlanta Ave. • Suite 2 • Phoenix, Arizona 85040 • (602) 437-0330 • 1-800-927-5183 • Fax (602) 437-0660

**Client:** SCS Engineers
**Work Order:** 0011210
**Project Name:** Rio Salado
**Project Number:** 199023.12

**Date Printed:** 14-Dec-00

## CASE NARRATIVE

fail MS/MSD due to matrix interference. LCS is within Transwest Geochem Acceptance Criteria.

Analytical Comments for Method SW8270C, Sample 0011210-01, Batch 3790: R2 flag for N-Nitrosodi-n-propylamine in the MS and MSD. The RPD for this analyte was acceptable in the LCS and LCSD.



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TRANSWEST GEOCHEM

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado
**Project Number:** 199023.12
**Work Order:** 0011210
**Date Received:** 28-Nov-00

# Work Order Sample Summary

| Client Sample ID | Lab Sample ID | Test Code | Collection Date |
|---|---|---|---|
| Pilot-11/28-2 | 0011210-01A | 8015AZ | 11/28/2000 2:00:00 PM |
| | | SW8270C | 11/28/2000 2:00:00 PM |
| | 0011210-01B | | 11/28/2000 2:00:00 PM |
| | 0011210-01C | SW6010B | 11/28/2000 2:00:00 PM |
| | | SW7471A | 11/28/2000 2:00:00 PM |

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado
**Project Number:** 199023.12
**Work Order:** 0011210
**Date Received:** 28-Nov-00

# Data Qualifiers

One or more of the following data qualifiers may be associated with your analytical and/or quality control data.

| | |
|---|---|
| M2 | Matrix spike recovery was low, the method control sample recovery was acceptable. |
| R | RPD outside acceptance criteria. |
| R2 | RPD exceeded the laboratory control limit. See case narrative. |
| S | Spike or Surrogate recovery outside acceptance criteria. |
| S9 | The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria. The method control sample recovery was acceptable. |

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado
**Project Number:** 199023.12
**Work Order:** 0011210
**Date Received:** 28-Nov-00

# Definitions

| | |
|---|---|
| Analytical Spike (AS) | The AS is a known amount of a target analyte added to a sample after it has been distilled, digested, or extracted and is ready for analysis. The AS is generally performed if the MS has failed. It is used to indicate interference that arises from sample distillation, digestion, or extraction as opposed to interference that is innate to the matrix. |
| Continuing Curve Verification (CCV) | The CCV is also referred to as a curve check. This is a standard analyzed at specified intervals during an analysis. The CCV verifies the stability and accuracy of the calibration curve. There are specific CCV recovery acceptance criteria for each method. |
| Dilution Factor (DF) | The DF is an indication of how much a sample had to be diluted in order to quantitate it on a standard curve. The DF is indicated in the reported sample result. The sample PQL increases as the dilution increases. |
| Internal Standard (IS) | The IS is a compound that is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. The same concentration of IS is added to every sample for some organic methods. |
| Laboratory Control Sample (LCS) | The LCS is also referred to as a blank spike. The LCS is an addition of a known amount of a target analyte (from the same source as calibration standards or spikes) to an aliquot of deionized water or other appropriate clean matrix. The LCS is processed through the entire method procedure in the same manner as samples. |
| Matrix Spike (MS) | The MS is a known amount of a target analyte added to a sample. The MS is processed through the entire method procedure in the same manner as samples. |
| Method Blank (MB) | The MB is an aliquot of deionized water or other appropriate clean matrix that is thought to be free of the analyte in question. The MB is processed through the entire extraction or analysis procedure and is used to indicate contamination in the lab. |
| Method Detection Limit (MDL) | The MDL is the lowest level of detection of which a method is capable. |
| Practical Quantitation Limit (PQL) | The PQL is the lowest value at which Transwest Geochem can detect an analyte in matrix with a high degree of confidence. The PQL will increase as the DF increases. The PQL is greater than or equal to the MDL. |
| Relative Percent Difference (RPD) | The RPD is a measure of precision (the ability to obtain the same result on re-analysis of the same sample). It is calculated using the result of a sample, MS, LCS, or LCSV and its associated duplicate result. |
| Secondary Source QC Sample (LCSV) | The LCSV is also referred to as a second source laboratory control sample. It is the same type of standard as a calibration or spiking standard but is obtained from a different source. The LCSV is an indication of the primary standard quality, method performance, and instrument performance. |
| Surrogate | A surrogate compound is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. When surrogates are used, they are added to every sample, blank and standard. Surrogate recovery is used as an indication of extraction and/or analytical success. |
| Trip Blank (TB) | The TB is a portion of deionized water preserved in the same manner as the samples. The TB travels from the lab, to the field, and then back to the lab with the samples from the field. The TB serves as an indication of contamination introduced during sample transportation. |

TRANSWEST GEOCHEM

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011210
**Lab ID:** 0011210-01
**Project Name:** Rio Salado
**Project Number:** 199023.12

**Client Sample ID:** Pilot-11/28-2
**Collection Date:** 11/28/2000 2:00:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 GRO | <20 | 20 | | mg/Kg | 1 | 8015AZ | 11/28/2000 | 11/29/00 1:09 am | JH | FUELS2_001128A |
| C10-C22 DRO | 31 | 30 | | mg/Kg | 1 | 8015AZ | 11/28/2000 | 11/29/00 1:09 am | JH | FUELS2_001128A |
| C22-C32 ORO | 150 | 100 | | mg/Kg | 1 | 8015AZ | 11/28/2000 | 11/29/00 1:09 am | JH | FUELS2_001128A |
| C10-C32 SRL | 181 | 130 | | mg/Kg | 1 | 8015AZ | 11/28/2000 | 11/29/00 1:09 am | JH | FUELS2_001128A |
| o-Terphenyl (Surrogate) | 89 | 65-123 | | %REC | 1 | 8015AZ | 11/28/2000 | 11/29/00 1:09 am | JH | FUELS2_001128A |
| Antimony | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/30/2000 | 12/5/00 | MR | 3791A |
| Arsenic | 7.8 | 5.0 | | mg/Kg | 1 | SW6010B | 11/30/2000 | 12/1/00 | MR | 3791 |
| Beryllium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 11/30/2000 | 12/5/00 | MR | 3791A |
| Cadmium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 11/30/2000 | 12/1/00 | MR | 3791 |
| Chromium | 15 | 5.0 | | mg/Kg | 1 | SW6010B | 11/30/2000 | 12/1/00 | MR | 3791 |
| Copper | 38 | 5.0 | | mg/Kg | 1 | SW6010B | 11/30/2000 | 12/5/00 | MR | 3791A |
| Lead | 46 | 5.0 | | mg/Kg | 1 | SW6010B | 11/30/2000 | 12/1/00 | MR | 3791 |
| Nickel | 16 | 5.0 | | mg/Kg | 1 | SW6010B | 11/30/2000 | 12/1/00 | MR | 3791 |
| Selenium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/30/2000 | 12/1/00 | MR | 3791 |
| Silver | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Thallium | <10 | 10 | | mg/Kg | 1 | SW6010B | 11/30/2000 | 12/1/00 | MR | 3791 |
| Zinc | 120 | 5.0 | | mg/Kg | 1 | SW6010B | 11/30/2000 | 12/1/00 | MR | 3791 |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 12/6/2000 | 12/6/00 | TL | 3806 |



**Confidential and Privileged**

TRANSWEST GEOCHEM

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011210
**Lab ID:** 0011210-01
**Project Name:** Rio Salado
**Project Number:** 199023.12

**Client Sample ID:** Pilot-11/28-2
**Collection Date:** 11/28/2000 2:00:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Acenaphthylene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Aniline | <10 | 10 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Anthracene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Azobenzene | <4.0 | 4.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Benz[a]anthracene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Benzo[a]pyrene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Benzo[b]fluoranthene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Benzo[g,h,i]perylene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Benzo[k]fluoranthene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Benzoic acid | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Benzyl alcohol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Bis(2-chloroethoxy)methane | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Bis(2-chloroethyl)ether | <3.5 | 3.5 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Bis(2-chloroisopropyl)ether | <4.0 | 4.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Bis(2-ethylhexyl)phthalate | <4.0 | 4.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 4-Bromophenyl phenyl ether | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Butyl benzyl phthalate | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Carbazole | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 4-Chloro-3-methylphenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 4-Chloroaniline | <3.5 | 3.5 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 2-Chloronaphthalene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 2-Chlorophenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 4-Chlorophenyl phenyl ether | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Chrysene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Di-n-butyl phthalate | <3.5 | 3.5 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Di-n-octyl phthalate | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Dibenz[a,h]anthracene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Dibenzo[a,i]pyrene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Dibenzofuran | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 1,2-Dichlorobenzene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 1,3-Dichlorobenzene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 1,4-Dichlorobenzene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 2,4-Dichlorophenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Diethyl phthalate | <3.5 | 3.5 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Dimethyl phthalate | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 2,4-Dimethylphenol | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 4,6-Dinitro-2-methylphenol | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 2,4-Dinitrophenol | <10 | 10 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 2,4-Dinitrotoluene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 2,6-Dinitrotoluene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Fluoranthene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Fluorene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Hexachlorobenzene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |



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TRANSWEST GEOCHEM

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011210
**Lab ID:** 0011210-01
**Project Name:** Rio Salado
**Project Number:** 199023.12

**Client Sample ID:** Pilot-11/28-2
**Collection Date:** 11/28/2000 2:00:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Hexachlorobutadiene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Hexachlorocyclopentadiene | <10 | 10 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Hexachloroethane | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Indeno[1,2,3-cd]pyrene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Isophorone | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 2-Methylnaphthalene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 2-Methylphenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 4-Methylphenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| N-Nitrosodi-n-propylamine | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| N-Nitrosodimethylamine | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| N-Nitrosodiphenylamine | <3.5 | 3.5 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Naphthalene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 2-Nitroaniline | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 3-Nitroaniline | <5.5 | 5.5 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 4-Nitroaniline | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Nitrobenzene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 2-Nitrophenol | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 4-Nitrophenol | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Pentachlorophenol | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Phenanthrene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Phenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Pyrene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 1,2,4-Trichlorobenzene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 2,4,5-Trichlorophenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 2,4,6-Trichlorophenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 2-Chlorophenol-d4 (Surrogate) | 46 | 20-130 | | %REC | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 1,2-Dichlorobenzene-d4 (Surrogate) | 45 | 20-130 | | %REC | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 2-Fluorobiphenyl (Surrogate) | 58 | 30-115 | | %REC | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 2-Fluorophenol (Surrogate) | 26 | 25-121 | | %REC | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Nitrobenzene-d5 (Surrogate) | 45 | 23-120 | | %REC | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| Phenol-d6 (Surrogate) | 45 | 24-113 | | %REC | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 4-Terphenyl-d14 (Surrogate) | 106 | 18-137 | | %REC | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |
| 2,4,6-Tribromophenol (Surrogate) | 30 | 19-122 | | %REC | 5 | SW8270C | 11/30/2000 | 12/13/00 3:33 pm | MHH | 3790 |



**Confidential and Privileged**

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011210
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 GRO | <20 | 20 | | mg/Kg | 1 | 8015AZ | 11/28/00 | 11/28/00 11:34 am | JH | FUELS2_001128A |
| C10-C22 DRO | <30 | 30 | | mg/Kg | 1 | 8015AZ | 11/28/00 | 11/28/00 11:34 am | JH | FUELS2_001128A |
| C22-C32 ORO | <100 | 100 | | mg/Kg | 1 | 8015AZ | 11/28/00 | 11/28/00 11:34 am | JH | FUELS2_001128A |
| C10-C32 SRL | <130 | 130 | | mg/Kg | 1 | 8015AZ | 11/28/00 | 11/28/00 11:34 am | JH | FUELS2_001128A |
| o-Terphenyl | 84 | 65-123 | | %REC | 1 | 8015AZ | 11/28/00 | 11/28/00 11:34 am | JH | FUELS2_001128A |
| Arsenic | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/30/00 | 12/1/00 | MR | 3791 |
| Cadmium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 11/30/00 | 12/1/00 | MR | 3791 |
| Chromium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/30/00 | 12/1/00 | MR | 3791 |
| Lead | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/30/00 | 12/1/00 | MR | 3791 |
| Nickel | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/30/00 | 12/1/00 | MR | 3791 |
| Selenium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/30/00 | 12/1/00 | MR | 3791 |
| Thallium | <10 | 10 | | mg/Kg | 1 | SW6010B | 11/30/00 | 12/1/00 | MR | 3791 |
| Zinc | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/30/00 | 12/1/00 | MR | 3791 |
| Antimony | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Arsenic | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Beryllium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Cadmium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Chromium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Copper | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Lead | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Nickel | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Silver | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Thallium | <10 | 10 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Zinc | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Selenium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/13/00 | MR | 3811 |
| Antimony | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/30/00 | 12/5/00 | MR | 3791A |
| Beryllium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 11/30/00 | 12/5/00 | MR | 3791A |
| Copper | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 11/30/00 | 12/5/00 | MR | 3791A |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 12/6/00 | 12/6/00 | TL | 3806 |

TRANSWEST GEOCHEM

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011210
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Acenaphthylene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Aniline | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Anthracene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Azobenzene | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Benz[a]anthracene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Benzo[a]pyrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Benzo[b]fluoranthene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Benzo[g,h,i]perylene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Benzo[k]fluoranthene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Benzoic acid | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Benzyl alcohol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Bis(2-chloroethoxy)methane | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Bis(2-chloroethyl)ether | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Bis(2-chloroisopropyl)ether | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Bis(2-ethylhexyl)phthalate | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 4-Bromophenyl phenyl ether | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Butyl benzyl phthalate | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Carbazole | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 4-Chloro-3-methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 4-Chloroaniline | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 2-Chloronaphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 2-Chlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 4-Chlorophenyl phenyl ether | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Chrysene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Di-n-butyl phthalate | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Di-n-octyl phthalate | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Dibenz[a,h]anthracene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Dibenzo[a,i]pyrene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Dibenzofuran | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 1,2-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 1,3-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 1,4-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 2,4-Dichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Diethyl phthalate | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Dimethyl phthalate | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 2,4-Dimethylphenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 4,6-Dinitro-2-methylphenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 2,4-Dinitrophenol | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 2,4-Dinitrotoluene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 2,6-Dinitrotoluene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Fluoranthene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Fluorene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Hexachlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Hexachlorobutadiene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011210
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Hexachlorocyclopentadiene | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Hexachloroethane | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Indeno[1,2,3-cd]pyrene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Isophorone | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 2-Methylnaphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 2-Methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 4-Methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| N-Nitrosodi-n-propylamine | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| N-Nitrosodimethylamine | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| N-Nitrosodiphenylamine | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Naphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 2-Nitroaniline | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 3-Nitroaniline | <0.18 | 0.18 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 4-Nitroaniline | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Nitrobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 2-Nitrophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 4-Nitrophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Pentachlorophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Phenanthrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Phenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Pyrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 1,2,4-Trichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 2,4,5-Trichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 2,4,6-Trichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 2-Chlorophenol-d4 | 79 | 20-130 | | %REC | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 1,2-Dichlorobenzene-d4 | 76 | 20-130 | | %REC | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 2-Fluorobiphenyl | 82 | 30-115 | | %REC | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 2-Fluorophenol | 71 | 25-121 | | %REC | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Nitrobenzene-d5 | 71 | 23-120 | | %REC | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| Phenol-d6 | 78 | 24-113 | | %REC | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 4-Terphenyl-d14 | 93 | 18-137 | | %REC | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |
| 2,4,6-Tribromophenol | 65 | 19-122 | | %REC | 1 | SW8270C | 11/30/00 | 12/7/00 1:00 am | MHH | 3790 |

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011210
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0011208-02AS** | Batch ID: FUELS2_001128A | | | Test Code: 8015AZ | | | | Date Analyzed: 11/28/00 5:12 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 11/28/00 | | | |
| C10-C22 DRO | 463 | 30 | 500 | <30 | 93% | 65 | 121 | | | | |
| o-Terphenyl | 9.08 | N/A | 10.0 | N/A | 91% | 65 | 123 | | | | |
| Sample ID: **0011208-02ASD** | Batch ID: FUELS2_001128A | | | Test Code: 8015AZ | | | | Date Analyzed: 11/28/00 6:00 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 11/28/00 | | | |
| C10-C22 DRO | 472 | 30 | 500 | <30 | 94% | 65 | 121 | 463 | 2% | 20 | |
| o-Terphenyl | 8.86 | N/A | 10.0 | N/A | 89% | 65 | 123 | | | | |
| Sample ID: **0011210-01CS** | Batch ID: 3791 | | | Test Code: SW6010B | | | | Date Analyzed: 12/1/00 | | | |
| Client ID: **Pilot-11/28-2** | | | | Units: mg/Kg | | | | Date Prepared: 11/30/00 | | | |
| Arsenic | 54.09 | 5.0 | 50.00 | 7.845 | 92% | 75 | 125 | | | | |
| Cadmium | 45.39 | 2.5 | 50.00 | <2.5 | 91% | 75 | 125 | | | | |
| Chromium | 60.30 | 5.0 | 50.00 | 15.04 | 91% | 75 | 125 | | | | |
| Lead | 107.4 | 5.0 | 50.00 | 45.57 | 124% | 75 | 125 | | | | |
| Nickel | 60.87 | 5.0 | 50.00 | 16.27 | 89% | 75 | 125 | | | | |
| Selenium | 47.65 | 5.0 | 50.00 | <5.0 | 95% | 75 | 125 | | | | |
| Thallium | 39.33 | 10 | 50.00 | <10 | 79% | 75 | 125 | | | | |
| Zinc | 627.5 | 5.0 | 550.0 | 115.8 | 93% | 75 | 125 | | | | |
| Sample ID: **0011210-01CSD** | Batch ID: 3791 | | | Test Code: SW6010B | | | | Date Analyzed: 12/1/00 | | | |
| Client ID: **Pilot-11/28-2** | | | | Units: mg/Kg | | | | Date Prepared: 11/30/00 | | | |
| Arsenic | 54.23 | 5.0 | 50.00 | 7.845 | 93% | 75 | 125 | 54.09 | 0% | 20 | |
| Cadmium | 45.93 | 2.5 | 50.00 | <2.5 | 92% | 75 | 125 | 45.39 | 1% | 20 | |
| Chromium | 61.87 | 5.0 | 50.00 | 15.04 | 94% | 75 | 125 | 60.30 | 3% | 20 | |
| Lead | 95.02 | 5.0 | 50.00 | 45.57 | 99% | 75 | 125 | 107.4 | 12% | 20 | |
| Nickel | 61.84 | 5.0 | 50.00 | 16.27 | 91% | 75 | 125 | 60.87 | 2% | 20 | |
| Selenium | 48.54 | 5.0 | 50.00 | <5.0 | 97% | 75 | 125 | 47.65 | 2% | 20 | |
| Thallium | 41.59 | 10 | 50.00 | <10 | 83% | 75 | 125 | 39.33 | 6% | 20 | |
| Zinc | 626.5 | 5.0 | 550.0 | 115.8 | 93% | 75 | 125 | 627.5 | 0% | 20 | |

TRANSWEST GEOCHEM

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011210
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012050-01DSD** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Antimony | 22.22 | 5.0 | 50.00 | <5.0 | 44% | 75 | 125 | 21.80 | 2% | 20 | M2 |
| Arsenic | 51.50 | 5.0 | 50.00 | 7.785 | 87% | 75 | 125 | 52.46 | 2% | 20 | |
| Beryllium | 44.95 | 2.5 | 50.00 | <2.5 | 90% | 75 | 125 | 45.83 | 2% | 20 | |
| Cadmium | 45.54 | 2.5 | 50.00 | <2.5 | 91% | 75 | 125 | 45.97 | 1% | 20 | |
| Chromium | 59.89 | 5.0 | 50.00 | 13.87 | 92% | 75 | 125 | 59.50 | 1% | 20 | |
| Copper | 63.56 | 5.0 | 50.00 | 56.99 | 13% | 75 | 125 | 63.07 | 1% | 20 | M2 |
| Lead | 81.99 | 5.0 | 50.00 | 55.70 | 53% | 75 | 125 | 84.19 | 3% | 20 | M2 |
| Nickel | 61.49 | 5.0 | 50.00 | 17.65 | 88% | 75 | 125 | 60.11 | 2% | 20 | |
| Silver | 21.96 | 5.0 | 25.00 | <5.0 | 88% | 75 | 125 | 22.35 | 2% | 20 | |
| Thallium | 40.17 | 10 | 50.00 | <10 | 80% | 75 | 125 | 42.32 | 5% | 20 | |
| Zinc | 600.5 | 5.0 | 550.0 | 201.1 | 73% | 75 | 125 | 598.1 | 0% | 20 | M2 |
| Sample ID: **0012050-01DS** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Antimony | 21.80 | 5.0 | 50.00 | <5.0 | 44% | 75 | 125 | | | | M2 |
| Arsenic | 52.46 | 5.0 | 50.00 | 7.785 | 89% | 75 | 125 | | | | |
| Beryllium | 45.83 | 2.5 | 50.00 | <2.5 | 92% | 75 | 125 | | | | |
| Cadmium | 45.97 | 2.5 | 50.00 | <2.5 | 92% | 75 | 125 | | | | |
| Chromium | 59.50 | 5.0 | 50.00 | 13.87 | 91% | 75 | 125 | | | | |
| Copper | 63.07 | 5.0 | 50.00 | 56.99 | 12% | 75 | 125 | | | | M2 |
| Lead | 84.19 | 5.0 | 50.00 | 55.70 | 57% | 75 | 125 | | | | M2 |
| Nickel | 60.11 | 5.0 | 50.00 | 17.65 | 85% | 75 | 125 | | | | |
| Silver | 22.35 | 5.0 | 25.00 | <5.0 | 89% | 75 | 125 | | | | |
| Thallium | 42.32 | 10 | 50.00 | <10 | 85% | 75 | 125 | | | | |
| Zinc | 598.1 | 5.0 | 550.0 | 201.1 | 72% | 75 | 125 | | | | M2 |
| Sample ID: **0012050-01DSD** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Selenium | 49.15 | 5.0 | 50.00 | <5.0 | 98% | 75 | 125 | 44.96 | 9% | 20 | |
| Sample ID: **0012050-01DS** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Selenium | 44.96 | 5.0 | 50.00 | <5.0 | 90% | 75 | 125 | | | | |
| Sample ID: **0011210-01CSD** | Batch ID: 3791A | | | Test Code: SW6010B | | | | Date Analyzed: 12/5/00 | | | |
| Client ID: **Pilot-11/28-2** | | | | Units: mg/Kg | | | | Date Prepared: 11/30/00 | | | |
| Antimony | 29.67 | 5.0 | 50.00 | <5.0 | 59% | 75 | 125 | 27.64 | 7% | 20 | S M2 |
| Beryllium | 45.83 | 2.5 | 50.00 | <2.5 | 92% | 75 | 125 | 45.23 | 1% | 20 | |
| Copper | 66.56 | 5.0 | 50.00 | 37.71 | 58% | 75 | 125 | 69.13 | 4% | 20 | S M2 |

TRANSWEST GEOCHEM

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011210
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0011210-01CS** | Batch ID: 3791A | | | Test Code: SW6010B | | | | Date Analyzed: 12/5/00 | | | |
| Client ID: **Pilot-11/28-2** | | | | Units: mg/Kg | | | | Date Prepared: 11/30/00 | | | |
| Antimony | 27.64 | 5.0 | 50.00 | <5.0 | 55% | 75 | 125 | | | | S M2 |
| Beryllium | 45.23 | 2.5 | 50.00 | <2.5 | 90% | 75 | 125 | | | | |
| Copper | 69.13 | 5.0 | 50.00 | 37.71 | 63% | 75 | 125 | | | | S M2 |
| Sample ID: **0011208-04ASD** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.283 | 0.083 | 1.250 | <0.083 | 103% | 85 | 115 | 1.213 | 6% | 20 | |
| Sample ID: **0012009-01CS** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.417 | 0.083 | 1.250 | <0.083 | 113% | 85 | 115 | | | | |
| Sample ID: **0012009-01CSD** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.309 | 0.083 | 1.250 | <0.083 | 105% | 85 | 115 | 1.417 | 8% | 20 | |
| Sample ID: **0011208-04AS** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.213 | 0.083 | 1.250 | <0.083 | 97% | 85 | 115 | | | | |
| Sample ID: **0011210-01A-MS** | Batch ID: 3790 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 6:22 pm | | | |
| Client ID: **Pilot-11/28-2** | | | | Units: mg/Kg | | | | Date Prepared: 11/30/00 | | | |
| Acenaphthene | 3.060 | 3.0 | 4.000 | <3.0 | 76% | 57 | 101 | | | | |
| 4-Chloro-3-methylphenol | 2.800 | N/A | 4.000 | 0.000 | 70% | 49 | 108 | | | | |
| 2-Chlorophenol | 2.010 | N/A | 4.000 | 0.000 | 50% | 49 | 98 | | | | |
| 1,4-Dichlorobenzene | 1.940 | N/A | 4.000 | 0.000 | 48% | 41 | 100 | | | | |
| 2,4-Dinitrotoluene | 2.700 | N/A | 4.000 | 0.000 | 67% | 50 | 120 | | | | |
| N-Nitrosodi-n-propylamine | 1.130 | N/A | 4.000 | 0.000 | 28% | 43 | 104 | | | | M2 |
| 4-Nitrophenol | 2.630 | N/A | 4.000 | 0.000 | 66% | 55 | 117 | | | | |
| Pentachlorophenol | 2.710 | N/A | 4.000 | 0.000 | 68% | 45 | 115 | | | | |
| Phenol | 2.020 | N/A | 4.000 | 0.000 | 50% | 50 | 100 | | | | |
| Pyrene | 3.800 | 3.0 | 4.000 | <3.0 | 95% | 59 | 120 | | | | |
| 1,2,4-Trichlorobenzene | 2.170 | N/A | 4.000 | 0.000 | 54% | 43 | 102 | | | | |
| 2-Chlorophenol-d4 | 3.200 | N/A | 6.000 | N/A | 53% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 2.040 | N/A | 4.000 | N/A | 51% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.2000 | N/A | 4.000 | N/A | 5% | 30 | 115 | | | | S9 |
| 2-Fluorophenol | 1.800 | N/A | 6.000 | N/A | 30% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 2.330 | N/A | 4.000 | N/A | 58% | 23 | 120 | | | | |
| Phenol-d6 | 3.190 | N/A | 6.000 | N/A | 53% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 3.920 | N/A | 4.000 | N/A | 98% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 2.840 | N/A | 6.000 | N/A | 47% | 19 | 122 | | | | |

TRANSWEST GEOCHEM

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011210
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0011210-01A-MS** | Batch ID: 3790 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 7:17 pm | | | |
| Client ID: **Pilot-11/28-2** | | | | Units: mg/Kg | | | | Date Prepared: 11/30/00 | | | |
| Acenaphthene | 3.130 | 3.0 | 4.000 | <3.0 | 78% | 57 | 101 | 3.060 | 2% | 19 | |
| 4-Chloro-3-methylphenol | 3.120 | 3.0 | 4.000 | <3.0 | 78% | 49 | 108 | <3.0 | 11% | 33 | |
| 2-Chlorophenol | 2.200 | N/A | 4.000 | 0.000 | 55% | 49 | 98 | 2.010 | 9% | 50 | |
| 1,4-Dichlorobenzene | 2.060 | N/A | 4.000 | 0.000 | 51% | 41 | 100 | 1.940 | 6% | 27 | |
| 2,4-Dinitrotoluene | 3.580 | N/A | 4.000 | 0.000 | 89% | 50 | 120 | 2.700 | 28% | 47 | |
| N-Nitrosodi-n-propylamine | 2.540 | N/A | 4.000 | 0.000 | 63% | 43 | 104 | 1.130 | 77% | 38 | R2 |
| 4-Nitrophenol | 3.120 | N/A | 4.000 | 0.000 | 78% | 55 | 117 | 2.630 | 17% | 50 | |
| Pentachlorophenol | 2.720 | N/A | 4.000 | 0.000 | 68% | 45 | 115 | 2.710 | 0% | 47 | |
| Phenol | 2.390 | N/A | 4.000 | 0.000 | 60% | 50 | 100 | 2.020 | 17% | 35 | |
| Pyrene | 3.990 | 3.0 | 4.000 | <3.0 | 100% | 59 | 120 | 3.800 | 5% | 36 | |
| 1,2,4-Trichlorobenzene | 2.330 | N/A | 4.000 | 0.000 | 58% | 43 | 102 | 2.170 | 7% | 23 | |
| 2-Chlorophenol-d4 | 3.190 | N/A | 6.000 | N/A | 53% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 2.040 | N/A | 4.000 | N/A | 51% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.1700 | N/A | 4.000 | N/A | 4% | 30 | 115 | | | | S9 |
| 2-Fluorophenol | 2.030 | N/A | 6.000 | N/A | 34% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 2.260 | N/A | 4.000 | N/A | 56% | 23 | 120 | | | | |
| Phenol-d6 | 3.400 | N/A | 6.000 | N/A | 57% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 3.930 | N/A | 4.000 | N/A | 98% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 3.710 | N/A | 6.000 | N/A | 62% | 19 | 122 | | | | |

TRANSWEST GEOCHEM

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011210
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LFB SOIL** | Batch ID: FUELS2_001128A | | | Test Code: 8015AZ | | | | Date Analyzed: 11/28/00 1:58 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 11/28/00 | | | |
| C10-C22 DRO | 457 | 30 | 500 | <30 | 91% | 78 | 111 | | | | |
| o-Terphenyl | 8.70 | N/A | 10.0 | N/A | 87% | 65 | 123 | | | | |
| Sample ID: **LCSD-3791** | Batch ID: 3791 | | | Test Code: SW6010B | | | | Date Analyzed: 12/1/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 11/30/00 | | | |
| Arsenic | 46.18 | 5.0 | 50.00 | <5.0 | 92% | 85 | 115 | 47.56 | 3% | 20 | |
| Cadmium | 44.39 | 2.5 | 50.00 | <2.5 | 89% | 85 | 115 | 46.93 | 6% | 20 | |
| Chromium | 45.66 | 5.0 | 50.00 | <5.0 | 91% | 85 | 115 | 47.87 | 5% | 20 | |
| Lead | 44.41 | 5.0 | 50.00 | <5.0 | 89% | 85 | 115 | 46.68 | 5% | 20 | |
| Nickel | 45.30 | 5.0 | 50.00 | <5.0 | 91% | 85 | 115 | 48.66 | 7% | 20 | |
| Selenium | 42.54 | 5.0 | 50.00 | <5.0 | 85% | 85 | 115 | 45.35 | 6% | 20 | |
| Thallium | 42.39 | 10 | 50.00 | <10 | 85% | 85 | 115 | 46.97 | 10% | 20 | |
| Zinc | 477.2 | 5.0 | 550.0 | <5.0 | 87% | 85 | 115 | 510.8 | 7% | 20 | |
| Sample ID: **LCS-3791** | Batch ID: 3791 | | | Test Code: SW6010B | | | | Date Analyzed: 12/1/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 11/30/00 | | | |
| Arsenic | 47.56 | 5.0 | 50.00 | <5.0 | 95% | 85 | 115 | | | | |
| Cadmium | 46.93 | 2.5 | 50.00 | <2.5 | 94% | 85 | 115 | | | | |
| Chromium | 47.87 | 5.0 | 50.00 | <5.0 | 96% | 85 | 115 | | | | |
| Lead | 46.68 | 5.0 | 50.00 | <5.0 | 93% | 85 | 115 | | | | |
| Nickel | 48.66 | 5.0 | 50.00 | <5.0 | 97% | 85 | 115 | | | | |
| Selenium | 45.35 | 5.0 | 50.00 | <5.0 | 91% | 85 | 115 | | | | |
| Thallium | 46.97 | 10 | 50.00 | <10 | 94% | 85 | 115 | | | | |
| Zinc | 510.8 | 5.0 | 550.0 | <5.0 | 93% | 85 | 115 | | | | |
| Sample ID: **LCSD-3811** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Antimony | 47.00 | 5.0 | 50.00 | <5.0 | 94% | 85 | 115 | 47.66 | 1% | 20 | |
| Arsenic | 47.67 | 5.0 | 50.00 | <5.0 | 95% | 85 | 115 | 49.48 | 4% | 20 | |
| Beryllium | 46.71 | 2.5 | 50.00 | <2.5 | 93% | 85 | 115 | 48.98 | 5% | 20 | |
| Cadmium | 47.73 | 2.5 | 50.00 | <2.5 | 95% | 85 | 115 | 49.78 | 4% | 20 | |
| Chromium | 48.71 | 5.0 | 50.00 | <5.0 | 97% | 85 | 115 | 50.92 | 4% | 20 | |
| Copper | 48.40 | 5.0 | 50.00 | <5.0 | 97% | 85 | 115 | 50.59 | 4% | 20 | |
| Lead | 48.21 | 5.0 | 50.00 | <5.0 | 96% | 85 | 115 | 49.87 | 3% | 20 | |
| Nickel | 49.32 | 5.0 | 50.00 | <5.0 | 99% | 85 | 115 | 52.51 | 6% | 20 | |
| Silver | 22.18 | 5.0 | 25.00 | <5.0 | 89% | 85 | 115 | 22.40 | 1% | 20 | |
| Thallium | 50.13 | 10 | 50.00 | <10 | 100% | 85 | 115 | 49.58 | 1% | 20 | |
| Zinc | 526.3 | 5.0 | 550.0 | <5.0 | 96% | 85 | 115 | 534.3 | 2% | 20 | |

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011210
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCS-3811** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Antimony | 47.66 | 5.0 | 50.00 | <5.0 | 95% | 85 | 115 | | | | |
| Arsenic | 49.48 | 5.0 | 50.00 | <5.0 | 99% | 85 | 115 | | | | |
| Beryllium | 48.98 | 2.5 | 50.00 | <2.5 | 98% | 85 | 115 | | | | |
| Cadmium | 49.78 | 2.5 | 50.00 | <2.5 | 100% | 85 | 115 | | | | |
| Chromium | 50.92 | 5.0 | 50.00 | <5.0 | 102% | 85 | 115 | | | | |
| Copper | 50.59 | 5.0 | 50.00 | <5.0 | 101% | 85 | 115 | | | | |
| Lead | 49.87 | 5.0 | 50.00 | <5.0 | 100% | 85 | 115 | | | | |
| Nickel | 52.51 | 5.0 | 50.00 | <5.0 | 105% | 85 | 115 | | | | |
| Silver | 22.40 | 5.0 | 25.00 | <5.0 | 90% | 85 | 115 | | | | |
| Thallium | 49.58 | 10 | 50.00 | <10 | 99% | 85 | 115 | | | | |
| Zinc | 534.3 | 5.0 | 550.0 | <5.0 | 97% | 85 | 115 | | | | |
| Sample ID: **LCSD-3811** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Selenium | 45.49 | 5.0 | 50.00 | <5.0 | 91% | 85 | 115 | 48.34 | 6% | 20 | |
| Sample ID: **LCS-3811** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Selenium | 48.34 | 5.0 | 50.00 | <5.0 | 97% | 85 | 115 | | | | |
| Sample ID: **LCSD-3791** | Batch ID: 3791A | | | Test Code: SW6010B | | | | Date Analyzed: 12/5/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 11/30/00 | | | |
| Antimony | 46.20 | 5.0 | 50.00 | <5.0 | 92% | 85 | 115 | 47.44 | 3% | 20 | |
| Beryllium | 44.20 | 2.5 | 50.00 | <2.5 | 88% | 85 | 115 | 46.06 | 4% | 20 | |
| Copper | 46.62 | 5.0 | 50.00 | <5.0 | 93% | 85 | 115 | 48.24 | 3% | 20 | |
| Sample ID: **LCS-3791** | Batch ID: 3791A | | | Test Code: SW6010B | | | | Date Analyzed: 12/5/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 11/30/00 | | | |
| Antimony | 47.44 | 5.0 | 50.00 | <5.0 | 95% | 85 | 115 | | | | |
| Beryllium | 46.06 | 2.5 | 50.00 | <2.5 | 92% | 85 | 115 | | | | |
| Copper | 48.24 | 5.0 | 50.00 | <5.0 | 96% | 85 | 115 | | | | |
| Sample ID: **LCS-3806** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.313 | 0.083 | 1.250 | <0.083 | 105% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011210
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCSD-3790** | Batch ID: 3790 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 1:28 am | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 11/30/00 | | | |
| Acenaphthene | 0.4927 | 0.10 | 0.6667 | <0.10 | 74% | 57 | 101 | 0.4983 | 1% | 19 | |
| 4-Chloro-3-methylphenol | 0.4893 | 0.10 | 0.6667 | <0.10 | 73% | 49 | 108 | 0.4977 | 2% | 33 | |
| 2-Chlorophenol | 0.4730 | 0.10 | 0.6667 | <0.10 | 71% | 49 | 98 | 0.4890 | 3% | 50 | |
| 1,4-Dichlorobenzene | 0.4543 | 0.10 | 0.6667 | <0.10 | 68% | 41 | 100 | 0.4803 | 6% | 27 | |
| 2,4-Dinitrotoluene | 0.5330 | 0.17 | 0.6667 | <0.17 | 80% | 50 | 120 | 0.5023 | 6% | 47 | |
| N-Nitrosodi-n-propylamine | 0.4870 | 0.10 | 0.6667 | <0.10 | 73% | 43 | 104 | 0.4953 | 2% | 38 | |
| 4-Nitrophenol | 0.4543 | 0.17 | 0.6667 | <0.17 | 68% | 55 | 117 | 0.4017 | 12% | 50 | |
| Pentachlorophenol | 0.3670 | 0.17 | 0.6667 | <0.17 | 55% | 45 | 115 | 0.3603 | 2% | 47 | |
| Phenol | 0.4727 | 0.10 | 0.6667 | <0.10 | 71% | 50 | 100 | 0.5003 | 6% | 35 | |
| Pyrene | 0.5970 | 0.10 | 0.6667 | <0.10 | 90% | 59 | 120 | 0.5583 | 7% | 36 | |
| 1,2,4-Trichlorobenzene | 0.4563 | 0.10 | 0.6667 | <0.10 | 68% | 43 | 102 | 0.4733 | 4% | 23 | |
| 2-Chlorophenol-d4 | 0.7427 | N/A | 1.000 | N/A | 74% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 0.4783 | N/A | 0.6667 | N/A | 72% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.5257 | N/A | 0.6667 | N/A | 79% | 30 | 115 | | | | |
| 2-Fluorophenol | 0.7013 | N/A | 1.000 | N/A | 70% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 0.4960 | N/A | 0.6667 | N/A | 74% | 23 | 120 | | | | |
| Phenol-d6 | 0.7203 | N/A | 1.000 | N/A | 72% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 0.6690 | N/A | 0.6667 | N/A | 100% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 0.8907 | N/A | 1.000 | N/A | 89% | 19 | 122 | | | | |
| Sample ID: **LCS-3790** | Batch ID: 3790 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 12:25 am | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 11/30/00 | | | |
| Acenaphthene | 0.4983 | 0.10 | 0.6667 | <0.10 | 75% | 57 | 101 | | | | |
| 4-Chloro-3-methylphenol | 0.4977 | 0.10 | 0.6667 | <0.10 | 75% | 49 | 108 | | | | |
| 2-Chlorophenol | 0.4890 | 0.10 | 0.6667 | <0.10 | 73% | 49 | 98 | | | | |
| 1,4-Dichlorobenzene | 0.4803 | 0.10 | 0.6667 | <0.10 | 72% | 41 | 100 | | | | |
| 2,4-Dinitrotoluene | 0.5023 | 0.17 | 0.6667 | <0.17 | 75% | 50 | 120 | | | | |
| N-Nitrosodi-n-propylamine | 0.4953 | 0.10 | 0.6667 | <0.10 | 74% | 43 | 104 | | | | |
| 4-Nitrophenol | 0.4017 | 0.17 | 0.6667 | <0.17 | 60% | 55 | 117 | | | | |
| Pentachlorophenol | 0.3603 | 0.17 | 0.6667 | <0.17 | 54% | 45 | 115 | | | | |
| Phenol | 0.5003 | 0.10 | 0.6667 | <0.10 | 75% | 50 | 100 | | | | |
| Pyrene | 0.5583 | 0.10 | 0.6667 | <0.10 | 84% | 59 | 120 | | | | |
| 1,2,4-Trichlorobenzene | 0.4733 | 0.10 | 0.6667 | <0.10 | 71% | 43 | 102 | | | | |
| 2-Chlorophenol-d4 | 0.7847 | N/A | 1.000 | N/A | 78% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 0.5030 | N/A | 0.6667 | N/A | 75% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.5383 | N/A | 0.6667 | N/A | 81% | 30 | 115 | | | | |
| 2-Fluorophenol | 0.7410 | N/A | 1.000 | N/A | 74% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 0.5193 | N/A | 0.6667 | N/A | 78% | 23 | 120 | | | | |
| Phenol-d6 | 0.7790 | N/A | 1.000 | N/A | 78% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 0.6187 | N/A | 0.6667 | N/A | 93% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 0.8873 | N/A | 1.000 | N/A | 89% | 19 | 122 | | | | |

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011210
**Project:** Rio Salado/199023.12

# QC SUMMARY REPORT

## Analytical Spike

| Analyte | Result | PQL | Units | Spike Value | Spike Ref Val | % Rec | Limit | Date Prepared | Date Analyzed | Analyst | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: 0012050-01DA | | | Test Code: | SW6010B | | | | Batch ID: | 3811 | | |
| Antimony | 44.84 | 5.0 | mg/Kg | 50 | <5.0 | 90% | 75 - 125 | 12/8/00 | 12/13/00 | MR | |
| Copper | 95.61 | 5.0 | mg/Kg | 50 | 56.99 | 77% | 75 - 125 | 12/8/00 | 12/13/00 | MR | |
| Lead | 106.4 | 5.0 | mg/Kg | 50 | 55.70 | 101% | 75 - 125 | 12/8/00 | 12/13/00 | MR | |
| Zinc | 659.8 | 5.0 | mg/Kg | 550 | 201.1 | 83% | 75 - 125 | 12/8/00 | 12/13/00 | MR | |
| Sample ID: 0011210-01CA | | | Test Code: | SW6010B | | | | Batch ID: | 3791A | | |
| Antimony | 46.61 | 5.0 | mg/L | 50 | <5.0 | 93% | 75 - 125 | 11/30/00 | 12/5/00 | MR | |
| Copper | 82.05 | 5.0 | mg/L | 50 | 37.71 | 89% | 75 - 125 | 11/30/00 | 12/5/00 | MR | |

**TRANSWEST GEOCHEM**

December 14, 2000

Brad Johnston
SCS Engineers
2702 N. 44th St., Suite 105B
Phoenix, AZ 85008

Re: Rio Salado
Work Order No.: 0011210

Dear Brad,

Attached is the original Report of Analysis from Precision Analytical Laboratories, Inc. for the sample received on 11/28/2000 2:15:00 PM. The following analysis was performed:

Method SW8260B – Volatile Organics by GC/MS

If you have any questions regarding the results, please call me. We appreciate your business and thank you for choosing Transwest Geochem.

Sincerely,

Michael E. Barber for:

Beth Proffitt
Project Manager

ADHS License No. AZM133/AZ0133

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# Precision Analytical Laboratories, Inc.

December 13, 2000

Beth Proffitt
Transwest Geochem, Inc.
3725 E. Atlanta Ave.
Suite 2
Phoenix, AZ 85040
TEL: (602) 437-0330
FAX (602) 437-0660

RE: Rio Salado 199023.12/0011210 Order No.: 0012087

Dear Beth Proffitt:

Precision Analytical Laboratories, Inc. received 1 sample on 12/5/00 for the analyses presented in the following report.

This report includes the following information:

- Case Narrative. The case narrative contains a listing of common method references, data qualifiers, and any comments that may be needed regarding the analytical results.

- Analytical Report. Analysis results are reported with the compound name first, followed by the test result, report limit (Limit), any required data qualifier (Qual), units, dilution factor (DF), and date analyzed.

- QC Summary Report. This section includes quality control results for some or all of the following: method blanks, sample duplicates, sample matrix spikes, sample matrix spike duplicates, laboratory control spikes, and laboratory control spike duplicates.

If you have any questions regarding these tests results, please do not hesitate to call.

Sincerely,

Heather Oeschger
Account Manager

CC:

# Precision Analytical Laboratories, Inc.

**Date:** *14-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Project:** Rio Salado 199023.12/0011210
**Lab Order:** 0012087

## CASE NARRATIVE

Data Qualifiers

Listed below are data qualifiers which may be used in your analytical report to explain any analytical or quality control issues. If one or more of the following data qualifiers is associated with your analytical or quality control data it will be noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

B1 Target analyte detected in method blank at or above the method reporting limit.
D1 Sample required dilution due to matrix interference.
D2 Sample required dilution due to high concentration of target analyte.
D4 Minimum reporting level (MRL) adjusted to reflect sample amount received and analyzed.
E2 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E3 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to holding time requirements.
E4 Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL).
E6 Concentration estimated. Internal standard recoveries did not meet method acceptance criteria.
H1 Sample analysis performed past holding time. See case narrative.
H2 Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3 Sample was received and analyzed past holding time.
K1 The sample dilutions set-up for the BOD analysis did not meet the oxygen depletion criteria of at least 2 mg/L. The reported result is an estimated value.
K2 The sample dilutions set up for the BOD analysis failed to meet the criteria of a residual dissolved oxygen of at least 1 mg/L. The reported result is estimated.
M1 Matrix spike recovery was high, the method control sample recovery was acceptable.
M2 Matrix spike recovery was low, the method control sample recovery was acceptable.
M3 The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to spike level. The method control sample recovery was acceptable.
M4 The analysis of the spiked sample required a dilution such that the spike concentration was diluted below the reporting limit. The method control sample recovery was acceptable.



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M5 Analyte concentration was determined by the method of standard addition (MSA).
N1 See case narrative.
Q1 Sample integrity was not maintained. See case narrative.
Q2 Sample received with head space.
Q3 Sample received with improper chemical preservation.
Q5 Sample received without chemical preservation, but preserved by the laboratory.
Q6 Sample was received above recommended temperature.
Q7 Sample inadequately dechlorinated.
Q8 Insufficient sample received to meet method QC requirements. QC requirements satisfy ADEQ policies 0154 and 0155.
Q10 Sample received in inappropriate sample container.
Q11 Sample is heterogeneous. Sample homogeneity could not be readily achieved using routine laboratory practices.
R2 RPD exceeded the laboratory control limit. See case narrative.
R3 Sample RPD between the primary and confirmatory analysis exceeded 40%. Per EPA Method 8000B, the higher value was reported.
R5 RPD exceeded the laboratory control limit. Recovery met acceptance criteria.
S2 Surrogate recovery was above laboratory and method acceptance limits.
S4 Surrogate recovery was above laboratory and method acceptance limits. No target analytes were detected in the sample.
S6 Surrogate recovery was below laboratory and method acceptance limits. Reextraction and/or reanalysis confirms low recovery caused by matrix effect.
S7 Surrogate recovery was below laboratory and method acceptance limits. Unable to confirm matrix effect.
S9 The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria. The method control sample recovery was acceptable.
T2 Cited ADHS licensed method does not contain this analyte as part of method compound list.
T4 Tentatively identified compound. Concentration is estimated and based on the closest internal standard.
V1 CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.
V5 CCV recovery after a group of samples was above acceptance limits. This target analyte was not detected in the sample. Acceptable per EPA Method 8000B.



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## CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1995. Appendix A to Part 136- Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Precision Analytical Laboratories, Inc (PAL) holds the following certifications:
Arizona (certification no. AZ0610) and California (I-2410).
PAL- Tucson laboratory Arizona certification number: AZ0609.
PAL- North Phoenix laboratory Arizona certification number: AZ0611.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

Method 8260B extracts were provided by Transwest Geochem.



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# Precision Analytical Laboratories, Inc.

**Date:** *14-Dec-00*

| | | | |
|---|---|---|---|
| **CLIENT:** | Transwest Geochem, Inc. | **Client Sample ID:** | Pilot-11/28-2 |
| **Lab Order:** | 0012087 | **Tag Number:** | 01B |
| **Project:** | Rio Salado 199023.12/0011210 | **Collection Date:** | 11/28/00 2:00:00 PM |
| **Lab ID:** | 0012087-01A | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS BY GC/MS** | | **SW8260B** | | | | **Analyst: SP** |
| 1,1,1-Trichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 1,1,2,2-Tetrachloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 1,1,2-Trichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 1,1-Dichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 1,1-Dichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 1,1-Dichloropropene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 1,2,3-Trichlorobenzene | < 0.10 | 0.10 | | mg/Kg | 1 | 12/7/00 |
| 1,2,3-Trichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 1,2,4-Trimethylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 1,2-Dibromoethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 1,2-Dichlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 1,2-Dichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 1,2-Dichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 1,3,5-Trimethylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 1,3-Dichlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 1,3-Dichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 1,4-Dichlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 2,2-Dichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 2-Butanone (MEK) | < 0.25 | 0.25 | | mg/Kg | 1 | 12/7/00 |
| 2-Chloroethyl vinyl ether | < 0.25 | 0.25 | | mg/Kg | 1 | 12/7/00 |
| 2-Chlorotoluene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 2-Hexanone | < 0.25 | 0.25 | | mg/Kg | 1 | 12/7/00 |
| 4-Chlorotoluene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 4-Isopropyltoluene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| 4-Methyl-2-pentanone | < 0.25 | 0.25 | | mg/Kg | 1 | 12/7/00 |
| Acetone | < 0.25 | 0.25 | | mg/Kg | 1 | 12/7/00 |
| Benzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Bromobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Bromochloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Bromodichloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Bromoform | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Bromomethane | < 0.10 | 0.10 | | mg/Kg | 1 | 12/7/00 |
| Carbon tetrachloride | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Chlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Chloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Chloroform | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Chloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| cis-1,2-Dichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| cis-1,3-Dichloropropene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Dibromochloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range



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# Precision Analytical Laboratories, Inc.

**Date:** *14-Dec-00*

| | | | |
|---|---|---|---|
| **CLIENT:** | Transwest Geochem, Inc. | **Client Sample ID:** | Pilot-11/28-2 |
| **Lab Order:** | 0012087 | **Tag Number:** | 01B |
| **Project:** | Rio Salado 199023.12/0011210 | **Collection Date:** | 11/28/00 2:00:00 PM |
| **Lab ID:** | 0012087-01A | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Ethylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| m,p-Xylene | < 0.10 | 0.10 | | mg/Kg | 1 | 12/7/00 |
| Methyl tert-butyl ether | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Methylene chloride | < 0.10 | 0.10 | | mg/Kg | 1 | 12/7/00 |
| n-Butylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| n-Propylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| o-Xylene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| sec-Butylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Styrene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| tert-Butylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Tetrachloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Toluene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| trans-1,2-Dichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| trans-1,3-Dichloropropene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Trichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Trichlorofluoromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Vinyl acetate | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Vinyl chloride | < 0.050 | 0.050 | | mg/Kg | 1 | 12/7/00 |
| Surr: 4-Bromofluorobenzene | 82.5 | 56.4-139 | | %REC | 1 | 12/7/00 |
| Surr: Dibromofluoromethane | 86.5 | 59.7-130 | | %REC | 1 | 12/7/00 |
| Surr: Toluene-d8 | 86.6 | 57.8-138 | | %REC | 1 | 12/7/00 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range



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# Precision Analytical Laboratories, Inc.

**Date:** *13-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012087
**Project:** Rio Salado 199023.12/0011210

## QC SUMMARY REPORT
Method Blank

Sample ID: **MB-2542** Batch ID: **2542** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/6/00** Prep Date: **12/6/00**
Client ID: Run ID: **MS2_001206C** SeqNo: **59782**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1,2-Trichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1-Dichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1-Dichloroethene | < 0.050 | 0.05 | | | | | | | | | |
| 1,1-Dichloropropene | < 0.050 | 0.05 | | | | | | | | | |
| 1,2,3-Trichlorobenzene | < 0.10 | 0.1 | | | | | | | | | |
| 1,2,3-Trichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 1,2,4-Trimethylbenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dibromoethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dichlorobenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 1,3,5-Trimethylbenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,3-Dichlorobenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,3-Dichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 1,4-Dichlorobenzene | < 0.050 | 0.05 | | | | | | | | | |
| 2,2-Dichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 2-Butanone (MEK) | < 0.25 | 0.25 | | | | | | | | | |
| 2-Chloroethyl vinyl ether | < 0.25 | 0.25 | | | | | | | | | |
| 2-Chlorotoluene | < 0.050 | 0.05 | | | | | | | | | |
| 2-Hexanone | < 0.25 | 0.25 | | | | | | | | | |
| 4-Chlorotoluene | < 0.050 | 0.05 | | | | | | | | | |
| 4-Isopropyltoluene | < 0.050 | 0.05 | | | | | | | | | |
| 4-Methyl-2-pentanone | < 0.25 | 0.25 | | | | | | | | | |
| Acetone | < 0.25 | 0.25 | | | | | | | | | |
| Benzene | < 0.050 | 0.05 | | | | | | | | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank



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# Precision Analytical Laboratories, Inc.

**CLIENT:** [redacted]ochem, Inc.
**Work Order:** 0012087
**Project:** Rio Salado 199023.12/0011210

## QC SUMMARY REPORT
Method Blank

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Bromobenzene | < 0.050 | 0.05 | | | | | | |
| Bromochloromethane | < 0.050 | 0.05 | | | | | | |
| Bromodichloromethane | < 0.050 | 0.05 | | | | | | |
| Bromoform | < 0.050 | 0.05 | | | | | | |
| Bromomethane | < 0.10 | 0.1 | | | | | | |
| Carbon tetrachloride | < 0.050 | 0.05 | | | | | | |
| Chlorobenzene | < 0.050 | 0.05 | | | | | | |
| Chloroethane | < 0.050 | 0.05 | | | | | | |
| Chloroform | < 0.050 | 0.05 | | | | | | |
| Chloromethane | < 0.050 | 0.05 | | | | | | |
| cis-1,2-Dichloroethene | < 0.050 | 0.05 | | | | | | |
| cis-1,3-Dichloropropene | < 0.050 | 0.05 | | | | | | |
| Dibromochloromethane | < 0.050 | 0.05 | | | | | | |
| Dichlorodifluoromethane | < 0.050 | 0.05 | | | | | | |
| Ethylbenzene | < 0.050 | 0.05 | | | | | | |
| m,p-Xylene | < 0.10 | 0.1 | | | | | | |
| Methyl tert-butyl ether | < 0.050 | 0.05 | | | | | | |
| Methylene chloride | < 0.10 | 0.1 | | | | | | |
| n-Butylbenzene | < 0.050 | 0.05 | | | | | | |
| n-Propylbenzene | < 0.050 | 0.05 | | | | | | |
| o-Xylene | < 0.050 | 0.05 | | | | | | |
| sec-Butylbenzene | < 0.050 | 0.05 | | | | | | |
| Styrene | < 0.050 | 0.05 | | | | | | |
| tert-Butylbenzene | < 0.050 | 0.05 | | | | | | |
| Tetrachloroethene | < 0.050 | 0.05 | | | | | | |
| Toluene | < 0.050 | 0.05 | | | | | | |
| trans-1,2-Dichloroethene | < 0.050 | 0.05 | | | | | | |
| trans-1,3-Dichloropropene | < 0.050 | 0.05 | | | | | | |
| Trichloroethene | < 0.050 | 0.05 | | | | | | |
| Trichlorofluoromethane | < 0.050 | 0.05 | | | | | | |
| Vinyl acetate | < 0.050 | 0.05 | | | | | | |
| Vinyl chloride | < 0.050 | 0.05 | | | | | | |
| Surr: 4-Bromofluorobenzene | 2.508 | 0 | 2.5 | 0 | 100 | 56.4 | 139 | 0 |

**Qualifiers:** ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank



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**CLIENT:** ochem, Inc.
**Work Order:** 0012087
**Project:** Rio Salado 199023.12/0011210

## QC SUMMARY REPORT
Method Blank

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Surr: Dibromofluoromethane | 2.628 | 0 | 2.5 | 0 | 105 | 59.7 | 130 | 0 |
| Surr: Toluene-d8 | 2.599 | 0 | 2.5 | 0 | 104 | 57.8 | 138 | 0 |

**Qualifiers:** ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

# Precision Analytical Laboratories, Inc.

**Date:** *13-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012087
**Project:** Rio Salado 199023.12/0011210

## QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0012087-01AMS** Batch ID: **2542** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/6/00** Prep Date: **12/6/00**
Client ID: **Pilot-11/28-2** Run ID: **MS2_001206C** SeqNo: **59784**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 1.798 | 0.05 | 2.5 | 0 | 71.9 | 49 | 135 | 0 | | | |
| Benzene | 2.109 | 0.05 | 2.5 | 0 | 84.3 | 59 | 137 | 0 | | | |
| Chlorobenzene | 2.115 | 0.05 | 2.5 | 0 | 84.6 | 61 | 131 | 0 | | | |
| Toluene | 2.146 | 0.05 | 2.5 | 0 | 85.9 | 50 | 146 | 0 | | | |
| Trichloroethene | 2.051 | 0.05 | 2.5 | 0 | 82 | 55 | 134 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 2.116 | 0 | 2.5 | 0 | 84.6 | 56.4 | 139 | 0 | | | |
| Surr: Dibromofluoromethane | 2.194 | 0 | 2.5 | 0 | 87.8 | 59.7 | 130 | 0 | | | |
| Surr: Toluene-d8 | 2.194 | 0 | 2.5 | 0 | 87.7 | 57.8 | 138 | 0 | | | |

Sample ID: **0012087-01AMSD** Batch ID: **2542** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/6/00** Prep Date: **12/6/00**
Client ID: **Pilot-11/28-2** Run ID: **MS2_001206C** SeqNo: **59785**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 1.587 | 0.05 | 2.5 | 0 | 63.5 | 49 | 135 | 1.798 | 12.5 | 25 | |
| Benzene | 1.983 | 0.05 | 2.5 | 0 | 79.3 | 59 | 137 | 2.109 | 6.13 | 25 | |
| Chlorobenzene | 2.034 | 0.05 | 2.5 | 0 | 81.4 | 61 | 131 | 2.115 | 3.9 | 25 | |
| Toluene | 2.06 | 0.05 | 2.5 | 0 | 82.4 | 50 | 146 | 2.146 | 4.14 | 25 | |
| Trichloroethene | 1.985 | 0.05 | 2.5 | 0 | 79.4 | 55 | 134 | 2.051 | 3.27 | 25 | |
| Surr: 4-Bromofluorobenzene | 2.015 | 0 | 2.5 | 0 | 80.6 | 56.4 | 139 | 2.116 | 0 | 0 | |
| Surr: Dibromofluoromethane | 2.091 | 0 | 2.5 | 0 | 83.6 | 59.7 | 130 | 2.194 | 0 | 0 | |
| Surr: Toluene-d8 | 2.12 | 0 | 2.5 | 0 | 84.8 | 57.8 | 138 | 2.194 | 0 | 0 | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# Precision Analytical Laboratories, Inc.

**Date:** *13-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012087
**Project:** Rio Salado 199023.12/0011210

## QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS-2542** Batch ID: **2542** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/6/00** Prep Date: **12/6/00**
Client ID: Run ID: **MS2_001206C** SeqNo: **59783**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 1.989 | 0.05 | 2.5 | 0 | 79.5 | 49 | 135 | 0 | | | |
| Benzene | 2.253 | 0.05 | 2.5 | 0 | 90.1 | 59 | 137 | 0 | | | |
| Chlorobenzene | 2.246 | 0.05 | 2.5 | 0 | 89.8 | 61 | 131 | 0 | | | |
| Toluene | 2.315 | 0.05 | 2.5 | 0 | 92.6 | 50 | 146 | 0 | | | |
| Trichloroethene | 2.21 | 0.05 | 2.5 | 0 | 88.4 | 55 | 134 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 2.234 | 0 | 2.5 | 0 | 89.3 | 56.4 | 139 | 0 | | | |
| Surr: Dibromofluoromethane | 2.322 | 0 | 2.5 | 0 | 92.9 | 59.7 | 130 | 0 | | | |
| Surr: Toluene-d8 | 2.351 | 0 | 2.5 | 0 | 94 | 57.8 | 138 | 0 | | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# Transwest Geochem, Inc.
## Extraction Log

SURR ID:
AMT ADDED:
SPIKE ID:
AMT ADDED:

DATE: 11-28-00
ANALYST: M
METHOD: Bolt / 8260

Bal. 40.0g = 39.999g

| TGI ID | CLIENT ID | WEIGHT | FINAL VOLUME | EXTRACTION TIME | COMMENTS |
|---|---|---|---|---|---|
| 0011211-1 | 8841-01/Am comp | 10g | 10ml | 3:50 pm | Bolt |
| RB | | | | | 8260 |
| LCS | | | | | |
| LCS-d | | | | | |
| 0011210-1 | pilot-11/28-2 | | | | |
| -1ms | | | | | |
| -1msd | | | | | |
| | | 11-28-00 | M | | |

# CHAIN-OF-CUSTODY



TRANSWEST GEOCHEM

**Beth Proffitt**
3725 E. Atlanta Avenue
Suite 2
Phoenix, AZ 85040-2960
TEL: (602) 437-0330
FAX: (602) 437-0660

0-012087

**Work Order:** 0011210

**Project:** Rio Salado 199023.12

**Subcontractor:**
Precision Analytical Laboratories, Inc.
1725 West 17th St.
Tempe, AZ 85281
TEL: (480) 967-1310
FAX: (480) 967-1019

**05-Dec-00**

| Client Sample ID | TGI ID | Matrix | Collection Date | Containers | Requested Tests | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 8260AZ_S | | | | | | |
| PILOT-11/28-2 | 01B | Soil | 11/28/2000 2:00:00 PM | 1 | 1 | | | | | | |

**Comments:** After analysis, the samples do not need to be returned and can be disposed per your standard laboratory practices. Please provide a QC report, including Method Blank data.

Please analyse ASAP!

| | | Date/Time | | | Date/Time |
|---|---|---|---|---|---|
| **Relinquished by:** | Billy Westwell TGI | 12/5/00 3:40 | **Received by:** | Heather Daschgan | 12/5/00 1540 |
| **Relinquished by:** | | | **Received by:** | | |

TRANSWEST GEOCHEM
3725 East Atlanta Avenue, Suite 2
Phoenix, Arizona 85040
Phone: (602) 437-0330
Fax: (602) 437-0660

# Chain of Custody

TGI Work Order No: 0011210

Date 11/28/00 Page 1 of 1

| | | | |
|---|---|---|---|
| Project Manager: | Brad Johnston | | |
| Client Name: | SCS Engineers | | |
| Address: | | | |
| City, State ZIP: | | | |
| Phone: | 602-840-2596 | Fax: | |

| | | | |
|---|---|---|---|
| Bill to: | | | |
| Company: | | | |
| Address: | | | |
| City, State ZIP: | | | |
| Phone: | | Fax: | |

| | |
|---|---|
| P.O. No.: | |
| Project Name: | Rio Salado |
| Project Number: | |

**SAMPLE RECEIPT**

| | | | |
|---|---|---|---|
| Temperature: | Ambient / Cold | Ice: | |
| Received Intact: | Y | Absent / Present | |
| Custody Seals: | N/A | Wet / Blue | |
| Total No. of Containers: | 3 | | |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Lab ID | No. of Containers | TPH, (418.1/418.1AZ) | TPH, 8015AZR.1 | BTEX (8021B) | Volatile Organics GCMS (624/8260AZ) | SDWA Volatiles, (524.2) | Semi-Volatile Organics GCMS (625/8270) | Organochlorine Pesticides (608/8081) | PCB's, (8082) | PAH, EPA 8310 | 8 RCRA Metals | ~~13 Priority Pollutant Metals~~ | TCLP Metals | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | | | 7-10 day for metals |
| Pilot-11/28-2 | Soil | 11/28 | 2:00 pm | 1 | 3 | | X | | X | | X | | | | X | X | X | | | | | | | 5 day extract for 8260 within 2 hrs |

| Relinquished by: (Signature) | (Print Name) | Date/Time | Received by: (Signature) | (Print Name) | Date/Time |
|---|---|---|---|---|---|
| 1 | Ahab Salam | 11/28 2:15 | | SKP Harsh | 11/28 2:15 |
| 2 | | | | | |
| 3 | | | | | |

White copy to TGI, Yellow copy for final report, Pink copy to sampler

Revised: 6/29/00

**TRANSWEST GEOCHEM**

**Amended Report**

December 29, 2000

Brad Johnston
SCS Engineers
2702 N. 44th St., Suite 105B
Phoenix, AZ 85008

RE: Rio Salado
Work Order No.: 0011236

Dear Brad,

Transwest Geochem, Inc. received 1 sample on 11/30/2000 1:10:00 PM for the analyses presented in the following report.

The Case Narrative of this report addresses any Quality Control and/or Quality Assurance issues associated with this Work Order.

If you have any questions regarding these test results, please feel free to call us at (602) 437-0330.

Sincerely,

Elizabeth Proffitt

Beth Proffitt
Project Manager

ADHS License No. AZM133/AZ0133

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**Amended Report**

**Date Printed:** 29-Dec-00

**Client:** SCS Engineers
**Work Order:** 0011236
**Project Name:** Rio Salado
**Project Number:**

# CASE NARRATIVE

Transwest Geochem, Inc. uses the methods outlined in the following references:

Code of Federal Regulations, 40CFR, Part 136, Revised July 1995.

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, Revised August 1993.

Methods for the Determination of Metals in Environmental Samples, EPA/600/R-94/111, Revised May 1994.

Hach, Water Analysis Handbook, 2nd Edition, 1992.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

Metals were analyzed using multi-element ICP instrumentation. Some metals reported in the QC report may not be associated with this Work Order.

Secondary Source QC Sample (LCSV) results may not be reported for all methods and/or analysis dates.

The sample introduction technique for Method 8015AZ used by this laboratory is direct injection.

All method blanks, laboratory spikes, and/or matrix spikes met quality control objectives for the parameters associated with this Work Order.

Data qualifiers ("flags") contained within this analytical report have been issued to explain a quality control deficiency, and do not affect the quality (validity) of the data unless noted otherwise in the case narrative.

The total Antimony recovery was low in the MS/MSD; total Lead was low in the MS. The LCS for both metals was within TGI acceptance criteria. A Post-Digestion Spike was succesfully performed on both Antimony and Lead.



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Amended Report

Date Printed: 29-Dec-00

**Client:** SCS Engineers
**Work Order:** 0011236
**Project Name:** Rio Salado
**Project Number:**

# CASE NARRATIVE

The RPD for N-nitrosodi-n-propylamine in the Matrix Spike/Matrix Spike Duplicate (which was analyzed with your sample for EPA Method 8270C) was above TGI acceptance criteria. The RPD for this compound in the LCS and its duplicate are within method and TGI acceptance criteria.



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TRANSWEST GEOCHEM

Amended Report

Date Printed 28-Dec-00

License No. AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado
**Project Number:**
**Work Order:** 0011236
**Date Received:** 30-Nov-00

# Work Order Sample Summary

| Client Sample ID | Lab Sample ID | Test Code | Collection Date |
|---|---|---|---|
| Pilot - 11/30 - 3 | 0011236-01A | 8015AZ | 11/30/2000 12:00:00 PM |
| | 0011236-01B | SW8270C | 11/30/2000 12:00:00 PM |
| | 0011236-01C | SW1311/6010B | 11/30/2000 12:00:00 PM |
| | | SW1311/7470A | 11/30/2000 12:00:00 PM |
| | | SW6010B | 11/30/2000 12:00:00 PM |
| | | SW7471A | 11/30/2000 12:00:00 PM |
| | 0011236-01D | | 11/30/2000 12:00:00 PM |

TRANSWEST GEOCHEM

**Amended Report**

**Date Printed** 28-Dec-00
**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado
**Project Number:**
**Work Order:** 0011236
**Date Received:** 30-Nov-00

# Data Qualifiers

One or more of the following data qualifiers may be associated with your analytical and/or quality control data.

| | |
|---|---|
| M2 | Matrix spike recovery was low, the method control sample recovery was acceptable. |
| R | RPD outside acceptance criteria. |
| R1 | RPD exceeded the method control limit. See case narrative. |
| R2 | RPD exceeded the laboratory control limit. See case narrative. |
| S | Spike or Surrogate recovery outside acceptance criteria. |
| S9 | The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria. The method control sample recovery was acceptable. |

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado
**Project Number:**
**Work Order:** 0011236
**Date Received:** 30-Nov-00

# Definitions

| | |
|---|---|
| Analytical Spike (AS) | The AS is a known amount of a target analyte added to a sample after it has been distilled, digested, or extracted and is ready for analysis. The AS is generally performed if the MS has failed. It is used to indicate interference that arises from sample distillation, digestion, or extraction as opposed to interference that is innate to the matrix. |
| Continuing Curve Verification (CCV) | The CCV is also referred to as a curve check. This is a standard analyzed at specified intervals during an analysis. The CCV verifies the stability and accuracy of the calibration curve. There are specific CCV recovery acceptance criteria for each method. |
| Dilution Factor (DF) | The DF is an indication of how much a sample had to be diluted in order to quantitate it on a standard curve. The DF is indicated in the reported sample result. The sample PQL increases as the dilution increases. |
| Internal Standard (IS) | The IS is a compound that is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. The same concentration of IS is added to every sample for some organic methods. |
| Laboratory Control Sample (LCS) | The LCS is also referred to as a blank spike. The LCS is an addition of a known amount of a target analyte (from the same source as calibration standards or spikes) to an aliquot of deionized water or other appropriate clean matrix. The LCS is processed through the entire method procedure in the same manner as samples. |
| Matrix Spike (MS) | The MS is a known amount of a target analyte added to a sample. The MS is processed through the entire method procedure in the same manner as samples. |
| Method Blank (MB) | The MB is an aliquot of deionized water or other appropriate clean matrix that is thought to be free of the analyte in question. The MB is processed through the entire extraction or analysis procedure and is used to indicate contamination in the lab. |
| Method Detection Limit (MDL) | The MDL is the lowest level of detection of which a method is capable. |
| Practical Quantitation Limit (PQL) | The PQL is the lowest value at which Transwest Geochem can detect an analyte in matrix with a high degree of confidence. The PQL will increase as the DF increases. The PQL is greater than or equal to the MDL. |
| Relative Percent Difference (RPD) | The RPD is a measure of precision (the ability to obtain the same result on re-analysis of the same sample). It is calculated using the result of a sample, MS, LCS, or LCSV and its associated duplicate result. |
| Secondary Source QC Sample (LCSV) | The LCSV is also referred to as a second source laboratory control sample. It is the same type of standard as a calibration or spiking standard but is obtained from a different source. The LCSV is an indication of the primary standard quality, method performance, and instrument performance. |
| Surrogate | A surrogate compound is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. When surrogates are used, they are added to every sample, blank and standard. Surrogate recovery is used as an indication of extraction and/or analytical success. |
| Trip Blank (TB) | The TB is a portion of deionized water preserved in the same manner as the samples. The TB travels from the lab, to the field, and then back to the lab with the samples from the field. The TB serves as an indication of contamination introduced during sample transportation. |

TRANSWEST GEOCHEM

**Amended Report**

**Date Printed** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011236
**Lab ID:** 0011236-01
**Project Name:** Rio Salado
**Project Number:**

**Client Sample ID:** Pilot - 11/30 - 3
**Collection Date:** 11/30/2000 12:00:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 GRO | <20 | 20 | | mg/Kg | 1 | 8015AZ | 12/1/2000 | 12/2/00 9:04 am | JH | FUELS1_001201A |
| C10-C22 DRO | <30 | 30 | | mg/Kg | 1 | 8015AZ | 12/1/2000 | 12/2/00 9:04 am | JH | FUELS1_001201A |
| C22-C32 ORO | 110 | 100 | | mg/Kg | 1 | 8015AZ | 12/1/2000 | 12/2/00 9:04 am | JH | FUELS1_001201A |
| C10-C32 SRL | <130 | 130 | | mg/Kg | 1 | 8015AZ | 12/1/2000 | 12/2/00 9:04 am | JH | FUELS1_001201A |
| o-Terphenyl (Surrogate) | 100 | 65-123 | | %REC | 1 | 8015AZ | 12/1/2000 | 12/2/00 9:04 am | JH | FUELS1_001201A |
| Arsenic | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Barium | <1.0 | 1.0 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Cadmium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Chromium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Lead | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Selenium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Silver | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/13/00 | MR | 3817A |
| Mercury | <0.0020 | 0.0020 | | mg/L | 1 | SW1311/7470A | 12/11/2000 | 12/12/00 | TL | 3823 |
| Antimony | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Arsenic | 6.5 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Beryllium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Cadmium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Chromium | 14 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/15/00 | MR | 3830A |
| Copper | 21 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Lead | 42 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Nickel | 18 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/15/00 | MR | 3830A |
| Selenium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Silver | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Thallium | <10 | 10 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Zinc | 130 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 12/6/2000 | 12/6/00 | TL | 3806 |



**Confidential and Privileged**

**TRANSWEST GEOCHEM**

**Amended Report**

**Date Printed** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011236
**Lab ID:** 0011236-01
**Project Name:** Rio Salado
**Project Number:**

**Client Sample ID:** Pilot - 11/30 - 3
**Collection Date:** 11/30/2000 12:00:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Acenaphthylene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Aniline | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Anthracene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Azobenzene | <2.0 | 2.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Benz[a]anthracene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Benzo[a]pyrene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Benzo[b]fluoranthene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Benzo[g,h,i]perylene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Benzo[k]fluoranthene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Benzoic acid | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Benzyl alcohol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Bis(2-chloroethoxy)methane | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Bis(2-chloroethyl)ether | <1.8 | 1.8 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Bis(2-chloroisopropyl)ether | <2.0 | 2.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Bis(2-ethylhexyl)phthalate | <2.0 | 2.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 4-Bromophenyl phenyl ether | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Butyl benzyl phthalate | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Carbazole | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 4-Chloro-3-methylphenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 4-Chloroaniline | <1.8 | 1.8 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 2-Chloronaphthalene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 2-Chlorophenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 4-Chlorophenyl phenyl ether | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Chrysene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Di-n-butyl phthalate | <1.8 | 1.8 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Di-n-octyl phthalate | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Dibenz[a,h]anthracene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Dibenzo[a,i]pyrene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Dibenzofuran | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 1,2-Dichlorobenzene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 1,3-Dichlorobenzene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 1,4-Dichlorobenzene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 2,4-Dichlorophenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Diethyl phthalate | <1.8 | 1.8 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Dimethyl phthalate | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 2,4-Dimethylphenol | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 4,6-Dinitro-2-methylphenol | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 2,4-Dinitrophenol | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 2,4-Dinitrotoluene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 2,6-Dinitrotoluene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Fluoranthene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Fluorene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Hexachlorobenzene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |



**Confidential and Privileged**

TRANSWEST GEOCHEM

**Amended Report**

**Date Printed** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011236
**Lab ID:** 0011236-01
**Project Name:** Rio Salado
**Project Number:**

**Client Sample ID:** Pilot - 11/30 - 3
**Collection Date:** 11/30/2000 12:00:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Hexachlorobutadiene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Hexachlorocyclopentadiene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Hexachloroethane | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Indeno[1,2,3-cd]pyrene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Isophorone | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 2-Methylnaphthalene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 2-Methylphenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 4-Methylphenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| N-Nitrosodi-n-propylamine | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| N-Nitrosodimethylamine | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| N-Nitrosodiphenylamine | <1.8 | 1.8 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Naphthalene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 2-Nitroaniline | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 3-Nitroaniline | <2.8 | 2.8 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 4-Nitroaniline | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Nitrobenzene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 2-Nitrophenol | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 4-Nitrophenol | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Pentachlorophenol | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Phenanthrene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Phenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Pyrene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 1,2,4-Trichlorobenzene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 2,4,5-Trichlorophenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 2,4,6-Trichlorophenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 2-Chlorophenol-d4 (Surrogate) | 55 | 20-130 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 1,2-Dichlorobenzene-d4 (Surrogate) | 56 | 20-130 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 2-Fluorobiphenyl (Surrogate) | 74 | 30-115 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 2-Fluorophenol (Surrogate) | 35 | 25-121 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Nitrobenzene-d5 (Surrogate) | 56 | 23-120 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| Phenol-d6 (Surrogate) | 55 | 24-113 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 4-Terphenyl-d14 (Surrogate) | 90 | 18-137 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |
| 2,4,6-Tribromophenol (Surrogate) | 26 | 19-122 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 12:45 pm | MHH | 3802 |



**Confidential and Privileged**

TRANSWEST GEOCHEM

**Amended Report**

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011236
**Project:** Rio Salado

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 GRO | <20 | 20 | | mg/Kg | 1 | 8015AZ | 12/1/00 | 12/1/00 11:36 am | JH | FUELS1_001201A |
| C10-C22 DRO | <30 | 30 | | mg/Kg | 1 | 8015AZ | 12/1/00 | 12/1/00 11:36 am | JH | FUELS1_001201A |
| C22-C32 ORO | <100 | 100 | | mg/Kg | 1 | 8015AZ | 12/1/00 | 12/1/00 11:36 am | JH | FUELS1_001201A |
| C10-C32 SRL | <130 | 130 | | mg/Kg | 1 | 8015AZ | 12/1/00 | 12/1/00 11:36 am | JH | FUELS1_001201A |
| o-Terphenyl | 94 | 65-123 | | %REC | 1 | 8015AZ | 12/1/00 | 12/1/00 11:36 am | JH | FUELS1_001201A |
| Arsenic | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Barium | <1.0 | 1.0 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Cadmium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Chromium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Lead | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Selenium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Silver | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/13/00 | MR | 3817A |
| Mercury | <0.0020 | 0.0020 | | mg/L | 1 | SW1311/7470A | 12/11/00 | 12/12/00 | TL | 3823 |
| Antimony | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Arsenic | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Beryllium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Cadmium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Copper | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Lead | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Selenium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Silver | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Thallium | <10 | 10 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Zinc | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Chromium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/15/00 | MR | 3830A |
| Nickel | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/15/00 | MR | 3830A |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 12/6/00 | 12/6/00 | TL | 3806 |

TRANSWEST GEOCHEM

Amended Report

Date: 28-Dec-00

License No. AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011236
**Project:** Rio Salado

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Acenaphthylene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Aniline | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Anthracene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Azobenzene | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benz[a]anthracene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzo[a]pyrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzo[b]fluoranthene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzo[g,h,i]perylene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzo[k]fluoranthene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzoic acid | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzyl alcohol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Bis(2-chloroethoxy)methane | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Bis(2-chloroethyl)ether | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Bis(2-chloroisopropyl)ether | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Bis(2-ethylhexyl)phthalate | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Bromophenyl phenyl ether | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Butyl benzyl phthalate | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Carbazole | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Chloro-3-methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Chloroaniline | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Chloronaphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Chlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Chlorophenyl phenyl ether | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Chrysene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Di-n-butyl phthalate | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Di-n-octyl phthalate | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Dibenz[a,h]anthracene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Dibenzo[a,i]pyrene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Dibenzofuran | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,2-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,3-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,4-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4-Dichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Diethyl phthalate | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Dimethyl phthalate | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4-Dimethylphenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4,6-Dinitro-2-methylphenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4-Dinitrophenol | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4-Dinitrotoluene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,6-Dinitrotoluene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Fluoranthene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Fluorene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Hexachlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Hexachlorobutadiene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |

TRANSWEST GEOCHEM

Amended Report

Date: 28-Dec-00

License No. AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011236
**Project:** Rio Salado

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Hexachlorocyclopentadiene | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Hexachloroethane | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Indeno[1,2,3-cd]pyrene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Isophorone | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Methylnaphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| N-Nitrosodi-n-propylamine | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| N-Nitrosodimethylamine | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| N-Nitrosodiphenylamine | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Naphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Nitroaniline | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 3-Nitroaniline | <0.18 | 0.18 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Nitroaniline | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Nitrobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Nitrophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Nitrophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Pentachlorophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Phenanthrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Phenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Pyrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,2,4-Trichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4,5-Trichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4,6-Trichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Chlorophenol-d4 | 72 | 20-130 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,2-Dichlorobenzene-d4 | 70 | 20-130 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Fluorobiphenyl | 74 | 30-115 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Fluorophenol | 67 | 25-121 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Nitrobenzene-d5 | 63 | 23-120 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Phenol-d6 | 69 | 24-113 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Terphenyl-d14 | 78 | 18-137 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4,6-Tribromophenol | 62 | 19-122 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |

TRANSWEST GEOCHEM

**Amended Report**

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011236
**Project:** Rio Salado

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0011232-03AS** | Batch ID: FUELS1_001201A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/1/00 4:35 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/1/00 | | | |
| C10-C22 DRO | 477 | 30 | 500 | <30 | 95% | 65 | 121 | | | | |
| o-Terphenyl | 9.74 | N/A | 10.0 | N/A | 97% | 65 | 123 | | | | |
| Sample ID: **0011232-03ASD** | Batch ID: FUELS1_001201A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/1/00 5:26 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/1/00 | | | |
| C10-C22 DRO | 484 | 30 | 500 | <30 | 97% | 65 | 121 | 477 | 1% | 20 | |
| o-Terphenyl | 9.86 | N/A | 10.0 | N/A | 99% | 65 | 123 | | | | |
| Sample ID: **0011236-01CSD** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: **Pilot - 11/30 - 3** | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 0.9281 | 0.50 | 1.000 | <0.50 | 93% | 75 | 125 | 0.9565 | 3% | 20 | |
| Barium | 10.17 | 1.0 | 11.00 | <1.0 | 92% | 75 | 125 | 10.46 | 3% | 20 | |
| Cadmium | 0.9028 | 0.50 | 1.000 | <0.50 | 90% | 75 | 125 | 0.9090 | 1% | 20 | |
| Chromium | 0.8571 | 0.50 | 1.000 | <0.50 | 86% | 75 | 125 | 0.8709 | 2% | 20 | |
| Lead | 0.8578 | 0.50 | 1.000 | <0.50 | 86% | 75 | 125 | 0.8789 | 2% | 20 | |
| Selenium | 0.9772 | 0.50 | 1.000 | <0.50 | 98% | 75 | 125 | 0.9541 | 2% | 20 | |
| Sample ID: **0011236-01CS** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: **Pilot - 11/30 - 3** | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 0.9565 | 0.50 | 1.000 | <0.50 | 96% | 75 | 125 | | | | |
| Barium | 10.46 | 1.0 | 11.00 | <1.0 | 95% | 75 | 125 | | | | |
| Cadmium | 0.9090 | 0.50 | 1.000 | <0.50 | 91% | 75 | 125 | | | | |
| Chromium | 0.8709 | 0.50 | 1.000 | <0.50 | 87% | 75 | 125 | | | | |
| Lead | 0.8789 | 0.50 | 1.000 | <0.50 | 88% | 75 | 125 | | | | |
| Selenium | 0.9541 | 0.50 | 1.000 | <0.50 | 95% | 75 | 125 | | | | |
| Sample ID: **0011236-01CSD** | Batch ID: 3817A | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: **Pilot - 11/30 - 3** | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Silver | 0.5334 | 0.50 | 0.5000 | <0.50 | 107% | 75 | 125 | 0.5464 | 2% | 20 | |
| Sample ID: **0011236-01CS** | Batch ID: 3817A | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: **Pilot - 11/30 - 3** | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Silver | 0.5464 | 0.50 | 0.5000 | <0.50 | 109% | 75 | 125 | | | | |
| Sample ID: **0011236-01CSD** | Batch ID: 3823 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: **Pilot - 11/30 - 3** | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01039 | 0.0020 | 0.01000 | <0.0020 | 104% | 85 | 115 | 0.01024 | 1% | 20 | |
| Sample ID: **0011236-01CS** | Batch ID: 3823 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: **Pilot - 11/30 - 3** | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01024 | 0.0020 | 0.01000 | <0.0020 | 102% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Amended Report**

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011236
**Project:** Rio Salado

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012009-01CSD** | Batch ID: 3830 | | | Test Code: SW6010B | | | | Date Analyzed: 12/14/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Antimony | 22.85 | 5.0 | 50.00 | <5.0 | 46% | 75 | 125 | 21.90 | 4% | 20 | M2 |
| Arsenic | 54.34 | 5.0 | 50.00 | 7.294 | 94% | 75 | 125 | 57.51 | 6% | 20 | |
| Beryllium | 46.20 | 2.5 | 50.00 | <2.5 | 92% | 75 | 125 | 47.62 | 3% | 20 | |
| Cadmium | 46.46 | 2.5 | 50.00 | <2.5 | 93% | 75 | 125 | 48.30 | 4% | 20 | |
| Copper | 77.95 | 5.0 | 50.00 | 20.69 | 115% | 75 | 125 | 77.71 | 0% | 20 | |
| Lead | 94.00 | 5.0 | 50.00 | 45.14 | 98% | 75 | 125 | 132.0 | 34% | 20 | R1 |
| Selenium | 44.59 | 5.0 | 50.00 | <5.0 | 89% | 75 | 125 | 48.28 | 8% | 20 | |
| Silver | 22.94 | 5.0 | 25.00 | <5.0 | 92% | 75 | 125 | 23.30 | 2% | 20 | |
| Thallium | 44.96 | 10 | 50.00 | <10 | 90% | 75 | 125 | 45.70 | 2% | 20 | |
| Zinc | 619.8 | 5.0 | 550.0 | 133.0 | 89% | 75 | 125 | 641.2 | 3% | 20 | |
| Sample ID: **0012009-01CS** | Batch ID: 3830 | | | Test Code: SW6010B | | | | Date Analyzed: 12/14/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Antimony | 21.90 | 5.0 | 50.00 | <5.0 | 44% | 75 | 125 | | | | M2 |
| Arsenic | 57.51 | 5.0 | 50.00 | 7.294 | 100% | 75 | 125 | | | | |
| Beryllium | 47.62 | 2.5 | 50.00 | <2.5 | 95% | 75 | 125 | | | | |
| Cadmium | 48.30 | 2.5 | 50.00 | <2.5 | 97% | 75 | 125 | | | | |
| Copper | 77.71 | 5.0 | 50.00 | 20.69 | 114% | 75 | 125 | | | | |
| Lead | 132.0 | 5.0 | 50.00 | 45.14 | 174% | 75 | 125 | | | | M2 |
| Selenium | 48.28 | 5.0 | 50.00 | <5.0 | 97% | 75 | 125 | | | | |
| Silver | 23.30 | 5.0 | 25.00 | <5.0 | 93% | 75 | 125 | | | | |
| Thallium | 45.70 | 10 | 50.00 | <10 | 91% | 75 | 125 | | | | |
| Zinc | 641.2 | 5.0 | 550.0 | 133.0 | 92% | 75 | 125 | | | | |
| Sample ID: **0012009-01CS** | Batch ID: 3830A | | | Test Code: SW6010B | | | | Date Analyzed: 12/15/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Chromium | 65.31 | 5.0 | 50.00 | 14.67 | 101% | 75 | 125 | | | | |
| Nickel | 67.49 | 5.0 | 50.00 | 17.60 | 100% | 75 | 125 | | | | |
| Sample ID: **0012009-01CSD** | Batch ID: 3830A | | | Test Code: SW6010B | | | | Date Analyzed: 12/15/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Chromium | 68.35 | 5.0 | 50.00 | 14.67 | 107% | 75 | 125 | 65.31 | 5% | 20 | |
| Nickel | 65.29 | 5.0 | 50.00 | 17.60 | 95% | 75 | 125 | 67.49 | 3% | 20 | |
| Sample ID: **0012009-01CSD** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.309 | 0.083 | 1.250 | <0.083 | 105% | 85 | 115 | 1.417 | 8% | 20 | |
| Sample ID: **0012009-01CS** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.417 | 0.083 | 1.250 | <0.083 | 113% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Amended Report**

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011236
**Project:** Rio Salado

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0011208-04ASD** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.283 | 0.083 | 1.250 | <0.083 | 103% | 85 | 115 | 1.213 | 6% | 20 | |
| Sample ID: **0011208-04AS** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.213 | 0.083 | 1.250 | <0.083 | 97% | 85 | 115 | | | | |
| Sample ID: **0012023-01A-MS** | Batch ID: 3802 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 8:13 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Acenaphthene | 1.495 | N/A | 2.000 | 0.000 | 75% | 57 | 101 | | | | |
| 4-Chloro-3-methylphenol | 1.550 | 1.5 | 2.000 | <1.5 | 77% | 49 | 108 | | | | |
| 2-Chlorophenol | 1.135 | N/A | 2.000 | 0.000 | 57% | 49 | 98 | | | | |
| 1,4-Dichlorobenzene | 1.055 | N/A | 2.000 | 0.000 | 53% | 41 | 100 | | | | |
| 2,4-Dinitrotoluene | 1.690 | N/A | 2.000 | 0.000 | 84% | 50 | 120 | | | | |
| N-Nitrosodi-n-propylamine | 0.7900 | N/A | 2.000 | 0.000 | 39% | 43 | 104 | | | | M2 |
| 4-Nitrophenol | 1.730 | N/A | 2.000 | 0.000 | 86% | 55 | 117 | | | | |
| Pentachlorophenol | 1.360 | N/A | 2.000 | 0.000 | 68% | 45 | 115 | | | | |
| Phenol | 1.225 | N/A | 2.000 | 0.000 | 61% | 50 | 100 | | | | |
| Pyrene | 1.860 | 1.5 | 2.000 | <1.5 | 93% | 59 | 120 | | | | |
| 1,2,4-Trichlorobenzene | 1.205 | N/A | 2.000 | 0.000 | 60% | 43 | 102 | | | | |
| 2-Chlorophenol-d4 | 1.700 | N/A | 3.000 | N/A | 57% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 1.085 | N/A | 2.000 | N/A | 54% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 1.370 | N/A | 2.000 | N/A | 68% | 30 | 115 | | | | |
| 2-Fluorophenol | 1.280 | N/A | 3.000 | N/A | 43% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 1.165 | N/A | 2.000 | N/A | 58% | 23 | 120 | | | | |
| Phenol-d6 | 1.835 | N/A | 3.000 | N/A | 61% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 1.845 | N/A | 2.000 | N/A | 92% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 1.825 | N/A | 3.000 | N/A | 61% | 19 | 122 | | | | |

TRANSWEST GEOCHEM

Amended Report

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011236
**Project:** Rio Salado

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012023-01A-MS** | Batch ID: 3802 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 9:09 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Acenaphthene | 1.645 | N/A | 2.000 | 0.000 | 82% | 57 | 101 | 1.495 | 10% | 19 | |
| 4-Chloro-3-methylphenol | 1.690 | 1.5 | 2.000 | <1.5 | 84% | 49 | 108 | 1.550 | 9% | 33 | |
| 2-Chlorophenol | 1.305 | N/A | 2.000 | 0.000 | 65% | 49 | 98 | 1.135 | 14% | 50 | |
| 1,4-Dichlorobenzene | 1.220 | N/A | 2.000 | 0.000 | 61% | 41 | 100 | 1.055 | 15% | 27 | |
| 2,4-Dinitrotoluene | 1.885 | N/A | 2.000 | 0.000 | 94% | 50 | 120 | 1.690 | 11% | 47 | |
| N-Nitrosodi-n-propylamine | 1.390 | N/A | 2.000 | 0.000 | 69% | 43 | 104 | 0.7900 | 55% | 38 | R2 |
| 4-Nitrophenol | 1.885 | N/A | 2.000 | 0.000 | 94% | 55 | 117 | 1.730 | 9% | 50 | |
| Pentachlorophenol | 1.355 | N/A | 2.000 | 0.000 | 68% | 45 | 115 | 1.360 | 0% | 47 | |
| Phenol | 1.355 | N/A | 2.000 | 0.000 | 68% | 50 | 100 | 1.225 | 10% | 35 | |
| Pyrene | 2.100 | 1.5 | 2.000 | <1.5 | 105% | 59 | 120 | 1.860 | 12% | 36 | |
| 1,2,4-Trichlorobenzene | 1.325 | N/A | 2.000 | 0.000 | 66% | 43 | 102 | 1.205 | 9% | 23 | |
| 2-Chlorophenol-d4 | 1.810 | N/A | 3.000 | N/A | 60% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 1.115 | N/A | 2.000 | N/A | 56% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.09500 | N/A | 2.000 | N/A | 5% | 30 | 115 | | | | S9 |
| 2-Fluorophenol | 1.475 | N/A | 3.000 | N/A | 49% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 1.235 | N/A | 2.000 | N/A | 62% | 23 | 120 | | | | |
| Phenol-d6 | 1.930 | N/A | 3.000 | N/A | 64% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 1.945 | N/A | 2.000 | N/A | 97% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 2.130 | N/A | 3.000 | N/A | 71% | 19 | 122 | | | | |

TRANSWEST GEOCHEM

Amended Report

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011236
**Project:** Rio Salado

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LFB SOIL** | Batch ID: FUELS1_001201A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/1/00 12:24 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/1/00 | | | |
| C10-C22 DRO | 470 | 30 | 500 | <30 | 94% | 78 | 111 | | | | |
| o-Terphenyl | 10.5 | N/A | 10.0 | N/A | 105% | 65 | 123 | | | | |
| Sample ID: **LCSD-3817** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 0.9570 | 0.50 | 1.000 | <0.50 | 96% | 85 | 115 | 0.9550 | 0% | 20 | |
| Barium | 10.30 | 1.0 | 11.00 | <1.0 | 94% | 85 | 115 | 10.26 | 0% | 20 | |
| Cadmium | 0.9368 | 0.50 | 1.000 | <0.50 | 94% | 85 | 115 | 0.9238 | 1% | 20 | |
| Chromium | 0.9086 | 0.50 | 1.000 | <0.50 | 91% | 85 | 115 | 0.8929 | 2% | 20 | |
| Lead | 0.8651 | 0.50 | 1.000 | <0.50 | 87% | 85 | 115 | 0.8604 | 1% | 20 | |
| Selenium | 1.038 | 0.50 | 1.000 | <0.50 | 104% | 85 | 115 | 0.9835 | 5% | 20 | |
| Sample ID: **LCS-3817** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 0.9550 | 0.50 | 1.000 | <0.50 | 96% | 85 | 115 | | | | |
| Barium | 10.26 | 1.0 | 11.00 | <1.0 | 93% | 85 | 115 | | | | |
| Cadmium | 0.9238 | 0.50 | 1.000 | <0.50 | 92% | 85 | 115 | | | | |
| Chromium | 0.8929 | 0.50 | 1.000 | <0.50 | 89% | 85 | 115 | | | | |
| Lead | 0.8604 | 0.50 | 1.000 | <0.50 | 86% | 85 | 115 | | | | |
| Selenium | 0.9835 | 0.50 | 1.000 | <0.50 | 98% | 85 | 115 | | | | |
| Sample ID: **LCSD-3817** | Batch ID: 3817A | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Silver | 0.5195 | 0.50 | 0.5000 | <0.50 | 104% | 85 | 115 | 0.5302 | 2% | 20 | |
| Sample ID: **LCS-3817** | Batch ID: 3817A | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Silver | 0.5302 | 0.50 | 0.5000 | <0.50 | 106% | 85 | 115 | | | | |
| Sample ID: **LCS-3823** | Batch ID: 3823 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01008 | 0.0020 | 0.01000 | <0.0020 | 101% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

Amended Report

Date: 28-Dec-00

License No. AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011236
**Project:** Rio Salado

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCSD-3830** | Batch ID: 3830 | | | Test Code: SW6010B | | | | Date Analyzed: 12/14/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Antimony | 45.63 | 5.0 | 50.00 | <5.0 | 91% | 85 | 115 | 46.67 | 2% | 20 | |
| Arsenic | 48.44 | 5.0 | 50.00 | <5.0 | 97% | 85 | 115 | 50.58 | 4% | 20 | |
| Beryllium | 46.71 | 2.5 | 50.00 | <2.5 | 93% | 85 | 115 | 47.66 | 2% | 20 | |
| Cadmium | 48.10 | 2.5 | 50.00 | <2.5 | 96% | 85 | 115 | 49.13 | 2% | 20 | |
| Copper | 48.41 | 5.0 | 50.00 | <5.0 | 97% | 85 | 115 | 49.63 | 2% | 20 | |
| Lead | 49.07 | 5.0 | 50.00 | <5.0 | 98% | 85 | 115 | 50.37 | 3% | 20 | |
| Selenium | 47.41 | 5.0 | 50.00 | <5.0 | 95% | 85 | 115 | 50.09 | 5% | 20 | |
| Silver | 22.37 | 5.0 | 25.00 | <5.0 | 89% | 85 | 115 | 22.14 | 1% | 20 | |
| Thallium | 48.45 | 10 | 50.00 | <10 | 97% | 85 | 115 | 49.45 | 2% | 20 | |
| Zinc | 523.2 | 5.0 | 550.0 | <5.0 | 95% | 85 | 115 | 522.1 | 0% | 20 | |
| Sample ID: **LCS-3830** | Batch ID: 3830 | | | Test Code: SW6010B | | | | Date Analyzed: 12/14/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Antimony | 46.67 | 5.0 | 50.00 | <5.0 | 93% | 85 | 115 | | | | |
| Arsenic | 50.58 | 5.0 | 50.00 | <5.0 | 101% | 85 | 115 | | | | |
| Beryllium | 47.66 | 2.5 | 50.00 | <2.5 | 95% | 85 | 115 | | | | |
| Cadmium | 49.13 | 2.5 | 50.00 | <2.5 | 98% | 85 | 115 | | | | |
| Copper | 49.63 | 5.0 | 50.00 | <5.0 | 99% | 85 | 115 | | | | |
| Lead | 50.37 | 5.0 | 50.00 | <5.0 | 101% | 85 | 115 | | | | |
| Selenium | 50.09 | 5.0 | 50.00 | <5.0 | 100% | 85 | 115 | | | | |
| Silver | 22.14 | 5.0 | 25.00 | <5.0 | 89% | 85 | 115 | | | | |
| Thallium | 49.45 | 10 | 50.00 | <10 | 99% | 85 | 115 | | | | |
| Zinc | 522.1 | 5.0 | 550.0 | <5.0 | 95% | 85 | 115 | | | | |
| Sample ID: **LCSD-3830** | Batch ID: 3830A | | | Test Code: SW6010B | | | | Date Analyzed: 12/15/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Chromium | 52.64 | 5.0 | 50.00 | <5.0 | 105% | 85 | 115 | 56.43 | 7% | 20 | |
| Nickel | 50.92 | 5.0 | 50.00 | <5.0 | 102% | 85 | 115 | 52.47 | 3% | 20 | |
| Sample ID: **LCS-3830** | Batch ID: 3830A | | | Test Code: SW6010B | | | | Date Analyzed: 12/15/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Chromium | 56.43 | 5.0 | 50.00 | <5.0 | 113% | 85 | 115 | | | | |
| Nickel | 52.47 | 5.0 | 50.00 | <5.0 | 105% | 85 | 115 | | | | |
| Sample ID: **LCS-3806** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.313 | 0.083 | 1.250 | <0.083 | 105% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Amended Report**

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011236
**Project:** Rio Salado

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCS-3802** | Batch ID: 3802 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 4:14 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Acenaphthene | 0.5337 | 0.10 | 0.6667 | <0.10 | 80% | 57 | 101 | | | | |
| 4-Chloro-3-methylphenol | 0.5433 | 0.10 | 0.6667 | <0.10 | 81% | 49 | 108 | | | | |
| 2-Chlorophenol | 0.5237 | 0.10 | 0.6667 | <0.10 | 79% | 49 | 98 | | | | |
| 1,4-Dichlorobenzene | 0.5123 | 0.10 | 0.6667 | <0.10 | 77% | 41 | 100 | | | | |
| 2,4-Dinitrotoluene | 0.5330 | 0.17 | 0.6667 | <0.17 | 80% | 50 | 120 | | | | |
| N-Nitrosodi-n-propylamine | 0.5283 | 0.10 | 0.6667 | <0.10 | 79% | 43 | 104 | | | | |
| 4-Nitrophenol | 0.3917 | 0.17 | 0.6667 | <0.17 | 59% | 55 | 117 | | | | |
| Pentachlorophenol | 0.4757 | 0.17 | 0.6667 | <0.17 | 71% | 45 | 115 | | | | |
| Phenol | 0.5327 | 0.10 | 0.6667 | <0.10 | 80% | 50 | 100 | | | | |
| Pyrene | 0.5877 | 0.10 | 0.6667 | <0.10 | 88% | 59 | 120 | | | | |
| 1,2,4-Trichlorobenzene | 0.5160 | 0.10 | 0.6667 | <0.10 | 77% | 43 | 102 | | | | |
| 2-Chlorophenol-d4 | 0.8030 | N/A | 1.000 | N/A | 80% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 0.5303 | N/A | 0.6667 | N/A | 80% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.5490 | N/A | 0.6667 | N/A | 82% | 30 | 115 | | | | |
| 2-Fluorophenol | 0.7563 | N/A | 1.000 | N/A | 76% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 0.5223 | N/A | 0.6667 | N/A | 78% | 23 | 120 | | | | |
| Phenol-d6 | 0.7893 | N/A | 1.000 | N/A | 79% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 0.5980 | N/A | 0.6667 | N/A | 90% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 0.8933 | N/A | 1.000 | N/A | 89% | 19 | 122 | | | | |
| Sample ID: **LCSD-3802** | Batch ID: 3802 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 5:17 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Acenaphthene | 0.5493 | 0.10 | 0.6667 | <0.10 | 82% | 57 | 101 | 0.5337 | 3% | 19 | |
| 4-Chloro-3-methylphenol | 0.5660 | 0.10 | 0.6667 | <0.10 | 85% | 49 | 108 | 0.5433 | 4% | 33 | |
| 2-Chlorophenol | 0.5690 | 0.10 | 0.6667 | <0.10 | 85% | 49 | 98 | 0.5237 | 8% | 50 | |
| 1,4-Dichlorobenzene | 0.5500 | 0.10 | 0.6667 | <0.10 | 82% | 41 | 100 | 0.5123 | 7% | 27 | |
| 2,4-Dinitrotoluene | 0.5490 | 0.17 | 0.6667 | <0.17 | 82% | 50 | 120 | 0.5330 | 3% | 47 | |
| N-Nitrosodi-n-propylamine | 0.5617 | 0.10 | 0.6667 | <0.10 | 84% | 43 | 104 | 0.5283 | 6% | 38 | |
| 4-Nitrophenol | 0.4260 | 0.17 | 0.6667 | <0.17 | 64% | 55 | 117 | 0.3917 | 8% | 50 | |
| Pentachlorophenol | 0.5123 | 0.17 | 0.6667 | <0.17 | 77% | 45 | 115 | 0.4757 | 7% | 47 | |
| Phenol | 0.5700 | 0.10 | 0.6667 | <0.10 | 85% | 50 | 100 | 0.5327 | 7% | 35 | |
| Pyrene | 0.6283 | 0.10 | 0.6667 | <0.10 | 94% | 59 | 120 | 0.5877 | 7% | 36 | |
| 1,2,4-Trichlorobenzene | 0.5357 | 0.10 | 0.6667 | <0.10 | 80% | 43 | 102 | 0.5160 | 4% | 23 | |
| 2-Chlorophenol-d4 | 0.8460 | N/A | 1.000 | N/A | 85% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 0.5580 | N/A | 0.6667 | N/A | 84% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.5563 | N/A | 0.6667 | N/A | 83% | 30 | 115 | | | | |
| 2-Fluorophenol | 0.8100 | N/A | 1.000 | N/A | 81% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 0.5513 | N/A | 0.6667 | N/A | 83% | 23 | 120 | | | | |
| Phenol-d6 | 0.8263 | N/A | 1.000 | N/A | 83% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 0.6307 | N/A | 0.6667 | N/A | 95% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 0.8997 | N/A | 1.000 | N/A | 90% | 19 | 122 | | | | |

TRANSWEST GEOCHEM

Amended Report

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011236
**Project:** Rio Salado

# QC SUMMARY REPORT

Secondary Source QC Sample

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCSV-3823** | Batch ID: 3823 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01004 | 0.0020 | 0.01000 | <0.0020 | 100% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

Amended Report

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0011236
**Project:** Rio Salado

# QC SUMMARY REPORT

## Analytical Spike

| Analyte | Result | PQL | Units | Spike Value | Spike Ref Val | % Rec | Limit | Date Prepared | Date Analyzed | Analyst | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012009-01CA** | | | Test Code: | SW6010B | | | | Batch ID: | 3830 | | |
| Antimony | 44.25 | 5.0 | mg/Kg | 50 | <5.0 | 89% | 75 - 125 | 12/14/00 | 12/14/00 | MR | |
| Lead | 88.61 | 5.0 | mg/Kg | 50 | 45.14 | 87% | 75 - 125 | 12/14/00 | 12/14/00 | MR | |

**TRANSWEST GEOCHEM**

3725 East Atlanta Avenue, Suite 2
Phoenix, Arizona 85040
Phone: (602) 437-0330
Fax: (602) 437-0660

# Chain of Custody

**TGI Work Order No:** 0011236

Date 11/30/00 Page 1 of 1

| | |
|---|---|
| Project Manager: | Brad Johnston |
| Client Name: | SCS Engineers |
| Address: | |
| City, State ZIP: | |
| Phone: | 602-840-2596 |
| Fax: | |

| | |
|---|---|
| Bill to: | |
| Company: | |
| Address: | |
| City, State ZIP: | |
| Phone: | |
| Fax: | |

| | |
|---|---|
| P.O. No.: | |
| Project Name: | Rio Salado |
| Project Number: | |

**SAMPLE RECEIPT**

| | | |
|---|---|---|
| Temperature: 18.8 | Ambient / Cold | Ice: |
| Received Intact: | | Absent / Present |
| Custody Seals: | | Wet / Blue |
| Total No. of Containers: | 3 | |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Lab ID | No. of Containers | TPH, (418.1/418.1AZ) | TPH, 8015AZR.1 | BTEX (8021B) | Volatile Organics GCMS (624/8260AZ) | SDWA Volatiles, (524.2) | Semi-Volatile Organics GCMS (625/8270) | Organochlorine Pesticides (608/8081) | PCB's, (8082) | PAH, EPA 8310 | 8 RCRA Metals | 13 Priority Pollutant Metals | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pilot-11/30-3 | Soil | 11/30 | 1200 | 1 | 3 | | X | | X | | X | | | | | X | 8260=A<br>8015=B<br>8015=C |

VA 11/30/00

| Relinquished by: (Signature) | (Print Name) | Date/Time | Received by: (Signature) | (Print Name) | Date/Time |
|---|---|---|---|---|---|
| 1 | Ahab Salam | 11/30 1310 | | Vic Nielsen | 11/30/00 1310 |
| 2 | | | | | |
| 3 | | | | | |

White copy to TGI, Yellow copy for final report, Pink copy to sampler

Revised: 6/29/00

**TRANSWEST GEOCHEM**

December 14, 2000

Brad Johnston
SCS Engineers
2702 N. 44th St., Suite 105B
Phoenix, AZ 85008

Re: Rio Salado
Work Order No.: 0011236

Dear Brad,

Attached is the original Report of Analysis from Precision Analytical Laboratories, Inc. for the sample received on 11/30/2000 1:10:00 PM. The following analysis was performed:

Method SW8260B – Volatile Organics by GC/MS

If you have any questions regarding the results, please call me. We appreciate your business and thank you for choosing Transwest Geochem.

Sincerely,

Michael Barber for

Beth Proffitt
Project Manager

ADHS License No. AZM133/AZ0133

CONFIDENTIAL AND PRIVILEGED

3725 E. Atlanta Ave. • Suite 2 • Phoenix, Arizona 85040 • (602) 437-0330 • 1-800-927-5183 • Fax (602) 437-0660

# Precision Analytical Laboratories, Inc.

December 11, 2000

Beth Proffitt
Transwest Geochem, Inc.
3725 E. Atlanta Ave.
Suite 2
Phoenix, AZ 85040
TEL: (602) 437-0330
FAX (602) 437-0660

RE: Rio Salado/0011236 Order No.: 0012094

Dear Beth Proffitt:

Precision Analytical Laboratories, Inc. received 1 sample on 12/5/00 for the analyses presented in the following report.

This report includes the following information:

- Case Narrative. The case narrative contains a listing of common method references, data qualifiers, and any comments that may be needed regarding the analytical results.

- Analytical Report. Analysis results are reported with the compound name first, followed by the test result, report limit (Limit), any required data qualifier (Qual), units, dilution factor (DF), and date analyzed.

- QC Summary Report. This section includes quality control results for some or all of the following: method blanks, sample duplicates, sample matrix spikes, sample matrix spike duplicates, laboratory control spikes, and laboratory control spike duplicates.

If you have any questions regarding these tests results, please do not hesitate to call.

Sincerely,

Heather A. Oeschger

Heather Oeschger
Account Manager

CC:

# Precision Analytical Laboratories, Inc.

**Date:** *11-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Project:** Rio Salado/0011236
**Lab Order:** 0012094

## CASE NARRATIVE

Data Qualifiers

Listed below are data qualifiers which may be used in your analytical report to explain any analytical or quality control issues. If one or more of the following data qualifiers is associated with your analytical or quality control data it will be noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

B1 Target analyte detected in method blank at or above the method reporting limit.
D1 Sample required dilution due to matrix interference.
D2 Sample required dilution due to high concentration of target analyte.
D4 Minimum reporting level (MRL) adjusted to reflect sample amount received and analyzed.
E2 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E3 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to holding time requirements.
E4 Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL).
E6 Concentration estimated. Internal standard recoveries did not meet method acceptance criteria.
H1 Sample analysis performed past holding time. See case narrative.
H2 Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3 Sample was received and analyzed past holding time.
K1 The sample dilutions set-up for the BOD analysis did not meet the oxygen depletion criteria of at least 2 mg/L. The reported result is an estimated value.
K2 The sample dilutions set up for the BOD analysis failed to meet the criteria of a residual dissolved oxygen of at least 1 mg/L. The reported result is estimated.
M1 Matrix spike recovery was high, the method control sample recovery was acceptable.
M2 Matrix spike recovery was low, the method control sample recovery was acceptable.
M3 The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to spike level. The method control sample recovery was acceptable.
M4 The analysis of the spiked sample required a dilution such that the spike concentration was diluted below the reporting limit. The method control sample recovery was acceptable.



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M5 Analyte concentration was determined by the method of standard addition (MSA).
N1 See case narrative.
Q1 Sample integrity was not maintained. See case narrative.
Q2 Sample received with head space.
Q3 Sample received with improper chemical preservation.
Q5 Sample received without chemical preservation, but preserved by the laboratory.
Q6 Sample was received above recommended temperature.
Q7 Sample inadequately dechlorinated.
Q8 Insufficient sample received to meet method QC requirements. QC requirements satisfy ADEQ policies 0154 and 0155.
Q10 Sample received in inappropriate sample container.
Q11 Sample is heterogeneous. Sample homogeneity could not be readily achieved using routine laboratory practices.
R2 RPD exceeded the laboratory control limit. See case narrative.
R3 Sample RPD between the primary and confirmatory analysis exceeded 40%. Per EPA Method 8000B, the higher value was reported.
R5 RPD exceeded the laboratory control limit. Recovery met acceptance criteria.
S2 Surrogate recovery was above laboratory and method acceptance limits.
S4 Surrogate recovery was above laboratory and method acceptance limits. No target analytes were detected in the sample.
S6 Surrogate recovery was below laboratory and method acceptance limits. Reextraction and/or reanalysis confirms low recovery caused by matrix effect.
S7 Surrogate recovery was below laboratory and method acceptance limits. Unable to confirm matrix effect.
S9 The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria. The method control sample recovery was acceptable.
T2 Cited ADHS licensed method does not contain this analyte as part of method compound list.
T4 Tentatively identified compound. Concentration is estimated and based on the closest internal standard.
V1 CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.
V5 CCV recovery after a group of samples was above acceptance limits. This target analyte was not detected in the sample. Acceptable per EPA Method 8000B.



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## CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1995. Appendix A to Part 136- Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Precision Analytical Laboratories, Inc (PAL) holds the following certifications:
Arizona (certification no. AZ0610) and California (I-2410).
PAL- Tucson laboratory Arizona certification number: AZ0609.
PAL- North Phoenix laboratory Arizona certification number: AZ0611.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

Method 8260B extracts were provided by Transwest Geochem.



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# Precision Analytical Laboratories, Inc.

**Date:** *11-Dec-00*

| | | | |
|---|---|---|---|
| **CLIENT:** | Transwest Geochem, Inc. | **Client Sample ID:** | PILOT-11/30-3 |
| **Lab Order:** | 0012094 | **Tag Number:** | 01D |
| **Project:** | Rio Salado/0011236 | **Collection Date:** | 11/30/00 12:00:00 PM |
| **Lab ID:** | 0012094-01A | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS BY GC/MS** | | **SW8260B** | | | | **Analyst: SP** |
| 1,1,1-Trichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 1,1,2,2-Tetrachloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 1,1,2-Trichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 1,1-Dichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 1,1-Dichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 1,1-Dichloropropene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 1,2,3-Trichlorobenzene | < 0.10 | 0.10 | | mg/Kg | 1 | 12/6/00 |
| 1,2,3-Trichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 1,2,4-Trimethylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 1,2-Dibromoethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 1,2-Dichlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 1,2-Dichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 1,2-Dichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 1,3,5-Trimethylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 1,3-Dichlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 1,3-Dichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 1,4-Dichlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 2,2-Dichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 2-Butanone (MEK) | < 0.25 | 0.25 | | mg/Kg | 1 | 12/6/00 |
| 2-Chloroethyl vinyl ether | < 0.25 | 0.25 | | mg/Kg | 1 | 12/6/00 |
| 2-Chlorotoluene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 2-Hexanone | < 0.25 | 0.25 | | mg/Kg | 1 | 12/6/00 |
| 4-Chlorotoluene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 4-Isopropyltoluene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| 4-Methyl-2-pentanone | < 0.25 | 0.25 | | mg/Kg | 1 | 12/6/00 |
| Acetone | < 0.25 | 0.25 | | mg/Kg | 1 | 12/6/00 |
| Benzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Bromobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Bromochloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Bromodichloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Bromoform | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Bromomethane | < 0.10 | 0.10 | | mg/Kg | 1 | 12/6/00 |
| Carbon tetrachloride | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Chlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Chloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Chloroform | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Chloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| cis-1,2-Dichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| cis-1,3-Dichloropropene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Dibromochloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range



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# Precision Analytical Laboratories, Inc.

**Date:** *11-Dec-00*

| | | | |
|---|---|---|---|
| **CLIENT:** | Transwest Geochem, Inc. | **Client Sample ID:** | PILOT-11/30-3 |
| **Lab Order:** | 0012094 | **Tag Number:** | 01D |
| **Project:** | Rio Salado/0011236 | **Collection Date:** | 11/30/00 12:00:00 PM |
| **Lab ID:** | 0012094-01A | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Ethylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| m,p-Xylene | < 0.10 | 0.10 | | mg/Kg | 1 | 12/6/00 |
| Methyl tert-butyl ether | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Methylene chloride | < 0.10 | 0.10 | | mg/Kg | 1 | 12/6/00 |
| n-Butylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| n-Propylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| o-Xylene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| sec-Butylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Styrene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| tert-Butylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Tetrachloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Toluene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| trans-1,2-Dichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| trans-1,3-Dichloropropene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Trichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Trichlorofluoromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Vinyl acetate | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Vinyl chloride | < 0.050 | 0.050 | | mg/Kg | 1 | 12/6/00 |
| Surr: 4-Bromofluorobenzene | 84.1 | 56.4-139 | | %REC | 1 | 12/6/00 |
| Surr: Dibromofluoromethane | 86.5 | 59.7-130 | | %REC | 1 | 12/6/00 |
| Surr: Toluene-d8 | 87.8 | 57.8-138 | | %REC | 1 | 12/6/00 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range



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# Precision Analytical Laboratories, Inc.

**Date:** *11-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012094
**Project:** Rio Salado/0011236

## QC SUMMARY REPORT
Method Blank

Sample ID: **MB-2543** Batch ID: **2543** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/6/00** Prep Date: **12/6/00**
Client ID: Run ID: **MS2_001206D** SeqNo: **59877**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1,2-Trichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1-Dichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1-Dichloroethene | < 0.050 | 0.05 | | | | | | | | | |
| 1,1-Dichloropropene | < 0.050 | 0.05 | | | | | | | | | |
| 1,2,3-Trichlorobenzene | < 0.10 | 0.1 | | | | | | | | | |
| 1,2,3-Trichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 1,2,4-Trimethylbenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dibromoethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dichlorobenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 1,3,5-Trimethylbenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,3-Dichlorobenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,3-Dichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 1,4-Dichlorobenzene | < 0.050 | 0.05 | | | | | | | | | |
| 2,2-Dichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 2-Butanone (MEK) | < 0.25 | 0.25 | | | | | | | | | |
| 2-Chloroethyl vinyl ether | < 0.25 | 0.25 | | | | | | | | | |
| 2-Chlorotoluene | < 0.050 | 0.05 | | | | | | | | | |
| 2-Hexanone | < 0.25 | 0.25 | | | | | | | | | |
| 4-Chlorotoluene | < 0.050 | 0.05 | | | | | | | | | |
| 4-Isopropyltoluene | < 0.050 | 0.05 | | | | | | | | | |
| 4-Methyl-2-pentanone | < 0.25 | 0.25 | | | | | | | | | |
| Acetone | < 0.25 | 0.25 | | | | | | | | | |
| Benzene | < 0.050 | 0.05 | | | | | | | | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# Precision Analytical Laboratories, Inc.

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012094
**Project:** Rio Salado/0011236

## QC SUMMARY REPORT
Method Blank

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Bromobenzene | < 0.050 | 0.05 | | | | | | |
| Bromochloromethane | < 0.050 | 0.05 | | | | | | |
| Bromodichloromethane | < 0.050 | 0.05 | | | | | | |
| Bromoform | < 0.050 | 0.05 | | | | | | |
| Bromomethane | < 0.10 | 0.1 | | | | | | |
| Carbon tetrachloride | < 0.050 | 0.05 | | | | | | |
| Chlorobenzene | < 0.050 | 0.05 | | | | | | |
| Chloroethane | < 0.050 | 0.05 | | | | | | |
| Chloroform | < 0.050 | 0.05 | | | | | | |
| Chloromethane | < 0.050 | 0.05 | | | | | | |
| cis-1,2-Dichloroethene | < 0.050 | 0.05 | | | | | | |
| cis-1,3-Dichloropropene | < 0.050 | 0.05 | | | | | | |
| Dibromochloromethane | < 0.050 | 0.05 | | | | | | |
| Dichlorodifluoromethane | < 0.050 | 0.05 | | | | | | |
| Ethylbenzene | < 0.050 | 0.05 | | | | | | |
| m,p-Xylene | < 0.10 | 0.1 | | | | | | |
| Methyl tert-butyl ether | < 0.050 | 0.05 | | | | | | |
| Methylene chloride | < 0.10 | 0.1 | | | | | | |
| n-Butylbenzene | < 0.050 | 0.05 | | | | | | |
| n-Propylbenzene | < 0.050 | 0.05 | | | | | | |
| o-Xylene | < 0.050 | 0.05 | | | | | | |
| sec-Butylbenzene | < 0.050 | 0.05 | | | | | | |
| Styrene | < 0.050 | 0.05 | | | | | | |
| tert-Butylbenzene | < 0.050 | 0.05 | | | | | | |
| Tetrachloroethene | < 0.050 | 0.05 | | | | | | |
| Toluene | < 0.050 | 0.05 | | | | | | |
| trans-1,2-Dichloroethene | < 0.050 | 0.05 | | | | | | |
| trans-1,3-Dichloropropene | < 0.050 | 0.05 | | | | | | |
| Trichloroethene | < 0.050 | 0.05 | | | | | | |
| Trichlorofluoromethane | < 0.050 | 0.05 | | | | | | |
| Vinyl acetate | < 0.050 | 0.05 | | | | | | |
| Vinyl chloride | < 0.050 | 0.05 | | | | | | |
| Surr: 4-Bromofluorobenzene | 2.364 | 0 | 2.5 | 0 | 94.6 | 56.4 | 139 | 0 |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# Precision Analytical Laboratories, Inc.

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012094
**Project:** Rio Salado/0011236

## QC SUMMARY REPORT
Method Blank

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Surr: Dibromofluoromethane | 2.427 | 0 | 2.5 | 0 | 97.1 | 59.7 | 130 | 0 |
| Surr: Toluene-d8 | 2.475 | 0 | 2.5 | 0 | 99 | 57.8 | 138 | 0 |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank



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# Precision Analytical Laboratories, Inc.

**Date:** *11-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012094
**Project:** Rio Salado/0011236

## QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0012093-01AMS** Batch ID: **2543** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/8/00** Prep Date: **12/6/00**
Client ID: Run ID: **MS2_001208B** SeqNo: **59881**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 2.043 | 0.05 | 2.5 | 0 | 81.7 | 49 | 135 | 0 | | | |
| Benzene | 2.018 | 0.05 | 2.5 | 0 | 80.7 | 59 | 137 | 0 | | | |
| Chlorobenzene | 1.931 | 0.05 | 2.5 | 0 | 77.2 | 61 | 131 | 0 | | | |
| Toluene | 2.121 | 0.05 | 2.5 | 0 | 84.8 | 50 | 146 | 0 | | | |
| Trichloroethene | 1.944 | 0.05 | 2.5 | 0 | 77.7 | 55 | 134 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 1.934 | 0 | 2.5 | 0 | 77.4 | 56.4 | 139 | 0 | | | |
| Surr: Dibromofluoromethane | 2.034 | 0 | 2.5 | 0 | 81.4 | 59.7 | 130 | 0 | | | |
| Surr: Toluene-d8 | 2.056 | 0 | 2.5 | 0 | 82.2 | 57.8 | 138 | 0 | | | |

Sample ID: **0012093-01AMSD** Batch ID: **2543** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/8/00** Prep Date: **12/6/00**
Client ID: Run ID: **MS2_001208B** SeqNo: **59882**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 2.103 | 0.05 | 2.5 | 0 | 84.1 | 49 | 135 | 2.043 | 2.89 | 25 | |
| Benzene | 2.052 | 0.05 | 2.5 | 0 | 82.1 | 59 | 137 | 2.018 | 1.62 | 25 | |
| Chlorobenzene | 2.006 | 0.05 | 2.5 | 0 | 80.2 | 61 | 131 | 1.931 | 3.79 | 25 | |
| Toluene | 2.084 | 0.05 | 2.5 | 0 | 83.3 | 50 | 146 | 2.121 | 1.78 | 25 | |
| Trichloroethene | 1.999 | 0.05 | 2.5 | 0 | 79.9 | 55 | 134 | 1.944 | 2.79 | 25 | |
| Surr: 4-Bromofluorobenzene | 1.935 | 0 | 2.5 | 0 | 77.4 | 56.4 | 139 | 1.934 | 0 | 0 | |
| Surr: Dibromofluoromethane | 1.975 | 0 | 2.5 | 0 | 79 | 59.7 | 130 | 2.034 | 0 | 0 | |
| Surr: Toluene-d8 | 2.029 | 0 | 2.5 | 0 | 81.1 | 57.8 | 138 | 2.056 | 0 | 0 | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# Precision Analytical Laboratories, Inc.

**Date:** *11-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012094
**Project:** Rio Salado/0011236

## QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS-2543** Batch ID: **2543** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/6/00** Prep Date: **12/6/00**
Client ID: Run ID: **MS2_001206D** SeqNo: **59878**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 1.926 | 0.05 | 2.5 | 0 | 77 | 49 | 135 | 0 | | | |
| Benzene | 2.3 | 0.05 | 2.5 | 0 | 92 | 59 | 137 | 0 | | | |
| Chlorobenzene | 2.28 | 0.05 | 2.5 | 0 | 91.2 | 61 | 131 | 0 | | | |
| Toluene | 2.34 | 0.05 | 2.5 | 0 | 93.6 | 50 | 146 | 0 | | | |
| Trichloroethene | 2.244 | 0.05 | 2.5 | 0 | 89.8 | 55 | 134 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 2.246 | 0 | 2.5 | 0 | 89.8 | 56.4 | 139 | 0 | | | |
| Surr: Dibromofluoromethane | 2.345 | 0 | 2.5 | 0 | 93.8 | 59.7 | 130 | 0 | | | |
| Surr: Toluene-d8 | 2.373 | 0 | 2.5 | 0 | 94.9 | 57.8 | 138 | 0 | | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# Transwest Geochem, Inc.
## Extraction Log

SURR ID:
AMT ADDED:
SPIKE ID:
AMT ADDED:

DATE: 11-30-00
ANALYST: ZY
METHOD: 8260 / Betx

Bal. 40.0g = 39.999g

| TGI ID | CLIENT ID | WEIGHT | FINAL VOLUME | EXTRACTION TIME | COMMENTS |
|---|---|---|---|---|---|
| RB | | 10g | 10ml | 1:45pm | 8260 |
| LCS | | | | | |
| LCS-d | | | | | |
| 0011236-1 | pilot-11/30-3 | | | | (0.012094) |
| 0011235-6 | TDI-6-13.0 | | | | (0.012093) |
| 0011235-6MS | | | | | |
| -6MSD | | | | | |
| RB | | | | | Betx |
| LCS | | | | | |
| LCS-d | | | | | |
| 0011235-1 | TDI-13-3.0 | | | | |
| -2 | -13-8.0 | | | | |
| -2MS | | | | | |
| -2MSD | | | | | |
| -3 | -13-13.0 | | | | |
| -4 | -6-3.0 | | | | |
| -5 | -6-8.0 | | | | |
| | | 11-30-00 | | ZY | |

TRANSWEST GEOCHEM

# CHAIN-OF-CUSTODY



**Beth Proffitt**
3725 E. Atlanta Avenue
Suite 2
Phoenix, AZ 85040-2960

TEL: (602) 437-0330
FAX: (602) 437-0660

0-012094

**Work Order:** 0011236

**Project:** Rio Salado

**Subcontractor:**
Precision Analytical Laboratories, Inc.
1725 West 17th St.
Tempe, AZ 85281

TEL: (480) 967-1310
FAX: (480) 967-1019

05-Dec-00

| Client Sample ID | TGI ID | Matrix | Collection Date | Containers | Requested Tests | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 8260AZ_S | | | | | | |
| PILOT - 11/30 - 3 | 01D | Soil | 11/30/2000 12:00:00 P | 1 | 1 | | | | | | |

**Comments:** After analysis, the samples do not need to be returned and can be disposed per your standard laboratory practices. Please provide a QC report, including Method Blank data.

| | | Date/Time | | | Date/Time |
|---|---|---|---|---|---|
| **Relinquished by:** | Bill Wathrell | 12/5/00 250 | **Received by:** | [illegible] | 12/6/00 1550 |
| **Relinquished by:** | | | **Received by:** | | |

**TRANSWEST GEOCHEM**

3725 East Atlanta Avenue, Suite 2
Phoenix, Arizona 85040
Phone: (602) 437-0330
Fax: (602) 437-0660

# Chain of Custody

**TGI Work Order No:** 0011236

Date 11/30/00 Page 1 of 1

| | | | |
|---|---|---|---|
| Project Manager: | Brad Johnston | Bill to: | |
| Client Name: | SCS Engineers | Company: | |
| Address: | | Address: | |
| City, State ZIP: | | City, State ZIP: | |
| Phone: | 602-840-2576 | Phone: | |
| Fax: | | Fax: | |

| | |
|---|---|
| P.O. No.: | |
| Project Name: | Rio Salado |
| Project Number: | |

**SAMPLE RECEIPT**

| | | |
|---|---|---|
| Temperature: 18.8 | Ambient / Cold | Ice: |
| Received Intact: | | Absent / Present |
| Custody Seals: | | Wet / Blue |
| Total No. of Containers: | 3 | |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Lab ID | No. of Containers | TPH, (418.1 /418.1AZ) | TPH, 8015AZR.1 | BTEX (8021B) | Volatile Organics GCMS (624/8260AZ) | SDWA Volatiles, (524.2) | Semi-Volatile Organics GCMS (625/8270) | Organochlorine Pesticides (608/8081) | PCB's, (8082) | PAH, EPA 8310 | 8 RCRA Metals | 13 Priority Pollutant Metals | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pilot-11/30-3 | Soil | 11/30 | 1200 | 1 | 3 | | X | | X | | X | | | | | X | 8260 = A<br>8015 = B<br>METALS = C |

VA 11/30/00

| Relinquished by: (Signature) | (Print Name) | Date/Time | Received by: (Signature) | (Print Name) | Date/Time |
|---|---|---|---|---|---|
| 1 | Anab Salam | 11/30 1310 | | Vic Nieken | 11/30/00 1310 |
| 2 | | | | | |
| 3 | | | | | |

White copy to TGI, Yellow copy for final report, Pink copy to sampler

Revised: 6/29/00

**TRANSWEST GEOCHEM**

**Amended Report**

December 29, 2000

Brad Johnston
SCS Engineers
2702 N. 44th St., Suite 105B
Phoenix, AZ 85008

RE: Rio Salado
Work Order No.: 0012009

Dear Brad,

Transwest Geochem, Inc. received 1 sample on 12/1/2000 2:35:00 PM for the analyses presented in the following report.

The Case Narrative of this report addresses any Quality Control and/or Quality Assurance issues associated with this Work Order.

If you have any questions regarding these test results, please feel free to call us at (602) 437-0330.

Sincerely,

Beth Proffitt
Project Manager

ADHS License No. AZM133/AZ0133

3725 E. Atlanta Ave. • Suite 2 • Phoenix, Arizona 85040 • (602) 437-0330 • 1-800-927-5183 • Fax (602) 437-0660

Amended Report

Date Printed: 29-Dec-00

**Client:** SCS Engineers
**Work Order:** 0012009
**Project Name:** Rio Salado
**Project Number:**

# CASE NARRATIVE

Transwest Geochem, Inc. uses the methods outlined in the following references:

Code of Federal Regulations, 40CFR, Part 136, Revised July 1995.

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, Revised August 1993.

Methods for the Determination of Metals in Environmental Samples, EPA/600/R-94/111, Revised May 1994.

Hach, Water Analysis Handbook, 2nd Edition, 1992.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

Metals were analyzed using multi-element ICP instrumentation. Some metals reported in the QC report may not be associated with this Work Order.

Secondary Source QC Sample (LCSV) results may not be reported for all methods and/or analysis dates.

The sample introduction technique for Method 8015AZ used by this laboratory is direct injection.

All method blanks, laboratory spikes, and/or matrix spikes met quality control objectives for the parameters associated with this Work Order.

Data qualifiers ("flags") contained within this analytical report have been issued to explain a quality control deficiency, and do not affect the quality (validity) of the data unless noted otherwise in the case narrative.

The total Antimony recovery was low in the MS/MSD; total Lead was low in the MS. The LCS for both metals wass within TGI acceptance criteria. A Post-Digestion Spike was succesfully performed on both Antimony and Lead.



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Amended Report

Date Printed: 29-Dec-00

**Client:** SCS Engineers
**Work Order:** 0012009
**Project Name:** Rio Salado
**Project Number:**

# CASE NARRATIVE

The RPD for N-nitrosodi-n-propylamine in the Matrix Spike/Matrix Spike Duplicate (which was analyzed with your sample for EPA Method 8270C) was above TGI acceptance criteria. The RPD for this compound in the LCS and its duplicate are within method and TGI acceptance criteria.



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TRANSWEST GEOCHEM

Amended Report

Date Printed 28-Dec-00

License No. AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado
**Project Number:**
**Work Order:** 0012009
**Date Received:** 01-Dec-00

# Work Order Sample Summary

| Client Sample ID | Lab Sample ID | Test Code | Collection Date |
|---|---|---|---|
| Pilot - 12/1 - 4 | 0012009-01A | 8015AZ | 12/1/2000 2:15:00 PM |
| | | SW8270C | 12/1/2000 2:15:00 PM |
| | 0012009-01C | SW1311/6010B | 12/1/2000 2:15:00 PM |
| | | SW1311/7470A | 12/1/2000 2:15:00 PM |
| | | SW6010B | 12/1/2000 2:15:00 PM |
| | | SW7471A | 12/1/2000 2:15:00 PM |
| | 0012009-01D | | 12/1/2000 2:15:00 PM |

TRANSWEST GEOCHEM

**Amended Report**

**Date Printed** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado
**Project Number:**
**Work Order:** 0012009
**Date Received:** 01-Dec-00

# Data Qualifiers

One or more of the following data qualifiers may be associated with your analytical and/or quality control data.

| | |
|---|---|
| M2 | Matrix spike recovery was low, the method control sample recovery was acceptable. |
| R | RPD outside acceptance criteria. |
| R1 | RPD exceeded the method control limit. See case narrative. |
| R2 | RPD exceeded the laboratory control limit. See case narrative. |
| S | Spike or Surrogate recovery outside acceptance criteria. |
| S9 | The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria. The method control sample recovery was acceptable. |

TRANSWEST GEOCHEM

Amended Report

Date Printed 28-Dec-00

License No. AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado
**Project Number:**
**Work Order:** 0012009
**Date Received:** 01-Dec-00

# Definitions

| | |
|---|---|
| Analytical Spike (AS) | The AS is a known amount of a target analyte added to a sample after it has been distilled, digested, or extracted and is ready for analysis. The AS is generally performed if the MS has failed. It is used to indicate interference that arises from sample distillation, digestion, or extraction as opposed to interference that is innate to the matrix. |
| Continuing Curve Verification (CCV) | The CCV is also referred to as a curve check. This is a standard analyzed at specified intervals during an analysis. The CCV verifies the stability and accuracy of the calibration curve. There are specific CCV recovery acceptance criteria for each method. |
| Dilution Factor (DF) | The DF is an indication of how much a sample had to be diluted in order to quantitate it on a standard curve. The DF is indicated in the reported sample result. The sample PQL increases as the dilution increases. |
| Internal Standard (IS) | The IS is a compound that is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. The same concentration of IS is added to every sample for some organic methods. |
| Laboratory Control Sample (LCS) | The LCS is also referred to as a blank spike. The LCS is an addition of a known amount of a target analyte (from the same source as calibration standards or spikes) to an aliquot of deionized water or other appropriate clean matrix. The LCS is processed through the entire method procedure in the same manner as samples. |
| Matrix Spike (MS) | The MS is a known amount of a target analyte added to a sample. The MS is processed through the entire method procedure in the same manner as samples. |
| Method Blank (MB) | The MB is an aliquot of deionized water or other appropriate clean matrix that is thought to be free of the analyte in question. The MB is processed through the entire extraction or analysis procedure and is used to indicate contamination in the lab. |
| Method Detection Limit (MDL) | The MDL is the lowest level of detection of which a method is capable. |
| Practical Quantitation Limit (PQL) | The PQL is the lowest value at which Transwest Geochem can detect an analyte in matrix with a high degree of confidence. The PQL will increase as the DF increases. The PQL is greater than or equal to the MDL. |
| Relative Percent Difference (RPD) | The RPD is a measure of precision (the ability to obtain the same result on re-analysis of the same sample). It is calculated using the result of a sample, MS, LCS, or LCSV and its associated duplicate result. |
| Secondary Source QC Sample (LCSV) | The LCSV is also referred to as a second source laboratory control sample. It is the same type of standard as a calibration or spiking standard but is obtained from a different source. The LCSV is an indication of the primary standard quality, method performance, and instrument performance. |
| Surrogate | A surrogate compound is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. When surrogates are used, they are added to every sample, blank and standard. Surrogate recovery is used as an indication of extraction and/or analytical success. |
| Trip Blank (TB) | The TB is a portion of deionized water preserved in the same manner as the samples. The TB travels from the lab, to the field, and then back to the lab with the samples from the field. The TB serves as an indication of contamination introduced during sample transportation. |

TRANSWEST GEOCHEM

**Amended Report**

**Date Printed** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012009
**Lab ID:** 0012009-01
**Project Name:** Rio Salado
**Project Number:**

**Client Sample ID:** Pilot - 12/1 - 4
**Collection Date:** 12/1/2000 2:15:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 GRO | <20 | 20 | | mg/Kg | 1 | 8015AZ | 12/1/2000 | 12/2/00 10:42 am | JH | FUELS1_001201A |
| C10-C22 DRO | <30 | 30 | | mg/Kg | 1 | 8015AZ | 12/1/2000 | 12/2/00 10:42 am | JH | FUELS1_001201A |
| C22-C32 ORO | 140 | 100 | | mg/Kg | 1 | 8015AZ | 12/1/2000 | 12/2/00 10:42 am | JH | FUELS1_001201A |
| C10-C32 SRL | 140 | 130 | | mg/Kg | 1 | 8015AZ | 12/1/2000 | 12/2/00 10:42 am | JH | FUELS1_001201A |
| o-Terphenyl (Surrogate) | 107 | 65-123 | | %REC | 1 | 8015AZ | 12/1/2000 | 12/2/00 10:42 am | JH | FUELS1_001201A |
| Arsenic | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/12/2000 | 12/12/00 | MR | 3820 |
| Barium | <1.0 | 1.0 | | mg/L | 1 | SW1311/6010B | 12/12/2000 | 12/12/00 | MR | 3820 |
| Cadmium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/12/2000 | 12/12/00 | MR | 3820 |
| Chromium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/12/2000 | 12/12/00 | MR | 3820 |
| Lead | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/12/2000 | 12/12/00 | MR | 3820 |
| Selenium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/12/2000 | 12/13/00 | MR | 3820B |
| Silver | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/12/2000 | 12/13/00 | MR | 3820B |
| Mercury | <0.0020 | 0.0020 | | mg/L | 1 | SW1311/7470A | 12/13/2000 | 12/13/00 | TL | 3829 |
| Antimony | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Arsenic | 7.3 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Beryllium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Cadmium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Chromium | 15 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/15/00 | MR | 3830A |
| Copper | 21 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Lead | 45 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Nickel | 18 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/15/00 | MR | 3830A |
| Selenium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Silver | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Thallium | <10 | 10 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Zinc | 130 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 12/6/2000 | 12/6/00 | TL | 3806 |



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TRANSWEST GEOCHEM

**Amended Report**

**Date Printed** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012009
**Lab ID:** 0012009-01
**Project Name:** Rio Salado
**Project Number:**

**Client Sample ID:** Pilot - 12/1 - 4
**Collection Date:** 12/1/2000 2:15:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Acenaphthylene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Aniline | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Anthracene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Azobenzene | <2.0 | 2.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Benz[a]anthracene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Benzo[a]pyrene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Benzo[b]fluoranthene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Benzo[g,h,i]perylene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Benzo[k]fluoranthene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Benzoic acid | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Benzyl alcohol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Bis(2-chloroethoxy)methane | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Bis(2-chloroethyl)ether | <1.8 | 1.8 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Bis(2-chloroisopropyl)ether | <2.0 | 2.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Bis(2-ethylhexyl)phthalate | <2.0 | 2.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 4-Bromophenyl phenyl ether | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Butyl benzyl phthalate | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Carbazole | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 4-Chloro-3-methylphenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 4-Chloroaniline | <1.8 | 1.8 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 2-Chloronaphthalene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 2-Chlorophenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 4-Chlorophenyl phenyl ether | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Chrysene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Di-n-butyl phthalate | <1.8 | 1.8 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Di-n-octyl phthalate | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Dibenz[a,h]anthracene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Dibenzo[a,i]pyrene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Dibenzofuran | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 1,2-Dichlorobenzene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 1,3-Dichlorobenzene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 1,4-Dichlorobenzene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 2,4-Dichlorophenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Diethyl phthalate | <1.8 | 1.8 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Dimethyl phthalate | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 2,4-Dimethylphenol | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 4,6-Dinitro-2-methylphenol | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 2,4-Dinitrophenol | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 2,4-Dinitrotoluene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 2,6-Dinitrotoluene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Fluoranthene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Fluorene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Hexachlorobenzene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |



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**TRANSWEST GEOCHEM**

**Amended Report**

**Date Printed** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012009
**Lab ID:** 0012009-01
**Project Name:** Rio Salado
**Project Number:**

**Client Sample ID:** Pilot - 12/1 - 4
**Collection Date:** 12/1/2000 2:15:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Hexachlorobutadiene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Hexachlorocyclopentadiene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Hexachloroethane | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Indeno[1,2,3-cd]pyrene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Isophorone | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 2-Methylnaphthalene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 2-Methylphenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 4-Methylphenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| N-Nitrosodi-n-propylamine | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| N-Nitrosodimethylamine | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| N-Nitrosodiphenylamine | <1.8 | 1.8 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Naphthalene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 2-Nitroaniline | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 3-Nitroaniline | <2.8 | 2.8 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 4-Nitroaniline | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Nitrobenzene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 2-Nitrophenol | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 4-Nitrophenol | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Pentachlorophenol | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Phenanthrene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Phenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Pyrene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 1,2,4-Trichlorobenzene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 2,4,5-Trichlorophenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 2,4,6-Trichlorophenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 2-Chlorophenol-d4 (Surrogate) | 34 | 20-130 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 1,2-Dichlorobenzene-d4 (Surrogate) | 31 | 20-130 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 2-Fluorobiphenyl (Surrogate) | 40 | 30-115 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 2-Fluorophenol (Surrogate) | 21 | 25-121 | S9 | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Nitrobenzene-d5 (Surrogate) | 30 | 23-120 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| Phenol-d6 (Surrogate) | 33 | 24-113 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 4-Terphenyl-d14 (Surrogate) | 54 | 18-137 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |
| 2,4,6-Tribromophenol (Surrogate) | 18 | 19-122 | S9 | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 1:41 pm | MHH | 3802 |



**Confidential and Privileged**

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012009
**Project:** Rio Salado

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 GRO | <20 | 20 | | mg/Kg | 1 | 8015AZ | 12/1/00 | 12/1/00 11:36 am | JH | FUELS1_001201A |
| C10-C22 DRO | <30 | 30 | | mg/Kg | 1 | 8015AZ | 12/1/00 | 12/1/00 11:36 am | JH | FUELS1_001201A |
| C22-C32 ORO | <100 | 100 | | mg/Kg | 1 | 8015AZ | 12/1/00 | 12/1/00 11:36 am | JH | FUELS1_001201A |
| C10-C32 SRL | <130 | 130 | | mg/Kg | 1 | 8015AZ | 12/1/00 | 12/1/00 11:36 am | JH | FUELS1_001201A |
| o-Terphenyl | 94 | 65-123 | | %REC | 1 | 8015AZ | 12/1/00 | 12/1/00 11:36 am | JH | FUELS1_001201A |
| Arsenic | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/12/00 | 12/12/00 | MR | 3820 |
| Barium | <1.0 | 1.0 | | mg/L | 1 | SW1311/6010B | 12/12/00 | 12/12/00 | MR | 3820 |
| Cadmium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/12/00 | 12/12/00 | MR | 3820 |
| Chromium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/12/00 | 12/12/00 | MR | 3820 |
| Lead | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/12/00 | 12/12/00 | MR | 3820 |
| Selenium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/12/00 | 12/13/00 | MR | 3820B |
| Silver | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/12/00 | 12/13/00 | MR | 3820B |
| Mercury | <0.0020 | 0.0020 | | mg/L | 1 | SW1311/7470A | 12/13/00 | 12/13/00 | TL | 3829 |
| Antimony | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Arsenic | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Beryllium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Cadmium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Copper | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Lead | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Selenium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Silver | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Thallium | <10 | 10 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Zinc | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Chromium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/15/00 | MR | 3830A |
| Nickel | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/15/00 | MR | 3830A |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 12/6/00 | 12/6/00 | TL | 3806 |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012009
**Project:** Rio Salado

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Acenaphthylene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Aniline | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Anthracene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Azobenzene | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benz[a]anthracene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzo[a]pyrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzo[b]fluoranthene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzo[g,h,i]perylene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzo[k]fluoranthene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzoic acid | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzyl alcohol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Bis(2-chloroethoxy)methane | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Bis(2-chloroethyl)ether | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Bis(2-chloroisopropyl)ether | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Bis(2-ethylhexyl)phthalate | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Bromophenyl phenyl ether | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Butyl benzyl phthalate | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Carbazole | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Chloro-3-methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Chloroaniline | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Chloronaphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Chlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Chlorophenyl phenyl ether | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Chrysene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Di-n-butyl phthalate | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Di-n-octyl phthalate | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Dibenz[a,h]anthracene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Dibenzo[a,i]pyrene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Dibenzofuran | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,2-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,3-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,4-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4-Dichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Diethyl phthalate | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Dimethyl phthalate | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4-Dimethylphenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4,6-Dinitro-2-methylphenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4-Dinitrophenol | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4-Dinitrotoluene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,6-Dinitrotoluene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Fluoranthene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Fluorene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Hexachlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Hexachlorobutadiene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012009
**Project:** Rio Salado

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Hexachlorocyclopentadiene | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Hexachloroethane | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Indeno[1,2,3-cd]pyrene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Isophorone | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Methylnaphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| N-Nitrosodi-n-propylamine | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| N-Nitrosodimethylamine | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| N-Nitrosodiphenylamine | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Naphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Nitroaniline | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 3-Nitroaniline | <0.18 | 0.18 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Nitroaniline | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Nitrobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Nitrophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Nitrophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Pentachlorophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Phenanthrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Phenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Pyrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,2,4-Trichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4,5-Trichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4,6-Trichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Chlorophenol-d4 | 72 | 20-130 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,2-Dichlorobenzene-d4 | 70 | 20-130 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Fluorobiphenyl | 74 | 30-115 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Fluorophenol | 67 | 25-121 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Nitrobenzene-d5 | 63 | 23-120 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Phenol-d6 | 69 | 24-113 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Terphenyl-d14 | 78 | 18-137 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4,6-Tribromophenol | 62 | 19-122 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012009
**Project:** Rio Salado

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0011232-03AS** | Batch ID: FUELS1_001201A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/1/00 4:35 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/1/00 | | | |
| C10-C22 DRO | 477 | 30 | 500 | <30 | 95% | 65 | 121 | | | | |
| o-Terphenyl | 9.74 | N/A | 10.0 | N/A | 97% | 65 | 123 | | | | |
| Sample ID: **0011232-03ASD** | Batch ID: FUELS1_001201A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/1/00 5:26 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/1/00 | | | |
| C10-C22 DRO | 484 | 30 | 500 | <30 | 97% | 65 | 121 | 477 | 1% | 20 | |
| o-Terphenyl | 9.86 | N/A | 10.0 | N/A | 99% | 65 | 123 | | | | |
| Sample ID: **9992068-01ASD** | Batch ID: 3820 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/12/00 | | | |
| Arsenic | 1.025 | 0.50 | 1.000 | <0.50 | 103% | 75 | 125 | 0.8588 | 18% | 20 | |
| Barium | 11.17 | 1.0 | 11.00 | <1.0 | 102% | 75 | 125 | 9.595 | 15% | 20 | |
| Cadmium | 0.9700 | 0.50 | 1.000 | <0.50 | 97% | 75 | 125 | 0.8259 | 16% | 20 | |
| Chromium | 0.9594 | 0.50 | 1.000 | <0.50 | 96% | 75 | 125 | 0.8246 | 15% | 20 | |
| Lead | 0.9881 | 0.50 | 1.000 | <0.50 | 99% | 75 | 125 | 0.8596 | 14% | 20 | |
| Sample ID: **9992068-01AS** | Batch ID: 3820 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/12/00 | | | |
| Arsenic | 0.8588 | 0.50 | 1.000 | <0.50 | 86% | 75 | 125 | | | | |
| Barium | 9.595 | 1.0 | 11.00 | <1.0 | 87% | 75 | 125 | | | | |
| Cadmium | 0.8259 | 0.50 | 1.000 | <0.50 | 83% | 75 | 125 | | | | |
| Chromium | 0.8246 | 0.50 | 1.000 | <0.50 | 82% | 75 | 125 | | | | |
| Lead | 0.8596 | 0.50 | 1.000 | <0.50 | 86% | 75 | 125 | | | | |
| Sample ID: **9992068-01ASD** | Batch ID: 3820B | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/12/00 | | | |
| Selenium | 1.071 | 0.50 | 1.000 | <0.50 | 107% | 75 | 125 | 1.143 | 7% | 20 | |
| Silver | <0.50 | 0.50 | 0.5000 | <0.50 | 0% | 75 | 125 | <0.50 | 0% | 20 | |
| Sample ID: **9992068-01AS** | Batch ID: 3820B | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/12/00 | | | |
| Selenium | 1.143 | 0.50 | 1.000 | <0.50 | 114% | 75 | 125 | | | | |
| Silver | <0.50 | 0.50 | 0.5000 | <0.50 | 0% | 75 | 125 | | | | |
| Sample ID: **0012068-01ASD** | Batch ID: 3829 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/13/00 | | | |
| Mercury | 0.01031 | 0.0020 | 0.01000 | <0.0020 | 103% | 85 | 115 | 0.01055 | 2% | 20 | |
| Sample ID: **0012068-01AS** | Batch ID: 3829 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/13/00 | | | |
| Mercury | 0.01055 | 0.0020 | 0.01000 | <0.0020 | 106% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012009
**Project:** Rio Salado

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012009-01CSD** | Batch ID: 3830 | | | Test Code: SW6010B | | | | Date Analyzed: 12/14/00 | | | |
| Client ID: **Pilot - 12/1 - 4** | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Antimony | 22.85 | 5.0 | 50.00 | <5.0 | 46% | 75 | 125 | 21.90 | 4% | 20 | M2 |
| Arsenic | 54.34 | 5.0 | 50.00 | 7.294 | 94% | 75 | 125 | 57.51 | 6% | 20 | |
| Beryllium | 46.20 | 2.5 | 50.00 | <2.5 | 92% | 75 | 125 | 47.62 | 3% | 20 | |
| Cadmium | 46.46 | 2.5 | 50.00 | <2.5 | 93% | 75 | 125 | 48.30 | 4% | 20 | |
| Copper | 77.95 | 5.0 | 50.00 | 20.69 | 115% | 75 | 125 | 77.71 | 0% | 20 | |
| Lead | 94.00 | 5.0 | 50.00 | 45.14 | 98% | 75 | 125 | 132.0 | 34% | 20 | R1 |
| Selenium | 44.59 | 5.0 | 50.00 | <5.0 | 89% | 75 | 125 | 48.28 | 8% | 20 | |
| Silver | 22.94 | 5.0 | 25.00 | <5.0 | 92% | 75 | 125 | 23.30 | 2% | 20 | |
| Thallium | 44.96 | 10 | 50.00 | <10 | 90% | 75 | 125 | 45.70 | 2% | 20 | |
| Zinc | 619.8 | 5.0 | 550.0 | 133.0 | 89% | 75 | 125 | 641.2 | 3% | 20 | |
| Sample ID: **0012009-01CS** | Batch ID: 3830 | | | Test Code: SW6010B | | | | Date Analyzed: 12/14/00 | | | |
| Client ID: **Pilot - 12/1 - 4** | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Antimony | 21.90 | 5.0 | 50.00 | <5.0 | 44% | 75 | 125 | | | | M2 |
| Arsenic | 57.51 | 5.0 | 50.00 | 7.294 | 100% | 75 | 125 | | | | |
| Beryllium | 47.62 | 2.5 | 50.00 | <2.5 | 95% | 75 | 125 | | | | |
| Cadmium | 48.30 | 2.5 | 50.00 | <2.5 | 97% | 75 | 125 | | | | |
| Copper | 77.71 | 5.0 | 50.00 | 20.69 | 114% | 75 | 125 | | | | |
| Lead | 132.0 | 5.0 | 50.00 | 45.14 | 174% | 75 | 125 | | | | M2 |
| Selenium | 48.28 | 5.0 | 50.00 | <5.0 | 97% | 75 | 125 | | | | |
| Silver | 23.30 | 5.0 | 25.00 | <5.0 | 93% | 75 | 125 | | | | |
| Thallium | 45.70 | 10 | 50.00 | <10 | 91% | 75 | 125 | | | | |
| Zinc | 641.2 | 5.0 | 550.0 | 133.0 | 92% | 75 | 125 | | | | |
| Sample ID: **0012009-01CS** | Batch ID: 3830A | | | Test Code: SW6010B | | | | Date Analyzed: 12/15/00 | | | |
| Client ID: **Pilot - 12/1 - 4** | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Chromium | 65.31 | 5.0 | 50.00 | 14.67 | 101% | 75 | 125 | | | | |
| Nickel | 67.49 | 5.0 | 50.00 | 17.60 | 100% | 75 | 125 | | | | |
| Sample ID: **0012009-01CSD** | Batch ID: 3830A | | | Test Code: SW6010B | | | | Date Analyzed: 12/15/00 | | | |
| Client ID: **Pilot - 12/1 - 4** | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Chromium | 68.35 | 5.0 | 50.00 | 14.67 | 107% | 75 | 125 | 65.31 | 5% | 20 | |
| Nickel | 65.29 | 5.0 | 50.00 | 17.60 | 95% | 75 | 125 | 67.49 | 3% | 20 | |
| Sample ID: **0012009-01CSD** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| Client ID: **Pilot - 12/1 - 4** | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.309 | 0.083 | 1.250 | <0.083 | 105% | 85 | 115 | 1.417 | 8% | 20 | |
| Sample ID: **0012009-01CS** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| Client ID: **Pilot - 12/1 - 4** | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.417 | 0.083 | 1.250 | <0.083 | 113% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012009
**Project:** Rio Salado

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0011208-04ASD** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.283 | 0.083 | 1.250 | <0.083 | 103% | 85 | 115 | 1.213 | 6% | 20 | |
| Sample ID: **0011208-04AS** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.213 | 0.083 | 1.250 | <0.083 | 97% | 85 | 115 | | | | |
| Sample ID: **0012023-01A-MS** | Batch ID: 3802 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 8:13 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Acenaphthene | 1.495 | N/A | 2.000 | 0.000 | 75% | 57 | 101 | | | | |
| 4-Chloro-3-methylphenol | 1.550 | 1.5 | 2.000 | <1.5 | 77% | 49 | 108 | | | | |
| 2-Chlorophenol | 1.135 | N/A | 2.000 | 0.000 | 57% | 49 | 98 | | | | |
| 1,4-Dichlorobenzene | 1.055 | N/A | 2.000 | 0.000 | 53% | 41 | 100 | | | | |
| 2,4-Dinitrotoluene | 1.690 | N/A | 2.000 | 0.000 | 84% | 50 | 120 | | | | |
| N-Nitrosodi-n-propylamine | 0.7900 | N/A | 2.000 | 0.000 | 39% | 43 | 104 | | | | M2 |
| 4-Nitrophenol | 1.730 | N/A | 2.000 | 0.000 | 86% | 55 | 117 | | | | |
| Pentachlorophenol | 1.360 | N/A | 2.000 | 0.000 | 68% | 45 | 115 | | | | |
| Phenol | 1.225 | N/A | 2.000 | 0.000 | 61% | 50 | 100 | | | | |
| Pyrene | 1.860 | 1.5 | 2.000 | <1.5 | 93% | 59 | 120 | | | | |
| 1,2,4-Trichlorobenzene | 1.205 | N/A | 2.000 | 0.000 | 60% | 43 | 102 | | | | |
| 2-Chlorophenol-d4 | 1.700 | N/A | 3.000 | N/A | 57% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 1.085 | N/A | 2.000 | N/A | 54% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 1.370 | N/A | 2.000 | N/A | 68% | 30 | 115 | | | | |
| 2-Fluorophenol | 1.280 | N/A | 3.000 | N/A | 43% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 1.165 | N/A | 2.000 | N/A | 58% | 23 | 120 | | | | |
| Phenol-d6 | 1.835 | N/A | 3.000 | N/A | 61% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 1.845 | N/A | 2.000 | N/A | 92% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 1.825 | N/A | 3.000 | N/A | 61% | 19 | 122 | | | | |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012009
**Project:** Rio Salado

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012023-01A-MS** | Batch ID: 3802 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 9:09 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Acenaphthene | 1.645 | N/A | 2.000 | 0.000 | 82% | 57 | 101 | 1.495 | 10% | 19 | |
| 4-Chloro-3-methylphenol | 1.690 | 1.5 | 2.000 | <1.5 | 84% | 49 | 108 | 1.550 | 9% | 33 | |
| 2-Chlorophenol | 1.305 | N/A | 2.000 | 0.000 | 65% | 49 | 98 | 1.135 | 14% | 50 | |
| 1,4-Dichlorobenzene | 1.220 | N/A | 2.000 | 0.000 | 61% | 41 | 100 | 1.055 | 15% | 27 | |
| 2,4-Dinitrotoluene | 1.885 | N/A | 2.000 | 0.000 | 94% | 50 | 120 | 1.690 | 11% | 47 | |
| N-Nitrosodi-n-propylamine | 1.390 | N/A | 2.000 | 0.000 | 69% | 43 | 104 | 0.7900 | 55% | 38 | R2 |
| 4-Nitrophenol | 1.885 | N/A | 2.000 | 0.000 | 94% | 55 | 117 | 1.730 | 9% | 50 | |
| Pentachlorophenol | 1.355 | N/A | 2.000 | 0.000 | 68% | 45 | 115 | 1.360 | 0% | 47 | |
| Phenol | 1.355 | N/A | 2.000 | 0.000 | 68% | 50 | 100 | 1.225 | 10% | 35 | |
| Pyrene | 2.100 | 1.5 | 2.000 | <1.5 | 105% | 59 | 120 | 1.860 | 12% | 36 | |
| 1,2,4-Trichlorobenzene | 1.325 | N/A | 2.000 | 0.000 | 66% | 43 | 102 | 1.205 | 9% | 23 | |
| 2-Chlorophenol-d4 | 1.810 | N/A | 3.000 | N/A | 60% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 1.115 | N/A | 2.000 | N/A | 56% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.09500 | N/A | 2.000 | N/A | 5% | 30 | 115 | | | | S9 |
| 2-Fluorophenol | 1.475 | N/A | 3.000 | N/A | 49% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 1.235 | N/A | 2.000 | N/A | 62% | 23 | 120 | | | | |
| Phenol-d6 | 1.930 | N/A | 3.000 | N/A | 64% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 1.945 | N/A | 2.000 | N/A | 97% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 2.130 | N/A | 3.000 | N/A | 71% | 19 | 122 | | | | |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012009
**Project:** Rio Salado

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LFB SOIL** | Batch ID: FUELS1_001201A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/1/00 12:24 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/1/00 | | | |
| C10-C22 DRO | 470 | 30 | 500 | <30 | 94% | 78 | 111 | | | | |
| o-Terphenyl | 10.5 | N/A | 10.0 | N/A | 105% | 65 | 123 | | | | |
| Sample ID: **LCSD-3820** | Batch ID: 3820 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/12/00 | | | |
| Arsenic | 1.050 | 0.50 | 1.000 | <0.50 | 105% | 85 | 115 | 0.9797 | 7% | 20 | |
| Barium | 10.88 | 1.0 | 11.00 | <1.0 | 99% | 85 | 115 | 10.58 | 3% | 20 | |
| Cadmium | 0.9669 | 0.50 | 1.000 | <0.50 | 97% | 85 | 115 | 0.9306 | 4% | 20 | |
| Chromium | 0.9466 | 0.50 | 1.000 | <0.50 | 95% | 85 | 115 | 0.9180 | 3% | 20 | |
| Lead | 0.9235 | 0.50 | 1.000 | <0.50 | 92% | 85 | 115 | 0.8847 | 4% | 20 | |
| Sample ID: **LCS-3820** | Batch ID: 3820 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/12/00 | | | |
| Arsenic | 0.9797 | 0.50 | 1.000 | <0.50 | 98% | 85 | 115 | | | | |
| Barium | 10.58 | 1.0 | 11.00 | <1.0 | 96% | 85 | 115 | | | | |
| Cadmium | 0.9306 | 0.50 | 1.000 | <0.50 | 93% | 85 | 115 | | | | |
| Chromium | 0.9180 | 0.50 | 1.000 | <0.50 | 92% | 85 | 115 | | | | |
| Lead | 0.8847 | 0.50 | 1.000 | <0.50 | 88% | 85 | 115 | | | | |
| Sample ID: **LCSD-3820** | Batch ID: 3820B | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/12/00 | | | |
| Selenium | 1.050 | 0.50 | 1.000 | <0.50 | 105% | 85 | 115 | 1.020 | 3% | 20 | |
| Silver | <0.50 | 0.50 | 0.5000 | <0.50 | 0% | 85 | 115 | <0.50 | 0% | 20 | |
| Sample ID: **LCS-3820** | Batch ID: 3820B | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/12/00 | | | |
| Selenium | 1.020 | 0.50 | 1.000 | <0.50 | 102% | 85 | 115 | | | | |
| Silver | <0.50 | 0.50 | 0.5000 | <0.50 | 0% | 85 | 115 | | | | |
| Sample ID: **LCS-3829** | Batch ID: 3829 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/13/00 | | | |
| Mercury | 0.01082 | 0.0020 | 0.01000 | <0.0020 | 108% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012009
**Project:** Rio Salado

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCSD-3830** | Batch ID: 3830 | | | Test Code: SW6010B | | | | Date Analyzed: 12/14/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Antimony | 45.63 | 5.0 | 50.00 | <5.0 | 91% | 85 | 115 | 46.67 | 2% | 20 | |
| Arsenic | 48.44 | 5.0 | 50.00 | <5.0 | 97% | 85 | 115 | 50.58 | 4% | 20 | |
| Beryllium | 46.71 | 2.5 | 50.00 | <2.5 | 93% | 85 | 115 | 47.66 | 2% | 20 | |
| Cadmium | 48.10 | 2.5 | 50.00 | <2.5 | 96% | 85 | 115 | 49.13 | 2% | 20 | |
| Copper | 48.41 | 5.0 | 50.00 | <5.0 | 97% | 85 | 115 | 49.63 | 2% | 20 | |
| Lead | 49.07 | 5.0 | 50.00 | <5.0 | 98% | 85 | 115 | 50.37 | 3% | 20 | |
| Selenium | 47.41 | 5.0 | 50.00 | <5.0 | 95% | 85 | 115 | 50.09 | 5% | 20 | |
| Silver | 22.37 | 5.0 | 25.00 | <5.0 | 89% | 85 | 115 | 22.14 | 1% | 20 | |
| Thallium | 48.45 | 10 | 50.00 | <10 | 97% | 85 | 115 | 49.45 | 2% | 20 | |
| Zinc | 523.2 | 5.0 | 550.0 | <5.0 | 95% | 85 | 115 | 522.1 | 0% | 20 | |
| Sample ID: **LCS-3830** | Batch ID: 3830 | | | Test Code: SW6010B | | | | Date Analyzed: 12/14/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Antimony | 46.67 | 5.0 | 50.00 | <5.0 | 93% | 85 | 115 | | | | |
| Arsenic | 50.58 | 5.0 | 50.00 | <5.0 | 101% | 85 | 115 | | | | |
| Beryllium | 47.66 | 2.5 | 50.00 | <2.5 | 95% | 85 | 115 | | | | |
| Cadmium | 49.13 | 2.5 | 50.00 | <2.5 | 98% | 85 | 115 | | | | |
| Copper | 49.63 | 5.0 | 50.00 | <5.0 | 99% | 85 | 115 | | | | |
| Lead | 50.37 | 5.0 | 50.00 | <5.0 | 101% | 85 | 115 | | | | |
| Selenium | 50.09 | 5.0 | 50.00 | <5.0 | 100% | 85 | 115 | | | | |
| Silver | 22.14 | 5.0 | 25.00 | <5.0 | 89% | 85 | 115 | | | | |
| Thallium | 49.45 | 10 | 50.00 | <10 | 99% | 85 | 115 | | | | |
| Zinc | 522.1 | 5.0 | 550.0 | <5.0 | 95% | 85 | 115 | | | | |
| Sample ID: **LCSD-3830** | Batch ID: 3830A | | | Test Code: SW6010B | | | | Date Analyzed: 12/15/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Chromium | 52.64 | 5.0 | 50.00 | <5.0 | 105% | 85 | 115 | 56.43 | 7% | 20 | |
| Nickel | 50.92 | 5.0 | 50.00 | <5.0 | 102% | 85 | 115 | 52.47 | 3% | 20 | |
| Sample ID: **LCS-3830** | Batch ID: 3830A | | | Test Code: SW6010B | | | | Date Analyzed: 12/15/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Chromium | 56.43 | 5.0 | 50.00 | <5.0 | 113% | 85 | 115 | | | | |
| Nickel | 52.47 | 5.0 | 50.00 | <5.0 | 105% | 85 | 115 | | | | |
| Sample ID: **LCS-3806** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.313 | 0.083 | 1.250 | <0.083 | 105% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012009
**Project:** Rio Salado

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCS-3802** | Batch ID: 3802 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 4:14 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Acenaphthene | 0.5337 | 0.10 | 0.6667 | <0.10 | 80% | 57 | 101 | | | | |
| 4-Chloro-3-methylphenol | 0.5433 | 0.10 | 0.6667 | <0.10 | 81% | 49 | 108 | | | | |
| 2-Chlorophenol | 0.5237 | 0.10 | 0.6667 | <0.10 | 79% | 49 | 98 | | | | |
| 1,4-Dichlorobenzene | 0.5123 | 0.10 | 0.6667 | <0.10 | 77% | 41 | 100 | | | | |
| 2,4-Dinitrotoluene | 0.5330 | 0.17 | 0.6667 | <0.17 | 80% | 50 | 120 | | | | |
| N-Nitrosodi-n-propylamine | 0.5283 | 0.10 | 0.6667 | <0.10 | 79% | 43 | 104 | | | | |
| 4-Nitrophenol | 0.3917 | 0.17 | 0.6667 | <0.17 | 59% | 55 | 117 | | | | |
| Pentachlorophenol | 0.4757 | 0.17 | 0.6667 | <0.17 | 71% | 45 | 115 | | | | |
| Phenol | 0.5327 | 0.10 | 0.6667 | <0.10 | 80% | 50 | 100 | | | | |
| Pyrene | 0.5877 | 0.10 | 0.6667 | <0.10 | 88% | 59 | 120 | | | | |
| 1,2,4-Trichlorobenzene | 0.5160 | 0.10 | 0.6667 | <0.10 | 77% | 43 | 102 | | | | |
| 2-Chlorophenol-d4 | 0.8030 | N/A | 1.000 | N/A | 80% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 0.5303 | N/A | 0.6667 | N/A | 80% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.5490 | N/A | 0.6667 | N/A | 82% | 30 | 115 | | | | |
| 2-Fluorophenol | 0.7563 | N/A | 1.000 | N/A | 76% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 0.5223 | N/A | 0.6667 | N/A | 78% | 23 | 120 | | | | |
| Phenol-d6 | 0.7893 | N/A | 1.000 | N/A | 79% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 0.5980 | N/A | 0.6667 | N/A | 90% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 0.8933 | N/A | 1.000 | N/A | 89% | 19 | 122 | | | | |
| Sample ID: **LCSD-3802** | Batch ID: 3802 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 5:17 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Acenaphthene | 0.5493 | 0.10 | 0.6667 | <0.10 | 82% | 57 | 101 | 0.5337 | 3% | 19 | |
| 4-Chloro-3-methylphenol | 0.5660 | 0.10 | 0.6667 | <0.10 | 85% | 49 | 108 | 0.5433 | 4% | 33 | |
| 2-Chlorophenol | 0.5690 | 0.10 | 0.6667 | <0.10 | 85% | 49 | 98 | 0.5237 | 8% | 50 | |
| 1,4-Dichlorobenzene | 0.5500 | 0.10 | 0.6667 | <0.10 | 82% | 41 | 100 | 0.5123 | 7% | 27 | |
| 2,4-Dinitrotoluene | 0.5490 | 0.17 | 0.6667 | <0.17 | 82% | 50 | 120 | 0.5330 | 3% | 47 | |
| N-Nitrosodi-n-propylamine | 0.5617 | 0.10 | 0.6667 | <0.10 | 84% | 43 | 104 | 0.5283 | 6% | 38 | |
| 4-Nitrophenol | 0.4260 | 0.17 | 0.6667 | <0.17 | 64% | 55 | 117 | 0.3917 | 8% | 50 | |
| Pentachlorophenol | 0.5123 | 0.17 | 0.6667 | <0.17 | 77% | 45 | 115 | 0.4757 | 7% | 47 | |
| Phenol | 0.5700 | 0.10 | 0.6667 | <0.10 | 85% | 50 | 100 | 0.5327 | 7% | 35 | |
| Pyrene | 0.6283 | 0.10 | 0.6667 | <0.10 | 94% | 59 | 120 | 0.5877 | 7% | 36 | |
| 1,2,4-Trichlorobenzene | 0.5357 | 0.10 | 0.6667 | <0.10 | 80% | 43 | 102 | 0.5160 | 4% | 23 | |
| 2-Chlorophenol-d4 | 0.8460 | N/A | 1.000 | N/A | 85% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 0.5580 | N/A | 0.6667 | N/A | 84% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.5563 | N/A | 0.6667 | N/A | 83% | 30 | 115 | | | | |
| 2-Fluorophenol | 0.8100 | N/A | 1.000 | N/A | 81% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 0.5513 | N/A | 0.6667 | N/A | 83% | 23 | 120 | | | | |
| Phenol-d6 | 0.8263 | N/A | 1.000 | N/A | 83% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 0.6307 | N/A | 0.6667 | N/A | 95% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 0.8997 | N/A | 1.000 | N/A | 90% | 19 | 122 | | | | |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012009
**Project:** Rio Salado

# QC SUMMARY REPORT

Secondary Source QC Sample

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCSV-3829** | Batch ID: 3829 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/13/00 | | | |
| Mercury | 0.01069 | 0.0020 | 0.01000 | <0.0020 | 107% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012009
**Project:** Rio Salado

# QC SUMMARY REPORT

## Analytical Spike

| Analyte | Result | PQL | Units | Spike Value | Spike Ref Val | % Rec | Limit | Date Prepared | Date Analyzed | Analyst | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: 0012009-01CA | | | Test Code: | SW6010B | | | | Batch ID: | 3830 | | |
| Antimony | 44.25 | 5.0 | mg/Kg | 50 | <5.0 | 89% | 75 - 125 | 12/14/00 | 12/14/00 | MR | |
| Lead | 88.61 | 5.0 | mg/Kg | 50 | 45.14 | 87% | 75 - 125 | 12/14/00 | 12/14/00 | MR | |

**TRANSWEST GEOCHEM**

3725 East Atlanta Avenue, Suite 2
Phoenix, Arizona 85040
Phone: (602) 437-0330
Fax: (602) 437-0660

# Chain of Custody

TGI Work Order No: 00/2009

Date 12/1/00 Page 1 of 1

| | | | |
|---|---|---|---|
| Project Manager: | Brad Johnston | Bill to: | Same |
| Client Name: | SCS Engineers | Company: | |
| Address: | | Address: | |
| City, State ZIP: | | City, State ZIP: | |
| Phone: | 602-840-2596 | Phone: | |
| Fax: | | Fax: | |

| | |
|---|---|
| P.O. No.: | |
| Project Name: | Rio Salado |
| Project Number: | |

**SAMPLE RECEIPT**

| | | | |
|---|---|---|---|
| Temperature: | Ambient / Cold | Ice: | |
| Received Intact: | Y | Absent / Present | |
| Custody Seals: | N/A | Wet / Blue | |
| Total No. of Containers: | 3 | | |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Lab ID | No. of Containers | TPH, (418.1 /418.1AZ) | TPH, 8015AZR.1 | BTEX (8021B) | Volatile Organics GCMS (624/8260AZ) | SDWA Volatiles, (524.2) | Semi-Volatile Organics GCMS (625/8270) | Organochlorine Pesticides (608/8081) | PCB's, (8082) | PAH, EPA 8310 | 8 RCRA Metals | 13 Priority Pollutant Metals | | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pilot-12/1-4 | Soil | 12/1 | 2:15 | 1 | 3 | | X | | X | | X | | | | | X | | | | | | | | | 2hr Extraction time |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | Relinquished by: (Signature) | (Print Name) | Date/Time | Received by: (Signature) | (Print Name) | Date/Time |
|---|---|---|---|---|---|---|
| 1 | [signature] | Alab Salem | 12/1 1435 | [signature] | Skye Harden | 12/1/00 1435 |
| 2 | | | | | | |
| 3 | | | | | | |

White copy to TGI, Yellow copy for final report, Pink copy to sampler

Revised: 6/29/00

**TRANSWEST GEOCHEM**

December 14, 2000

Brad Johnston
SCS Engineers
2702 N. 44th St., Suite 105B
Phoenix, AZ 85008

Re: Rio Salado
Work Order No.: 0012009

Dear Brad,

Attached is the original Report of Analysis from Precision Analytical Laboratories, Inc. for the sample received on 12/1/2000 2:35:00 PM. The following analysis was performed:

Method SW8260B – Volatile Organics by GC/MS

If you have any questions regarding the results, please call me. We appreciate your business and thank you for choosing Transwest Geochem.

Sincerely,

Michael E. Barbe for

Beth Proffitt
Project Manager

ADHS License No. AZM133/AZ0133

CONFIDENTIAL AND PRIVILEGED

3725 E. Atlanta Ave. • Suite 2 • Phoenix, Arizona 85040 • (602) 437-0330 • 1-800-927-5183 • Fax (602) 437-0660

# Precision Analytical Laboratories, Inc.

December 12, 2000

Beth Proffitt
Transwest Geochem, Inc.
3725 E. Atlanta Ave.
Suite 2
Phoenix, AZ 85040
TEL: (602) 437-0330
FAX (602) 437-0660

RE: Rio Salado/0012009 Order No.: 0012130

Dear Beth Proffitt:

Precision Analytical Laboratories, Inc. received 1 sample on 12/6/00 for the analyses presented in the following report.

This report includes the following information:

- Case Narrative. The case narrative contains a listing of common method references, data qualifiers, and any comments that may be needed regarding the analytical results.

- Analytical Report. Analysis results are reported with the compound name first, followed by the test result, report limit (Limit), any required data qualifier (Qual), units, dilution factor (DF), and date analyzed.

- QC Summary Report. This section includes quality control results for some or all of the following: method blanks, sample duplicates, sample matrix spikes, sample matrix spike duplicates, laboratory control spikes, and laboratory control spike duplicates.

If you have any questions regarding these tests results, please do not hesitate to call.

Sincerely,

Heather Oeschger
Account Manager

CC:

**CLIENT:** Transwest Geochem, Inc.
**Project:** Rio Salado/0012009
**Lab Order:** 0012130

## CASE NARRATIVE

Data Qualifiers
Listed below are data qualifiers which may be used in your analytical report to explain any analytical or quality control issues. If one or more of the following data qualifiers is associated with your analytical or quality control data it will be noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

B1 Target analyte detected in method blank at or above the method reporting limit.
D1 Sample required dilution due to matrix interference.
D2 Sample required dilution due to high concentration of target analyte.
D4 Minimum reporting level (MRL) adjusted to reflect sample amount received and analyzed.
E2 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E3 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to holding time requirements.
E4 Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL).
E6 Concentration estimated. Internal standard recoveries did not meet method acceptance criteria.
H1 Sample analysis performed past holding time. See case narrative.
H2 Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3 Sample was received and analyzed past holding time.
K1 The sample dilutions set-up for the BOD analysis did not meet the oxygen depletion criteria of at least 2 mg/L. The reported result is an estimated value.
K2 The sample dilutions set up for the BOD analysis failed to meet the criteria of a residual dissolved oxygen of at least 1 mg/L. The reported result is estimated.
M1 Matrix spike recovery was high, the method control sample recovery was acceptable.
M2 Matrix spike recovery was low, the method control sample recovery was acceptable.
M3 The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to spike level. The method control sample recovery was acceptable.
M4 The analysis of the spiked sample required a dilution such that the spike concentration was diluted below the reporting limit. The method control sample recovery was acceptable.



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M5 Analyte concentration was determined by the method of standard addition (MSA).
N1 See case narrative.
Q1 Sample integrity was not maintained. See case narrative.
Q2 Sample received with head space.
Q3 Sample received with improper chemical preservation.
Q5 Sample received without chemical preservation, but preserved by the laboratory.
Q6 Sample was received above recommended temperature.
Q7 Sample inadequately dechlorinated.
Q8 Insufficient sample received to meet method QC requirements. QC requirements satisfy ADEQ policies 0154 and 0155.
Q10 Sample received in inappropriate sample container.
Q11 Sample is heterogeneous. Sample homogeneity could not be readily achieved using routine laboratory practices.
R2 RPD exceeded the laboratory control limit. See case narrative.
R3 Sample RPD between the primary and confirmatory analysis exceeded 40%. Per EPA Method 8000B, the higher value was reported.
R5 RPD exceeded the laboratory control limit. Recovery met acceptance criteria.
S2 Surrogate recovery was above laboratory and method acceptance limits.
S4 Surrogate recovery was above laboratory and method acceptance limits. No target analytes were detected in the sample.
S6 Surrogate recovery was below laboratory and method acceptance limits. Reextraction and/or reanalysis confirms low recovery caused by matrix effect.
S7 Surrogate recovery was below laboratory and method acceptance limits. Unable to confirm matrix effect.
S9 The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria. The method control sample recovery was acceptable.
T2 Cited ADHS licensed method does not contain this analyte as part of method compound list.
T4 Tentatively identified compound. Concentration is estimated and based on the closest internal standard.
V1 CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.
V5 CCV recovery after a group of samples was above acceptance limits. This target analyte was not detected in the sample. Acceptable per EPA Method 8000B.



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Transwest Geochem, Inc.

**Project:** Rio Salado/0012009

**Lab Order:** 0012130

## CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1995. Appendix A to Part 136- Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Precision Analytical Laboratories, Inc (PAL) holds the following certifications:
Arizona (certification no. AZ0610) and California (I-2410).
PAL- Tucson laboratory Arizona certification number: AZ0609.
PAL- North Phoenix laboratory Arizona certification number: AZ0611.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

Method 8260B extracts were provided by Transwest Geochem.



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# Precision Analytical Laboratories, Inc.

**Date:** *11-Dec-00*

| | | | |
|---|---|---|---|
| **CLIENT:** | Transwest Geochem, Inc. | **Client Sample ID:** | Pilot-12/1-4 |
| **Lab Order:** | 0012130 | **Tag Number:** | 01D |
| **Project:** | Rio Salado/0012009 | **Collection Date:** | 12/1/00 2:15:00 PM |
| **Lab ID:** | 0012130-01A | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS BY GC/MS** | | **SW8260B** | | | | Analyst: **SP** |
| 1,1,1-Trichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 1,1,2,2-Tetrachloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 1,1,2-Trichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 1,1-Dichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 1,1-Dichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 1,1-Dichloropropene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 1,2,3-Trichlorobenzene | < 0.10 | 0.10 | | mg/Kg | 1 | 12/8/00 |
| 1,2,3-Trichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 1,2,4-Trimethylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 1,2-Dibromoethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 1,2-Dichlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 1,2-Dichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 1,2-Dichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 1,3,5-Trimethylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 1,3-Dichlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 1,3-Dichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 1,4-Dichlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 2,2-Dichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 2-Butanone (MEK) | < 0.25 | 0.25 | | mg/Kg | 1 | 12/8/00 |
| 2-Chloroethyl vinyl ether | < 0.25 | 0.25 | | mg/Kg | 1 | 12/8/00 |
| 2-Chlorotoluene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 2-Hexanone | < 0.25 | 0.25 | | mg/Kg | 1 | 12/8/00 |
| 4-Chlorotoluene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 4-Isopropyltoluene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| 4-Methyl-2-pentanone | < 0.25 | 0.25 | | mg/Kg | 1 | 12/8/00 |
| Acetone | < 0.25 | 0.25 | | mg/Kg | 1 | 12/8/00 |
| Benzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Bromobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Bromochloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Bromodichloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Bromoform | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Bromomethane | < 0.10 | 0.10 | | mg/Kg | 1 | 12/8/00 |
| Carbon tetrachloride | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Chlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Chloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Chloroform | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Chloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| cis-1,2-Dichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| cis-1,3-Dichloropropene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Dibromochloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range



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# Precision Analytical Laboratories, Inc.

**Date:** *11-Dec-00*

| | | | |
|---|---|---|---|
| **CLIENT:** | Transwest Geochem, Inc. | **Client Sample ID:** | Pilot-12/1-4 |
| **Lab Order:** | 0012130 | **Tag Number:** | 01D |
| **Project:** | Rio Salado/0012009 | **Collection Date:** | 12/1/00 2:15:00 PM |
| **Lab ID:** | 0012130-01A | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Ethylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| m,p-Xylene | < 0.10 | 0.10 | | mg/Kg | 1 | 12/8/00 |
| Methyl tert-butyl ether | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Methylene chloride | < 0.10 | 0.10 | | mg/Kg | 1 | 12/8/00 |
| n-Butylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| n-Propylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| o-Xylene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| sec-Butylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Styrene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| tert-Butylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Tetrachloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Toluene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| trans-1,2-Dichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| trans-1,3-Dichloropropene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Trichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Trichlorofluoromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Vinyl acetate | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Vinyl chloride | < 0.050 | 0.050 | | mg/Kg | 1 | 12/8/00 |
| Surr: 4-Bromofluorobenzene | 84.7 | 56.4-139 | | %REC | 1 | 12/8/00 |
| Surr: Dibromofluoromethane | 88.5 | 59.7-130 | | %REC | 1 | 12/8/00 |
| Surr: Toluene-d8 | 92.9 | 57.8-138 | | %REC | 1 | 12/8/00 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range



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# Precision Analytical Laboratories, Inc.

**Date:** *11-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012130
**Project:** Rio Salado/0012009

## QC SUMMARY REPORT
Method Blank

Sample ID: **MB-2527** Batch ID: **2527** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/6/00** Prep Date: **12/6/00**
Client ID: Run ID: **MS2_001206A** SeqNo: **59568**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1,2-Trichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1-Dichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1-Dichloroethene | < 0.050 | 0.05 | | | | | | | | | |
| 1,1-Dichloropropene | < 0.050 | 0.05 | | | | | | | | | |
| 1,2,3-Trichlorobenzene | < 0.10 | 0.1 | | | | | | | | | |
| 1,2,3-Trichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 1,2,4-Trimethylbenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dibromoethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dichlorobenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 1,3,5-Trimethylbenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,3-Dichlorobenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,3-Dichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 1,4-Dichlorobenzene | < 0.050 | 0.05 | | | | | | | | | |
| 2,2-Dichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 2-Butanone (MEK) | < 0.25 | 0.25 | | | | | | | | | |
| 2-Chloroethyl vinyl ether | < 0.25 | 0.25 | | | | | | | | | |
| 2-Chlorotoluene | < 0.050 | 0.05 | | | | | | | | | |
| 2-Hexanone | < 0.25 | 0.25 | | | | | | | | | |
| 4-Chlorotoluene | < 0.050 | 0.05 | | | | | | | | | |
| 4-Isopropyltoluene | < 0.050 | 0.05 | | | | | | | | | |
| 4-Methyl-2-pentanone | < 0.25 | 0.25 | | | | | | | | | |
| Acetone | < 0.25 | 0.25 | | | | | | | | | |
| Benzene | < 0.050 | 0.05 | | | | | | | | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank



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# Precision Analytical Laboratories, Inc.

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012130
**Project:** Rio Salado/0012009

## QC SUMMARY REPORT
Method Blank

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Bromobenzene | < 0.050 | 0.05 | | | | | | |
| Bromochloromethane | < 0.050 | 0.05 | | | | | | |
| Bromodichloromethane | < 0.050 | 0.05 | | | | | | |
| Bromoform | < 0.050 | 0.05 | | | | | | |
| Bromomethane | < 0.10 | 0.1 | | | | | | |
| Carbon tetrachloride | < 0.050 | 0.05 | | | | | | |
| Chlorobenzene | < 0.050 | 0.05 | | | | | | |
| Chloroethane | < 0.050 | 0.05 | | | | | | |
| Chloroform | < 0.050 | 0.05 | | | | | | |
| Chloromethane | < 0.050 | 0.05 | | | | | | |
| cis-1,2-Dichloroethene | < 0.050 | 0.05 | | | | | | |
| cis-1,3-Dichloropropene | < 0.050 | 0.05 | | | | | | |
| Dibromochloromethane | < 0.050 | 0.05 | | | | | | |
| Dichlorodifluoromethane | < 0.050 | 0.05 | | | | | | |
| Ethylbenzene | < 0.050 | 0.05 | | | | | | |
| m,p-Xylene | < 0.10 | 0.1 | | | | | | |
| Methyl tert-butyl ether | < 0.050 | 0.05 | | | | | | |
| Methylene chloride | < 0.10 | 0.1 | | | | | | |
| n-Butylbenzene | < 0.050 | 0.05 | | | | | | |
| n-Propylbenzene | < 0.050 | 0.05 | | | | | | |
| o-Xylene | < 0.050 | 0.05 | | | | | | |
| sec-Butylbenzene | < 0.050 | 0.05 | | | | | | |
| Styrene | < 0.050 | 0.05 | | | | | | |
| tert-Butylbenzene | < 0.050 | 0.05 | | | | | | |
| Tetrachloroethene | < 0.050 | 0.05 | | | | | | |
| Toluene | < 0.050 | 0.05 | | | | | | |
| trans-1,2-Dichloroethene | < 0.050 | 0.05 | | | | | | |
| trans-1,3-Dichloropropene | < 0.050 | 0.05 | | | | | | |
| Trichloroethene | < 0.050 | 0.05 | | | | | | |
| Trichlorofluoromethane | < 0.050 | 0.05 | | | | | | |
| Vinyl acetate | < 0.050 | 0.05 | | | | | | |
| Vinyl chloride | < 0.050 | 0.05 | | | | | | |
| Surr: 4-Bromofluorobenzene | 2.344 | 0 | 2.5 | 0 | 93.7 | 56.4 | 139 | 0 |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012130
**Project:** Rio Salado/0012009

## QC SUMMARY REPORT
Method Blank

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Surr: Dibromofluoromethane | 2.472 | 0 | 2.5 | 0 | 98.9 | 59.7 | 130 | 0 |
| Surr: Toluene-d8 | 2.457 | 0 | 2.5 | 0 | 98.3 | 57.8 | 138 | 0 |

**Qualifiers:** ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

# Precision Analytical Laboratories, Inc.

**Date:** *11-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012130
**Project:** Rio Salado/0012009

## QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0012129-01AMS** Batch ID: **2527** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/6/00** Prep Date: **12/6/00**
Client ID: Run ID: **MS2_001206A** SeqNo: **59572**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 2.601 | 0.05 | 2.5 | 0 | 104 | 49 | 135 | 0 | | | |
| Benzene | 2.438 | 0.05 | 2.5 | 0 | 97.5 | 59 | 137 | 0 | | | |
| Chlorobenzene | 2.348 | 0.05 | 2.5 | 0 | 93.9 | 61 | 131 | 0 | | | |
| Toluene | 2.444 | 0.05 | 2.5 | 0 | 97.7 | 50 | 146 | 0 | | | |
| Trichloroethene | 2.361 | 0.05 | 2.5 | 0 | 94.4 | 55 | 134 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 2.268 | 0 | 2.5 | 0 | 90.7 | 56.4 | 139 | 0 | | | |
| Surr: Dibromofluoromethane | 2.419 | 0 | 2.5 | 0 | 96.7 | 59.7 | 130 | 0 | | | |
| Surr: Toluene-d8 | 2.424 | 0 | 2.5 | 0 | 96.9 | 57.8 | 138 | 0 | | | |

Sample ID: **0012129-01AMSD** Batch ID: **2527** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/6/00** Prep Date: **12/6/00**
Client ID: Run ID: **MS2_001206A** SeqNo: **59573**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 2.406 | 0.05 | 2.5 | 0 | 96.2 | 49 | 135 | 2.601 | 7.79 | 25 | |
| Benzene | 2.274 | 0.05 | 2.5 | 0 | 90.9 | 59 | 137 | 2.438 | 6.96 | 25 | |
| Chlorobenzene | 2.176 | 0.05 | 2.5 | 0 | 87 | 61 | 131 | 2.348 | 7.6 | 25 | |
| Toluene | 2.229 | 0.05 | 2.5 | 0 | 89.2 | 50 | 146 | 2.444 | 9.18 | 25 | |
| Trichloroethene | 2.19 | 0.05 | 2.5 | 0 | 87.6 | 55 | 134 | 2.361 | 7.51 | 25 | |
| Surr: 4-Bromofluorobenzene | 2.137 | 0 | 2.5 | 0 | 85.5 | 56.4 | 139 | 2.268 | 0 | 0 | |
| Surr: Dibromofluoromethane | 2.264 | 0 | 2.5 | 0 | 90.6 | 59.7 | 130 | 2.419 | 0 | 0 | |
| Surr: Toluene-d8 | 2.271 | 0 | 2.5 | 0 | 90.8 | 57.8 | 138 | 2.424 | 0 | 0 | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# Precision Analytical Laboratories, Inc.

**Date:** *11-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012130
**Project:** Rio Salado/0012009

## QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS-2527** Batch ID: **2527** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/6/00** Prep Date: **12/6/00**

Client ID: Run ID: **MS2_001206A** SeqNo: **59569**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 2.286 | 0.05 | 2.5 | 0 | 91.5 | 49 | 135 | 0 | | | |
| Benzene | 2.396 | 0.05 | 2.5 | 0 | 95.9 | 59 | 137 | 0 | | | |
| Chlorobenzene | 2.302 | 0.05 | 2.5 | 0 | 92.1 | 61 | 131 | 0 | | | |
| Toluene | 2.34 | 0.05 | 2.5 | 0 | 93.6 | 50 | 146 | 0 | | | |
| Trichloroethene | 2.302 | 0.05 | 2.5 | 0 | 92.1 | 55 | 134 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 2.249 | 0 | 2.5 | 0 | 90 | 56.4 | 139 | 0 | | | |
| Surr: Dibromofluoromethane | 2.468 | 0 | 2.5 | 0 | 98.7 | 59.7 | 130 | 0 | | | |
| Surr: Toluene-d8 | 2.423 | 0 | 2.5 | 0 | 96.9 | 57.8 | 138 | 0 | | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# Transwest Geochem, Inc.
## Extraction Log

SURR ID:
AMT ADDED:
SPIKE ID:
AMT ADDED:
Bal. 40.0g = 39.999g

DATE: 12-1-00
ANALYST: ZY
METHOD: ~~BeAx~~ / 8260

| TGI ID | CLIENT ID | WEIGHT | FINAL VOLUME | EXTRACTION TIME | COMMENTS |
|---|---|---|---|---|---|
| 0012008-3ms | CB1-15 | 10g | 10ml | 1:30pm | BeAx |
| -3msD | -15 | | | | |
| -4 | -20 | | | | |
| -5 | -25 | | | | |
| -6 | -30 | | | | |
| -7 | -35 | | | | |
| -8 | -40 | | | | |
| 0012009-1 | Polot-12/1-4 | | | 2:30 | 8260 0.0121230 |
| RB | | | | | |
| LCS | | | | | |
| LCSd | | | | | Vic ext |
| 0012001-7 | | | | | 0.012129 |
| -7ms | | | | | |
| -7msD | | | | | |
| | | 12-1-00 | | ZY | |

# CHAIN-OF-CUSTODY



TRANSWEST GEOCHEM

0-012-130

**Beth Proffitt**
3725 E. Atlanta Avenue
Suite 2
Phoenix, AZ 85040-2960
TEL: (602) 437-0330
FAX: (602) 437-0660

**Work Order:** 0012009

**Project:** Rio Salado

**Subcontractor:**
Precision Analytical Laboratories, Inc.
1725 West 17th St.
Tempe, AZ 85281
TEL: (480) 967-1310
FAX: (480) 967-1019

**06-Dec-00**

| | Client Sample ID | TGI ID | Matrix | Collection Date | Containers | Requested Tests: 8260AZ_S | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | PILOT - 12/1 - 4 | 01D | Soil | 12/1/2000 2:15:00 PM | 1 | 1 | | | | | | |

**Comments:** After analysis, the samples do not need to be returned and can be disposed per your standard laboratory practices. Please provide a QC report, including Method Blank data.

| | | Date/Time | | | Date/Time |
|---|---|---|---|---|---|
| **Relinquished by:** | [signature] TGI | 12/4/00 130 | **Received by:** | [signature] | 12/6/00 130 |
| **Relinquished by:** | | | **Received by:** | | |

TRANSWEST GEOCHEM
3725 East Atlanta Avenue, Suite 2
Phoenix, Arizona 85040
Phone: (602) 437-0330
Fax: (602) 437-0660

# Chain of Custody

TGI Work Order No: 90/2009
Date 12/1/00 Page 1 of 1

| | | | |
|---|---|---|---|
| Project Manager: | Brad Johnston | Bill to: | Same |
| Client Name: | SCS Engineers | Company: | |
| Address: | | Address: | |
| City, State ZIP: | | City, State ZIP: | |
| Phone: | 602-840-7596 | Phone: | |
| Fax: | | Fax: | |

| | |
|---|---|
| P.O. No.: | |
| Project Name: | Rio Salado |
| Project Number: | |

**SAMPLE RECEIPT**

| | | |
|---|---|---|
| Temperature: | Ambient / Cold | Ice: |
| Received Intact: | Y | Absent / Present |
| Custody Seals: | N/A | Wet / Blue |
| Total No. of Containers: | 3 | |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Lab ID | No. of Containers | TPH, (418.1 /418.1AZ) | TPH, 8015AZR.1 | BTEX (8021B) | Volatile Organics GCMS (624/8260AZ) | SDWA Volatiles, (524.2) | Semi-Volatile Organics GCMS (625/8270) | Organochlorine Pesticides (608/8081) | PCB's, (8082) | PAH, EPA 8310 | 8 RCRA Metals | 13 Priority Pollutant Metals | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pilot-12/1-4 | Soil | 12/1 | 7:15 | 1 | 3 | | X | | X | | X | | | | | X | 2hr Extraction time |

| Relinquished by: (Signature) | (Print Name) | Date/Time | Received by: (Signature) | (Print Name) | Date/Time |
|---|---|---|---|---|---|
| 1 [signature] | Alab Salem | 12/1 1435 | [signature] | Skye Hayden | 12/1/00 1435 |
| 2 | | | | | |
| 3 | | | | | |

White copy to TGI, Yellow copy for final report, Pink copy to sampler

Revised: 6/29/00

**TRANSWEST GEOCHEM**

**Amended Report**

December 29, 2000

Brad Johnston
SCS Engineers
2702 N. 44th St., Suite 105B
Phoenix, AZ 85008

RE: Rio Salado Pilot/10.199023.12

Work Order No.: 0012023

Dear Brad,

Transwest Geochem, Inc. received 1 sample on 12/4/2000 5:18:00 PM for the analyses presented in the following report.

The Case Narrative of this report addresses any Quality Control and/or Quality Assurance issues associated with this Work Order.

If you have any questions regarding these test results, please feel free to call us at (602) 437-0330.

Sincerely,

Elizabeth Proffitt

Beth Proffitt
Project Manager

ADHS License No. AZM133/AZ0133

Amended Report

Date Printed: 29-Dec-00

**Client:** SCS Engineers
**Work Order:** 0012023
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12

# CASE NARRATIVE

Transwest Geochem, Inc. uses the methods outlined in the following references:

Code of Federal Regulations, 40CFR, Part 136, Revised July 1995.

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, Revised August 1993.

Methods for the Determination of Metals in Environmental Samples, EPA/600/R-94/111, Revised May 1994.

Hach, Water Analysis Handbook, 2nd Edition, 1992.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

Metals were analyzed using multi-element ICP instrumentation. Some metals reported in the QC report may not be associated with this Work Order.

Secondary Source QC Sample (LCSV) results may not be reported for all methods and/or analysis dates.

The sample introduction technique for Method 8015AZ used by this laboratory is direct injection.

All method blanks, laboratory spikes, and/or matrix spikes met quality control objectives for the parameters associated with this Work Order.

Data qualifiers ("flags") contained within this analytical report have been issued to explain a quality control deficiency, and do not affect the quality (validity) of the data unless noted otherwise in the case narrative.

The Antimony recovery was low in the MS/MSD; the Lead was low in MS. The LCS for both metals was within TGI acceptance criteria. A Post-Digestion Spike was succesfully performed on both Antimony and Lead.



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Amended Report

Date Printed: 29-Dec-00

**Client:** SCS Engineers
**Work Order:** 0012023
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12

# CASE NARRATIVE

The RPD for N-nitrosodi-n-propylamine in the Matrix Spike/Matrix Spike Duplicate (which was analyzed with your sample for EPA Method 8270C) was above TGI acceptance criteria. The RPD for this compound in the LCS and its duplicate are within method and TGI acceptance criteria.



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TRANSWEST GEOCHEM

Amended Report

Date Printed 28-Dec-00

License No. AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12
**Work Order:** 0012023
**Date Received:** 04-Dec-00

# Work Order Sample Summary

| Client Sample ID | Lab Sample ID | Test Code | Collection Date |
|---|---|---|---|
| Pilot - 12/4 - 1 | 0012023-01A | 8015AZ | 12/4/2000 4:50:00 PM |
| | | SW8270C | 12/4/2000 4:50:00 PM |
| | 0012023-01B | SW8260B | 12/4/2000 4:50:00 PM |
| | 0012023-01C | SW1311/6010B | 12/4/2000 4:50:00 PM |
| | | SW1311/7470A | 12/4/2000 4:50:00 PM |
| | | SW6010B | 12/4/2000 4:50:00 PM |
| | | SW7471A | 12/4/2000 4:50:00 PM |

TRANSWEST GEOCHEM

Amended Report

Date Printed 28-Dec-00

License No. AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12
**Work Order:** 0012023
**Date Received:** 04-Dec-00

# Data Qualifiers

One or more of the following data qualifiers may be associated with your analytical and/or quality control data.

| | |
|---|---|
| M2 | Matrix spike recovery was low, the method control sample recovery was acceptable. |
| R | RPD outside acceptance criteria. |
| R1 | RPD exceeded the method control limit. See case narrative. |
| R2 | RPD exceeded the laboratory control limit. See case narrative. |
| S | Spike or Surrogate recovery outside acceptance criteria. |
| S9 | The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria. The method control sample recovery was acceptable. |

TRANSWEST GEOCHEM

Amended Report

Date Printed 28-Dec-00

License No. AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12
**Work Order:** 0012023
**Date Received:** 04-Dec-00

# Definitions

| | |
|---|---|
| Analytical Spike (AS) | The AS is a known amount of a target analyte added to a sample after it has been distilled, digested, or extracted and is ready for analysis. The AS is generally performed if the MS has failed. It is used to indicate interference that arises from sample distillation, digestion, or extraction as opposed to interference that is innate to the matrix. |
| Continuing Curve Verification (CCV) | The CCV is also referred to as a curve check. This is a standard analyzed at specified intervals during an analysis. The CCV verifies the stability and accuracy of the calibration curve. There are specific CCV recovery acceptance criteria for each method. |
| Dilution Factor (DF) | The DF is an indication of how much a sample had to be diluted in order to quantitate it on a standard curve. The DF is indicated in the reported sample result. The sample PQL increases as the dilution increases. |
| Internal Standard (IS) | The IS is a compound that is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. The same concentration of IS is added to every sample for some organic methods. |
| Laboratory Control Sample (LCS) | The LCS is also referred to as a blank spike. The LCS is an addition of a known amount of a target analyte (from the same source as calibration standards or spikes) to an aliquot of deionized water or other appropriate clean matrix. The LCS is processed through the entire method procedure in the same manner as samples. |
| Matrix Spike (MS) | The MS is a known amount of a target analyte added to a sample. The MS is processed through the entire method procedure in the same manner as samples. |
| Method Blank (MB) | The MB is an aliquot of deionized water or other appropriate clean matrix that is thought to be free of the analyte in question. The MB is processed through the entire extraction or analysis procedure and is used to indicate contamination in the lab. |
| Method Detection Limit (MDL) | The MDL is the lowest level of detection of which a method is capable. |
| Practical Quantitation Limit (PQL) | The PQL is the lowest value at which Transwest Geochem can detect an analyte in matrix with a high degree of confidence. The PQL will increase as the DF increases. The PQL is greater than or equal to the MDL. |
| Relative Percent Difference (RPD) | The RPD is a measure of precision (the ability to obtain the same result on re-analysis of the same sample). It is calculated using the result of a sample, MS, LCS, or LCSV and its associated duplicate result. |
| Secondary Source QC Sample (LCSV) | The LCSV is also referred to as a second source laboratory control sample. It is the same type of standard as a calibration or spiking standard but is obtained from a different source. The LCSV is an indication of the primary standard quality, method performance, and instrument performance. |
| Surrogate | A surrogate compound is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. When surrogates are used, they are added to every sample, blank and standard. Surrogate recovery is used as an indication of extraction and/or analytical success. |
| Trip Blank (TB) | The TB is a portion of deionized water preserved in the same manner as the samples. The TB travels from the lab, to the field, and then back to the lab with the samples from the field. The TB serves as an indication of contamination introduced during sample transportation. |

**TRANSWEST GEOCHEM**

**Amended Report**

**Date Printed** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Lab ID:** 0012023-01
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12

**Client Sample ID:** Pilot - 12/4 - 1
**Collection Date:** 12/4/2000 4:50:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 GRO | <20 | 20 | | mg/Kg | 1 | 8015AZ | 12/6/2000 | 12/6/00 8:01 pm | JH | FUELS1_001206A |
| C10-C22 DRO | <30 | 30 | | mg/Kg | 1 | 8015AZ | 12/6/2000 | 12/6/00 8:01 pm | JH | FUELS1_001206A |
| C22-C32 ORO | 110 | 100 | | mg/Kg | 1 | 8015AZ | 12/6/2000 | 12/6/00 8:01 pm | JH | FUELS1_001206A |
| C10-C32 SRL | <130 | 130 | | mg/Kg | 1 | 8015AZ | 12/6/2000 | 12/6/00 8:01 pm | JH | FUELS1_001206A |
| o-Terphenyl (Surrogate) | 94 | 65-123 | | %REC | 1 | 8015AZ | 12/6/2000 | 12/6/00 8:01 pm | JH | FUELS1_001206A |
| Arsenic | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Barium | <1.0 | 1.0 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Cadmium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Chromium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Lead | 0.69 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Selenium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Silver | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/13/00 | MR | 3817A |
| Mercury | <0.0020 | 0.0020 | | mg/L | 1 | SW1311/7470A | 12/11/2000 | 12/12/00 | TL | 3823 |
| Antimony | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Arsenic | 6.3 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Beryllium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Cadmium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Chromium | 15 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/15/00 | MR | 3830A |
| Copper | 31 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Lead | 46 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Nickel | 18 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/15/00 | MR | 3830A |
| Selenium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Silver | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Thallium | <10 | 10 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Zinc | 110 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/2000 | 12/14/00 | MR | 3830 |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 12/6/2000 | 12/6/00 | TL | 3806 |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 12/11/2000 | 12/12/00 | TL | 3825 |



**Confidential and Privileged**

**TRANSWEST GEOCHEM**

**Amended Report**

**Date Printed** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Lab ID:** 0012023-01
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12

**Client Sample ID:** Pilot - 12/4 - 1
**Collection Date:** 12/4/2000 4:50:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Acenaphthylene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Aniline | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Anthracene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Azobenzene | <2.0 | 2.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Benz[a]anthracene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Benzo[a]pyrene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Benzo[b]fluoranthene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Benzo[g,h,i]perylene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Benzo[k]fluoranthene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Benzoic acid | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Benzyl alcohol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Bis(2-chloroethoxy)methane | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Bis(2-chloroethyl)ether | <1.8 | 1.8 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Bis(2-chloroisopropyl)ether | <2.0 | 2.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Bis(2-ethylhexyl)phthalate | <2.0 | 2.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 4-Bromophenyl phenyl ether | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Butyl benzyl phthalate | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Carbazole | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 4-Chloro-3-methylphenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 4-Chloroaniline | <1.8 | 1.8 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 2-Chloronaphthalene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 2-Chlorophenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 4-Chlorophenyl phenyl ether | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Chrysene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Di-n-butyl phthalate | <1.8 | 1.8 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Di-n-octyl phthalate | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Dibenz[a,h]anthracene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Dibenzo[a,i]pyrene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Dibenzofuran | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 1,2-Dichlorobenzene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 1,3-Dichlorobenzene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 1,4-Dichlorobenzene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 2,4-Dichlorophenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Diethyl phthalate | <1.8 | 1.8 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Dimethyl phthalate | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 2,4-Dimethylphenol | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 4,6-Dinitro-2-methylphenol | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 2,4-Dinitrophenol | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 2,4-Dinitrotoluene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 2,6-Dinitrotoluene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Fluoranthene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Fluorene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Hexachlorobenzene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |



**Confidential and Privileged**

**TRANSWEST GEOCHEM**

**Amended Report**

**Date Printed** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Lab ID:** 0012023-01
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12

**Client Sample ID:** Pilot - 12/4 - 1
**Collection Date:** 12/4/2000 4:50:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Hexachlorobutadiene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Hexachlorocyclopentadiene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Hexachloroethane | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Indeno[1,2,3-cd]pyrene | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Isophorone | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 2-Methylnaphthalene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 2-Methylphenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 4-Methylphenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| N-Nitrosodi-n-propylamine | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| N-Nitrosodimethylamine | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| N-Nitrosodiphenylamine | <1.8 | 1.8 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Naphthalene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 2-Nitroaniline | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 3-Nitroaniline | <2.8 | 2.8 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 4-Nitroaniline | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Nitrobenzene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 2-Nitrophenol | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 4-Nitrophenol | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Pentachlorophenol | <2.5 | 2.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Phenanthrene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Phenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Pyrene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 1,2,4-Trichlorobenzene | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 2,4,5-Trichlorophenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 2,4,6-Trichlorophenol | <1.5 | 1.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 2-Chlorophenol-d4 (Surrogate) | 42 | 20-130 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 1,2-Dichlorobenzene-d4 (Surrogate) | 44 | 20-130 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 2-Fluorobiphenyl (Surrogate) | 70 | 30-115 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 2-Fluorophenol (Surrogate) | 22 | 25-121 | S9 | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Nitrobenzene-d5 (Surrogate) | 48 | 23-120 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| Phenol-d6 (Surrogate) | 41 | 24-113 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 4-Terphenyl-d14 (Surrogate) | 93 | 18-137 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |
| 2,4,6-Tribromophenol (Surrogate) | 32 | 19-122 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 2:36 pm | MHH | 3802 |



**Confidential and Privileged**

TRANSWEST GEOCHEM

**Amended Report**

**Date Printed** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Lab ID:** 0012023-01
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12

**Client Sample ID:** Pilot - 12/4 - 1
**Collection Date:** 12/4/2000 4:50:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | <1.5 | 1.5 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Benzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Bromobenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Bromochloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Bromodichloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Bromoform | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Bromomethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 2-Butanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| n-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| sec-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| tert-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Carbon tetrachloride | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Chlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Chloroethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 2-Chloroethylvinylether | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Chloroform | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Chloromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 2-Chlorotoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 4-Chlorotoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Dibromochloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 1,2-Dibromoethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 1,2-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 1,3-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 1,4-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Dichlorodifluoromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 1,1-Dichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 1,2-Dichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 1,1-Dichloroethene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| cis-1,2-Dichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| trans-1,2-Dichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 1,2-Dichloropropane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 1,3-Dichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 2,2-Dichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 1,1-Dichloropropene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| cis-1,3-Dichloropropene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| trans-1,3-Dichloropropene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Ethylbenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 2-Hexanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 4-Isopropyltoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Methyl tert-butyl ether | <0.20 | 0.20 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 4-Methyl-2-pentanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Methylene chloride | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| n-Propylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Styrene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |



**Confidential and Privileged**

TRANSWEST GEOCHEM

**Amended Report**

**Date Printed** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Lab ID:** 0012023-01
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12

**Client Sample ID:** Pilot - 12/4 - 1
**Collection Date:** 12/4/2000 4:50:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,2,2-Tetrachloroethane | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Tetrachloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Toluene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 1,2,3-Trichlorobenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 1,1,1-Trichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 1,1,2-Trichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Trichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Trichlorofluoromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 1,2,3-Trichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 1,2,4-Trimethylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 1,3,5-Trimethylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Vinyl acetate | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Vinyl chloride | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Xylenes, Total | <0.15 | 0.15 | | mg/Kg | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 4-Bromofluorobenzene (Surrogate) | 91 | 74-119 | | %REC | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Dibromofluoromethane (Surrogate) | 96 | 71-123 | | %REC | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| 1,2-Dichloroethane-d4 (Surrogate) | 95 | 69-122 | | %REC | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |
| Toluene-d8 (Surrogate) | 98 | 75-118 | | %REC | 1 | SW8260B | 12/4/2000 | 12/12/00 10:36 pm | MTB | GCMS10_001212C |



**Confidential and Privileged**

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Project:** Rio Salado Pilot/10.199023.12

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 GRO | <20 | 20 | | mg/Kg | 1 | 8015AZ | 12/6/00 | 12/6/00 2:45 pm | JH | FUELS1_001206A |
| C10-C22 DRO | <30 | 30 | | mg/Kg | 1 | 8015AZ | 12/6/00 | 12/6/00 2:45 pm | JH | FUELS1_001206A |
| C22-C32 ORO | <100 | 100 | | mg/Kg | 1 | 8015AZ | 12/6/00 | 12/6/00 2:45 pm | JH | FUELS1_001206A |
| C10-C32 SRL | <130 | 130 | | mg/Kg | 1 | 8015AZ | 12/6/00 | 12/6/00 2:45 pm | JH | FUELS1_001206A |
| o-Terphenyl | 105 | 65-123 | | %REC | 1 | 8015AZ | 12/6/00 | 12/6/00 2:45 pm | JH | FUELS1_001206A |
| Arsenic | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Barium | <1.0 | 1.0 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Cadmium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Chromium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Lead | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Selenium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Silver | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/13/00 | MR | 3817A |
| Mercury | <0.0020 | 0.0020 | | mg/L | 1 | SW1311/7470A | 12/11/00 | 12/12/00 | TL | 3823 |
| Antimony | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Arsenic | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Beryllium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Cadmium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Copper | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Lead | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Selenium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Silver | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Thallium | <10 | 10 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Zinc | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/14/00 | MR | 3830 |
| Chromium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/15/00 | MR | 3830A |
| Nickel | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/14/00 | 12/15/00 | MR | 3830A |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 12/11/00 | 12/12/00 | TL | 3825 |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 12/6/00 | 12/6/00 | TL | 3806 |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Project:** Rio Salado Pilot/10.199023.12

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Acenaphthylene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Aniline | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Anthracene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Azobenzene | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benz[a]anthracene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzo[a]pyrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzo[b]fluoranthene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzo[g,h,i]perylene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzo[k]fluoranthene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzoic acid | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzyl alcohol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Bis(2-chloroethoxy)methane | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Bis(2-chloroethyl)ether | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Bis(2-chloroisopropyl)ether | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Bis(2-ethylhexyl)phthalate | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Bromophenyl phenyl ether | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Butyl benzyl phthalate | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Carbazole | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Chloro-3-methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Chloroaniline | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Chloronaphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Chlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Chlorophenyl phenyl ether | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Chrysene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Di-n-butyl phthalate | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Di-n-octyl phthalate | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Dibenz[a,h]anthracene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Dibenzo[a,i]pyrene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Dibenzofuran | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,2-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,3-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,4-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4-Dichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Diethyl phthalate | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Dimethyl phthalate | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4-Dimethylphenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4,6-Dinitro-2-methylphenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4-Dinitrophenol | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4-Dinitrotoluene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,6-Dinitrotoluene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Fluoranthene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Fluorene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Hexachlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Hexachlorobutadiene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Project:** Rio Salado Pilot/10.199023.12

# QC SUMMARY REPORT

Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Hexachlorocyclopentadiene | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Hexachloroethane | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Indeno[1,2,3-cd]pyrene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Isophorone | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Methylnaphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| N-Nitrosodi-n-propylamine | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| N-Nitrosodimethylamine | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| N-Nitrosodiphenylamine | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Naphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Nitroaniline | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 3-Nitroaniline | <0.18 | 0.18 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Nitroaniline | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Nitrobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Nitrophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Nitrophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Pentachlorophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Phenanthrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Phenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Pyrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,2,4-Trichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4,5-Trichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4,6-Trichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Chlorophenol-d4 | 72 | 20-130 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,2-Dichlorobenzene-d4 | 70 | 20-130 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Fluorobiphenyl | 74 | 30-115 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Fluorophenol | 67 | 25-121 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Nitrobenzene-d5 | 63 | 23-120 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Phenol-d6 | 69 | 24-113 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Terphenyl-d14 | 78 | 18-137 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4,6-Tribromophenol | 62 | 19-122 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Project:** Rio Salado Pilot/10.199023.12

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | <1.5 | 1.5 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Benzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Bromobenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Bromochloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Bromodichloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Bromoform | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Bromomethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 2-Butanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| n-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| sec-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| tert-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Carbon tetrachloride | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Chlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Chloroethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 2-Chloroethylvinylether | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Chloroform | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Chloromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 2-Chlorotoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 4-Chlorotoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Dibromochloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 1,2-Dibromoethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 1,2-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 1,3-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 1,4-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Dichlorodifluoromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 1,1-Dichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 1,2-Dichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 1,1-Dichloroethene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| cis-1,2-Dichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| trans-1,2-Dichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 1,2-Dichloropropane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 1,3-Dichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 2,2-Dichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 1,1-Dichloropropene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| cis-1,3-Dichloropropene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| trans-1,3-Dichloropropene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Ethylbenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 2-Hexanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 4-Isopropyltoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Methyl tert-butyl ether | <0.20 | 0.20 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 4-Methyl-2-pentanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Methylene chloride | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| n-Propylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Styrene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 1,1,2,2-Tetrachloroethane | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Project:** Rio Salado Pilot/10.199023.12

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Toluene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 1,2,3-Trichlorobenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 1,1,1-Trichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 1,1,2-Trichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Trichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Trichlorofluoromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 1,2,3-Trichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 1,2,4-Trimethylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 1,3,5-Trimethylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Vinyl acetate | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Vinyl chloride | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Xylenes, Total | <0.15 | 0.15 | | mg/Kg | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 4-Bromofluorobenzene | 98 | 74-119 | | %REC | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Dibromofluoromethane | 96 | 71-123 | | %REC | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| 1,2-Dichloroethane-d4 | 97 | 69-122 | | %REC | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |
| Toluene-d8 | 103 | 75-118 | | %REC | 1 | SW8260B | 12/4/00 | 12/12/00 10:03 pm | MTB | GCMS10_001212C |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Project:** Rio Salado Pilot/10.199023.12

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0011099-225AS** | Batch ID: FUELS1_001206A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/6/00 5:47 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| C10-C22 DRO | 439 | 30 | 500 | <30 | 88% | 65 | 121 | | | | |
| o-Terphenyl | 9.49 | N/A | 10.0 | N/A | 95% | 65 | 123 | | | | |
| Sample ID: **0011099-225ASD** | Batch ID: FUELS1_001206A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/6/00 6:32 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| C10-C22 DRO | 445 | 30 | 500 | <30 | 89% | 65 | 121 | 439 | 1% | 20 | |
| o-Terphenyl | 9.57 | N/A | 10.0 | N/A | 96% | 65 | 123 | | | | |
| Sample ID: **0011236-01CS** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 0.9565 | 0.50 | 1.000 | <0.50 | 96% | 75 | 125 | | | | |
| Barium | 10.46 | 1.0 | 11.00 | <1.0 | 95% | 75 | 125 | | | | |
| Cadmium | 0.9090 | 0.50 | 1.000 | <0.50 | 91% | 75 | 125 | | | | |
| Chromium | 0.8709 | 0.50 | 1.000 | <0.50 | 87% | 75 | 125 | | | | |
| Lead | 0.8789 | 0.50 | 1.000 | <0.50 | 88% | 75 | 125 | | | | |
| Selenium | 0.9541 | 0.50 | 1.000 | <0.50 | 95% | 75 | 125 | | | | |
| Sample ID: **0011236-01CSD** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 0.9281 | 0.50 | 1.000 | <0.50 | 93% | 75 | 125 | 0.9565 | 3% | 20 | |
| Barium | 10.17 | 1.0 | 11.00 | <1.0 | 92% | 75 | 125 | 10.46 | 3% | 20 | |
| Cadmium | 0.9028 | 0.50 | 1.000 | <0.50 | 90% | 75 | 125 | 0.9090 | 1% | 20 | |
| Chromium | 0.8571 | 0.50 | 1.000 | <0.50 | 86% | 75 | 125 | 0.8709 | 2% | 20 | |
| Lead | 0.8578 | 0.50 | 1.000 | <0.50 | 86% | 75 | 125 | 0.8789 | 2% | 20 | |
| Selenium | 0.9772 | 0.50 | 1.000 | <0.50 | 98% | 75 | 125 | 0.9541 | 2% | 20 | |
| Sample ID: **0011236-01CSD** | Batch ID: 3817A | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Silver | 0.5334 | 0.50 | 0.5000 | <0.50 | 107% | 75 | 125 | 0.5464 | 2% | 20 | |
| Sample ID: **0011236-01CS** | Batch ID: 3817A | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Silver | 0.5464 | 0.50 | 0.5000 | <0.50 | 109% | 75 | 125 | | | | |
| Sample ID: **0011236-01CSD** | Batch ID: 3823 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01039 | 0.0020 | 0.01000 | <0.0020 | 104% | 85 | 115 | 0.01024 | 1% | 20 | |
| Sample ID: **0011236-01CS** | Batch ID: 3823 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01024 | 0.0020 | 0.01000 | <0.0020 | 102% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Project:** Rio Salado Pilot/10.199023.12

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012009-01CS** | Batch ID: 3830 | | | Test Code: SW6010B | | | | Date Analyzed: 12/14/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Antimony | 21.90 | 5.0 | 50.00 | <5.0 | 44% | 75 | 125 | | | | M2 |
| Arsenic | 57.51 | 5.0 | 50.00 | 7.294 | 100% | 75 | 125 | | | | |
| Beryllium | 47.62 | 2.5 | 50.00 | <2.5 | 95% | 75 | 125 | | | | |
| Cadmium | 48.30 | 2.5 | 50.00 | <2.5 | 97% | 75 | 125 | | | | |
| Copper | 77.71 | 5.0 | 50.00 | 20.69 | 114% | 75 | 125 | | | | |
| Lead | 132.0 | 5.0 | 50.00 | 45.14 | 174% | 75 | 125 | | | | M2 |
| Selenium | 48.28 | 5.0 | 50.00 | <5.0 | 97% | 75 | 125 | | | | |
| Silver | 23.30 | 5.0 | 25.00 | <5.0 | 93% | 75 | 125 | | | | |
| Thallium | 45.70 | 10 | 50.00 | <10 | 91% | 75 | 125 | | | | |
| Zinc | 641.2 | 5.0 | 550.0 | 133.0 | 92% | 75 | 125 | | | | |
| Sample ID: **0012009-01CSD** | Batch ID: 3830 | | | Test Code: SW6010B | | | | Date Analyzed: 12/14/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Antimony | 22.85 | 5.0 | 50.00 | <5.0 | 46% | 75 | 125 | 21.90 | 4% | 20 | M2 |
| Arsenic | 54.34 | 5.0 | 50.00 | 7.294 | 94% | 75 | 125 | 57.51 | 6% | 20 | |
| Beryllium | 46.20 | 2.5 | 50.00 | <2.5 | 92% | 75 | 125 | 47.62 | 3% | 20 | |
| Cadmium | 46.46 | 2.5 | 50.00 | <2.5 | 93% | 75 | 125 | 48.30 | 4% | 20 | |
| Copper | 77.95 | 5.0 | 50.00 | 20.69 | 115% | 75 | 125 | 77.71 | 0% | 20 | |
| Lead | 94.00 | 5.0 | 50.00 | 45.14 | 98% | 75 | 125 | 132.0 | 34% | 20 | R1 |
| Selenium | 44.59 | 5.0 | 50.00 | <5.0 | 89% | 75 | 125 | 48.28 | 8% | 20 | |
| Silver | 22.94 | 5.0 | 25.00 | <5.0 | 92% | 75 | 125 | 23.30 | 2% | 20 | |
| Thallium | 44.96 | 10 | 50.00 | <10 | 90% | 75 | 125 | 45.70 | 2% | 20 | |
| Zinc | 619.8 | 5.0 | 550.0 | 133.0 | 89% | 75 | 125 | 641.2 | 3% | 20 | |
| Sample ID: **0012009-01CSD** | Batch ID: 3830A | | | Test Code: SW6010B | | | | Date Analyzed: 12/15/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Chromium | 68.35 | 5.0 | 50.00 | 14.67 | 107% | 75 | 125 | 65.31 | 5% | 20 | |
| Nickel | 65.29 | 5.0 | 50.00 | 17.60 | 95% | 75 | 125 | 67.49 | 3% | 20 | |
| Sample ID: **0012009-01CS** | Batch ID: 3830A | | | Test Code: SW6010B | | | | Date Analyzed: 12/15/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Chromium | 65.31 | 5.0 | 50.00 | 14.67 | 101% | 75 | 125 | | | | |
| Nickel | 67.49 | 5.0 | 50.00 | 17.60 | 100% | 75 | 125 | | | | |
| Sample ID: **0012050-01DSD** | Batch ID: 3825 | | | Test Code: SW7471A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 1.167 | 0.083 | 1.250 | <0.083 | 93% | 85 | 115 | 1.175 | 1% | 20 | |
| Sample ID: **0012050-01DS** | Batch ID: 3825 | | | Test Code: SW7471A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 1.175 | 0.083 | 1.250 | <0.083 | 94% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Project:** Rio Salado Pilot/10.199023.12

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0011208-04AS** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.213 | 0.083 | 1.250 | <0.083 | 97% | 85 | 115 | | | | |
| Sample ID: **0011208-04ASD** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.283 | 0.083 | 1.250 | <0.083 | 103% | 85 | 115 | 1.213 | 6% | 20 | |
| Sample ID: **0012009-01CS** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.417 | 0.083 | 1.250 | <0.083 | 113% | 85 | 115 | | | | |
| Sample ID: **0012009-01CSD** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.309 | 0.083 | 1.250 | <0.083 | 105% | 85 | 115 | 1.417 | 8% | 20 | |
| Sample ID: **0012023-01A-MS** | Batch ID: 3802 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 8:13 pm | | | |
| Client ID: **Pilot - 12/4 - 1** | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Acenaphthene | 1.495 | N/A | 2.000 | 0.000 | 75% | 57 | 101 | | | | |
| 4-Chloro-3-methylphenol | 1.550 | 1.5 | 2.000 | <1.5 | 77% | 49 | 108 | | | | |
| 2-Chlorophenol | 1.135 | N/A | 2.000 | 0.000 | 57% | 49 | 98 | | | | |
| 1,4-Dichlorobenzene | 1.055 | N/A | 2.000 | 0.000 | 53% | 41 | 100 | | | | |
| 2,4-Dinitrotoluene | 1.690 | N/A | 2.000 | 0.000 | 84% | 50 | 120 | | | | |
| N-Nitrosodi-n-propylamine | 0.7900 | N/A | 2.000 | 0.000 | 39% | 43 | 104 | | | | M2 |
| 4-Nitrophenol | 1.730 | N/A | 2.000 | 0.000 | 86% | 55 | 117 | | | | |
| Pentachlorophenol | 1.360 | N/A | 2.000 | 0.000 | 68% | 45 | 115 | | | | |
| Phenol | 1.225 | N/A | 2.000 | 0.000 | 61% | 50 | 100 | | | | |
| Pyrene | 1.860 | 1.5 | 2.000 | <1.5 | 93% | 59 | 120 | | | | |
| 1,2,4-Trichlorobenzene | 1.205 | N/A | 2.000 | 0.000 | 60% | 43 | 102 | | | | |
| 2-Chlorophenol-d4 | 1.700 | N/A | 3.000 | N/A | 57% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 1.085 | N/A | 2.000 | N/A | 54% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 1.370 | N/A | 2.000 | N/A | 68% | 30 | 115 | | | | |
| 2-Fluorophenol | 1.280 | N/A | 3.000 | N/A | 43% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 1.165 | N/A | 2.000 | N/A | 58% | 23 | 120 | | | | |
| Phenol-d6 | 1.835 | N/A | 3.000 | N/A | 61% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 1.845 | N/A | 2.000 | N/A | 92% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 1.825 | N/A | 3.000 | N/A | 61% | 19 | 122 | | | | |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Project:** Rio Salado Pilot/10.199023.12

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012023-01A-MS** | Batch ID: 3802 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 9:09 pm | | | |
| Client ID: **Pilot - 12/4 - 1** | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Acenaphthene | 1.645 | N/A | 2.000 | 0.000 | 82% | 57 | 101 | 1.495 | 10% | 19 | |
| 4-Chloro-3-methylphenol | 1.690 | 1.5 | 2.000 | <1.5 | 84% | 49 | 108 | 1.550 | 9% | 33 | |
| 2-Chlorophenol | 1.305 | N/A | 2.000 | 0.000 | 65% | 49 | 98 | 1.135 | 14% | 50 | |
| 1,4-Dichlorobenzene | 1.220 | N/A | 2.000 | 0.000 | 61% | 41 | 100 | 1.055 | 15% | 27 | |
| 2,4-Dinitrotoluene | 1.885 | N/A | 2.000 | 0.000 | 94% | 50 | 120 | 1.690 | 11% | 47 | |
| N-Nitrosodi-n-propylamine | 1.390 | N/A | 2.000 | 0.000 | 69% | 43 | 104 | 0.7900 | 55% | 38 | R2 |
| 4-Nitrophenol | 1.885 | N/A | 2.000 | 0.000 | 94% | 55 | 117 | 1.730 | 9% | 50 | |
| Pentachlorophenol | 1.355 | N/A | 2.000 | 0.000 | 68% | 45 | 115 | 1.360 | 0% | 47 | |
| Phenol | 1.355 | N/A | 2.000 | 0.000 | 68% | 50 | 100 | 1.225 | 10% | 35 | |
| Pyrene | 2.100 | 1.5 | 2.000 | <1.5 | 105% | 59 | 120 | 1.860 | 12% | 36 | |
| 1,2,4-Trichlorobenzene | 1.325 | N/A | 2.000 | 0.000 | 66% | 43 | 102 | 1.205 | 9% | 23 | |
| 2-Chlorophenol-d4 | 1.810 | N/A | 3.000 | N/A | 60% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 1.115 | N/A | 2.000 | N/A | 56% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.09500 | N/A | 2.000 | N/A | 5% | 30 | 115 | | | | S9 |
| 2-Fluorophenol | 1.475 | N/A | 3.000 | N/A | 49% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 1.235 | N/A | 2.000 | N/A | 62% | 23 | 120 | | | | |
| Phenol-d6 | 1.930 | N/A | 3.000 | N/A | 64% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 1.945 | N/A | 2.000 | N/A | 97% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 2.130 | N/A | 3.000 | N/A | 71% | 19 | 122 | | | | |
| Sample ID: **0012023-01BS** | Batch ID: GCMS10_001212C | | | Test Code: SW8260B | | | | Date Analyzed: 12/12/00 11:08 pm | | | |
| Client ID: **Pilot - 12/4 - 1** | | | | Units: mg/Kg | | | | Date Prepared: 12/4/00 | | | |
| Benzene | 0.9375 | 0.050 | 1.000 | <0.050 | 94% | 72 | 119 | | | | |
| Chlorobenzene | 0.9350 | 0.050 | 1.000 | <0.050 | 94% | 73 | 114 | | | | |
| 1,1-Dichloroethene | 0.9290 | 0.10 | 1.000 | <0.10 | 93% | 52 | 130 | | | | |
| Toluene | 0.9110 | 0.10 | 1.000 | <0.10 | 91% | 74 | 117 | | | | |
| Trichloroethene | 0.9430 | 0.050 | 1.000 | <0.050 | 94% | 76 | 118 | | | | |
| 4-Bromofluorobenzene | 2.481 | N/A | 2.500 | N/A | 99% | 74 | 119 | | | | |
| Dibromofluoromethane | 2.437 | N/A | 2.500 | N/A | 97% | 71 | 123 | | | | |
| 1,2-Dichloroethane-d4 | 2.380 | N/A | 2.500 | N/A | 95% | 69 | 122 | | | | |
| Toluene-d8 | 2.472 | N/A | 2.500 | N/A | 99% | 75 | 118 | | | | |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Project:** Rio Salado Pilot/10.199023.12

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012023-01BSD** | Batch ID: GCMS10_001212C | | | Test Code: SW8260B | | | | Date Analyzed: 12/12/00 11:41 pm | | | |
| Client ID: **Pilot - 12/4 - 1** | | | | Units: mg/Kg | | | | Date Prepared: 12/4/00 | | | |
| Benzene | 0.9000 | 0.050 | 1.000 | <0.050 | 90% | 72 | 119 | 0.9375 | 4% | 20 | |
| Chlorobenzene | 0.8925 | 0.050 | 1.000 | <0.050 | 89% | 73 | 114 | 0.9350 | 5% | 20 | |
| 1,1-Dichloroethene | 0.9495 | 0.10 | 1.000 | <0.10 | 95% | 52 | 130 | 0.9290 | 2% | 20 | |
| Toluene | 0.9020 | 0.10 | 1.000 | <0.10 | 90% | 74 | 117 | 0.9110 | 1% | 20 | |
| Trichloroethene | 0.8965 | 0.050 | 1.000 | <0.050 | 90% | 76 | 118 | 0.9430 | 5% | 20 | |
| 4-Bromofluorobenzene | 2.425 | N/A | 2.500 | N/A | 97% | 74 | 119 | | | | |
| Dibromofluoromethane | 2.296 | N/A | 2.500 | N/A | 92% | 71 | 123 | | | | |
| 1,2-Dichloroethane-d4 | 2.307 | N/A | 2.500 | N/A | 92% | 69 | 122 | | | | |
| Toluene-d8 | 2.424 | N/A | 2.500 | N/A | 97% | 75 | 118 | | | | |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Project:** Rio Salado Pilot/10.199023.12

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LFB SOIL** | Batch ID: FUELS1_001206A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/6/00 3:31 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| C10-C22 DRO | 454 | 30 | 500 | <30 | 91% | 78 | 111 | | | | |
| o-Terphenyl | 9.92 | N/A | 10.0 | N/A | 99% | 65 | 123 | | | | |
| Sample ID: **LCSD-3817** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 0.9570 | 0.50 | 1.000 | <0.50 | 96% | 85 | 115 | 0.9550 | 0% | 20 | |
| Barium | 10.30 | 1.0 | 11.00 | <1.0 | 94% | 85 | 115 | 10.26 | 0% | 20 | |
| Cadmium | 0.9368 | 0.50 | 1.000 | <0.50 | 94% | 85 | 115 | 0.9238 | 1% | 20 | |
| Chromium | 0.9086 | 0.50 | 1.000 | <0.50 | 91% | 85 | 115 | 0.8929 | 2% | 20 | |
| Lead | 0.8651 | 0.50 | 1.000 | <0.50 | 87% | 85 | 115 | 0.8604 | 1% | 20 | |
| Selenium | 1.038 | 0.50 | 1.000 | <0.50 | 104% | 85 | 115 | 0.9835 | 5% | 20 | |
| Sample ID: **LCS-3817** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 0.9550 | 0.50 | 1.000 | <0.50 | 96% | 85 | 115 | | | | |
| Barium | 10.26 | 1.0 | 11.00 | <1.0 | 93% | 85 | 115 | | | | |
| Cadmium | 0.9238 | 0.50 | 1.000 | <0.50 | 92% | 85 | 115 | | | | |
| Chromium | 0.8929 | 0.50 | 1.000 | <0.50 | 89% | 85 | 115 | | | | |
| Lead | 0.8604 | 0.50 | 1.000 | <0.50 | 86% | 85 | 115 | | | | |
| Selenium | 0.9835 | 0.50 | 1.000 | <0.50 | 98% | 85 | 115 | | | | |
| Sample ID: **LCSD-3817** | Batch ID: 3817A | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Silver | 0.5195 | 0.50 | 0.5000 | <0.50 | 104% | 85 | 115 | 0.5302 | 2% | 20 | |
| Sample ID: **LCS-3817** | Batch ID: 3817A | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Silver | 0.5302 | 0.50 | 0.5000 | <0.50 | 106% | 85 | 115 | | | | |
| Sample ID: **LCS-3823** | Batch ID: 3823 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01008 | 0.0020 | 0.01000 | <0.0020 | 101% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Project:** Rio Salado Pilot/10.199023.12

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCSD-3830** | Batch ID: 3830 | | | Test Code: SW6010B | | | | Date Analyzed: 12/14/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Antimony | 45.63 | 5.0 | 50.00 | <5.0 | 91% | 85 | 115 | 46.67 | 2% | 20 | |
| Arsenic | 48.44 | 5.0 | 50.00 | <5.0 | 97% | 85 | 115 | 50.58 | 4% | 20 | |
| Beryllium | 46.71 | 2.5 | 50.00 | <2.5 | 93% | 85 | 115 | 47.66 | 2% | 20 | |
| Cadmium | 48.10 | 2.5 | 50.00 | <2.5 | 96% | 85 | 115 | 49.13 | 2% | 20 | |
| Copper | 48.41 | 5.0 | 50.00 | <5.0 | 97% | 85 | 115 | 49.63 | 2% | 20 | |
| Lead | 49.07 | 5.0 | 50.00 | <5.0 | 98% | 85 | 115 | 50.37 | 3% | 20 | |
| Selenium | 47.41 | 5.0 | 50.00 | <5.0 | 95% | 85 | 115 | 50.09 | 5% | 20 | |
| Silver | 22.37 | 5.0 | 25.00 | <5.0 | 89% | 85 | 115 | 22.14 | 1% | 20 | |
| Thallium | 48.45 | 10 | 50.00 | <10 | 97% | 85 | 115 | 49.45 | 2% | 20 | |
| Zinc | 523.2 | 5.0 | 550.0 | <5.0 | 95% | 85 | 115 | 522.1 | 0% | 20 | |
| Sample ID: **LCS-3830** | Batch ID: 3830 | | | Test Code: SW6010B | | | | Date Analyzed: 12/14/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Antimony | 46.67 | 5.0 | 50.00 | <5.0 | 93% | 85 | 115 | | | | |
| Arsenic | 50.58 | 5.0 | 50.00 | <5.0 | 101% | 85 | 115 | | | | |
| Beryllium | 47.66 | 2.5 | 50.00 | <2.5 | 95% | 85 | 115 | | | | |
| Cadmium | 49.13 | 2.5 | 50.00 | <2.5 | 98% | 85 | 115 | | | | |
| Copper | 49.63 | 5.0 | 50.00 | <5.0 | 99% | 85 | 115 | | | | |
| Lead | 50.37 | 5.0 | 50.00 | <5.0 | 101% | 85 | 115 | | | | |
| Selenium | 50.09 | 5.0 | 50.00 | <5.0 | 100% | 85 | 115 | | | | |
| Silver | 22.14 | 5.0 | 25.00 | <5.0 | 89% | 85 | 115 | | | | |
| Thallium | 49.45 | 10 | 50.00 | <10 | 99% | 85 | 115 | | | | |
| Zinc | 522.1 | 5.0 | 550.0 | <5.0 | 95% | 85 | 115 | | | | |
| Sample ID: **LCSD-3830** | Batch ID: 3830A | | | Test Code: SW6010B | | | | Date Analyzed: 12/15/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Chromium | 52.64 | 5.0 | 50.00 | <5.0 | 105% | 85 | 115 | 56.43 | 7% | 20 | |
| Nickel | 50.92 | 5.0 | 50.00 | <5.0 | 102% | 85 | 115 | 52.47 | 3% | 20 | |
| Sample ID: **LCS-3830** | Batch ID: 3830A | | | Test Code: SW6010B | | | | Date Analyzed: 12/15/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/14/00 | | | |
| Chromium | 56.43 | 5.0 | 50.00 | <5.0 | 113% | 85 | 115 | | | | |
| Nickel | 52.47 | 5.0 | 50.00 | <5.0 | 105% | 85 | 115 | | | | |
| Sample ID: **LCSD-3825** | Batch ID: 3825 | | | Test Code: SW7471A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 1.219 | 0.083 | 1.250 | <0.083 | 98% | 85 | 115 | 1.213 | 0% | 20 | |
| Sample ID: **LCS-3825** | Batch ID: 3825 | | | Test Code: SW7471A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 1.213 | 0.083 | 1.250 | <0.083 | 97% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Project:** Rio Salado Pilot/10.199023.12

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCS-3806** | Batch ID: 3806 | | | Test Code: SW7471A | | | | Date Analyzed: 12/6/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Mercury | 1.313 | 0.083 | 1.250 | <0.083 | 105% | 85 | 115 | | | | |
| Sample ID: **LCS-3802** | Batch ID: 3802 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 4:14 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Acenaphthene | 0.5337 | 0.10 | 0.6667 | <0.10 | 80% | 57 | 101 | | | | |
| 4-Chloro-3-methylphenol | 0.5433 | 0.10 | 0.6667 | <0.10 | 81% | 49 | 108 | | | | |
| 2-Chlorophenol | 0.5237 | 0.10 | 0.6667 | <0.10 | 79% | 49 | 98 | | | | |
| 1,4-Dichlorobenzene | 0.5123 | 0.10 | 0.6667 | <0.10 | 77% | 41 | 100 | | | | |
| 2,4-Dinitrotoluene | 0.5330 | 0.17 | 0.6667 | <0.17 | 80% | 50 | 120 | | | | |
| N-Nitrosodi-n-propylamine | 0.5283 | 0.10 | 0.6667 | <0.10 | 79% | 43 | 104 | | | | |
| 4-Nitrophenol | 0.3917 | 0.17 | 0.6667 | <0.17 | 59% | 55 | 117 | | | | |
| Pentachlorophenol | 0.4757 | 0.17 | 0.6667 | <0.17 | 71% | 45 | 115 | | | | |
| Phenol | 0.5327 | 0.10 | 0.6667 | <0.10 | 80% | 50 | 100 | | | | |
| Pyrene | 0.5877 | 0.10 | 0.6667 | <0.10 | 88% | 59 | 120 | | | | |
| 1,2,4-Trichlorobenzene | 0.5160 | 0.10 | 0.6667 | <0.10 | 77% | 43 | 102 | | | | |
| 2-Chlorophenol-d4 | 0.8030 | N/A | 1.000 | N/A | 80% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 0.5303 | N/A | 0.6667 | N/A | 80% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.5490 | N/A | 0.6667 | N/A | 82% | 30 | 115 | | | | |
| 2-Fluorophenol | 0.7563 | N/A | 1.000 | N/A | 76% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 0.5223 | N/A | 0.6667 | N/A | 78% | 23 | 120 | | | | |
| Phenol-d6 | 0.7893 | N/A | 1.000 | N/A | 79% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 0.5980 | N/A | 0.6667 | N/A | 90% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 0.8933 | N/A | 1.000 | N/A | 89% | 19 | 122 | | | | |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Project:** Rio Salado Pilot/10.199023.12

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCSD-3802** | Batch ID: 3802 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 5:17 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Acenaphthene | 0.5493 | 0.10 | 0.6667 | <0.10 | 82% | 57 | 101 | 0.5337 | 3% | 19 | |
| 4-Chloro-3-methylphenol | 0.5660 | 0.10 | 0.6667 | <0.10 | 85% | 49 | 108 | 0.5433 | 4% | 33 | |
| 2-Chlorophenol | 0.5690 | 0.10 | 0.6667 | <0.10 | 85% | 49 | 98 | 0.5237 | 8% | 50 | |
| 1,4-Dichlorobenzene | 0.5500 | 0.10 | 0.6667 | <0.10 | 82% | 41 | 100 | 0.5123 | 7% | 27 | |
| 2,4-Dinitrotoluene | 0.5490 | 0.17 | 0.6667 | <0.17 | 82% | 50 | 120 | 0.5330 | 3% | 47 | |
| N-Nitrosodi-n-propylamine | 0.5617 | 0.10 | 0.6667 | <0.10 | 84% | 43 | 104 | 0.5283 | 6% | 38 | |
| 4-Nitrophenol | 0.4260 | 0.17 | 0.6667 | <0.17 | 64% | 55 | 117 | 0.3917 | 8% | 50 | |
| Pentachlorophenol | 0.5123 | 0.17 | 0.6667 | <0.17 | 77% | 45 | 115 | 0.4757 | 7% | 47 | |
| Phenol | 0.5700 | 0.10 | 0.6667 | <0.10 | 85% | 50 | 100 | 0.5327 | 7% | 35 | |
| Pyrene | 0.6283 | 0.10 | 0.6667 | <0.10 | 94% | 59 | 120 | 0.5877 | 7% | 36 | |
| 1,2,4-Trichlorobenzene | 0.5357 | 0.10 | 0.6667 | <0.10 | 80% | 43 | 102 | 0.5160 | 4% | 23 | |
| 2-Chlorophenol-d4 | 0.8460 | N/A | 1.000 | N/A | 85% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 0.5580 | N/A | 0.6667 | N/A | 84% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.5563 | N/A | 0.6667 | N/A | 83% | 30 | 115 | | | | |
| 2-Fluorophenol | 0.8100 | N/A | 1.000 | N/A | 81% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 0.5513 | N/A | 0.6667 | N/A | 83% | 23 | 120 | | | | |
| Phenol-d6 | 0.8263 | N/A | 1.000 | N/A | 83% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 0.6307 | N/A | 0.6667 | N/A | 95% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 0.8997 | N/A | 1.000 | N/A | 90% | 19 | 122 | | | | |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Project:** Rio Salado Pilot/10.199023.12

# QC SUMMARY REPORT

Secondary Source QC Sample

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCSV-3823** | Batch ID: 3823 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01004 | 0.0020 | 0.01000 | <0.0020 | 100% | 85 | 115 | | | | |
| Sample ID: **LCSV SOIL 12/4** | Batch ID: GCMS10_001212C | | | Test Code: SW8260B | | | | Date Analyzed: 12/12/00 8:59 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/4/00 | | | |
| Benzene | 0.9345 | 0.050 | 1.000 | <0.050 | 93% | 77 | 119 | | | | |
| Chlorobenzene | 0.9340 | 0.050 | 1.000 | <0.050 | 93% | 78 | 115 | | | | |
| 1,1-Dichloroethene | 0.8945 | 0.10 | 1.000 | <0.10 | 89% | 60 | 126 | | | | |
| Toluene | 0.9190 | 0.10 | 1.000 | <0.10 | 92% | 79 | 120 | | | | |
| Trichloroethene | 0.9190 | 0.050 | 1.000 | <0.050 | 92% | 79 | 120 | | | | |
| 4-Bromofluorobenzene | 2.468 | N/A | 2.500 | N/A | 99% | 74 | 119 | | | | |
| Dibromofluoromethane | 2.527 | N/A | 2.500 | N/A | 101% | 71 | 123 | | | | |
| 1,2-Dichloroethane-d4 | 2.365 | N/A | 2.500 | N/A | 95% | 69 | 122 | | | | |
| Toluene-d8 | 2.515 | N/A | 2.500 | N/A | 101% | 75 | 118 | | | | |
| Sample ID: **LCSVD SOIL 12/** | Batch ID: GCMS10_001212C | | | Test Code: SW8260B | | | | Date Analyzed: 12/12/00 9:31 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/4/00 | | | |
| Benzene | 0.9750 | 0.050 | 1.000 | <0.050 | 98% | 77 | 119 | 0.9345 | 4% | 20 | |
| Chlorobenzene | 0.9680 | 0.050 | 1.000 | <0.050 | 97% | 78 | 115 | 0.9340 | 4% | 20 | |
| 1,1-Dichloroethene | 0.9085 | 0.10 | 1.000 | <0.10 | 91% | 60 | 126 | 0.8945 | 2% | 20 | |
| Toluene | 0.9080 | 0.10 | 1.000 | <0.10 | 91% | 79 | 120 | 0.9190 | 1% | 20 | |
| Trichloroethene | 0.9265 | 0.050 | 1.000 | <0.050 | 93% | 79 | 120 | 0.9190 | 1% | 20 | |
| 4-Bromofluorobenzene | 2.391 | N/A | 2.500 | N/A | 96% | 74 | 119 | | | | |
| Dibromofluoromethane | 2.489 | N/A | 2.500 | N/A | 100% | 71 | 123 | | | | |
| 1,2-Dichloroethane-d4 | 2.503 | N/A | 2.500 | N/A | 100% | 69 | 122 | | | | |
| Toluene-d8 | 2.460 | N/A | 2.500 | N/A | 98% | 75 | 118 | | | | |

TRANSWEST GEOCHEM

**Date:** 28-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012023
**Project:** Rio Salado Pilot/10.199023.12

# QC SUMMARY REPORT

## Analytical Spike

| Analyte | Result | PQL | Units | Spike Value | Spike Ref Val | % Rec | Limit | Date Prepared | Date Analyzed | Analyst | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012009-01CA** | | | Test Code: | SW6010B | | | | Batch ID: | 3830 | | |
| Antimony | 44.25 | 5.0 | mg/Kg | 50 | <5.0 | 89% | 75 - 125 | 12/14/00 | 12/14/00 | MR | |
| Lead | 88.61 | 5.0 | mg/Kg | 50 | 45.14 | 87% | 75 - 125 | 12/14/00 | 12/14/00 | MR | |

TRANSWEST GEOCHEM
3725 East Atlanta Avenue, Suite 2
Phoenix, Arizona 85040
Phone: (602) 437-0330
Fax: (602) 437-0660

# Chain of Custody

TGI Work Order No: 001023

Date 12/4/00 Page 1 of 1

| | |
|---|---|
| Project Manager: | BRAD JOHNSTON |
| Client Name: | SCS |
| Address: | |
| City, State ZIP: | |
| Phone: | Fax: |

| | |
|---|---|
| Bill to: | |
| Company: | |
| Address: | |
| City, State ZIP: | |
| Phone: | Fax: |

| | |
|---|---|
| P.O. No.: | |
| Project Name: | RIO SALADO PILOT |
| Project Number: | 10.199023.12 T2 |

**SAMPLE RECEIPT**

| | | | |
|---|---|---|---|
| Temperature: | Ambient / Cold | Ice: | |
| Received Intact: | Y | Absent / Present | |
| Custody Seals: | NA | Wet / Blue | |
| Total No. of Containers: | 3 | | |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Lab ID | No. of Containers | TPH, (418.1 /418.1AZ) | TPH, 8015AZR.1 | BTEX (8021B) | Volatile Organics GCMS (624/8260AZ) | SDWA Volatiles, (524.2) | Semi-Volatile Organics GCMS (625/8270) | Organochlorine Pesticides (608/8081) | PCB's, (8082) | PAH, EPA 8310 | 8 RCRA Metals | 13 Priority Pollutant Metals | 8260 | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PILOT-12/4-1 | SOIL | 12/4/00 | 4:50P | 1 | 3 | | X | | | | X | | | | | X | X | | | | | | | NORMAL TAT |

| Relinquished by: (Signature) | (Print Name) | Date/Time | Received by: (Signature) | (Print Name) | Date/Time |
|---|---|---|---|---|---|
| 1 [signature] | BRAD JOHNSTON | 12/4/00 5:18PM | [signature] | SKyHarden | 12/4/00 17:18 |
| 2 | | | | | |
| 3 | | | | | |

White copy to TGI, Yellow copy for final report, Pink copy to sampler

Revised : 6/29/00

**TRANSWEST GEOCHEM**

December 14, 2000

Brad Johnston
SCS Engineers
2702 N. 44th St., Suite 105B
Phoenix, AZ 85008

RE: Rio Salado Pilot/10.199023.12 T3

Work Order No.: 0012040

Dear Brad,

Transwest Geochem, Inc. received 2 samples on 12/6/2000 11:57:00 AM for the analyses presented in the following report.

The Case Narrative of this report addresses any Quality Control and/or Quality Assurance issues associated with this Work Order.

If you have any questions regarding these test results, please feel free to call us at (602) 437-0330.

Sincerely,

Michael Barber for:

Beth Proffitt
Project Manager

ADHS License No. AZM133/AZ0133

**Date Printed:** 14-Dec-00

**Client:** SCS Engineers
**Work Order:** 0012040
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12 T3

# CASE NARRATIVE

Transwest Geochem, Inc. uses the methods outlined in the following references:

Code of Federal Regulations, 40CFR, Part 136, Revised July 1995.

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, Revised August 1993.

Methods for the Determination of Metals in Environmental Samples, EPA/600/R-94/111, Revised May 1994.

Hach, Water Analysis Handbook, 2nd Edition, 1992.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

Metals were analyzed using multi-element ICP instrumentation. Some metals reported in the QC report may not be associated with this Work Order.

Secondary Source QC Sample (LCSV) results may not be reported for all methods and/or analysis dates.

The sample introduction technique for Method 8015AZ used by this laboratory is direct injection.

All method blanks, laboratory spikes, and/or matrix spikes met quality control objectives for the parameters associated with this Work Order.

Data qualifiers ("flags") contained within this analytical report have been issued to explain a quality control deficiency, and do not affect the quality (validity) of the data unless noted otherwise in the case narrative.



3725 E. Atlanta Ave. • Suite 2 • Phoenix, Arizona 85040 • (602) 437-0330 • 1-800-927-5183 • Fax (602) 437-0660

TRANSWEST GEOCHEM

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12 T3
**Work Order:** 0012040
**Date Received:** 06-Dec-00

# Work Order Sample Summary

| Client Sample ID | Lab Sample ID | Test Code | Collection Date |
|---|---|---|---|
| Pilot - 12/6 - 1 | 0012040-01A | 8015AZ | 12/6/2000 10:38:00 AM |
| | | SW8270C | 12/6/2000 10:38:00 AM |
| | 0012040-01B | SW8260B | 12/6/2000 10:38:00 AM |
| | 0012040-01C | SW1311/6010B | 12/6/2000 10:38:00 AM |
| | | SW1311/7470A | 12/6/2000 10:38:00 AM |
| Pilot - 12/6 - 2 | 0012040-02A | 8015AZ | 12/6/2000 10:43:00 AM |
| | | SW8270C | 12/6/2000 10:43:00 AM |
| | 0012040-02B | SW8260B | 12/6/2000 10:43:00 AM |
| | 0012040-02C | SW1311/6010B | 12/6/2000 10:43:00 AM |
| | | SW1311/7470A | 12/6/2000 10:43:00 AM |

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12 T3
**Work Order:** 0012040
**Date Received:** 06-Dec-00

# Data Qualifiers

One or more of the following data qualifiers may be associated with your analytical and/or quality control data.

| | |
|---|---|
| M2 | Matrix spike recovery was low, the method control sample recovery was acceptable. |
| R | RPD outside acceptance criteria. |
| R2 | RPD exceeded the laboratory control limit. See case narrative. |
| S | Spike or Surrogate recovery outside acceptance criteria. |
| S9 | The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria. The method control sample recovery was acceptable. |

Date Printed 14-Dec-00

License No. AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12 T3
**Work Order:** 0012040
**Date Received:** 06-Dec-00

# Definitions

| | |
|---|---|
| Analytical Spike (AS) | The AS is a known amount of a target analyte added to a sample after it has been distilled, digested, or extracted and is ready for analysis. The AS is generally performed if the MS has failed. It is used to indicate interference that arises from sample distillation, digestion, or extraction as opposed to interference that is innate to the matrix. |
| Continuing Curve Verification (CCV) | The CCV is also referred to as a curve check. This is a standard analyzed at specified intervals during an analysis. The CCV verifies the stability and accuracy of the calibration curve. There are specific CCV recovery acceptance criteria for each method. |
| Dilution Factor (DF) | The DF is an indication of how much a sample had to be diluted in order to quantitate it on a standard curve. The DF is indicated in the reported sample result. The sample PQL increases as the dilution increases. |
| Internal Standard (IS) | The IS is a compound that is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. The same concentration of IS is added to every sample for some organic methods. |
| Laboratory Control Sample (LCS) | The LCS is also referred to as a blank spike. The LCS is an addition of a known amount of a target analyte (from the same source as calibration standards or spikes) to an aliquot of deionized water or other appropriate clean matrix. The LCS is processed through the entire method procedure in the same manner as samples. |
| Matrix Spike (MS) | The MS is a known amount of a target analyte added to a sample. The MS is processed through the entire method procedure in the same manner as samples. |
| Method Blank (MB) | The MB is an aliquot of deionized water or other appropriate clean matrix that is thought to be free of the analyte in question. The MB is processed through the entire extraction or analysis procedure and is used to indicate contamination in the lab. |
| Method Detection Limit (MDL) | The MDL is the lowest level of detection of which a method is capable. |
| Practical Quantitation Limit (PQL) | The PQL is the lowest value at which Transwest Geochem can detect an analyte in matrix with a high degree of confidence. The PQL will increase as the DF increases. The PQL is greater than or equal to the MDL. |
| Relative Percent Difference (RPD) | The RPD is a measure of precision (the ability to obtain the same result on re-analysis of the same sample). It is calculated using the result of a sample, MS, LCS, or LCSV and its associated duplicate result. |
| Secondary Source QC Sample (LCSV) | The LCSV is also referred to as a second source laboratory control sample. It is the same type of standard as a calibration or spiking standard but is obtained from a different source. The LCSV is an indication of the primary standard quality, method performance, and instrument performance. |
| Surrogate | A surrogate compound is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. When surrogates are used, they are added to every sample, blank and standard. Surrogate recovery is used as an indication of extraction and/or analytical success. |
| Trip Blank (TB) | The TB is a portion of deionized water preserved in the same manner as the samples. The TB travels from the lab, to the field, and then back to the lab with the samples from the field. The TB serves as an indication of contamination introduced during sample transportation. |

TRANSWEST GEOCHEM

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Lab ID:** 0012040-01
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12 T3

**Client Sample ID:** Pilot - 12/6 - 1
**Collection Date:** 12/6/2000 10:38:00 AM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 GRO | <20 | 20 | | mg/Kg | 1 | 8015AZ | 12/6/2000 | 12/6/00 11:45 pm | JH | FUELS1_001206A |
| C10-C22 DRO | <30 | 30 | | mg/Kg | 1 | 8015AZ | 12/6/2000 | 12/6/00 11:45 pm | JH | FUELS1_001206A |
| C22-C32 ORO | 100 | 100 | | mg/Kg | 1 | 8015AZ | 12/6/2000 | 12/6/00 11:45 pm | JH | FUELS1_001206A |
| C10-C32 SRL | <130 | 130 | | mg/Kg | 1 | 8015AZ | 12/6/2000 | 12/6/00 11:45 pm | JH | FUELS1_001206A |
| o-Terphenyl (Surrogate) | 105 | 65-123 | | %REC | 1 | 8015AZ | 12/6/2000 | 12/6/00 11:45 pm | JH | FUELS1_001206A |
| Arsenic | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Barium | <1.0 | 1.0 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Cadmium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Chromium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Lead | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Selenium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Silver | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/13/00 | MR | 3817 |
| Mercury | <0.0020 | 0.0020 | | mg/L | 1 | SW1311/7470A | 12/11/2000 | 12/12/00 | TL | 3822 |



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TRANSWEST GEOCHEM

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**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Lab ID:** 0012040-01
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12 T3

**Client Sample ID:** Pilot - 12/6 - 1
**Collection Date:** 12/6/2000 10:38:00 AM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Acenaphthylene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Aniline | <10 | 10 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Anthracene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Azobenzene | <4.0 | 4.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Benz[a]anthracene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Benzo[a]pyrene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Benzo[b]fluoranthene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Benzo[g,h,i]perylene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Benzo[k]fluoranthene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Benzoic acid | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Benzyl alcohol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Bis(2-chloroethoxy)methane | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Bis(2-chloroethyl)ether | <3.5 | 3.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Bis(2-chloroisopropyl)ether | <4.0 | 4.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Bis(2-ethylhexyl)phthalate | <4.0 | 4.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 4-Bromophenyl phenyl ether | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Butyl benzyl phthalate | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Carbazole | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 4-Chloro-3-methylphenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 4-Chloroaniline | <3.5 | 3.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 2-Chloronaphthalene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 2-Chlorophenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 4-Chlorophenyl phenyl ether | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Chrysene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Di-n-butyl phthalate | <3.5 | 3.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Di-n-octyl phthalate | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Dibenz[a,h]anthracene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Dibenzo[a,i]pyrene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Dibenzofuran | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 1,2-Dichlorobenzene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 1,3-Dichlorobenzene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 1,4-Dichlorobenzene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 2,4-Dichlorophenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Diethyl phthalate | <3.5 | 3.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Dimethyl phthalate | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 2,4-Dimethylphenol | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 4,6-Dinitro-2-methylphenol | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 2,4-Dinitrophenol | <10 | 10 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 2,4-Dinitrotoluene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 2,6-Dinitrotoluene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Fluoranthene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Fluorene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Hexachlorobenzene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |



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TRANSWEST GEOCHEM

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Lab ID:** 0012040-01
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12 T3

**Client Sample ID:** Pilot - 12/6 - 1
**Collection Date:** 12/6/2000 10:38:00 AM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Hexachlorobutadiene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Hexachlorocyclopentadiene | <10 | 10 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Hexachloroethane | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Indeno[1,2,3-cd]pyrene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Isophorone | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 2-Methylnaphthalene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 2-Methylphenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 4-Methylphenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| N-Nitrosodi-n-propylamine | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| N-Nitrosodimethylamine | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| N-Nitrosodiphenylamine | <3.5 | 3.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Naphthalene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 2-Nitroaniline | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 3-Nitroaniline | <5.5 | 5.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 4-Nitroaniline | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Nitrobenzene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 2-Nitrophenol | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 4-Nitrophenol | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Pentachlorophenol | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Phenanthrene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Phenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Pyrene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 1,2,4-Trichlorobenzene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 2,4,5-Trichlorophenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 2,4,6-Trichlorophenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 2-Chlorophenol-d4 (Surrogate) | 53 | 20-130 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 1,2-Dichlorobenzene-d4 (Surrogate) | 54 | 20-130 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 2-Fluorobiphenyl (Surrogate) | 72 | 30-115 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 2-Fluorophenol (Surrogate) | 34 | 25-121 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Nitrobenzene-d5 (Surrogate) | 58 | 23-120 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| Phenol-d6 (Surrogate) | 53 | 24-113 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 4-Terphenyl-d14 (Surrogate) | 78 | 18-137 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |
| 2,4,6-Tribromophenol (Surrogate) | 16 | 19-122 | S9 | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 4:29 pm | MHH | 3802 |



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TRANSWEST GEOCHEM

Date Printed 14-Dec-00

License No. AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Lab ID:** 0012040-01
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12 T3

**Client Sample ID:** Pilot - 12/6 - 1
**Collection Date:** 12/6/2000 10:38:00 AM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | <1.5 | 1.5 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Benzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Bromobenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Bromochloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Bromodichloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Bromoform | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Bromomethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 2-Butanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| n-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| sec-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| tert-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Carbon tetrachloride | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Chlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Chloroethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 2-Chloroethylvinylether | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Chloroform | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Chloromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 2-Chlorotoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 4-Chlorotoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Dibromochloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 1,2-Dibromoethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 1,2-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 1,3-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 1,4-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Dichlorodifluoromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 1,1-Dichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 1,2-Dichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 1,1-Dichloroethene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| cis-1,2-Dichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| trans-1,2-Dichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 1,2-Dichloropropane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 1,3-Dichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 2,2-Dichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 1,1-Dichloropropene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| cis-1,3-Dichloropropene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| trans-1,3-Dichloropropene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Ethylbenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 2-Hexanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 4-Isopropyltoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Methyl tert-butyl ether | <0.20 | 0.20 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 4-Methyl-2-pentanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Methylene chloride | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| n-Propylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Styrene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |



**Confidential and Privileged**

TRANSWEST GEOCHEM

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Lab ID:** 0012040-01
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12 T3

**Client Sample ID:** Pilot - 12/6 - 1
**Collection Date:** 12/6/2000 10:38:00 AM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,2,2-Tetrachloroethane | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Tetrachloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Toluene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 1,2,3-Trichlorobenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 1,1,1-Trichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 1,1,2-Trichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Trichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Trichlorofluoromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 1,2,3-Trichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 1,2,4-Trimethylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 1,3,5-Trimethylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Vinyl acetate | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Vinyl chloride | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Xylenes, Total | <0.15 | 0.15 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 4-Bromofluorobenzene (Surrogate) | 91 | 74-119 | | %REC | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Dibromofluoromethane (Surrogate) | 101 | 71-123 | | %REC | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| 1,2-Dichloroethane-d4 (Surrogate) | 93 | 69-122 | | %REC | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |
| Toluene-d8 (Surrogate) | 97 | 75-118 | | %REC | 1 | SW8260B | 12/6/2000 | 12/13/00 2:58 pm | MTB | GCMS10_001213B |



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TRANSWEST GEOCHEM

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Lab ID:** 0012040-02
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12 T3

**Client Sample ID:** Pilot - 12/6 - 2
**Collection Date:** 12/6/2000 10:43:00 AM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 GRO | <20 | 20 | | mg/Kg | 1 | 8015AZ | 12/6/2000 | 12/7/00 1:14 am | JH | FUELS1_001206A |
| C10-C22 DRO | <30 | 30 | | mg/Kg | 1 | 8015AZ | 12/6/2000 | 12/7/00 1:14 am | JH | FUELS1_001206A |
| C22-C32 ORO | 120 | 100 | | mg/Kg | 1 | 8015AZ | 12/6/2000 | 12/7/00 1:14 am | JH | FUELS1_001206A |
| C10-C32 SRL | <130 | 130 | | mg/Kg | 1 | 8015AZ | 12/6/2000 | 12/7/00 1:14 am | JH | FUELS1_001206A |
| o-Terphenyl (Surrogate) | 110 | 65-123 | | %REC | 1 | 8015AZ | 12/6/2000 | 12/7/00 1:14 am | JH | FUELS1_001206A |
| Arsenic | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Barium | <1.0 | 1.0 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Cadmium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Chromium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Lead | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Selenium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Silver | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/13/00 | MR | 3817 |
| Mercury | <0.0020 | 0.0020 | | mg/L | 1 | SW1311/7470A | 12/11/2000 | 12/12/00 | TL | 3822 |



**Confidential and Privileged**

TRANSWEST GEOCHEM

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Lab ID:** 0012040-02
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12 T3

**Client Sample ID:** Pilot - 12/6 - 2
**Collection Date:** 12/6/2000 10:43:00 AM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Acenaphthylene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Aniline | <10 | 10 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Anthracene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Azobenzene | <4.0 | 4.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Benz[a]anthracene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Benzo[a]pyrene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Benzo[b]fluoranthene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Benzo[g,h,i]perylene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Benzo[k]fluoranthene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Benzoic acid | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Benzyl alcohol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Bis(2-chloroethoxy)methane | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Bis(2-chloroethyl)ether | <3.5 | 3.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Bis(2-chloroisopropyl)ether | <4.0 | 4.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Bis(2-ethylhexyl)phthalate | <4.0 | 4.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 4-Bromophenyl phenyl ether | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Butyl benzyl phthalate | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Carbazole | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 4-Chloro-3-methylphenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 4-Chloroaniline | <3.5 | 3.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 2-Chloronaphthalene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 2-Chlorophenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 4-Chlorophenyl phenyl ether | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Chrysene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Di-n-butyl phthalate | <3.5 | 3.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Di-n-octyl phthalate | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Dibenz[a,h]anthracene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Dibenzo[a,i]pyrene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Dibenzofuran | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 1,2-Dichlorobenzene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 1,3-Dichlorobenzene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 1,4-Dichlorobenzene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 2,4-Dichlorophenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Diethyl phthalate | <3.5 | 3.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Dimethyl phthalate | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 2,4-Dimethylphenol | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 4,6-Dinitro-2-methylphenol | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 2,4-Dinitrophenol | <10 | 10 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 2,4-Dinitrotoluene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 2,6-Dinitrotoluene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Fluoranthene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Fluorene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Hexachlorobenzene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |



**Confidential and Privileged**

TRANSWEST GEOCHEM

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Lab ID:** 0012040-02
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12 T3

**Client Sample ID:** Pilot - 12/6 - 2
**Collection Date:** 12/6/2000 10:43:00 AM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Hexachlorobutadiene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Hexachlorocyclopentadiene | <10 | 10 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Hexachloroethane | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Indeno[1,2,3-cd]pyrene | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Isophorone | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 2-Methylnaphthalene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 2-Methylphenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 4-Methylphenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| N-Nitrosodi-n-propylamine | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| N-Nitrosodimethylamine | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| N-Nitrosodiphenylamine | <3.5 | 3.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Naphthalene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 2-Nitroaniline | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 3-Nitroaniline | <5.5 | 5.5 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 4-Nitroaniline | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Nitrobenzene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 2-Nitrophenol | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 4-Nitrophenol | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Pentachlorophenol | <5.0 | 5.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Phenanthrene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Phenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Pyrene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 1,2,4-Trichlorobenzene | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 2,4,5-Trichlorophenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 2,4,6-Trichlorophenol | <3.0 | 3.0 | | mg/Kg | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 2-Chlorophenol-d4 (Surrogate) | 57 | 20-130 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 1,2-Dichlorobenzene-d4 (Surrogate) | 55 | 20-130 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 2-Fluorobiphenyl (Surrogate) | 71 | 30-115 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 2-Fluorophenol (Surrogate) | 40 | 25-121 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Nitrobenzene-d5 (Surrogate) | 53 | 23-120 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| Phenol-d6 (Surrogate) | 56 | 24-113 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 4-Terphenyl-d14 (Surrogate) | 87 | 18-137 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |
| 2,4,6-Tribromophenol (Surrogate) | 26 | 19-122 | | %REC | 5 | SW8270C | 12/6/2000 | 12/13/00 5:25 pm | MHH | 3802 |



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TRANSWEST GEOCHEM

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Lab ID:** 0012040-02
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12 T3

**Client Sample ID:** Pilot - 12/6 - 2
**Collection Date:** 12/6/2000 10:43:00 AM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | <1.5 | 1.5 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Benzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Bromobenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Bromochloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Bromodichloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Bromoform | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Bromomethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 2-Butanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| n-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| sec-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| tert-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Carbon tetrachloride | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Chlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Chloroethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 2-Chloroethylvinylether | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Chloroform | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Chloromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 2-Chlorotoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 4-Chlorotoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Dibromochloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 1,2-Dibromoethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 1,2-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 1,3-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 1,4-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Dichlorodifluoromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 1,1-Dichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 1,2-Dichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 1,1-Dichloroethene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| cis-1,2-Dichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| trans-1,2-Dichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 1,2-Dichloropropane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 1,3-Dichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 2,2-Dichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 1,1-Dichloropropene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| cis-1,3-Dichloropropene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| trans-1,3-Dichloropropene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Ethylbenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 2-Hexanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 4-Isopropyltoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Methyl tert-butyl ether | <0.20 | 0.20 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 4-Methyl-2-pentanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Methylene chloride | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| n-Propylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Styrene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |



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TRANSWEST GEOCHEM

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Lab ID:** 0012040-02
**Project Name:** Rio Salado Pilot
**Project Number:** 10.199023.12 T3

**Client Sample ID:** Pilot - 12/6 - 2
**Collection Date:** 12/6/2000 10:43:00 AM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,2,2-Tetrachloroethane | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Tetrachloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Toluene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 1,2,3-Trichlorobenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 1,1,1-Trichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 1,1,2-Trichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Trichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Trichlorofluoromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 1,2,3-Trichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 1,2,4-Trimethylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 1,3,5-Trimethylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Vinyl acetate | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Vinyl chloride | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Xylenes, Total | <0.15 | 0.15 | | mg/Kg | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 4-Bromofluorobenzene (Surrogate) | 92 | 74-119 | | %REC | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Dibromofluoromethane (Surrogate) | 92 | 71-123 | | %REC | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| 1,2-Dichloroethane-d4 (Surrogate) | 92 | 69-122 | | %REC | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |
| Toluene-d8 (Surrogate) | 97 | 75-118 | | %REC | 1 | SW8260B | 12/6/2000 | 12/13/00 3:30 pm | MTB | GCMS10_001213B |



**Confidential and Privileged**

TRANSWEST GEOCHEM

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Project:** Rio Salado Pilot/10.199023.12 T3

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 GRO | <20 | 20 | | mg/Kg | 1 | 8015AZ | 12/6/00 | 12/6/00 2:45 pm | JH | FUELS1_001206A |
| C10-C22 DRO | <30 | 30 | | mg/Kg | 1 | 8015AZ | 12/6/00 | 12/6/00 2:45 pm | JH | FUELS1_001206A |
| C22-C32 ORO | <100 | 100 | | mg/Kg | 1 | 8015AZ | 12/6/00 | 12/6/00 2:45 pm | JH | FUELS1_001206A |
| C10-C32 SRL | <130 | 130 | | mg/Kg | 1 | 8015AZ | 12/6/00 | 12/6/00 2:45 pm | JH | FUELS1_001206A |
| o-Terphenyl | 105 | 65-123 | | %REC | 1 | 8015AZ | 12/6/00 | 12/6/00 2:45 pm | JH | FUELS1_001206A |
| Arsenic | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Barium | <1.0 | 1.0 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Cadmium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Chromium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Lead | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Selenium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Silver | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/13/00 | MR | 3817 |
| Mercury | <0.0020 | 0.0020 | | mg/L | 1 | SW1311/7470A | 12/12/00 | 12/12/00 | TL | 3822 |

TRANSWEST GEOCHEM

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Project:** Rio Salado Pilot/10.199023.12 T3

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Acenaphthylene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Aniline | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Anthracene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Azobenzene | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benz[a]anthracene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzo[a]pyrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzo[b]fluoranthene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzo[g,h,i]perylene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzo[k]fluoranthene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzoic acid | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Benzyl alcohol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Bis(2-chloroethoxy)methane | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Bis(2-chloroethyl)ether | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Bis(2-chloroisopropyl)ether | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Bis(2-ethylhexyl)phthalate | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Bromophenyl phenyl ether | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Butyl benzyl phthalate | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Carbazole | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Chloro-3-methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Chloroaniline | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Chloronaphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Chlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Chlorophenyl phenyl ether | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Chrysene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Di-n-butyl phthalate | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Di-n-octyl phthalate | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Dibenz[a,h]anthracene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Dibenzo[a,i]pyrene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Dibenzofuran | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,2-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,3-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,4-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4-Dichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Diethyl phthalate | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Dimethyl phthalate | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4-Dimethylphenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4,6-Dinitro-2-methylphenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4-Dinitrophenol | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4-Dinitrotoluene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,6-Dinitrotoluene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Fluoranthene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Fluorene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Hexachlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Hexachlorobutadiene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |

TRANSWEST GEOCHEM

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Project:** Rio Salado Pilot/10.199023.12 T3

# QC SUMMARY REPORT

Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Hexachlorocyclopentadiene | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Hexachloroethane | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Indeno[1,2,3-cd]pyrene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Isophorone | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Methylnaphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| N-Nitrosodi-n-propylamine | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| N-Nitrosodimethylamine | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| N-Nitrosodiphenylamine | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Naphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Nitroaniline | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 3-Nitroaniline | <0.18 | 0.18 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Nitroaniline | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Nitrobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Nitrophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Nitrophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Pentachlorophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Phenanthrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Phenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Pyrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,2,4-Trichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4,5-Trichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4,6-Trichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Chlorophenol-d4 | 72 | 20-130 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 1,2-Dichlorobenzene-d4 | 70 | 20-130 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Fluorobiphenyl | 74 | 30-115 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2-Fluorophenol | 67 | 25-121 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Nitrobenzene-d5 | 63 | 23-120 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| Phenol-d6 | 69 | 24-113 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 4-Terphenyl-d14 | 78 | 18-137 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |
| 2,4,6-Tribromophenol | 62 | 19-122 | | %REC | 1 | SW8270C | 12/6/00 | 12/13/00 3:08 pm | MHH | 3802 |

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Project:** Rio Salado Pilot/10.199023.12 T3

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acetone | <1.5 | 1.5 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Benzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Bromobenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Bromochloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Bromodichloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Bromoform | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Bromomethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 2-Butanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| n-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| sec-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| tert-Butylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Carbon tetrachloride | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Chlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Chloroethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 2-Chloroethylvinylether | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Chloroform | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Chloromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 2-Chlorotoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 4-Chlorotoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Dibromochloromethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 1,2-Dibromoethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 1,2-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 1,3-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 1,4-Dichlorobenzene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Dichlorodifluoromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 1,1-Dichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 1,2-Dichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 1,1-Dichloroethene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| cis-1,2-Dichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| trans-1,2-Dichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 1,2-Dichloropropane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 1,3-Dichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 2,2-Dichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 1,1-Dichloropropene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| cis-1,3-Dichloropropene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| trans-1,3-Dichloropropene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Ethylbenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 2-Hexanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 4-Isopropyltoluene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Methyl tert-butyl ether | <0.20 | 0.20 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 4-Methyl-2-pentanone | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Methylene chloride | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| n-Propylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Styrene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 1,1,2,2-Tetrachloroethane | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Project:** Rio Salado Pilot/10.199023.12 T3

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Toluene | <0.10 | 0.10 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 1,2,3-Trichlorobenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 1,1,1-Trichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 1,1,2-Trichloroethane | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Trichloroethene | <0.050 | 0.050 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Trichlorofluoromethane | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 1,2,3-Trichloropropane | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 1,2,4-Trimethylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 1,3,5-Trimethylbenzene | <0.25 | 0.25 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Vinyl acetate | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Vinyl chloride | <0.50 | 0.50 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Xylenes, Total | <0.15 | 0.15 | | mg/Kg | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 4-Bromofluorobenzene | 93 | 74-119 | | %REC | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Dibromofluoromethane | 106 | 71-123 | | %REC | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| 1,2-Dichloroethane-d4 | 105 | 69-122 | | %REC | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |
| Toluene-d8 | 101 | 75-118 | | %REC | 1 | SW8260B | 12/6/00 | 12/13/00 1:50 pm | MTB | GCMS10_001213B |

TRANSWEST GEOCHEM

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Project:** Rio Salado Pilot/10.199023.12 T3

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0011099-225AS** | Batch ID: FUELS1_001206A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/6/00 5:47 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| C10-C22 DRO | 439 | 30 | 500 | <30 | 88% | 65 | 121 | | | | |
| o-Terphenyl | 9.49 | N/A | 10.0 | N/A | 95% | 65 | 123 | | | | |
| Sample ID: **0011099-225ASD** | Batch ID: FUELS1_001206A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/6/00 6:32 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| C10-C22 DRO | 445 | 30 | 500 | <30 | 89% | 65 | 121 | 439 | 1% | 20 | |
| o-Terphenyl | 9.57 | N/A | 10.0 | N/A | 96% | 65 | 123 | | | | |
| Sample ID: **0011236-01CSD** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: N/A | | | |
| Arsenic | 0.9281 | 0.50 | 1.000 | <0.50 | 93% | 75 | 125 | 0.9565 | 3% | 20 | |
| Barium | 10.17 | 1.0 | 11.00 | <1.0 | 92% | 75 | 125 | 10.46 | 3% | 20 | |
| Cadmium | 0.9028 | 0.50 | 1.000 | <0.50 | 90% | 75 | 125 | 0.9090 | 1% | 20 | |
| Chromium | 0.8571 | 0.50 | 1.000 | <0.50 | 86% | 75 | 125 | 0.8709 | 2% | 20 | |
| Lead | 0.8578 | 0.50 | 1.000 | <0.50 | 86% | 75 | 125 | 0.8789 | 2% | 20 | |
| Selenium | 0.9772 | 0.50 | 1.000 | <0.50 | 98% | 75 | 125 | 0.9541 | 2% | 20 | |
| Sample ID: **0011236-01CS** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 0.9565 | 0.50 | 1.000 | <0.50 | 96% | 75 | 125 | | | | |
| Barium | 10.46 | 1.0 | 11.00 | <1.0 | 95% | 75 | 125 | | | | |
| Cadmium | 0.9090 | 0.50 | 1.000 | <0.50 | 91% | 75 | 125 | | | | |
| Chromium | 0.8709 | 0.50 | 1.000 | <0.50 | 87% | 75 | 125 | | | | |
| Lead | 0.8789 | 0.50 | 1.000 | <0.50 | 88% | 75 | 125 | | | | |
| Selenium | 0.9541 | 0.50 | 1.000 | <0.50 | 95% | 75 | 125 | | | | |
| Sample ID: **0011236-01CSD** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: N/A | | | |
| Silver | 0.5334 | 0.50 | 0.5000 | <0.50 | 107% | 75 | 125 | 0.5464 | 2% | 20 | |
| Sample ID: **0011236-01CS** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Silver | 0.5464 | 0.50 | 0.5000 | <0.50 | 109% | 75 | 125 | | | | |
| Sample ID: **0012017-01ASD** | Batch ID: 3822 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01024 | 0.0020 | 0.01000 | <0.0020 | 102% | 85 | 115 | 0.01031 | 1% | 20 | |
| Sample ID: **0012017-01AS** | Batch ID: 3822 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01031 | 0.0020 | 0.01000 | <0.0020 | 103% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Project:** Rio Salado Pilot/10.199023.12 T3

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0011236-01CSD** | Batch ID: 3822 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01039 | 0.0020 | 0.01000 | <0.0020 | 104% | 85 | 115 | 0.01024 | 1% | 20 | |
| Sample ID: **0011236-01CS** | Batch ID: 3822 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01024 | 0.0020 | 0.01000 | <0.0020 | 102% | 85 | 115 | | | | |
| Sample ID: **0012023-01A-MS** | Batch ID: 3802 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 8:13 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Acenaphthene | 1.495 | N/A | 2.000 | 0.000 | 75% | 57 | 101 | | | | |
| 4-Chloro-3-methylphenol | 1.550 | 1.5 | 2.000 | <1.5 | 77% | 49 | 108 | | | | |
| 2-Chlorophenol | 1.135 | N/A | 2.000 | 0.000 | 57% | 49 | 98 | | | | |
| 1,4-Dichlorobenzene | 1.055 | N/A | 2.000 | 0.000 | 53% | 41 | 100 | | | | |
| 2,4-Dinitrotoluene | 1.690 | N/A | 2.000 | 0.000 | 84% | 50 | 120 | | | | |
| N-Nitrosodi-n-propylamine | 0.7900 | N/A | 2.000 | 0.000 | 39% | 43 | 104 | | | | M2 |
| 4-Nitrophenol | 1.730 | N/A | 2.000 | 0.000 | 86% | 55 | 117 | | | | |
| Pentachlorophenol | 1.360 | N/A | 2.000 | 0.000 | 68% | 45 | 115 | | | | |
| Phenol | 1.225 | N/A | 2.000 | 0.000 | 61% | 50 | 100 | | | | |
| Pyrene | 1.860 | 1.5 | 2.000 | <1.5 | 93% | 59 | 120 | | | | |
| 1,2,4-Trichlorobenzene | 1.205 | N/A | 2.000 | 0.000 | 60% | 43 | 102 | | | | |
| 2-Chlorophenol-d4 | 1.700 | N/A | 3.000 | N/A | 57% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 1.085 | N/A | 2.000 | N/A | 54% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 1.370 | N/A | 2.000 | N/A | 68% | 30 | 115 | | | | |
| 2-Fluorophenol | 1.280 | N/A | 3.000 | N/A | 43% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 1.165 | N/A | 2.000 | N/A | 58% | 23 | 120 | | | | |
| Phenol-d6 | 1.835 | N/A | 3.000 | N/A | 61% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 1.845 | N/A | 2.000 | N/A | 92% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 1.825 | N/A | 3.000 | N/A | 61% | 19 | 122 | | | | |

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Project:** Rio Salado Pilot/10.199023.12 T3

# QC SUMMARY REPORT

Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012023-01A-MS** | Batch ID: 3802 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 9:09 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Acenaphthene | 1.645 | N/A | 2.000 | 0.000 | 82% | 57 | 101 | 1.495 | 10% | 19 | |
| 4-Chloro-3-methylphenol | 1.690 | 1.5 | 2.000 | <1.5 | 84% | 49 | 108 | 1.550 | 9% | 33 | |
| 2-Chlorophenol | 1.305 | N/A | 2.000 | 0.000 | 65% | 49 | 98 | 1.135 | 14% | 50 | |
| 1,4-Dichlorobenzene | 1.220 | N/A | 2.000 | 0.000 | 61% | 41 | 100 | 1.055 | 15% | 27 | |
| 2,4-Dinitrotoluene | 1.885 | N/A | 2.000 | 0.000 | 94% | 50 | 120 | 1.690 | 11% | 47 | |
| N-Nitrosodi-n-propylamine | 1.390 | N/A | 2.000 | 0.000 | 69% | 43 | 104 | 0.7900 | 55% | 38 | R2 |
| 4-Nitrophenol | 1.885 | N/A | 2.000 | 0.000 | 94% | 55 | 117 | 1.730 | 9% | 50 | |
| Pentachlorophenol | 1.355 | N/A | 2.000 | 0.000 | 68% | 45 | 115 | 1.360 | 0% | 47 | |
| Phenol | 1.355 | N/A | 2.000 | 0.000 | 68% | 50 | 100 | 1.225 | 10% | 35 | |
| Pyrene | 2.100 | 1.5 | 2.000 | <1.5 | 105% | 59 | 120 | 1.860 | 12% | 36 | |
| 1,2,4-Trichlorobenzene | 1.325 | N/A | 2.000 | 0.000 | 66% | 43 | 102 | 1.205 | 9% | 23 | |
| 2-Chlorophenol-d4 | 1.810 | N/A | 3.000 | N/A | 60% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 1.115 | N/A | 2.000 | N/A | 56% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.09500 | N/A | 2.000 | N/A | 5% | 30 | 115 | | | | S9 |
| 2-Fluorophenol | 1.475 | N/A | 3.000 | N/A | 49% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 1.235 | N/A | 2.000 | N/A | 62% | 23 | 120 | | | | |
| Phenol-d6 | 1.930 | N/A | 3.000 | N/A | 64% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 1.945 | N/A | 2.000 | N/A | 97% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 2.130 | N/A | 3.000 | N/A | 71% | 19 | 122 | | | | |
| Sample ID: **0012040-01BS** | Batch ID: GCMS10_001213B | | | Test Code: SW8260B | | | | Date Analyzed: 12/13/00 4:03 pm | | | |
| Client ID: **Pilot - 12/6 - 1** | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Benzene | 0.8985 | 0.050 | 1.000 | <0.050 | 90% | 72 | 119 | | | | |
| Chlorobenzene | 0.9045 | 0.050 | 1.000 | <0.050 | 90% | 73 | 114 | | | | |
| 1,1-Dichloroethene | 0.8840 | 0.10 | 1.000 | <0.10 | 88% | 52 | 130 | | | | |
| Toluene | 0.9035 | 0.10 | 1.000 | <0.10 | 90% | 74 | 117 | | | | |
| Trichloroethene | 0.9010 | 0.050 | 1.000 | <0.050 | 90% | 76 | 118 | | | | |
| 4-Bromofluorobenzene | 2.443 | N/A | 2.500 | N/A | 98% | 74 | 119 | | | | |
| Dibromofluoromethane | 2.368 | N/A | 2.500 | N/A | 95% | 71 | 123 | | | | |
| 1,2-Dichloroethane-d4 | 2.363 | N/A | 2.500 | N/A | 95% | 69 | 122 | | | | |
| Toluene-d8 | 2.472 | N/A | 2.500 | N/A | 99% | 75 | 118 | | | | |

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Project:** Rio Salado Pilot/10.199023.12 T3

# QC SUMMARY REPORT

Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012040-01BSD** | Batch ID: GCMS10_001213B | | | Test Code: SW8260B | | | | Date Analyzed: 12/13/00 4:35 pm | | | |
| Client ID: **Pilot - 12/6 - 1** | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Benzene | 0.9035 | 0.050 | 1.000 | <0.050 | 90% | 72 | 119 | 0.8985 | 1% | 20 | |
| Chlorobenzene | 0.9185 | 0.050 | 1.000 | <0.050 | 92% | 73 | 114 | 0.9045 | 2% | 20 | |
| 1,1-Dichloroethene | 0.9010 | 0.10 | 1.000 | <0.10 | 90% | 52 | 130 | 0.8840 | 2% | 20 | |
| Toluene | 0.8950 | 0.10 | 1.000 | <0.10 | 90% | 74 | 117 | 0.9035 | 1% | 20 | |
| Trichloroethene | 0.9205 | 0.050 | 1.000 | <0.050 | 92% | 76 | 118 | 0.9010 | 2% | 20 | |
| 4-Bromofluorobenzene | 2.487 | N/A | 2.500 | N/A | 99% | 74 | 119 | | | | |
| Dibromofluoromethane | 2.394 | N/A | 2.500 | N/A | 96% | 71 | 123 | | | | |
| 1,2-Dichloroethane-d4 | 2.432 | N/A | 2.500 | N/A | 97% | 69 | 122 | | | | |
| Toluene-d8 | 2.507 | N/A | 2.500 | N/A | 100% | 75 | 118 | | | | |

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Project:** Rio Salado Pilot/10.199023.12 T3

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LFB SOIL** | Batch ID: FUELS1_001206A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/6/00 3:31 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| C10-C22 DRO | 454 | 30 | 500 | <30 | 91% | 78 | 111 | | | | |
| o-Terphenyl | 9.92 | N/A | 10.0 | N/A | 99% | 65 | 123 | | | | |
| Sample ID: **LCSD-3817** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 0.9570 | 0.50 | 1.000 | <0.50 | 96% | 85 | 115 | 0.9550 | 0% | 20 | |
| Barium | 10.30 | 1.0 | 11.00 | <1.0 | 94% | 85 | 115 | 10.26 | 0% | 20 | |
| Cadmium | 0.9368 | 0.50 | 1.000 | <0.50 | 94% | 85 | 115 | 0.9238 | 1% | 20 | |
| Chromium | 0.9086 | 0.50 | 1.000 | <0.50 | 91% | 85 | 115 | 0.8929 | 2% | 20 | |
| Lead | 0.8651 | 0.50 | 1.000 | <0.50 | 87% | 85 | 115 | 0.8604 | 1% | 20 | |
| Selenium | 1.038 | 0.50 | 1.000 | <0.50 | 104% | 85 | 115 | 0.9835 | 5% | 20 | |
| Sample ID: **LCS-3817** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 0.9550 | 0.50 | 1.000 | <0.50 | 96% | 85 | 115 | | | | |
| Barium | 10.26 | 1.0 | 11.00 | <1.0 | 93% | 85 | 115 | | | | |
| Cadmium | 0.9238 | 0.50 | 1.000 | <0.50 | 92% | 85 | 115 | | | | |
| Chromium | 0.8929 | 0.50 | 1.000 | <0.50 | 89% | 85 | 115 | | | | |
| Lead | 0.8604 | 0.50 | 1.000 | <0.50 | 86% | 85 | 115 | | | | |
| Selenium | 0.9835 | 0.50 | 1.000 | <0.50 | 98% | 85 | 115 | | | | |
| Sample ID: **LCSD-3817** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Silver | 0.5195 | 0.50 | 0.5000 | <0.50 | 104% | 85 | 115 | 0.5302 | 2% | 20 | |
| Sample ID: **LCS-3817** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Silver | 0.5302 | 0.50 | 0.5000 | <0.50 | 106% | 85 | 115 | | | | |
| Sample ID: **LCS-3822** | Batch ID: 3822 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/12/00 | | | |
| Mercury | 0.01044 | 0.0020 | 0.01000 | <0.0020 | 104% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Project:** Rio Salado Pilot/10.199023.12 T3

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCS-3802** | Batch ID: 3802 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 4:14 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Acenaphthene | 0.5337 | 0.10 | 0.6667 | <0.10 | 80% | 57 | 101 | | | | |
| 4-Chloro-3-methylphenol | 0.5433 | 0.10 | 0.6667 | <0.10 | 81% | 49 | 108 | | | | |
| 2-Chlorophenol | 0.5237 | 0.10 | 0.6667 | <0.10 | 79% | 49 | 98 | | | | |
| 1,4-Dichlorobenzene | 0.5123 | 0.10 | 0.6667 | <0.10 | 77% | 41 | 100 | | | | |
| 2,4-Dinitrotoluene | 0.5330 | 0.17 | 0.6667 | <0.17 | 80% | 50 | 120 | | | | |
| N-Nitrosodi-n-propylamine | 0.5283 | 0.10 | 0.6667 | <0.10 | 79% | 43 | 104 | | | | |
| 4-Nitrophenol | 0.3917 | 0.17 | 0.6667 | <0.17 | 59% | 55 | 117 | | | | |
| Pentachlorophenol | 0.4757 | 0.17 | 0.6667 | <0.17 | 71% | 45 | 115 | | | | |
| Phenol | 0.5327 | 0.10 | 0.6667 | <0.10 | 80% | 50 | 100 | | | | |
| Pyrene | 0.5877 | 0.10 | 0.6667 | <0.10 | 88% | 59 | 120 | | | | |
| 1,2,4-Trichlorobenzene | 0.5160 | 0.10 | 0.6667 | <0.10 | 77% | 43 | 102 | | | | |
| 2-Chlorophenol-d4 | 0.8030 | N/A | 1.000 | N/A | 80% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 0.5303 | N/A | 0.6667 | N/A | 80% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.5490 | N/A | 0.6667 | N/A | 82% | 30 | 115 | | | | |
| 2-Fluorophenol | 0.7563 | N/A | 1.000 | N/A | 76% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 0.5223 | N/A | 0.6667 | N/A | 78% | 23 | 120 | | | | |
| Phenol-d6 | 0.7893 | N/A | 1.000 | N/A | 79% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 0.5980 | N/A | 0.6667 | N/A | 90% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 0.8933 | N/A | 1.000 | N/A | 89% | 19 | 122 | | | | |
| Sample ID: **LCSD-3802** | Batch ID: 3802 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 5:17 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Acenaphthene | 0.5493 | 0.10 | 0.6667 | <0.10 | 82% | 57 | 101 | 0.5337 | 3% | 19 | |
| 4-Chloro-3-methylphenol | 0.5660 | 0.10 | 0.6667 | <0.10 | 85% | 49 | 108 | 0.5433 | 4% | 33 | |
| 2-Chlorophenol | 0.5690 | 0.10 | 0.6667 | <0.10 | 85% | 49 | 98 | 0.5237 | 8% | 50 | |
| 1,4-Dichlorobenzene | 0.5500 | 0.10 | 0.6667 | <0.10 | 82% | 41 | 100 | 0.5123 | 7% | 27 | |
| 2,4-Dinitrotoluene | 0.5490 | 0.17 | 0.6667 | <0.17 | 82% | 50 | 120 | 0.5330 | 3% | 47 | |
| N-Nitrosodi-n-propylamine | 0.5617 | 0.10 | 0.6667 | <0.10 | 84% | 43 | 104 | 0.5283 | 6% | 38 | |
| 4-Nitrophenol | 0.4260 | 0.17 | 0.6667 | <0.17 | 64% | 55 | 117 | 0.3917 | 8% | 50 | |
| Pentachlorophenol | 0.5123 | 0.17 | 0.6667 | <0.17 | 77% | 45 | 115 | 0.4757 | 7% | 47 | |
| Phenol | 0.5700 | 0.10 | 0.6667 | <0.10 | 85% | 50 | 100 | 0.5327 | 7% | 35 | |
| Pyrene | 0.6283 | 0.10 | 0.6667 | <0.10 | 94% | 59 | 120 | 0.5877 | 7% | 36 | |
| 1,2,4-Trichlorobenzene | 0.5357 | 0.10 | 0.6667 | <0.10 | 80% | 43 | 102 | 0.5160 | 4% | 23 | |
| 2-Chlorophenol-d4 | 0.8460 | N/A | 1.000 | N/A | 85% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 0.5580 | N/A | 0.6667 | N/A | 84% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.5563 | N/A | 0.6667 | N/A | 83% | 30 | 115 | | | | |
| 2-Fluorophenol | 0.8100 | N/A | 1.000 | N/A | 81% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 0.5513 | N/A | 0.6667 | N/A | 83% | 23 | 120 | | | | |
| Phenol-d6 | 0.8263 | N/A | 1.000 | N/A | 83% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 0.6307 | N/A | 0.6667 | N/A | 95% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 0.8997 | N/A | 1.000 | N/A | 90% | 19 | 122 | | | | |

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012040
**Project:** Rio Salado Pilot/10.199023.12 T3

# QC SUMMARY REPORT

Secondary Source QC Sample

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCSV-3822** | Batch ID: 3822 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01027 | 0.0020 | 0.01000 | <0.0020 | 103% | 85 | 115 | | | | |
| Sample ID: **LCSV SOIL 12/6** | Batch ID: GCMS10_001213B | | | Test Code: SW8260B | | | | Date Analyzed: 12/13/00 1:17 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/6/00 | | | |
| Benzene | 0.9190 | 0.050 | 1.000 | <0.050 | 92% | 77 | 119 | | | | |
| Chlorobenzene | 0.9260 | 0.050 | 1.000 | <0.050 | 93% | 78 | 115 | | | | |
| 1,1-Dichloroethene | 0.8570 | 0.10 | 1.000 | <0.10 | 86% | 60 | 126 | | | | |
| Toluene | 0.9140 | 0.10 | 1.000 | <0.10 | 91% | 79 | 120 | | | | |
| Trichloroethene | 0.9095 | 0.050 | 1.000 | <0.050 | 91% | 79 | 120 | | | | |
| 4-Bromofluorobenzene | 2.446 | N/A | 2.500 | N/A | 98% | 74 | 119 | | | | |
| Dibromofluoromethane | 2.450 | N/A | 2.500 | N/A | 98% | 71 | 123 | | | | |
| 1,2-Dichloroethane-d4 | 2.328 | N/A | 2.500 | N/A | 93% | 69 | 122 | | | | |
| Toluene-d8 | 2.520 | N/A | 2.500 | N/A | 101% | 75 | 118 | | | | |

**TRANSWEST GEOCHEM**

December 29, 2000

Brad Johnston
SCS Engineers
2702 N. 44th St., Suite 105B
Phoenix, AZ 85008

RE: Rio Salado Pilot
Work Order No.: 0012124

Dear Brad,

Transwest Geochem, Inc. received 2 samples on 12/6/2000 11:57:00 AM for the analyses presented in the following report.

The Case Narrative of this report addresses any Quality Control and/or Quality Assurance issues associated with this Work Order.

If you have any questions regarding these test results, please feel free to call us at (602) 437-0330.

Sincerely,

Beth Proffitt
Project Manager

ADHS License No. AZM133/AZ0133

**Client:** SCS Engineers
**Work Order:** 0012124
**Project Name:** Rio Salado Pilot
**Project Number:**

**Date Printed:** 29-Dec-00

# CASE NARRATIVE

Transwest Geochem, Inc. uses the methods outlined in the following references:

Code of Federal Regulations, 40CFR, Part 136, Revised July 1995.

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, Revised August 1993.

Methods for the Determination of Metals in Environmental Samples, EPA/600/R-94/111, Revised May 1994.

Hach, Water Analysis Handbook, 2nd Edition, 1992.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

Metals were analyzed using multi-element ICP instrumentation. Some metals reported in the QC report may not be associated with this Work Order.

Secondary Source QC Sample (LCSV) results may not be reported for all methods and/or analysis dates.

All method blanks, laboratory spikes, and/or matrix spikes met quality control objectives for the parameters associated with this Work Order.

Data qualifiers ("flags") contained within this analytical report have been issued to explain a quality control deficiency, and do not affect the quality (validity) of the data unless noted otherwise in the case narrative.

Analytical Comments for Method SW6010B, Matrix Spike 0012124-01, Batch 3837: A Analytical Spike was analyzed with acceptable recovery.



3725 E. Atlanta Ave. • Suite 2 • Phoenix, Arizona 85040 • (602) 437-0330 • 1-800-927-5183 • Fax (602) 437-0660

TRANSWEST GEOCHEM

**Date Printed** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado Pilot
**Project Number:**
**Work Order:** 0012124
**Date Received:** 06-Dec-00

# Work Order Sample Summary

| Client Sample ID | Lab Sample ID | Test Code | Collection Date |
|---|---|---|---|
| Pilot - 12/6 - 1 | 0012124-01A | SW6010B | 12/6/2000 10:38:00 AM |
| | | SW7471A | 12/6/2000 10:38:00 AM |
| Pilot - 12/6 - 2 | 0012124-02A | SW6010B | 12/6/2000 10:43:00 AM |
| | | SW7471A | 12/6/2000 10:43:00 AM |

**Date Printed** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado Pilot
**Project Number:**
**Work Order:** 0012124
**Date Received:** 06-Dec-00

# Data Qualifiers

One or more of the following data qualifiers may be associated with your analytical and/or quality control data.

M2 Matrix spike recovery was low, the method control sample recovery was acceptable.

**Date Printed** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado Pilot
**Project Number:**
**Work Order:** 0012124
**Date Received:** 06-Dec-00

# Definitions

| | |
|---|---|
| Analytical Spike (AS) | The AS is a known amount of a target analyte added to a sample after it has been distilled, digested, or extracted and is ready for analysis. The AS is generally performed if the MS has failed. It is used to indicate interference that arises from sample distillation, digestion, or extraction as opposed to interference that is innate to the matrix. |
| Continuing Curve Verification (CCV) | The CCV is also referred to as a curve check. This is a standard analyzed at specified intervals during an analysis. The CCV verifies the stability and accuracy of the calibration curve. There are specific CCV recovery acceptance criteria for each method. |
| Dilution Factor (DF) | The DF is an indication of how much a sample had to be diluted in order to quantitate it on a standard curve. The DF is indicated in the reported sample result. The sample PQL increases as the dilution increases. |
| Internal Standard (IS) | The IS is a compound that is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. The same concentration of IS is added to every sample for some organic methods. |
| Laboratory Control Sample (LCS) | The LCS is also referred to as a blank spike. The LCS is an addition of a known amount of a target analyte (from the same source as calibration standards or spikes) to an aliquot of deionized water or other appropriate clean matrix. The LCS is processed through the entire method procedure in the same manner as samples. |
| Matrix Spike (MS) | The MS is a known amount of a target analyte added to a sample. The MS is processed through the entire method procedure in the same manner as samples. |
| Method Blank (MB) | The MB is an aliquot of deionized water or other appropriate clean matrix that is thought to be free of the analyte in question. The MB is processed through the entire extraction or analysis procedure and is used to indicate contamination in the lab. |
| Method Detection Limit (MDL) | The MDL is the lowest level of detection of which a method is capable. |
| Practical Quantitation Limit (PQL) | The PQL is the lowest value at which Transwest Geochem can detect an analyte in matrix with a high degree of confidence. The PQL will increase as the DF increases. The PQL is greater than or equal to the MDL. |
| Relative Percent Difference (RPD) | The RPD is a measure of precision (the ability to obtain the same result on re-analysis of the same sample). It is calculated using the result of a sample, MS, LCS, or LCSV and its associated duplicate result. |
| Secondary Source QC Sample (LCSV) | The LCSV is also referred to as a second source laboratory control sample. It is the same type of standard as a calibration or spiking standard but is obtained from a different source. The LCSV is an indication of the primary standard quality, method performance, and instrument performance. |
| Surrogate | A surrogate compound is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. When surrogates are used, they are added to every sample, blank and standard. Surrogate recovery is used as an indication of extraction and/or analytical success. |
| Trip Blank (TB) | The TB is a portion of deionized water preserved in the same manner as the samples. The TB travels from the lab, to the field, and then back to the lab with the samples from the field. The TB serves as an indication of contamination introduced during sample transportation. |

TRANSWEST GEOCHEM

**Date Printed** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012124
**Lab ID:** 0012124-01
**Project Name:** Rio Salado Pilot
**Project Number:**

**Client Sample ID:** Pilot - 12/6 - 1
**Collection Date:** 12/6/2000 10:38:00 AM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Arsenic | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Beryllium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Cadmium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Chromium | 11 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Copper | 21 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Lead | 46 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Nickel | 14 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Selenium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Silver | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Thallium | <10 | 10 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Zinc | 110 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 12/21/2000 | 12/21/00 | TL | 3853 |



**Confidential and Privileged**

TRANSWEST GEOCHEM

**Date Printed** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012124
**Lab ID:** 0012124-02
**Project Name:** Rio Salado Pilot
**Project Number:**

**Client Sample ID:** Pilot - 12/6 - 2
**Collection Date:** 12/6/2000 10:43:00 AM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Arsenic | 6.3 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Beryllium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Cadmium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Chromium | 11 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Copper | 29 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Lead | 46 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Nickel | 15 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Selenium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Silver | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Thallium | <10 | 10 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Zinc | 110 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/2000 | 12/19/00 | MR | 3837 |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 12/20/2000 | 10/20/00 | TL | 3848 |



**Confidential and Privileged**

**Date:** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012124
**Project:** Rio Salado Pilot

# QC SUMMARY REPORT

Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/00 | 12/19/00 | MR | 3837 |
| Arsenic | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/00 | 12/19/00 | MR | 3837 |
| Beryllium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/18/00 | 12/19/00 | MR | 3837 |
| Cadmium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/18/00 | 12/19/00 | MR | 3837 |
| Chromium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/00 | 12/19/00 | MR | 3837 |
| Copper | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/00 | 12/19/00 | MR | 3837 |
| Lead | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/00 | 12/19/00 | MR | 3837 |
| Nickel | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/00 | 12/19/00 | MR | 3837 |
| Selenium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/00 | 12/19/00 | MR | 3837 |
| Silver | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/00 | 12/19/00 | MR | 3837 |
| Thallium | <10 | 10 | | mg/Kg | 1 | SW6010B | 12/18/00 | 12/19/00 | MR | 3837 |
| Zinc | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/18/00 | 12/19/00 | MR | 3837 |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 12/20/00 | 10/20/00 | TL | 3848 |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 12/21/00 | 12/21/00 | TL | 3853 |

**Date:** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012124
**Project:** Rio Salado Pilot

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012124-01ASD** | Batch ID: 3837 | | | Test Code: SW6010B | | | | Date Analyzed: 12/19/00 | | | |
| Client ID: **Pilot - 12/6 - 1** | | | | Units: mg/Kg | | | | Date Prepared: 12/18/00 | | | |
| Antimony | 21.93 | 5.0 | 50.00 | <5.0 | 44% | 75 | 125 | 25.43 | 15% | 20 | M2 |
| Arsenic | 54.56 | 5.0 | 50.00 | <5.0 | 109% | 75 | 125 | 55.16 | 1% | 20 | |
| Beryllium | 43.29 | 2.5 | 50.00 | <2.5 | 87% | 75 | 125 | 43.72 | 1% | 20 | |
| Cadmium | 47.52 | 2.5 | 50.00 | <2.5 | 95% | 75 | 125 | 47.31 | 0% | 20 | |
| Chromium | 57.14 | 5.0 | 50.00 | 10.53 | 93% | 75 | 125 | 56.44 | 1% | 20 | |
| Copper | 70.02 | 5.0 | 50.00 | 21.04 | 98% | 75 | 125 | 67.37 | 4% | 20 | |
| Lead | 94.09 | 5.0 | 50.00 | 45.84 | 97% | 75 | 125 | 90.47 | 4% | 20 | |
| Nickel | 58.36 | 5.0 | 50.00 | 14.27 | 88% | 75 | 125 | 57.66 | 1% | 20 | |
| Selenium | 45.32 | 5.0 | 50.00 | <5.0 | 91% | 75 | 125 | 44.84 | 1% | 20 | |
| Silver | 21.47 | 5.0 | 25.00 | <5.0 | 86% | 75 | 125 | 21.81 | 2% | 20 | |
| Thallium | 44.82 | 10 | 50.00 | <10 | 90% | 75 | 125 | 44.33 | 1% | 20 | |
| Zinc | 590.4 | 5.0 | 550.0 | 106.6 | 88% | 75 | 125 | 577.8 | 2% | 20 | |
| Sample ID: **0012124-01AS** | Batch ID: 3837 | | | Test Code: SW6010B | | | | Date Analyzed: 12/19/00 | | | |
| Client ID: **Pilot - 12/6 - 1** | | | | Units: mg/Kg | | | | Date Prepared: 12/18/00 | | | |
| Antimony | 25.43 | 5.0 | 50.00 | <5.0 | 51% | 75 | 125 | | | | M2 |
| Arsenic | 55.16 | 5.0 | 50.00 | <5.0 | 110% | 75 | 125 | | | | |
| Beryllium | 43.72 | 2.5 | 50.00 | <2.5 | 87% | 75 | 125 | | | | |
| Cadmium | 47.31 | 2.5 | 50.00 | <2.5 | 95% | 75 | 125 | | | | |
| Chromium | 56.44 | 5.0 | 50.00 | 10.53 | 92% | 75 | 125 | | | | |
| Copper | 67.37 | 5.0 | 50.00 | 21.04 | 93% | 75 | 125 | | | | |
| Lead | 90.47 | 5.0 | 50.00 | 45.84 | 89% | 75 | 125 | | | | |
| Nickel | 57.66 | 5.0 | 50.00 | 14.27 | 87% | 75 | 125 | | | | |
| Selenium | 44.84 | 5.0 | 50.00 | <5.0 | 90% | 75 | 125 | | | | |
| Silver | 21.81 | 5.0 | 25.00 | <5.0 | 87% | 75 | 125 | | | | |
| Thallium | 44.33 | 10 | 50.00 | <10 | 89% | 75 | 125 | | | | |
| Zinc | 577.8 | 5.0 | 550.0 | 106.6 | 86% | 75 | 125 | | | | |
| Sample ID: **0012128-01ASD** | Batch ID: 3848 | | | Test Code: SW7471A | | | | Date Analyzed: 10/20/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/20/00 | | | |
| Mercury | 1.101 | 0.083 | 1.250 | <0.083 | 88% | 85 | 115 | 1.265 | 14% | 20 | |
| Sample ID: **0012128-01AS** | Batch ID: 3848 | | | Test Code: SW7471A | | | | Date Analyzed: 10/20/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/20/00 | | | |
| Mercury | 1.265 | 0.083 | 1.250 | <0.083 | 101% | 85 | 115 | | | | |
| Sample ID: **0012124-01ASD** | Batch ID: 3853 | | | Test Code: SW7471A | | | | Date Analyzed: 12/21/00 | | | |
| Client ID: **Pilot - 12/6 - 1** | | | | Units: mg/Kg | | | | Date Prepared: 12/21/00 | | | |
| Mercury | 1.125 | 0.083 | 1.250 | <0.083 | 90% | 85 | 115 | 1.193 | 6% | 20 | |

**Date:** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012124
**Project:** Rio Salado Pilot

# QC SUMMARY REPORT

Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012124-01AS** | Batch ID: 3853 | | | Test Code: SW7471A | | | | Date Analyzed: 12/21/00 | | | |
| Client ID: **Pilot - 12/6 - 1** | | | | Units: mg/Kg | | | | Date Prepared: 12/21/00 | | | |
| Mercury | 1.193 | 0.083 | 1.250 | <0.083 | 95% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Date:** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012124
**Project:** Rio Salado Pilot

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCS-3837** | Batch ID: 3837 | | | Test Code: SW6010B | | | | Date Analyzed: 12/19/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/18/00 | | | |
| Antimony | 46.56 | 5.0 | 50.00 | <5.0 | 93% | 85 | 115 | | | | |
| Arsenic | 49.00 | 5.0 | 50.00 | <5.0 | 98% | 85 | 115 | | | | |
| Beryllium | 45.77 | 2.5 | 50.00 | <2.5 | 92% | 85 | 115 | | | | |
| Cadmium | 48.29 | 2.5 | 50.00 | <2.5 | 97% | 85 | 115 | | | | |
| Chromium | 48.63 | 5.0 | 50.00 | <5.0 | 97% | 85 | 115 | | | | |
| Copper | 49.71 | 5.0 | 50.00 | <5.0 | 99% | 85 | 115 | | | | |
| Lead | 48.99 | 5.0 | 50.00 | <5.0 | 98% | 85 | 115 | | | | |
| Nickel | 47.90 | 5.0 | 50.00 | <5.0 | 96% | 85 | 115 | | | | |
| Selenium | 49.20 | 5.0 | 50.00 | <5.0 | 98% | 85 | 115 | | | | |
| Silver | 21.34 | 5.0 | 25.00 | <5.0 | 85% | 85 | 115 | | | | |
| Thallium | 49.40 | 10 | 50.00 | <10 | 99% | 85 | 115 | | | | |
| Zinc | 500.8 | 5.0 | 550.0 | <5.0 | 91% | 85 | 115 | | | | |
| Sample ID: **LCSD-3848** | Batch ID: 3848 | | | Test Code: SW7471A | | | | Date Analyzed: 10/20/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/20/00 | | | |
| Mercury | 1.240 | 0.083 | 1.250 | <0.083 | 99% | 85 | 115 | 1.286 | 4% | 20 | |
| Sample ID: **LCS-3848** | Batch ID: 3848 | | | Test Code: SW7471A | | | | Date Analyzed: 10/20/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/20/00 | | | |
| Mercury | 1.286 | 0.083 | 1.250 | <0.083 | 103% | 85 | 115 | | | | |
| Sample ID: **LCSD-3853** | Batch ID: 3853 | | | Test Code: SW7471A | | | | Date Analyzed: 12/21/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/21/00 | | | |
| Mercury | 1.061 | 0.083 | 1.250 | <0.083 | 85% | 85 | 115 | 1.093 | 3% | 20 | |
| Sample ID: **LCS-3853** | Batch ID: 3853 | | | Test Code: SW7471A | | | | Date Analyzed: 12/21/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/21/00 | | | |
| Mercury | 1.093 | 0.083 | 1.250 | <0.083 | 87% | 85 | 115 | | | | |

**Date:** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012124
**Project:** Rio Salado Pilot

# QC SUMMARY REPORT

## Analytical Spike

| Analyte | Result | PQL | Units | Spike Value | Spike Ref Val | % Rec | Limit | Date Prepared | Date Analyzed | Analyst | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: 0012124-01AA | | | Test Code: | SW6010B | | | | Batch ID: | 3837 | | |
| Antimony | 42.99 | 5.0 | mg/L | 50 | <5.0 | 86% | 75 - 125 | 12/18/00 | 12/19/00 | MR | |

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

**TRANSWEST GEOCHEM, INC.** 1810 W. DRAKE DRIVE, SUITE 103 TEMPE, AZ 85283 602-756-1400 602-756-1410 FAX

| | |
|---|---|
| Project Manager: | BRAD JOHNSTON |
| Client Name: | SCS ENGINEERS |
| Address: | |
| City, State ZIP: | |
| Phone: | |
| Fax: | |

| | |
|---|---|
| Bill to: | |
| Company: | |
| Address: | |
| City, State ZIP: | |
| Phone: | |
| Fax: | |

| | |
|---|---|
| Date: | 12/6/00 |
| Page: | 1 of 1 |
| Laboratory: | TGI# 01 |
| Lab Number: | ~~0012010~~ 0012124 |

| | |
|---|---|
| Project Name: | RIO SALADO PILOT |
| Project Number: | 10.199023.12 T3 |

| | |
|---|---|
| P.O. No.: | |

Analysis Requested

| Sample Identification | Date Sampled | Time Sampled | Matrix | Relinquished By: | Time Relinquished: | Date Relinquished: | Received By: | Lab ID: | TRPH (418.1AZ) | BTEX (8021B) | TPH - (8015AZ) | GCMS - (8260B / 624) | 8015 AZ R1 | 8270 | 8260 | PRIORITY POLL. METALS (TOTAL) | | No. Containers: | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PILOT-12/6-1 | 12/6/00 | 10:38 A | SOIL | | | | | 1 | | | | | X | X | X | X | | 3 | |
| PILOT-12/6-2 | 12/6/00 | 10:43 A | SOIL | | | | | 2 | | | | | X | X | X | X | | 3 | |

| Initials: | Printed Name: | Signature: | Date Relinquished: | Time Relinquished: | | |
|---|---|---|---|---|---|---|
| BJ | BRAD JOHNSTON | [signature] | 12/6/00 | 11:57A | Date: | |
| SH | Skip Harder | [signature] | | | Start Time: | |
| | | | | | Stop Time: | |
| | | | | | Hours: | |
| | | | | | Client Sign-off: | |

| | |
|---|---|
| Total Containers: | 6 |
| Received Intact: | Y |
| Received Cold: | Yes wet ice |
| Custody Seals: | NA |

White copy to TGI, Yellow copy for final report, Pink copy to field sampler

Revised: 2/10/99

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

**TRANSWEST GEOCHEM, INC.** 1810 W. DRAKE DRIVE, SUITE 103 TEMPE, AZ 85283 602-756-1400 602-756-1410 FAX

| | |
|---|---|
| Project Manager: | BRAD JOHNSTON |
| Client Name: | SCS ENGINEERS |
| Address: | |
| City, State ZIP | |
| Phone: | |
| Fax: | |

| | |
|---|---|
| Bill to: | |
| Company: | |
| Address: | |
| City, State ZIP | |
| Phone: | |
| Fax: | |

| | |
|---|---|
| Date: | 12/6/00 |
| Page: | 1 of 1 |
| Laboratory: | TGI# 01 |
| Lab Number: | 0012010 |

| | |
|---|---|
| Project Name: | RIO SALADO PILOT |
| Project Number: | 10.199023.12 T3 |

| | |
|---|---|
| P.O. No.: | |

Analysis Requested

| Sample Identification | Date Sampled | Time Sampled | Matrix | Relinquished By: | Time Relinquished: | Date Relinquished: | Received By: | Lab ID: | TRPH (418.1AZ) | BTEX (8021B) | TPH - (8015AZ) | GCMS - (8260B / 624) | 8015 AZ R1 | 8270 | 8260 | PRIORITY POLL. METALS (TOTAL) | | No. Containers: | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PILOT-12/6-1 | 12/6/00 | 10:38 A | SOIL | | | | | 1 | | | | | X | X | X | X | | 3 | |
| PILOT-12/6-2 | 12/6/00 | 10:43 A | SOIL | | | | | 2 | | | | | X | X | X | X | | 3 | |

| Initials: | Printed Name: | Signature: | Date Relinquished: | Time Relinquished: |
|---|---|---|---|---|
| BJ | BRAD JOHNSTON | [signature] | 12/6/00 | 11:57A |
| SH | Steve Harder | [signature] | | |
| | | | | |
| | | | | |

| | |
|---|---|
| Date: | |
| Start Time: | |
| Stop Time: | |
| Hours: | |
| Client Sign-off: | |

| | |
|---|---|
| Total Containers: | 6 |
| Received Intact: | Y |
| Received Cold: | Yes Wet ice |
| Custody Seals: | N/A |

White copy to TGI, Yellow copy for final report, Pink copy to field sampler

Revised: 2/10/99

**TRANSWEST GEOCHEM**

December 14, 2000

Brad Johnston
SCS Engineers
2702 N. 44th St., Suite 105B
Phoenix, AZ 85008

RE: Rio Salado
Work Order No.: 0012050

Dear Brad,

Transwest Geochem, Inc. received 1 sample on 12/7/2000 2:00:00 PM for the analyses presented in the following report.

The Case Narrative of this report addresses any Quality Control and/or Quality Assurance issues associated with this Work Order.

If you have any questions regarding these test results, please feel free to call us at (602) 437-0330.

Sincerely,

Michael Barber for:

Beth Proffitt
Project Manager

ADHS License No. AZM133/AZ0133

**Client:** SCS Engineers
**Work Order:** 0012050
**Project Name:** Rio Salado
**Project Number:**

**Date Printed:** 14-Dec-00

# CASE NARRATIVE

Transwest Geochem, Inc. uses the methods outlined in the following references:

Code of Federal Regulations, 40CFR, Part 136, Revised July 1995.

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, Revised August 1993.

Methods for the Determination of Metals in Environmental Samples, EPA/600/R-94/111, Revised May 1994.

Hach, Water Analysis Handbook, 2nd Edition, 1992.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

Metals were analyzed using multi-element ICP instrumentation. Some metals reported in the QC report may not be associated with this Work Order.

Secondary Source QC Sample (LCSV) results may not be reported for all methods and/or analysis dates.

The sample introduction technique for Method 8015AZ used by this laboratory is direct injection.

All method blanks, laboratory spikes, and/or matrix spikes met quality control objectives for the parameters associated with this Work Order.

Data qualifiers ("flags") contained within this analytical report have been issued to explain a quality control deficiency, and do not affect the quality (validity) of the data unless noted otherwise in the case narrative.

Analytical Comments for Method SW6010B, Analytical Spike 0012050-01, Batch 3811: Post-Digestion Spike for Sb, Cu, Pb, Zn passes Transwest Geochem Acceptance criteria.

Analytical Comments for Method SW6010B, Matrix Spike 0012050-01, Batch 3811: Sb, Cu, Pb, Zn,



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fail MS/MSD due to matrix interference. LCS is within Transwest Geochem Acceptance Criteria.

Analytical Comments for Method SW8270C, Sample 0012050-01, Batch 3810: 4-Nitrophenol was low in the LCSD but acceptable in the LCS. The recoveries for the MS and MSD were also acceptable.

Analytical Comments for Method SW8270C, Matrix Spike Duplicate 0012062-01, Batch 3810: R2 flag due to high RPD for N-Nitrosodi-n-propylamine in the MS and MSD. The RPD for this compound was acceptable in the LCS and LCSD.



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TRANSWEST GEOCHEM

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado
**Project Number:**
**Work Order:** 0012050
**Date Received:** 07-Dec-00

# Work Order Sample Summary

| Client Sample ID | Lab Sample ID | Test Code | Collection Date |
|---|---|---|---|
| Pilot - 12/7 - 1 | 0012050-01A | 8015AZ | 12/7/2000 1:20:00 PM |
| | | SW8270C | 12/7/2000 1:20:00 PM |
| | 0012050-01B | | 12/7/2000 1:20:00 PM |
| | 0012050-01C | | 12/7/2000 1:20:00 PM |
| | 0012050-01D | SW6010B | 12/7/2000 1:20:00 PM |
| | | SW7471A | 12/7/2000 1:20:00 PM |
| | 0012050-01E | SW1311/6010B | 12/7/2000 1:20:00 PM |
| | | SW1311/7470A | 12/7/2000 1:20:00 PM |
| | 0012050-01F | SW1312/6010B | 12/7/2000 1:20:00 PM |
| | | SW1312/7470A | 12/7/2000 1:20:00 PM |

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado
**Project Number:**
**Work Order:** 0012050
**Date Received:** 07-Dec-00

# Data Qualifiers

One or more of the following data qualifiers may be associated with your analytical and/or quality control data.

| | |
|---|---|
| L2 | The associated blank spike recovery was below laboratory acceptance limits. See case narrative. |
| M2 | Matrix spike recovery was low, the method control sample recovery was acceptable. |
| S | Spike or Surrogate recovery outside acceptance criteria. |

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado
**Project Number:**
**Work Order:** 0012050
**Date Received:** 07-Dec-00

# Definitions

| | |
|---|---|
| Analytical Spike (AS) | The AS is a known amount of a target analyte added to a sample after it has been distilled, digested, or extracted and is ready for analysis. The AS is generally performed if the MS has failed. It is used to indicate interference that arises from sample distillation, digestion, or extraction as opposed to interference that is innate to the matrix. |
| Continuing Curve Verification (CCV) | The CCV is also referred to as a curve check. This is a standard analyzed at specified intervals during an analysis. The CCV verifies the stability and accuracy of the calibration curve. There are specific CCV recovery acceptance criteria for each method. |
| Dilution Factor (DF) | The DF is an indication of how much a sample had to be diluted in order to quantitate it on a standard curve. The DF is indicated in the reported sample result. The sample PQL increases as the dilution increases. |
| Internal Standard (IS) | The IS is a compound that is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. The same concentration of IS is added to every sample for some organic methods. |
| Laboratory Control Sample (LCS) | The LCS is also referred to as a blank spike. The LCS is an addition of a known amount of a target analyte (from the same source as calibration standards or spikes) to an aliquot of deionized water or other appropriate clean matrix. The LCS is processed through the entire method procedure in the same manner as samples. |
| Matrix Spike (MS) | The MS is a known amount of a target analyte added to a sample. The MS is processed through the entire method procedure in the same manner as samples. |
| Method Blank (MB) | The MB is an aliquot of deionized water or other appropriate clean matrix that is thought to be free of the analyte in question. The MB is processed through the entire extraction or analysis procedure and is used to indicate contamination in the lab. |
| Method Detection Limit (MDL) | The MDL is the lowest level of detection of which a method is capable. |
| Practical Quantitation Limit (PQL) | The PQL is the lowest value at which Transwest Geochem can detect an analyte in matrix with a high degree of confidence. The PQL will increase as the DF increases. The PQL is greater than or equal to the MDL. |
| Relative Percent Difference (RPD) | The RPD is a measure of precision (the ability to obtain the same result on re-analysis of the same sample). It is calculated using the result of a sample, MS, LCS, or LCSV and its associated duplicate result. |
| Secondary Source QC Sample (LCSV) | The LCSV is also referred to as a second source laboratory control sample. It is the same type of standard as a calibration or spiking standard but is obtained from a different source. The LCSV is an indication of the primary standard quality, method performance, and instrument performance. |
| Surrogate | A surrogate compound is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. When surrogates are used, they are added to every sample, blank and standard. Surrogate recovery is used as an indication of extraction and/or analytical success. |
| Trip Blank (TB) | The TB is a portion of deionized water preserved in the same manner as the samples. The TB travels from the lab, to the field, and then back to the lab with the samples from the field. The TB serves as an indication of contamination introduced during sample transportation. |

TRANSWEST GEOCHEM

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012050
**Lab ID:** 0012050-01
**Project Name:** Rio Salado
**Project Number:**

**Client Sample ID:** Pilot - 12/7 - 1
**Collection Date:** 12/7/2000 1:20:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 GRO | <20 | 20 | | mg/Kg | 1 | 8015AZ | 12/8/2000 | 12/8/00 5:58 pm | JH | FUELS1_001208A |
| C10-C22 DRO | <30 | 30 | | mg/Kg | 1 | 8015AZ | 12/8/2000 | 12/8/00 5:58 pm | JH | FUELS1_001208A |
| C22-C32 ORO | 120 | 100 | | mg/Kg | 1 | 8015AZ | 12/8/2000 | 12/8/00 5:58 pm | JH | FUELS1_001208A |
| C10-C32 SRL | <130 | 130 | | mg/Kg | 1 | 8015AZ | 12/8/2000 | 12/8/00 5:58 pm | JH | FUELS1_001208A |
| o-Terphenyl (Surrogate) | 94 | 65-123 | | %REC | 1 | 8015AZ | 12/8/2000 | 12/8/00 5:58 pm | JH | FUELS1_001208A |
| Arsenic | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Barium | <1.0 | 1.0 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Cadmium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Chromium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Lead | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Selenium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Silver | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/13/00 | MR | 3817 |
| Mercury | <0.0020 | 0.0020 | | mg/L | 1 | SW1311/7470A | 12/11/2000 | 12/12/00 | TL | 3822 |
| Arsenic | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Barium | <1.0 | 1.0 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Cadmium | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Chromium | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Lead | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Selenium | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Silver | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Mercury | <0.0020 | 0.0020 | | mg/L | 1 | SW1312/7470A | 12/11/2000 | 12/12/00 | TL | 3824 |
| Antimony | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Arsenic | 7.8 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Beryllium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Cadmium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Chromium | 14 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Copper | 57 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Lead | 56 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Nickel | 18 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Selenium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/13/00 | MR | 3811 |
| Silver | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Thallium | <10 | 10 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Zinc | 200 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 12/11/2000 | 12/12/00 | TL | 3825 |



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TRANSWEST GEOCHEM

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012050
**Lab ID:** 0012050-01
**Project Name:** Rio Salado
**Project Number:**

**Client Sample ID:** Pilot - 12/7 - 1
**Collection Date:** 12/7/2000 1:20:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Acenaphthylene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Aniline | <50 | 50 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Anthracene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Azobenzene | <20 | 20 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Benz[a]anthracene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Benzo[a]pyrene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Benzo[b]fluoranthene | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Benzo[g,h,i]perylene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Benzo[k]fluoranthene | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Benzoic acid | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Benzyl alcohol | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Bis(2-chloroethoxy)methane | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Bis(2-chloroethyl)ether | <18 | 18 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Bis(2-chloroisopropyl)ether | <20 | 20 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Bis(2-ethylhexyl)phthalate | <20 | 20 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 4-Bromophenyl phenyl ether | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Butyl benzyl phthalate | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Carbazole | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 4-Chloro-3-methylphenol | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 4-Chloroaniline | <18 | 18 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 2-Chloronaphthalene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 2-Chlorophenol | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 4-Chlorophenyl phenyl ether | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Chrysene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Di-n-butyl phthalate | <18 | 18 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Di-n-octyl phthalate | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Dibenz[a,h]anthracene | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Dibenzo[a,i]pyrene | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Dibenzofuran | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 1,2-Dichlorobenzene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 1,3-Dichlorobenzene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 1,4-Dichlorobenzene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 2,4-Dichlorophenol | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Diethyl phthalate | <18 | 18 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Dimethyl phthalate | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 2,4-Dimethylphenol | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 4,6-Dinitro-2-methylphenol | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 2,4-Dinitrophenol | <50 | 50 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 2,4-Dinitrotoluene | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 2,6-Dinitrotoluene | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Fluoranthene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Fluorene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Hexachlorobenzene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |



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TRANSWEST GEOCHEM

**Date Printed** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012050
**Lab ID:** 0012050-01
**Project Name:** Rio Salado
**Project Number:**

**Client Sample ID:** Pilot - 12/7 - 1
**Collection Date:** 12/7/2000 1:20:00 PM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Hexachlorobutadiene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Hexachlorocyclopentadiene | <50 | 50 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Hexachloroethane | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Indeno[1,2,3-cd]pyrene | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Isophorone | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 2-Methylnaphthalene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 2-Methylphenol | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 4-Methylphenol | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| N-Nitrosodi-n-propylamine | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| N-Nitrosodimethylamine | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| N-Nitrosodiphenylamine | <18 | 18 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Naphthalene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 2-Nitroaniline | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 3-Nitroaniline | <28 | 28 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 4-Nitroaniline | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Nitrobenzene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 2-Nitrophenol | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 4-Nitrophenol | <25 | 25 | L2 | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Pentachlorophenol | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Phenanthrene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Phenol | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Pyrene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 1,2,4-Trichlorobenzene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 2,4,5-Trichlorophenol | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 2,4,6-Trichlorophenol | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 2-Chlorophenol-d4 (Surrogate) | 50 | 20-130 | | %REC | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 1,2-Dichlorobenzene-d4 (Surrogate) | 52 | 20-130 | | %REC | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 2-Fluorobiphenyl (Surrogate) | 62 | 30-115 | | %REC | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 2-Fluorophenol (Surrogate) | 38 | 25-121 | | %REC | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Nitrobenzene-d5 (Surrogate) | 51 | 23-120 | | %REC | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| Phenol-d6 (Surrogate) | 46 | 24-113 | | %REC | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 4-Terphenyl-d14 (Surrogate) | 69 | 18-137 | | %REC | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |
| 2,4,6-Tribromophenol (Surrogate) | 35 | 19-122 | | %REC | 5 | SW8270C | 12/8/2000 | 12/13/00 10:54 am | MHH | 3810 |



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**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012050
**Project:** Rio Salado

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 GRO | <20 | 20 | | mg/Kg | 1 | 8015AZ | 12/8/00 | 12/8/00 2:05 pm | JH | FUELS1_001208A |
| C10-C22 DRO | <30 | 30 | | mg/Kg | 1 | 8015AZ | 12/8/00 | 12/8/00 2:05 pm | JH | FUELS1_001208A |
| C22-C32 ORO | <100 | 100 | | mg/Kg | 1 | 8015AZ | 12/8/00 | 12/8/00 2:05 pm | JH | FUELS1_001208A |
| C10-C32 SRL | <130 | 130 | | mg/Kg | 1 | 8015AZ | 12/8/00 | 12/8/00 2:05 pm | JH | FUELS1_001208A |
| o-Terphenyl | 117 | 65-123 | | %REC | 1 | 8015AZ | 12/8/00 | 12/8/00 2:05 pm | JH | FUELS1_001208A |
| Arsenic | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Barium | <1.0 | 1.0 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Cadmium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Chromium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Lead | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Selenium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Silver | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/13/00 | MR | 3817 |
| Mercury | <0.0020 | 0.0020 | | mg/L | 1 | SW1311/7470A | 12/12/00 | 12/12/00 | TL | 3822 |
| Arsenic | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/00 | 12/12/00 | MR | 3816 |
| Barium | <1.0 | 1.0 | | mg/L | 1 | SW1312/6010B | 12/11/00 | 12/12/00 | MR | 3816 |
| Cadmium | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/00 | 12/12/00 | MR | 3816 |
| Chromium | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/00 | 12/12/00 | MR | 3816 |
| Lead | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/00 | 12/12/00 | MR | 3816 |
| Selenium | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/00 | 12/12/00 | MR | 3816 |
| Silver | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/00 | 12/12/00 | MR | 3816 |
| Mercury | <0.0020 | 0.0020 | | mg/L | 1 | SW1312/7470A | 12/11/00 | 12/12/00 | TL | 3824 |
| Antimony | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Arsenic | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Beryllium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Cadmium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Chromium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Copper | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Lead | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Nickel | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Silver | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Thallium | <10 | 10 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Zinc | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Selenium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/13/00 | MR | 3811 |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 12/11/00 | 12/12/00 | TL | 3825 |

TRANSWEST GEOCHEM

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012050
**Project:** Rio Salado

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Acenaphthylene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Aniline | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Anthracene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Azobenzene | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Benz[a]anthracene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Benzo[a]pyrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Benzo[b]fluoranthene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Benzo[g,h,i]perylene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Benzo[k]fluoranthene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Benzoic acid | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Benzyl alcohol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Bis(2-chloroethoxy)methane | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Bis(2-chloroethyl)ether | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Bis(2-chloroisopropyl)ether | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Bis(2-ethylhexyl)phthalate | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 4-Bromophenyl phenyl ether | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Butyl benzyl phthalate | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Carbazole | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 4-Chloro-3-methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 4-Chloroaniline | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2-Chloronaphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2-Chlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 4-Chlorophenyl phenyl ether | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Chrysene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Di-n-butyl phthalate | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Di-n-octyl phthalate | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Dibenz[a,h]anthracene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Dibenzo[a,i]pyrene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Dibenzofuran | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 1,2-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 1,3-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 1,4-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2,4-Dichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Diethyl phthalate | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Dimethyl phthalate | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2,4-Dimethylphenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 4,6-Dinitro-2-methylphenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2,4-Dinitrophenol | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2,4-Dinitrotoluene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2,6-Dinitrotoluene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Fluoranthene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Fluorene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Hexachlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Hexachlorobutadiene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012050
**Project:** Rio Salado

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Hexachlorocyclopentadiene | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Hexachloroethane | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Indeno[1,2,3-cd]pyrene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Isophorone | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2-Methylnaphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2-Methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 4-Methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| N-Nitrosodi-n-propylamine | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| N-Nitrosodimethylamine | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| N-Nitrosodiphenylamine | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Naphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2-Nitroaniline | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 3-Nitroaniline | <0.18 | 0.18 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 4-Nitroaniline | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Nitrobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2-Nitrophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 4-Nitrophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Pentachlorophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Phenanthrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Phenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Pyrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 1,2,4-Trichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2,4,5-Trichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2,4,6-Trichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2-Chlorophenol-d4 | 76 | 20-130 | | %REC | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 1,2-Dichlorobenzene-d4 | 75 | 20-130 | | %REC | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2-Fluorobiphenyl | 80 | 30-115 | | %REC | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2-Fluorophenol | 70 | 25-121 | | %REC | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Nitrobenzene-d5 | 53 | 23-120 | | %REC | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Phenol-d6 | 74 | 24-113 | | %REC | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 4-Terphenyl-d14 | 84 | 18-137 | | %REC | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2,4,6-Tribromophenol | 64 | 19-122 | | %REC | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012050
**Project:** Rio Salado

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012065-01AS** | Batch ID: FUELS1_001208A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/8/00 11:26 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| C10-C22 DRO | 1020 | 30 | 500 | 851 | 34% | 65 | 121 | | | | M2 |
| o-Terphenyl | 8.93 | N/A | 10.0 | N/A | 89% | 65 | 123 | | | | |
| Sample ID: **0012065-01ASD** | Batch ID: FUELS1_001208A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/9/00 1:00 am | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| C10-C22 DRO | 989 | 30 | 500 | 851 | 28% | 65 | 121 | 1020 | 3% | 20 | M2 |
| o-Terphenyl | 7.87 | N/A | 10.0 | N/A | 79% | 65 | 123 | | | | |
| Sample ID: **0011236-01CSD** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: N/A | | | |
| Arsenic | 0.9281 | 0.50 | 1.000 | <0.50 | 93% | 75 | 125 | 0.9565 | 3% | 20 | |
| Barium | 10.17 | 1.0 | 11.00 | <1.0 | 92% | 75 | 125 | 10.46 | 3% | 20 | |
| Cadmium | 0.9028 | 0.50 | 1.000 | <0.50 | 90% | 75 | 125 | 0.9090 | 1% | 20 | |
| Chromium | 0.8571 | 0.50 | 1.000 | <0.50 | 86% | 75 | 125 | 0.8709 | 2% | 20 | |
| Lead | 0.8578 | 0.50 | 1.000 | <0.50 | 86% | 75 | 125 | 0.8789 | 2% | 20 | |
| Selenium | 0.9772 | 0.50 | 1.000 | <0.50 | 98% | 75 | 125 | 0.9541 | 2% | 20 | |
| Sample ID: **0011236-01CS** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 0.9565 | 0.50 | 1.000 | <0.50 | 96% | 75 | 125 | | | | |
| Barium | 10.46 | 1.0 | 11.00 | <1.0 | 95% | 75 | 125 | | | | |
| Cadmium | 0.9090 | 0.50 | 1.000 | <0.50 | 91% | 75 | 125 | | | | |
| Chromium | 0.8709 | 0.50 | 1.000 | <0.50 | 87% | 75 | 125 | | | | |
| Lead | 0.8789 | 0.50 | 1.000 | <0.50 | 88% | 75 | 125 | | | | |
| Selenium | 0.9541 | 0.50 | 1.000 | <0.50 | 95% | 75 | 125 | | | | |
| Sample ID: **0011236-01CS** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Silver | 0.5464 | 0.50 | 0.5000 | <0.50 | 109% | 75 | 125 | | | | |
| Sample ID: **0011236-01CSD** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: N/A | | | |
| Silver | 0.5334 | 0.50 | 0.5000 | <0.50 | 107% | 75 | 125 | 0.5464 | 2% | 20 | |
| Sample ID: **0012017-01ASD** | Batch ID: 3822 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01024 | 0.0020 | 0.01000 | <0.0020 | 102% | 85 | 115 | 0.01031 | 1% | 20 | |
| Sample ID: **0012017-01AS** | Batch ID: 3822 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01031 | 0.0020 | 0.01000 | <0.0020 | 103% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012050
**Project:** Rio Salado

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0011236-01CSD** | Batch ID: 3822 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01039 | 0.0020 | 0.01000 | <0.0020 | 104% | 85 | 115 | 0.01024 | 1% | 20 | |
| Sample ID: **0011236-01CS** | Batch ID: 3822 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01024 | 0.0020 | 0.01000 | <0.0020 | 102% | 85 | 115 | | | | |
| Sample ID: **0012062-03ASD** | Batch ID: 3816 | | | Test Code: SW1312/6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 1.035 | 0.50 | 1.000 | <0.50 | 104% | 75 | 125 | 1.019 | 2% | 20 | |
| Barium | 10.97 | 1.0 | 11.00 | <1.0 | 100% | 75 | 125 | 10.81 | 1% | 20 | |
| Cadmium | 1.041 | 0.50 | 1.000 | <0.50 | 104% | 75 | 125 | 0.9971 | 4% | 20 | |
| Chromium | 1.018 | 0.50 | 1.000 | <0.50 | 102% | 75 | 125 | 0.9875 | 3% | 20 | |
| Lead | 0.9835 | 0.50 | 1.000 | <0.50 | 98% | 75 | 125 | 0.9488 | 4% | 20 | |
| Selenium | 1.036 | 0.50 | 1.000 | <0.50 | 104% | 75 | 125 | 1.028 | 1% | 20 | |
| Silver | 0.4382 | 0.40 | 0.5000 | <0.40 | 88% | 75 | 125 | 0.4358 | 1% | 20 | |
| Sample ID: **0012062-03AS** | Batch ID: 3816 | | | Test Code: SW1312/6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 1.019 | 0.50 | 1.000 | <0.50 | 102% | 75 | 125 | | | | |
| Barium | 10.81 | 1.0 | 11.00 | <1.0 | 98% | 75 | 125 | | | | |
| Cadmium | 0.9971 | 0.50 | 1.000 | <0.50 | 100% | 75 | 125 | | | | |
| Chromium | 0.9875 | 0.50 | 1.000 | <0.50 | 99% | 75 | 125 | | | | |
| Lead | 0.9488 | 0.50 | 1.000 | <0.50 | 95% | 75 | 125 | | | | |
| Selenium | 1.028 | 0.50 | 1.000 | <0.50 | 103% | 75 | 125 | | | | |
| Silver | 0.4358 | 0.40 | 0.5000 | <0.40 | 87% | 75 | 125 | | | | |
| Sample ID: **0012062-03ASD** | Batch ID: 3824 | | | Test Code: SW1312/7470A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.009635 | 0.0020 | 0.01000 | <0.0020 | 96% | 85 | 115 | 0.009735 | 1% | 0 | |
| Sample ID: **0012062-03AS** | Batch ID: 3824 | | | Test Code: SW1312/7470A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.009780 | 0.0020 | 0.01000 | <0.0020 | 98% | 85 | 115 | | | | |

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012050
**Project:** Rio Salado

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012050-01DSD** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: **Pilot - 12/7 - 1** | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Antimony | 22.22 | 5.0 | 50.00 | <5.0 | 44% | 75 | 125 | 21.80 | 2% | 20 | M2 |
| Arsenic | 51.50 | 5.0 | 50.00 | 7.785 | 87% | 75 | 125 | 52.46 | 2% | 20 | |
| Beryllium | 44.95 | 2.5 | 50.00 | <2.5 | 90% | 75 | 125 | 45.83 | 2% | 20 | |
| Cadmium | 45.54 | 2.5 | 50.00 | <2.5 | 91% | 75 | 125 | 45.97 | 1% | 20 | |
| Chromium | 59.89 | 5.0 | 50.00 | 13.87 | 92% | 75 | 125 | 59.50 | 1% | 20 | |
| Copper | 63.56 | 5.0 | 50.00 | 56.99 | 13% | 75 | 125 | 63.07 | 1% | 20 | M2 |
| Lead | 81.99 | 5.0 | 50.00 | 55.70 | 53% | 75 | 125 | 84.19 | 3% | 20 | M2 |
| Nickel | 61.49 | 5.0 | 50.00 | 17.65 | 88% | 75 | 125 | 60.11 | 2% | 20 | |
| Silver | 21.96 | 5.0 | 25.00 | <5.0 | 88% | 75 | 125 | 22.35 | 2% | 20 | |
| Thallium | 40.17 | 10 | 50.00 | <10 | 80% | 75 | 125 | 42.32 | 5% | 20 | |
| Zinc | 600.5 | 5.0 | 550.0 | 201.1 | 73% | 75 | 125 | 598.1 | 0% | 20 | M2 |
| Sample ID: **0012050-01DS** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: **Pilot - 12/7 - 1** | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Antimony | 21.80 | 5.0 | 50.00 | <5.0 | 44% | 75 | 125 | | | | M2 |
| Arsenic | 52.46 | 5.0 | 50.00 | 7.785 | 89% | 75 | 125 | | | | |
| Beryllium | 45.83 | 2.5 | 50.00 | <2.5 | 92% | 75 | 125 | | | | |
| Cadmium | 45.97 | 2.5 | 50.00 | <2.5 | 92% | 75 | 125 | | | | |
| Chromium | 59.50 | 5.0 | 50.00 | 13.87 | 91% | 75 | 125 | | | | |
| Copper | 63.07 | 5.0 | 50.00 | 56.99 | 12% | 75 | 125 | | | | M2 |
| Lead | 84.19 | 5.0 | 50.00 | 55.70 | 57% | 75 | 125 | | | | M2 |
| Nickel | 60.11 | 5.0 | 50.00 | 17.65 | 85% | 75 | 125 | | | | |
| Silver | 22.35 | 5.0 | 25.00 | <5.0 | 89% | 75 | 125 | | | | |
| Thallium | 42.32 | 10 | 50.00 | <10 | 85% | 75 | 125 | | | | |
| Zinc | 598.1 | 5.0 | 550.0 | 201.1 | 72% | 75 | 125 | | | | M2 |
| Sample ID: **0012050-01DSD** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: **Pilot - 12/7 - 1** | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Selenium | 49.15 | 5.0 | 50.00 | <5.0 | 98% | 75 | 125 | 44.96 | 9% | 20 | |
| Sample ID: **0012050-01DS** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: **Pilot - 12/7 - 1** | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Selenium | 44.96 | 5.0 | 50.00 | <5.0 | 90% | 75 | 125 | | | | |
| Sample ID: **0012050-01DSD** | Batch ID: 3825 | | | Test Code: SW7471A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: **Pilot - 12/7 - 1** | | | | Units: mg/Kg | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 1.167 | 0.083 | 1.250 | <0.083 | 93% | 85 | 115 | 1.175 | 1% | 20 | |
| Sample ID: **0012050-01DS** | Batch ID: 3825 | | | Test Code: SW7471A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: **Pilot - 12/7 - 1** | | | | Units: mg/Kg | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 1.175 | 0.083 | 1.250 | <0.083 | 94% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012050
**Project:** Rio Salado

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012062-01A-MS** | Batch ID: 3810 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 11:56 am | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Acenaphthene | 15.20 | N/A | 20.00 | 0.000 | 76% | 57 | 101 | | | | |
| 4-Chloro-3-methylphenol | 14.35 | N/A | 20.00 | 0.000 | 72% | 49 | 108 | | | | |
| 2-Chlorophenol | 12.95 | N/A | 20.00 | 0.000 | 65% | 49 | 98 | | | | |
| 1,4-Dichlorobenzene | 12.05 | N/A | 20.00 | 0.000 | 60% | 41 | 100 | | | | |
| 2,4-Dinitrotoluene | 10.55 | N/A | 20.00 | 0.000 | 53% | 50 | 120 | | | | |
| N-Nitrosodi-n-propylamine | 7.600 | N/A | 20.00 | 0.000 | 38% | 43 | 104 | | | | M2 |
| 4-Nitrophenol | 11.60 | N/A | 20.00 | 0.000 | 58% | 55 | 117 | | | | |
| Pentachlorophenol | 13.85 | N/A | 20.00 | 0.000 | 69% | 45 | 115 | | | | |
| Phenol | 11.45 | N/A | 20.00 | 0.000 | 57% | 50 | 100 | | | | |
| Pyrene | 16.65 | N/A | 20.00 | 0.000 | 83% | 59 | 120 | | | | |
| 1,2,4-Trichlorobenzene | 12.85 | N/A | 20.00 | 0.000 | 64% | 43 | 102 | | | | |
| 2-Chlorophenol-d4 | 15.40 | N/A | 30.00 | N/A | 51% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 9.000 | N/A | 20.00 | N/A | 45% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 13.10 | N/A | 20.00 | N/A | 65% | 30 | 115 | | | | |
| 2-Fluorophenol | 11.90 | N/A | 30.00 | N/A | 40% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 10.30 | N/A | 20.00 | N/A | 51% | 23 | 120 | | | | |
| Phenol-d6 | 15.35 | N/A | 30.00 | N/A | 51% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 15.95 | N/A | 20.00 | N/A | 80% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 18.90 | N/A | 30.00 | N/A | 63% | 19 | 122 | | | | |
| Sample ID: **0012062-01A-MS** | Batch ID: 3810 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 12:58 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Acenaphthene | 14.90 | N/A | 20.00 | 0.000 | 74% | 57 | 101 | 15.20 | 2% | 19 | |
| 4-Chloro-3-methylphenol | 15.30 | N/A | 20.00 | 0.000 | 76% | 49 | 108 | 14.35 | 6% | 33 | |
| 2-Chlorophenol | 12.80 | N/A | 20.00 | 0.000 | 64% | 49 | 98 | 12.95 | 1% | 50 | |
| 1,4-Dichlorobenzene | 11.60 | N/A | 20.00 | 0.000 | 58% | 41 | 100 | 12.05 | 4% | 27 | |
| 2,4-Dinitrotoluene | 12.85 | N/A | 20.00 | 0.000 | 64% | 50 | 120 | 10.55 | 20% | 47 | |
| N-Nitrosodi-n-propylamine | 14.40 | N/A | 20.00 | 0.000 | 72% | 43 | 104 | 7.600 | 62% | 38 | M2 |
| 4-Nitrophenol | 12.50 | N/A | 20.00 | 0.000 | 62% | 55 | 117 | 11.60 | 7% | 50 | |
| Pentachlorophenol | 12.70 | N/A | 20.00 | 0.000 | 63% | 45 | 115 | 13.85 | 9% | 47 | |
| Phenol | 12.05 | N/A | 20.00 | 0.000 | 60% | 50 | 100 | 11.45 | 5% | 35 | |
| Pyrene | 18.75 | N/A | 20.00 | 0.000 | 94% | 59 | 120 | 16.65 | 12% | 36 | |
| 1,2,4-Trichlorobenzene | 12.85 | N/A | 20.00 | 0.000 | 64% | 43 | 102 | 12.85 | 0% | 23 | |
| 2-Chlorophenol-d4 | 15.55 | N/A | 30.00 | N/A | 52% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 9.850 | N/A | 20.00 | N/A | 49% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 11.85 | N/A | 20.00 | N/A | 59% | 30 | 115 | | | | |
| 2-Fluorophenol | 12.75 | N/A | 30.00 | N/A | 43% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 10.40 | N/A | 20.00 | N/A | 52% | 23 | 120 | | | | |
| Phenol-d6 | 15.90 | N/A | 30.00 | N/A | 53% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 17.35 | N/A | 20.00 | N/A | 87% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 18.25 | N/A | 30.00 | N/A | 61% | 19 | 122 | | | | |

TRANSWEST GEOCHEM

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012050
**Project:** Rio Salado

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LFB SOIL** | Batch ID: FUELS1_001208A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/8/00 4:25 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| C10-C22 DRO | 483 | 30 | 500 | <30 | 97% | 78 | 111 | | | | |
| o-Terphenyl | 9.72 | N/A | 10.0 | N/A | 97% | 65 | 123 | | | | |
| Sample ID: **LFBS SOIL** | Batch ID: FUELS1_001208A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/8/00 5:12 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| C10-C22 DRO | 501 | 30 | 500 | <30 | 100% | 78 | 111 | 483 | 4% | 20 | |
| o-Terphenyl | 9.88 | N/A | 10.0 | N/A | 99% | 65 | 123 | | | | |
| Sample ID: **LCS-3817** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 0.9550 | 0.50 | 1.000 | <0.50 | 96% | 85 | 115 | | | | |
| Barium | 10.26 | 1.0 | 11.00 | <1.0 | 93% | 85 | 115 | | | | |
| Cadmium | 0.9238 | 0.50 | 1.000 | <0.50 | 92% | 85 | 115 | | | | |
| Chromium | 0.8929 | 0.50 | 1.000 | <0.50 | 89% | 85 | 115 | | | | |
| Lead | 0.8604 | 0.50 | 1.000 | <0.50 | 86% | 85 | 115 | | | | |
| Selenium | 0.9835 | 0.50 | 1.000 | <0.50 | 98% | 85 | 115 | | | | |
| Sample ID: **LCSD-3817** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 0.9570 | 0.50 | 1.000 | <0.50 | 96% | 85 | 115 | 0.9550 | 0% | 20 | |
| Barium | 10.30 | 1.0 | 11.00 | <1.0 | 94% | 85 | 115 | 10.26 | 0% | 20 | |
| Cadmium | 0.9368 | 0.50 | 1.000 | <0.50 | 94% | 85 | 115 | 0.9238 | 1% | 20 | |
| Chromium | 0.9086 | 0.50 | 1.000 | <0.50 | 91% | 85 | 115 | 0.8929 | 2% | 20 | |
| Lead | 0.8651 | 0.50 | 1.000 | <0.50 | 87% | 85 | 115 | 0.8604 | 1% | 20 | |
| Selenium | 1.038 | 0.50 | 1.000 | <0.50 | 104% | 85 | 115 | 0.9835 | 5% | 20 | |
| Sample ID: **LCS-3817** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Silver | 0.5302 | 0.50 | 0.5000 | <0.50 | 106% | 85 | 115 | | | | |
| Sample ID: **LCSD-3817** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Silver | 0.5195 | 0.50 | 0.5000 | <0.50 | 104% | 85 | 115 | 0.5302 | 2% | 20 | |
| Sample ID: **LCS-3822** | Batch ID: 3822 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/12/00 | | | |
| Mercury | 0.01044 | 0.0020 | 0.01000 | <0.0020 | 104% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012050
**Project:** Rio Salado

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCSD-3816** | Batch ID: 3816 | | | Test Code: SW1312/6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 1.032 | 0.50 | 1.000 | <0.50 | 103% | 85 | 115 | 1.004 | 3% | 20 | |
| Barium | 10.97 | 1.0 | 11.00 | <1.0 | 100% | 85 | 115 | 11.23 | 2% | 20 | |
| Cadmium | 1.033 | 0.50 | 1.000 | <0.50 | 103% | 85 | 115 | 1.034 | 0% | 20 | |
| Chromium | 1.022 | 0.50 | 1.000 | <0.50 | 102% | 85 | 115 | 1.037 | 1% | 20 | |
| Lead | 0.9811 | 0.50 | 1.000 | <0.50 | 98% | 85 | 115 | 1.010 | 3% | 20 | |
| Selenium | 1.069 | 0.50 | 1.000 | <0.50 | 107% | 85 | 115 | 1.046 | 2% | 20 | |
| Silver | 0.4527 | 0.45 | 0.5000 | <0.45 | 91% | 85 | 115 | 0.4600 | 2% | 20 | |
| Sample ID: **LCS-3816** | Batch ID: 3816 | | | Test Code: SW1312/6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 1.004 | 0.50 | 1.000 | <0.50 | 100% | 85 | 115 | | | | |
| Barium | 11.23 | 1.0 | 11.00 | <1.0 | 102% | 85 | 115 | | | | |
| Cadmium | 1.034 | 0.50 | 1.000 | <0.50 | 103% | 85 | 115 | | | | |
| Chromium | 1.037 | 0.50 | 1.000 | <0.50 | 104% | 85 | 115 | | | | |
| Lead | 1.010 | 0.50 | 1.000 | <0.50 | 101% | 85 | 115 | | | | |
| Selenium | 1.046 | 0.50 | 1.000 | <0.50 | 105% | 85 | 115 | | | | |
| Silver | 0.4600 | 0.45 | 0.5000 | <0.45 | 92% | 85 | 115 | | | | |
| Sample ID: **LCS-3824** | Batch ID: 3824 | | | Test Code: SW1312/7470A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.009220 | 0.0020 | 0.01000 | <0.0020 | 92% | 85 | 15 | | | | S |
| Sample ID: **LCSD-3811** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Antimony | 47.00 | 5.0 | 50.00 | <5.0 | 94% | 85 | 115 | 47.66 | 1% | 20 | |
| Arsenic | 47.67 | 5.0 | 50.00 | <5.0 | 95% | 85 | 115 | 49.48 | 4% | 20 | |
| Beryllium | 46.71 | 2.5 | 50.00 | <2.5 | 93% | 85 | 115 | 48.98 | 5% | 20 | |
| Cadmium | 47.73 | 2.5 | 50.00 | <2.5 | 95% | 85 | 115 | 49.78 | 4% | 20 | |
| Chromium | 48.71 | 5.0 | 50.00 | <5.0 | 97% | 85 | 115 | 50.92 | 4% | 20 | |
| Copper | 48.40 | 5.0 | 50.00 | <5.0 | 97% | 85 | 115 | 50.59 | 4% | 20 | |
| Lead | 48.21 | 5.0 | 50.00 | <5.0 | 96% | 85 | 115 | 49.87 | 3% | 20 | |
| Nickel | 49.32 | 5.0 | 50.00 | <5.0 | 99% | 85 | 115 | 52.51 | 6% | 20 | |
| Silver | 22.18 | 5.0 | 25.00 | <5.0 | 89% | 85 | 115 | 22.40 | 1% | 20 | |
| Thallium | 50.13 | 10 | 50.00 | <10 | 100% | 85 | 115 | 49.58 | 1% | 20 | |
| Zinc | 526.3 | 5.0 | 550.0 | <5.0 | 96% | 85 | 115 | 534.3 | 2% | 20 | |

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012050
**Project:** Rio Salado

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCS-3811** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Antimony | 47.66 | 5.0 | 50.00 | <5.0 | 95% | 85 | 115 | | | | |
| Arsenic | 49.48 | 5.0 | 50.00 | <5.0 | 99% | 85 | 115 | | | | |
| Beryllium | 48.98 | 2.5 | 50.00 | <2.5 | 98% | 85 | 115 | | | | |
| Cadmium | 49.78 | 2.5 | 50.00 | <2.5 | 100% | 85 | 115 | | | | |
| Chromium | 50.92 | 5.0 | 50.00 | <5.0 | 102% | 85 | 115 | | | | |
| Copper | 50.59 | 5.0 | 50.00 | <5.0 | 101% | 85 | 115 | | | | |
| Lead | 49.87 | 5.0 | 50.00 | <5.0 | 100% | 85 | 115 | | | | |
| Nickel | 52.51 | 5.0 | 50.00 | <5.0 | 105% | 85 | 115 | | | | |
| Silver | 22.40 | 5.0 | 25.00 | <5.0 | 90% | 85 | 115 | | | | |
| Thallium | 49.58 | 10 | 50.00 | <10 | 99% | 85 | 115 | | | | |
| Zinc | 534.3 | 5.0 | 550.0 | <5.0 | 97% | 85 | 115 | | | | |
| Sample ID: **LCSD-3811** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Selenium | 45.49 | 5.0 | 50.00 | <5.0 | 91% | 85 | 115 | 48.34 | 6% | 20 | |
| Sample ID: **LCS-3811** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Selenium | 48.34 | 5.0 | 50.00 | <5.0 | 97% | 85 | 115 | | | | |
| Sample ID: **LCS-3825** | Batch ID: 3825 | | | Test Code: SW7471A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 1.213 | 0.083 | 1.250 | <0.083 | 97% | 85 | 115 | | | | |
| Sample ID: **LCSD-3825** | Batch ID: 3825 | | | Test Code: SW7471A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 1.219 | 0.083 | 1.250 | <0.083 | 98% | 85 | 115 | <0.083 | 0% | 20 | |

TRANSWEST GEOCHEM

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012050
**Project:** Rio Salado

# QC SUMMARY REPORT

Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCS-3810** | Batch ID: 3810 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 3:32 am | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Acenaphthene | 0.5050 | 0.10 | 0.6667 | <0.10 | 76% | 57 | 101 | | | | |
| 4-Chloro-3-methylphenol | 0.5153 | 0.10 | 0.6667 | <0.10 | 77% | 49 | 108 | | | | |
| 2-Chlorophenol | 0.4953 | 0.10 | 0.6667 | <0.10 | 74% | 49 | 98 | | | | |
| 1,4-Dichlorobenzene | 0.4763 | 0.10 | 0.6667 | <0.10 | 71% | 41 | 100 | | | | |
| 2,4-Dinitrotoluene | 0.4790 | 0.17 | 0.6667 | <0.17 | 72% | 50 | 120 | | | | |
| N-Nitrosodi-n-propylamine | 0.5013 | 0.10 | 0.6667 | <0.10 | 75% | 43 | 104 | | | | |
| 4-Nitrophenol | 0.3700 | 0.17 | 0.6667 | <0.17 | 55% | 55 | 117 | | | | |
| Pentachlorophenol | 0.4533 | 0.17 | 0.6667 | <0.17 | 68% | 45 | 115 | | | | |
| Phenol | 0.4947 | 0.10 | 0.6667 | <0.10 | 74% | 50 | 100 | | | | |
| Pyrene | 0.6033 | 0.10 | 0.6667 | <0.10 | 90% | 59 | 120 | | | | |
| 1,2,4-Trichlorobenzene | 0.4740 | 0.10 | 0.6667 | <0.10 | 71% | 43 | 102 | | | | |
| 2-Chlorophenol-d4 | 0.7420 | N/A | 1.000 | N/A | 74% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 0.4943 | N/A | 0.6667 | N/A | 74% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.5113 | N/A | 0.6667 | N/A | 77% | 30 | 115 | | | | |
| 2-Fluorophenol | 0.6740 | N/A | 1.000 | N/A | 67% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 0.4767 | N/A | 0.6667 | N/A | 72% | 23 | 120 | | | | |
| Phenol-d6 | 0.7130 | N/A | 1.000 | N/A | 71% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 0.6020 | N/A | 0.6667 | N/A | 90% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 0.8303 | N/A | 1.000 | N/A | 83% | 19 | 122 | | | | |
| Sample ID: **LCSD-3810** | Batch ID: 3810 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 4:34 am | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Acenaphthene | 0.4510 | 0.10 | 0.6667 | <0.10 | 68% | 57 | 101 | 0.5050 | 11% | 19 | |
| 4-Chloro-3-methylphenol | 0.5037 | 0.10 | 0.6667 | <0.10 | 76% | 49 | 108 | 0.5153 | 2% | 33 | |
| 2-Chlorophenol | 0.4330 | 0.10 | 0.6667 | <0.10 | 65% | 49 | 98 | 0.4953 | 13% | 50 | |
| 1,4-Dichlorobenzene | 0.4170 | 0.10 | 0.6667 | <0.10 | 63% | 41 | 100 | 0.4763 | 13% | 27 | |
| 2,4-Dinitrotoluene | 0.4570 | 0.17 | 0.6667 | <0.17 | 69% | 50 | 120 | 0.4790 | 5% | 47 | |
| N-Nitrosodi-n-propylamine | 0.4690 | 0.10 | 0.6667 | <0.10 | 70% | 43 | 104 | 0.5013 | 7% | 38 | |
| 4-Nitrophenol | 0.3557 | 0.17 | 0.6667 | <0.17 | 53% | 55 | 117 | 0.3700 | 4% | 50 | L2 |
| Pentachlorophenol | 0.4500 | 0.17 | 0.6667 | <0.17 | 67% | 45 | 115 | 0.4533 | 1% | 47 | |
| Phenol | 0.4383 | 0.10 | 0.6667 | <0.10 | 66% | 50 | 100 | 0.4947 | 12% | 35 | |
| Pyrene | 0.5777 | 0.10 | 0.6667 | <0.10 | 87% | 59 | 120 | 0.6033 | 4% | 36 | |
| 1,2,4-Trichlorobenzene | 0.4287 | 0.10 | 0.6667 | <0.10 | 64% | 43 | 102 | 0.4740 | 10% | 23 | |
| 2-Chlorophenol-d4 | 0.6497 | N/A | 1.000 | N/A | 65% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 0.4287 | N/A | 0.6667 | N/A | 64% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.4440 | N/A | 0.6667 | N/A | 67% | 30 | 115 | | | | |
| 2-Fluorophenol | 0.6133 | N/A | 1.000 | N/A | 61% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 0.4147 | N/A | 0.6667 | N/A | 62% | 23 | 120 | | | | |
| Phenol-d6 | 0.6337 | N/A | 1.000 | N/A | 63% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 0.5883 | N/A | 0.6667 | N/A | 88% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 0.8300 | N/A | 1.000 | N/A | 83% | 19 | 122 | | | | |

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012050
**Project:** Rio Salado

# QC SUMMARY REPORT

Secondary Source QC Sample

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCSV-3822** | Batch ID: 3822 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01027 | 0.0020 | 0.01000 | <0.0020 | 103% | 85 | 115 | | | | |
| Sample ID: **LCSV-3824** | Batch ID: 3824 | | | Test Code: SW1312/7470A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.008907 | 0.0020 | 0.01000 | <0.0020 | 89% | 85 | 115 | | | | |

**Date:** 14-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012050
**Project:** Rio Salado

# QC SUMMARY REPORT

## Analytical Spike

| Analyte | Result | PQL | Units | Spike Value | Spike Ref Val | % Rec | Limit | Date Prepared | Date Analyzed | Analyst | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample ID:** | **0012050-01DA** | | **Test Code:** | **SW6010B** | | | | **Batch ID:** | **3811** | | |
| Antimony | 44.84 | 5.0 | mg/Kg | 50 | <5.0 | 90% | 75 - 125 | 12/8/00 | 12/13/00 | MR | |
| Copper | 95.61 | 5.0 | mg/Kg | 50 | 56.99 | 77% | 75 - 125 | 12/8/00 | 12/13/00 | MR | |
| Lead | 106.4 | 5.0 | mg/Kg | 50 | 55.70 | 101% | 75 - 125 | 12/8/00 | 12/13/00 | MR | |
| Zinc | 659.8 | 5.0 | mg/Kg | 550 | 201.1 | 83% | 75 - 125 | 12/8/00 | 12/13/00 | MR | |

**TRANSWEST GEOCHEM**

December 14, 2000

Brad Johnston
SCS Engineers
2702 N. 44th St., Suite 105B
Phoenix, AZ 85008

Re: Rio Salado
Work Order No.: 0012050

Dear Brad,

Attached is the original Report of Analysis from Precision Analytical Laboratories, Inc. for the sample received on 12/7/2000 2:00:00 PM. The following analysis was performed:

Method SW8260B – Volatile Organics by GC/MS

If you have any questions regarding the results, please call me. We appreciate your business and thank you for choosing Transwest Geochem.

Sincerely,

Michael S. Barber for:

Beth Proffitt
Project Manager

ADHS License No. AZM133/AZ0133

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# Precision Analytical Laboratories, Inc.

December 13, 2000

Beth Proffitt
Transwest Geochem, Inc.
3725 E. Atlanta Ave.
Suite 2
Phoenix, AZ 85040
TEL: (602) 437-0330
FAX (602) 437-0660

RE: Rio Salado/0012050 Order No.: 0012178

Dear Beth Proffitt:

Precision Analytical Laboratories, Inc. received 1 sample on 12/8/00 for the analyses presented in the following report.

This report includes the following information:

- Case Narrative. The case narrative contains a listing of common method references, data qualifiers, and any comments that may be needed regarding the analytical results.

- Analytical Report. Analysis results are reported with the compound name first, followed by the test result, report limit (Limit), any required data qualifier (Qual), units, dilution factor (DF), and date analyzed.

- QC Summary Report. This section includes quality control results for some or all of the following: method blanks, sample duplicates, sample matrix spikes, sample matrix spike duplicates, laboratory control spikes, and laboratory control spike duplicates.

If you have any questions regarding these tests results, please do not hesitate to call.

Sincerely,

Heather A. Oeschger

Heather Oeschger
Account Manager

CC:

**CLIENT:** Transwest Geochem, Inc.
**Project:** Rio Salado/0012050
**Lab Order:** 0012178

## CASE NARRATIVE

Data Qualifiers
Listed below are data qualifiers which may be used in your analytical report to explain any analytical or quality control issues. If one or more of the following data qualifiers is associated with your analytical or quality control data it will be noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

B1 Target analyte detected in method blank at or above the method reporting limit.
D1 Sample required dilution due to matrix interference.
D2 Sample required dilution due to high concentration of target analyte.
D4 Minimum reporting level (MRL) adjusted to reflect sample amount received and analyzed.
E2 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E3 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to holding time requirements.
E4 Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL).
E6 Concentration estimated. Internal standard recoveries did not meet method acceptance criteria.
H1 Sample analysis performed past holding time. See case narrative.
H2 Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3 Sample was received and analyzed past holding time.
K1 The sample dilutions set-up for the BOD analysis did not meet the oxygen depletion criteria of at least 2 mg/L. The reported result is an estimated value.
K2 The sample dilutions set up for the BOD analysis failed to meet the criteria of a residual dissolved oxygen of at least 1 mg/L. The reported result is estimated.
M1 Matrix spike recovery was high, the method control sample recovery was acceptable.
M2 Matrix spike recovery was low, the method control sample recovery was acceptable.
M3 The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to spike level. The method control sample recovery was acceptable.
M4 The analysis of the spiked sample required a dilution such that the spike concentration was diluted below the reporting limit. The method control sample recovery was acceptable.



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M5 Analyte concentration was determined by the method of standard addition (MSA).
N1 See case narrative.
Q1 Sample integrity was not maintained. See case narrative.
Q2 Sample received with head space.
Q3 Sample received with improper chemical preservation.
Q5 Sample received without chemical preservation, but preserved by the laboratory.
Q6 Sample was received above recommended temperature.
Q7 Sample inadequately dechlorinated.
Q8 Insufficient sample received to meet method QC requirements. QC requirements satisfy ADEQ policies 0154 and 0155.
Q10 Sample received in inappropriate sample container.
Q11 Sample is heterogeneous. Sample homogeneity could not be readily achieved using routine laboratory practices.
R2 RPD exceeded the laboratory control limit. See case narrative.
R3 Sample RPD between the primary and confirmatory analysis exceeded 40%. Per EPA Method 8000B, the higher value was reported.
R5 RPD exceeded the laboratory control limit. Recovery met acceptance criteria.
S2 Surrogate recovery was above laboratory and method acceptance limits.
S4 Surrogate recovery was above laboratory and method acceptance limits. No target analytes were detected in the sample.
S6 Surrogate recovery was below laboratory and method acceptance limits. Reextraction and/or reanalysis confirms low recovery caused by matrix effect.
S7 Surrogate recovery was below laboratory and method acceptance limits. Unable to confirm matrix effect.
S9 The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria. The method control sample recovery was acceptable.
T2 Cited ADHS licensed method does not contain this analyte as part of method compound list.
T4 Tentatively identified compound. Concentration is estimated and based on the closest internal standard.
V1 CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.
V5 CCV recovery after a group of samples was above acceptance limits. This target analyte was not detected in the sample. Acceptable per EPA Method 8000B.



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## CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1995. Appendix A to Part 136- Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Precision Analytical Laboratories, Inc (PAL) holds the following certifications:
Arizona (certification no. AZ0610) and California (I-2410).
PAL- Tucson laboratory Arizona certification number: AZ0609.
PAL- North Phoenix laboratory Arizona certification number: AZ0611.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

Method 8260B extracts were provided by Transwest Geochem.

For the Method 8260B analysis of Batch 2587, Acetone was detected in the Method Blank at a concentration of 0.2955 mg/kg. The reporting limit for this compound is 0.25mg/kg. The Acetone result was flagged with a 'B' to indicate the analyte was detected in the associated Method Blank.



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# Precision Analytical Laboratories, Inc.

Date: *13-Dec-00*

| | | | |
|---|---|---|---|
| **CLIENT:** | Transwest Geochem, Inc. | **Client Sample ID:** | Pilot-12./7-1 |
| **Lab Order:** | 0012178 | **Tag Number:** | 01B |
| **Project:** | Rio Salado/0012050 | **Collection Date:** | 12/7/00 1:20:00 PM |
| **Lab ID:** | 0012178-01A | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS BY GC/MS** | | **SW8260B** | | | | **Analyst: SP** |
| 1,1,1-Trichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 1,1,2,2-Tetrachloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 1,1,2-Trichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 1,1-Dichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 1,1-Dichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 1,1-Dichloropropene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 1,2,3-Trichlorobenzene | < 0.10 | 0.10 | | mg/Kg | 1 | 12/11/00 |
| 1,2,3-Trichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 1,2,4-Trimethylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 1,2-Dibromoethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 1,2-Dichlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 1,2-Dichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 1,2-Dichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 1,3,5-Trimethylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 1,3-Dichlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 1,3-Dichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 1,4-Dichlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 2,2-Dichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 2-Butanone (MEK) | < 0.25 | 0.25 | | mg/Kg | 1 | 12/11/00 |
| 2-Chloroethyl vinyl ether | < 0.25 | 0.25 | | mg/Kg | 1 | 12/11/00 |
| 2-Chlorotoluene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 2-Hexanone | < 0.25 | 0.25 | | mg/Kg | 1 | 12/11/00 |
| 4-Chlorotoluene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 4-Isopropyltoluene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| 4-Methyl-2-pentanone | < 0.25 | 0.25 | | mg/Kg | 1 | 12/11/00 |
| Acetone | 0.32 | 0.25 | B | mg/Kg | 1 | 12/11/00 |
| Benzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Bromobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Bromochloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Bromodichloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Bromoform | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Bromomethane | < 0.10 | 0.10 | | mg/Kg | 1 | 12/11/00 |
| Carbon tetrachloride | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Chlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Chloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Chloroform | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Chloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| cis-1,2-Dichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| cis-1,3-Dichloropropene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Dibromochloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range



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# Precision Analytical Laboratories, Inc.

**Date:** *13-Dec-00*

| | | | |
|---|---|---|---|
| **CLIENT:** | Transwest Geochem, Inc. | **Client Sample ID:** | Pilot-12./7-1 |
| **Lab Order:** | 0012178 | **Tag Number:** | 01B |
| **Project:** | Rio Salado/0012050 | **Collection Date:** | 12/7/00 1:20:00 PM |
| **Lab ID:** | 0012178-01A | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Ethylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| m,p-Xylene | < 0.10 | 0.10 | | mg/Kg | 1 | 12/11/00 |
| Methyl tert-butyl ether | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Methylene chloride | < 0.10 | 0.10 | | mg/Kg | 1 | 12/11/00 |
| n-Butylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| n-Propylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| o-Xylene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| sec-Butylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Styrene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| tert-Butylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Tetrachloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Toluene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| trans-1,2-Dichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| trans-1,3-Dichloropropene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Trichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Trichlorofluoromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Vinyl acetate | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Vinyl chloride | < 0.050 | 0.050 | | mg/Kg | 1 | 12/11/00 |
| Surr: 4-Bromofluorobenzene | 91.9 | 56.4-139 | | %REC | 1 | 12/11/00 |
| Surr: Dibromofluoromethane | 94.8 | 59.7-130 | | %REC | 1 | 12/11/00 |
| Surr: Toluene-d8 | 95.5 | 57.8-138 | | %REC | 1 | 12/11/00 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range



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# Precision Analytical Laboratories, Inc.

**Date:** *13-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012178
**Project:** Rio Salado/0012050

## QC SUMMARY REPORT
Method Blank

Sample ID: **MB-2587** Batch ID: **2587** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/11/00** Prep Date: **12/7/00**
Client ID: Run ID: **MS2_001211D** SeqNo: **60700**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1,2-Trichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1-Dichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1-Dichloroethene | < 0.050 | 0.05 | | | | | | | | | |
| 1,1-Dichloropropene | < 0.050 | 0.05 | | | | | | | | | |
| 1,2,3-Trichlorobenzene | < 0.10 | 0.1 | | | | | | | | | |
| 1,2,3-Trichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 1,2,4-Trimethylbenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dibromoethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dichlorobenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 1,3,5-Trimethylbenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,3-Dichlorobenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,3-Dichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 1,4-Dichlorobenzene | < 0.050 | 0.05 | | | | | | | | | |
| 2,2-Dichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 2-Butanone (MEK) | < 0.25 | 0.25 | | | | | | | | | |
| 2-Chloroethyl vinyl ether | < 0.25 | 0.25 | | | | | | | | | |
| 2-Chlorotoluene | < 0.050 | 0.05 | | | | | | | | | |
| 2-Hexanone | < 0.25 | 0.25 | | | | | | | | | |
| 4-Chlorotoluene | < 0.050 | 0.05 | | | | | | | | | |
| 4-Isopropyltoluene | < 0.050 | 0.05 | | | | | | | | | |
| 4-Methyl-2-pentanone | < 0.25 | 0.25 | | | | | | | | | |
| Acetone | 0.2955 | 0.25 | | | | | | | | | |
| Benzene | < 0.050 | 0.05 | | | | | | | | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank



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# Precision Analytical Laboratories, Inc.

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012178
**Project:** Rio Salado/0012050

## QC SUMMARY REPORT
Method Blank

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Bromobenzene | < 0.050 | 0.05 | | | | | | |
| Bromochloromethane | < 0.050 | 0.05 | | | | | | |
| Bromodichloromethane | < 0.050 | 0.05 | | | | | | |
| Bromoform | < 0.050 | 0.05 | | | | | | |
| Bromomethane | < 0.10 | 0.1 | | | | | | |
| Carbon tetrachloride | < 0.050 | 0.05 | | | | | | |
| Chlorobenzene | < 0.050 | 0.05 | | | | | | |
| Chloroethane | < 0.050 | 0.05 | | | | | | |
| Chloroform | < 0.050 | 0.05 | | | | | | |
| Chloromethane | < 0.050 | 0.05 | | | | | | |
| cis-1,2-Dichloroethene | < 0.050 | 0.05 | | | | | | |
| cis-1,3-Dichloropropene | < 0.050 | 0.05 | | | | | | |
| Dibromochloromethane | < 0.050 | 0.05 | | | | | | |
| Dichlorodifluoromethane | < 0.050 | 0.05 | | | | | | |
| Ethylbenzene | < 0.050 | 0.05 | | | | | | |
| m,p-Xylene | < 0.10 | 0.1 | | | | | | |
| Methyl tert-butyl ether | < 0.050 | 0.05 | | | | | | |
| Methylene chloride | < 0.10 | 0.1 | | | | | | |
| n-Butylbenzene | < 0.050 | 0.05 | | | | | | |
| n-Propylbenzene | < 0.050 | 0.05 | | | | | | |
| o-Xylene | < 0.050 | 0.05 | | | | | | |
| sec-Butylbenzene | < 0.050 | 0.05 | | | | | | |
| Styrene | < 0.050 | 0.05 | | | | | | |
| tert-Butylbenzene | < 0.050 | 0.05 | | | | | | |
| Tetrachloroethene | < 0.050 | 0.05 | | | | | | |
| Toluene | < 0.050 | 0.05 | | | | | | |
| trans-1,2-Dichloroethene | < 0.050 | 0.05 | | | | | | |
| trans-1,3-Dichloropropene | < 0.050 | 0.05 | | | | | | |
| Trichloroethene | < 0.050 | 0.05 | | | | | | |
| Trichlorofluoromethane | < 0.050 | 0.05 | | | | | | |
| Vinyl acetate | < 0.050 | 0.05 | | | | | | |
| Vinyl chloride | < 0.050 | 0.05 | | | | | | |
| Surr: 4-Bromofluorobenzene | 2.294 | 0 | 2.5 | 0 | 91.8 | 56.4 | 139 | 0 |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012178
**Project:** Rio Salado/0012050

## QC SUMMARY REPORT
Method Blank

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Surr: Dibromofluoromethane | 2.288 | 0 | 2.5 | 0 | 91.5 | 59.7 | 130 | 0 |
| Surr: Toluene-d8 | 2.349 | 0 | 2.5 | 0 | 94 | 57.8 | 138 | 0 |

**Qualifiers:** ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

# Precision Analytical Laboratories, Inc.

**Date:** *13-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012178
**Project:** Rio Salado/0012050

## QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0012178-01AMS** Batch ID: **2587** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/11/00** Prep Date: **12/7/00**
Client ID: **Pilot-12./7-1** Run ID: **MS2_001211D** SeqNo: **60703**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 2.265 | 0.05 | 2.5 | 0 | 90.6 | 49 | 135 | 0 | | | |
| Benzene | 2.286 | 0.05 | 2.5 | 0 | 91.4 | 59 | 137 | 0 | | | |
| Chlorobenzene | 2.183 | 0.05 | 2.5 | 0 | 87.3 | 61 | 131 | 0 | | | |
| Toluene | 2.236 | 0.05 | 2.5 | 0 | 89.4 | 50 | 146 | 0 | | | |
| Trichloroethene | 2.182 | 0.05 | 2.5 | 0 | 87.3 | 55 | 134 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 2.232 | 0 | 2.5 | 0 | 89.3 | 56.4 | 139 | 0 | | | |
| Surr: Dibromofluoromethane | 2.356 | 0 | 2.5 | 0 | 94.2 | 59.7 | 130 | 0 | | | |
| Surr: Toluene-d8 | 2.328 | 0 | 2.5 | 0 | 93.1 | 57.8 | 138 | 0 | | | |

Sample ID: **0012178-01AMSD** Batch ID: **2587** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/11/00** Prep Date: **12/7/00**
Client ID: **Pilot-12./7-1** Run ID: **MS2_001211D** SeqNo: **60704**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 2.246 | 0.05 | 2.5 | 0 | 89.9 | 49 | 135 | 2.265 | 0.82 | 25 | |
| Benzene | 2.226 | 0.05 | 2.5 | 0 | 89 | 59 | 137 | 2.286 | 2.66 | 25 | |
| Chlorobenzene | 2.161 | 0.05 | 2.5 | 0 | 86.4 | 61 | 131 | 2.183 | 1.01 | 25 | |
| Toluene | 2.2 | 0.05 | 2.5 | 0 | 88 | 50 | 146 | 2.236 | 1.6 | 25 | |
| Trichloroethene | 2.158 | 0.05 | 2.5 | 0 | 86.3 | 55 | 134 | 2.182 | 1.11 | 25 | |
| Surr: 4-Bromofluorobenzene | 2.36 | 0 | 2.5 | 0 | 94.4 | 56.4 | 139 | 2.232 | 0 | 0 | |
| Surr: Dibromofluoromethane | 2.404 | 0 | 2.5 | 0 | 96.1 | 59.7 | 130 | 2.356 | 0 | 0 | |
| Surr: Toluene-d8 | 2.474 | 0 | 2.5 | 0 | 98.9 | 57.8 | 138 | 2.328 | 0 | 0 | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# Precision Analytical Laboratories, Inc.

**Date:** *13-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012178
**Project:** Rio Salado/0012050

## QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS-2587** Batch ID: **2587** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/11/00** Prep Date: **12/7/00**
Client ID: Run ID: **MS2_001211D** SeqNo: **60701**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 2.232 | 0.05 | 2.5 | 0 | 89.3 | 49 | 135 | 0 | | | |
| Benzene | 2.217 | 0.05 | 2.5 | 0 | 88.7 | 59 | 137 | 0 | | | |
| Chlorobenzene | 2.182 | 0.05 | 2.5 | 0 | 87.3 | 61 | 131 | 0 | | | |
| Toluene | 2.222 | 0.05 | 2.5 | 0 | 88.9 | 50 | 146 | 0 | | | |
| Trichloroethene | 2.164 | 0.05 | 2.5 | 0 | 86.6 | 55 | 134 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 2.228 | 0 | 2.5 | 0 | 89.1 | 56.4 | 139 | 0 | | | |
| Surr: Dibromofluoromethane | 2.348 | 0 | 2.5 | 0 | 93.9 | 59.7 | 130 | 0 | | | |
| Surr: Toluene-d8 | 2.386 | 0 | 2.5 | 0 | 95.4 | 57.8 | 138 | 0 | | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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answest Geochem, Inc.
Extraction Log

SURR ID:
AMT ADDED:
SPIKE ID:
AMT ADDED:

DATE: 12-7-00
ANALYST: m
METHOD: 8260

Bal. 40.0g = 39.997g

| TGI ID | CLIENT ID | WEIGHT | FINAL VOLUME | EXTRACTION TIME | COMMENTS |
|---|---|---|---|---|---|
| RB | | 10g | 10ml | 10:45 AM | 8260 |
| LTB | | | | | |
| LTBS | | | | | |
| 0012045-1 | MW-1-12 | | | | |
| -1ms | | | | | |
| -1msD | | | | | |
| -2 | B-1-9 | | | | |
| 0012050-1 | pilot-12/7-1 | | | 3:05 pm | |
| -1ms | | 10g | 10ml | 16:20 | 8260 |
| -1msD | | | | | |
| RB | | | | | |
| LCS | | | | | |
| LCSD | | | | | |

TRANSWEST GEOCHEM

# CHAIN-OF-CUSTODY



**Beth Proffitt**
3725 E. Atlanta Avenue
Suite 2
Phoenix, AZ 85040-2960
TEL: (602) 437-0330
FAX: (602) 437-0660

~~0-001~~ HO HO ~~0-012176~~

**Work Order:** 0012050 0.012178

**Project:** Rio Salado

**Subcontractor:**
Precision Analytical Laboratories, Inc.
1725 West 17th St.
Tempe, AZ 85281
TEL: (480) 967-1310
FAX: (480) 967-1019

07-Dec-00

| | | | | | SPLP | Requested Tests | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client Sample ID | TGI ID | Matrix | Collection Date | Containers | 8260_S | 8260AZ_S | | | | | |
| HO PILOT - 12/7 - 1 | 01B | Soil | 12/7/2000 1:20:00 PM | 1 | | 1 | | | | | |
| ~~PILOT - 12/7 - 1~~ HO | ~~01C~~ | ~~Soil~~ | ~~12/7/2000 1:20:00 PM~~ | ~~1~~ | ~~1~~ | | | | | | |

**Comments:** After analysis, the samples do not need to be returned and can be disposed per your standard laboratory practices. Please provide a QC report, including Method Blank data.

| | Date/Time | | Date/Time |
|---|---|---|---|
| **Relinquished by:** Billy Weatherall TGI | 12/8/00 800 | **Received by:** [illegible] | 12/8/00 800 |
| **Relinquished by:** | | **Received by:** | |

TRANSWEST GEOCHEM
3725 East Atlanta Avenue, Suite 2
Phoenix, Arizona 85040
Phone: (602) 437-0330
Fax: (602) 437-0660

# Chain of Custody

TGI Work Order No: 0012050

Date 12/7/00 Page 1 of 2

| | | | |
|---|---|---|---|
| Project Manager: | Brad Johnston | | |
| Client Name: | SCS Engineers | | |
| Address: | | | |
| City, State ZIP: | | | |
| Phone: | 602-840-2596 | Fax: | |

| | | | |
|---|---|---|---|
| Bill to: | | | |
| Company: | | | |
| Address: | | | |
| City, State ZIP: | | | |
| Phone: | | Fax: | |

| | |
|---|---|
| P.O. No.: | |
| Project Name: | Rio Salado |
| Project Number: | |

**SAMPLE RECEIPT**

| | | | |
|---|---|---|---|
| Temperature: | Ambient / Cold | Ice: | |
| Received Intact: | Y | Absent / Present | |
| Custody Seals: | N/A | Wet / Blue | |
| Total No. of Containers: | 6 | | |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Lab ID | No. of Containers | TPH, (418.1/418.1AZ) | TPH, 8015AZR.1 | BTEX (8021B) | Volatile Organics GCMS (624/8260AZ) | SDWA Volatiles, (524.2) | Semi-Volatile Organics GCMS (625/8270) | Organochlorine Pesticides (608/8081) | PCB's, (8082) | PAH, EPA 8310 | SPLP 8 RCRA Metals | 13 Priority Pollutant Metals | TCLP 8 RCRA metals | | SPLP 8260 | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pilot-12/7-1 | Soil | 12/7 | 1:20 | 1 | 6 | | X | | X | | X | | | | X | X | X | | X | | | | | | |

| Relinquished by: (Signature) | (Print Name) | Date/Time | Received by: (Signature) | (Print Name) | Date/Time |
|---|---|---|---|---|---|
| 1 [signature] | Ahab Salam | 12/7 11:00 | [signature] | Steve Hurdle | 12/7/00 14:00 |
| 2 | | | | | |
| 3 | | | | | |

**TRANSWEST GEOCHEM**

December 29, 2000

Brad Johnston
SCS Engineers
2702 N. 44th St., Suite 105B
Phoenix, AZ 85008

Re: Rio Salado
Work Order No.: 0012050

Dear Brad,

Attached is the original Report of Analysis from Precision Analytical Laboratories, Inc. for the sample received on 12/7/2000 2:00:00 PM. The following analysis was performed:

Method SW1312/8260B – Volatiles, SPLP Leached

If you have any questions regarding the results, please call me. We appreciate your business and thank you for choosing Transwest Geochem.

Sincerely,

Elizabeth Proffitt

Beth Proffitt
Project Manager

ADHS License No. AZM133/AZ0133

CONFIDENTIAL AND PRIVILEGED

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# Precision Analytical Laboratories, Inc.

December 15, 2000

Beth Proffitt
Transwest Geochem, Inc.
3725 E. Atlanta Ave.
Suite 2
Phoenix, AZ 85040
TEL: (602) 437-0330
FAX (602) 437-0660

RE: Rio Salado/0012050 Order No.: 0012176

Dear Beth Proffitt:

Precision Analytical Laboratories, Inc. received 1 sample on 12/8/00 for the analyses presented in the following report.

This report includes the following information:

- Case Narrative. The case narrative contains a listing of common method references, data qualifiers, and any comments that may be needed regarding the analytical results.

- Analytical Report. Analysis results are reported with the compound name first, followed by the test result, report limit (Limit), any required data qualifier (Qual), units, dilution factor (DF), and date analyzed.

- QC Summary Report. This section includes quality control results for some or all of the following: method blanks, sample duplicates, sample matrix spikes, sample matrix spike duplicates, laboratory control spikes, and laboratory control spike duplicates.

If you have any questions regarding these tests results, please do not hesitate to call.

Sincerely,

Heather Oeschger
Account Manager

CC:

# Precision Analytical Laboratories, Inc.

**Date:** *15-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Project:** Rio Salado/0012050
**Lab Order:** 0012176

## CASE NARRATIVE

Data Qualifiers

Listed below are data qualifiers which may be used in your analytical report to explain any analytical or quality control issues. If one or more of the following data qualifiers is associated with your analytical or quality control data it will be noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

B1 Target analyte detected in method blank at or above the method reporting limit.
D1 Sample required dilution due to matrix interference.
D2 Sample required dilution due to high concentration of target analyte.
D4 Minimum reporting level (MRL) adjusted to reflect sample amount received and analyzed.
E2 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E3 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to holding time requirements.
E4 Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL).
E6 Concentration estimated. Internal standard recoveries did not meet method acceptance criteria.
H1 Sample analysis performed past holding time. See case narrative.
H2 Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3 Sample was received and analyzed past holding time.
K1 The sample dilutions set-up for the BOD analysis did not meet the oxygen depletion criteria of at least 2 mg/L. The reported result is an estimated value.
K2 The sample dilutions set up for the BOD analysis failed to meet the criteria of a residual dissolved oxygen of at least 1 mg/L. The reported result is estimated.
M1 Matrix spike recovery was high, the method control sample recovery was acceptable.
M2 Matrix spike recovery was low, the method control sample recovery was acceptable.
M3 The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to spike level. The method control sample recovery was acceptable.
M4 The analysis of the spiked sample required a dilution such that the spike concentration was diluted below the reporting limit. The method control sample recovery was acceptable.



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M5 Analyte concentration was determined by the method of standard addition (MSA).
N1 See case narrative.
Q1 Sample integrity was not maintained. See case narrative.
Q2 Sample received with head space.
Q3 Sample received with improper chemical preservation.
Q5 Sample received without chemical preservation, but preserved by the laboratory.
Q6 Sample was received above recommended temperature.
Q7 Sample inadequately dechlorinated.
Q8 Insufficient sample received to meet method QC requirements. QC requirements satisfy ADEQ policies 0154 and 0155.
Q10 Sample received in inappropriate sample container.
Q11 Sample is heterogeneous. Sample homogeneity could not be readily achieved using routine laboratory practices.
R2 RPD exceeded the laboratory control limit. See case narrative.
R3 Sample RPD between the primary and confirmatory analysis exceeded 40%. Per EPA Method 8000B, the higher value was reported.
R5 RPD exceeded the laboratory control limit. Recovery met acceptance criteria.
S2 Surrogate recovery was above laboratory and method acceptance limits.
S4 Surrogate recovery was above laboratory and method acceptance limits. No target analytes were detected in the sample.
S6 Surrogate recovery was below laboratory and method acceptance limits. Reextraction and/or reanalysis confirms low recovery caused by matrix effect.
S7 Surrogate recovery was below laboratory and method acceptance limits. Unable to confirm matrix effect.
S9 The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria. The method control sample recovery was acceptable.
T2 Cited ADHS licensed method does not contain this analyte as part of method compound list.
T4 Tentatively identified compound. Concentration is estimated and based on the closest internal standard.
V1 CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.
V5 CCV recovery after a group of samples was above acceptance limits. This target analyte was not detected in the sample. Acceptable per EPA Method 8000B.



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## CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1995. Appendix A to Part 136- Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Precision Analytical Laboratories, Inc (PAL) holds the following certifications:
Arizona (certification no. AZ0610) and California (I-2410).
PAL- Tucson laboratory Arizona certification number: AZ0609.
PAL- North Phoenix laboratory Arizona certification number: AZ0611.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.



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# Precision Analytical Laboratories, Inc.

**Date:** *15-Dec-00*

| | | | |
|---|---|---|---|
| **CLIENT:** | Transwest Geochem, Inc. | **Client Sample ID:** | Pilot-12/7-1 |
| **Lab Order:** | 0012176 | **Tag Number:** | 01C |
| **Project:** | Rio Salado/0012050 | **Collection Date:** | 12/7/00 1:20:00 PM |
| **Lab ID:** | 0012176-01A | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES, SPLP LEACHED** | | **SW1312/8260B** | | | | **Analyst: SP** |
| 1,1-Dichloroethene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| 1,2-Dichloroethane | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| 1,4-Dichlorobenzene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| 2-Butanone | < 0.50 | 0.50 | | mg/L | 1 | 12/14/00 |
| Benzene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Carbon tetrachloride | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Chlorobenzene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Chloroform | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Ethylbenzene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Tetrachloroethene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Toluene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Trichloroethene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Vinyl chloride | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Xylenes, Total | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Surr: 4-Bromofluorobenzene | 94.1 | 84-117 | | %REC | 1 | 12/14/00 |
| Surr: Dibromofluoromethane | 98.9 | 75-129 | | %REC | 1 | 12/14/00 |
| Surr: Toluene-d8 | 99.3 | 80-125 | | %REC | 1 | 12/14/00 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range



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# Precision Analytical Laboratories, Inc.

**Date:** *15-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012176
**Project:** Rio Salado/0012050

## QC SUMMARY REPORT
Method Blank

Sample ID: **MB-2598** Batch ID: **2598** Test Code: **SW1312/8260** Units: **mg/L** Analysis Date **12/14/00** Prep Date: **12/12/00**
Client ID: Run ID: **MS2_001214A** SeqNo: **61674**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | < 0.10 | 0.1 | | | | | | | | | |
| 1,2-Dichloroethane | < 0.10 | 0.1 | | | | | | | | | |
| 1,4-Dichlorobenzene | < 0.10 | 0.1 | | | | | | | | | |
| 2-Butanone | < 0.50 | 0.5 | | | | | | | | | |
| Benzene | < 0.10 | 0.1 | | | | | | | | | |
| Carbon tetrachloride | < 0.10 | 0.1 | | | | | | | | | |
| Chlorobenzene | < 0.10 | 0.1 | | | | | | | | | |
| Chloroform | < 0.10 | 0.1 | | | | | | | | | |
| Ethylbenzene | < 0.10 | 0.1 | | | | | | | | | |
| Tetrachloroethene | < 0.10 | 0.1 | | | | | | | | | |
| Toluene | < 0.10 | 0.1 | | | | | | | | | |
| Trichloroethene | < 0.10 | 0.1 | | | | | | | | | |
| Vinyl chloride | < 0.10 | 0.1 | | | | | | | | | |
| Xylenes, Total | < 0.10 | 0.1 | | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 4.869 | 0 | 5 | 0 | 97.4 | 84 | 117 | 0 | | | |
| Surr: Dibromofluoromethane | 5.08 | 0 | 5 | 0 | 102 | 75 | 129 | 0 | | | |
| Surr: Toluene-d8 | 5.123 | 0 | 5 | 0 | 102 | 80 | 125 | 0 | | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# Precision Analytical Laboratories, Inc.

**Date:** *15-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012176
**Project:** Rio Salado/0012050

## QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0012203-01AMS** Batch ID: **2598** Test Code: **SW1312/8260** Units: **mg/L** Analysis Date **12/14/00** Prep Date:
Client ID: Run ID: **MS2_001214A** SeqNo: **61680**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 5.066 | 0.1 | 5 | 0 | 101 | 80 | 111 | 0 | | | * |
| Benzene | 5.458 | 0.1 | 5 | 0 | 109 | 80 | 116 | 0 | | | * |
| Chlorobenzene | 4.722 | 0.1 | 5 | 0 | 94.4 | 81.6 | 111 | 0 | | | |
| Trichloroethene | 4.671 | 0.1 | 5 | 0 | 93.4 | 82 | 111 | 0 | | | * |
| Surr: 4-Bromofluorobenzene | 4.995 | 0 | 5 | 0 | 99.9 | 84 | 117 | 0 | | | |
| Surr: Dibromofluoromethane | 5.234 | 0 | 5 | 0 | 105 | 75 | 129 | 0 | | | |
| Surr: Toluene-d8 | 5.141 | 0 | 5 | 0 | 103 | 80 | 125 | 0 | | | |

Sample ID: **0012203-01AMSD** Batch ID: **2598** Test Code: **SW1312/8260** Units: **mg/L** Analysis Date **12/14/00** Prep Date:
Client ID: Run ID: **MS2_001214A** SeqNo: **61681**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 4.985 | 0.1 | 5 | 0 | 99.7 | 80 | 111 | 5.066 | 1.61 | 0 | * |
| Benzene | 5.074 | 0.1 | 5 | 0 | 101 | 80 | 116 | 5.458 | 7.29 | 0 | * |
| Chlorobenzene | 4.536 | 0.1 | 5 | 0 | 90.7 | 81.6 | 111 | 4.722 | 4.02 | 0 | |
| Trichloroethene | 4.559 | 0.1 | 5 | 0 | 91.2 | 82 | 111 | 4.671 | 2.43 | 0 | * |
| Surr: 4-Bromofluorobenzene | 4.507 | 0 | 5 | 0 | 90.1 | 84 | 117 | 4.995 | 0 | 0 | |
| Surr: Dibromofluoromethane | 4.906 | 0 | 5 | 0 | 98.1 | 75 | 129 | 5.234 | 0 | 0 | |
| Surr: Toluene-d8 | 4.9 | 0 | 5 | 0 | 98 | 80 | 125 | 5.141 | 0 | 0 | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# Precision Analytical Laboratories, Inc.

**Date:** *15-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012176
**Project:** Rio Salado/0012050

## QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS-2598** Batch ID: **2598** Test Code: **SW1312/8260** Units: **mg/L** Analysis Date **12/14/00** Prep Date: **12/12/00**
Client ID: Run ID: **MS2_001214A** SeqNo: **61675**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 5.447 | 0.1 | 5 | 0 | 109 | 80 | 111 | 0 | | | * |
| Benzene | 5.636 | 0.1 | 5 | 0 | 113 | 80 | 116 | 0 | | | * |
| Chlorobenzene | 5.023 | 0.1 | 5 | 0 | 100 | 81.6 | 111 | 0 | | | |
| Trichloroethene | 4.977 | 0.1 | 5 | 0 | 99.5 | 82 | 111 | 0 | | | * |
| Surr: 4-Bromofluorobenzene | 5.197 | 0 | 5 | 0 | 104 | 84 | 117 | 0 | | | |
| Surr: Dibromofluoromethane | 5.562 | 0 | 5 | 0 | 111 | 75 | 129 | 0 | | | |
| Surr: Toluene-d8 | 5.375 | 0 | 5 | 0 | 108 | 80 | 125 | 0 | | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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TRANSWEST GEOCHEM

# CHAIN-OF-CUSTODY



~~0.001~~ 400 0.012176

**Beth Proffitt**
3725 E. Atlanta Avenue
Suite 2
Phoenix, AZ 85040-2960
TEL: (602) 437-0330
FAX: (602) 437-0660

**Work Order:** 0012050

**Project:** Rio Salado

**Subcontractor:**
Precision Analytical Laboratories, Inc.
1725 West 17th St.
Tempe, AZ 85281
TEL: (480) 967-1310
FAX: (480) 967-1019

**07-Dec-00**

| Client Sample ID | TGI ID | Matrix | Collection Date | Containers | SPLP 8260_S | Requested Tests: 8260AZ_S | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ~~PILOT - 12/7 - 1~~ | ~~01B~~ | ~~Soil~~ | ~~12/7/2000 1:20:00 PM~~ | ~~1~~ | | 1 | | | | | |
| PILOT - 12/7 - 1 | 01C | Soil | 12/7/2000 1:20:00 PM | 1 | 1 | | | | | | |

**Comments:** After analysis, the samples do not need to be returned and can be disposed per your standard laboratory practices. Please provide a QC report, including Method Blank data.

| | | Date/Time | | | Date/Time |
|---|---|---|---|---|---|
| **Relinquished by:** | Billy Weatherall TGI | 12/8/00 800 | **Received by:** | [illegible] | 12/8/00 800 |
| **Relinquished by:** | | | **Received by:** | | |

TRANSWEST GEOCHEM
3725 East Atlanta Avenue, Suite 2
Phoenix, Arizona 85040
Phone: (602) 437-0330
Fax: (602) 437-0660

# Chain of Custody

TGI Work Order No: 001205O

Date 12/7/00 Page 1 of 1

| | | | |
|---|---|---|---|
| Project Manager: | Brad Johnston | Bill to: | |
| Client Name: | SCS Engineers | Company: | |
| Address: | | Address: | |
| City, State ZIP: | | City, State ZIP: | |
| Phone: | 602-840-2596 | Phone: | |
| Fax: | | Fax: | |

| | |
|---|---|
| P.O. No.: | |
| Project Name: | Rio Salado |
| Project Number: | |

**SAMPLE RECEIPT**

| | | |
|---|---|---|
| Temperature: | Ambient / Cold | Ice: |
| Received Intact: | Y | Absent / Present |
| Custody Seals: | N/A | Wet / Blue |
| Total No. of Containers: | 6 | |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Lab ID | No. of Containers | TPH, (418.1 /418.1AZ) | TPH, 8015AZR.1 (A) | BTEX (8021B) | Volatile Organics GCMS (624/8260AZ) (S) | SDWA Volatiles, (524.2) | Semi-Volatile Organics GCMS (625/8270) (A) | Organochlorine Pesticides (608/8081) | PCB's, (8082) | PAH, EPA 8310 | SPLP 8 RCRA Metals (F) | 13 Priority Pollutant Metals (D) | TCLP 8 RCRA metals (E) | | SPLP 8260 (C) | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pilot-12/7-1 | Soil | 12/7 | 1:20 | 1 | 6 | | X | | X | | X | | | | X | X | X | | X | | | | | | |

| Relinquished by: (Signature) | (Print Name) | Date/Time | Received by: (Signature) | (Print Name) | Date/Time |
|---|---|---|---|---|---|
| 1 | Ahab Salam | 12/7 14:00 | | Skip Harden | 12/7/00 14:00 |
| 2 | | | | | |
| 3 | | | | | |

White copy to TGI, Yellow copy for final report, Pink copy to sampler

Revised: 6/29/00

**TRANSWEST GEOCHEM**

**Amended Report**

December 29, 2000

Brad Johnston
SCS Engineers
2702 N. 44th St., Suite 105B
Phoenix, AZ 85008

RE: Rio Salado
Work Order No.: 0012062

Dear Brad,

Transwest Geochem, Inc. received 3 samples on 12/8/2000 9:45:00 AM for the analyses presented in the following report.

The Case Narrative of this report addresses any Quality Control and/or Quality Assurance issues associated with this Work Order.

If you have any questions regarding these test results, please feel free to call us at (602) 437-0330.

Sincerely,

Beth Proffitt
Project Manager

ADHS License No. AZM133/AZ0133

Amended Report

Date Printed: 29-Dec-00

**Client:** SCS Engineers
**Work Order:** 0012062
**Project Name:** Rio Salado
**Project Number:**

# CASE NARRATIVE

Transwest Geochem, Inc. uses the methods outlined in the following references:

Code of Federal Regulations, 40CFR, Part 136, Revised July 1995.

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, Revised August 1993.

Methods for the Determination of Metals in Environmental Samples, EPA/600/R-94/111, Revised May 1994.

Hach, Water Analysis Handbook, 2nd Edition, 1992.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

Metals were analyzed using multi-element ICP instrumentation. Some metals reported in the QC report may not be associated with this Work Order.

Secondary Source QC Sample (LCSV) results may not be reported for all methods and/or analysis dates.

The sample introduction technique for Method 8015AZ used by this laboratory is direct injection.

All method blanks, laboratory spikes, and/or matrix spikes met quality control objectives for the parameters associated with this Work Order.

Data qualifiers ("flags") contained within this analytical report have been issued to explain a quality control deficiency, and do not affect the quality (validity) of the data unless noted otherwise in the case narrative.

Analytical Comments for Method SW6010B, Analytical Spike 0012050-01, Batch 3811: Post-Digestion Spike for Sb, Cu, Pb, Zn passes Transwest Geochem Acceptance criteria.

Analytical Comments for Method SW6010B, Matrix Spike 0012050-01, Batch 3811: Sb, Cu, Pb, Zn,



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**Client:** SCS Engineers
**Work Order:** 0012062
**Project Name:** Rio Salado
**Project Number:**

## CASE NARRATIVE

fail MS/MSD due to matrix interference. LCS is within Transwest Geochem Acceptance Criteria.

Analytical Comments for Method SW8270C, Matrix Spike Duplicate 0012062-01, Batch 3810: R2 flag due to high RPD for N-Nitrosodi-n-propylamine in the MS and MSD. The RPD for this compound was acceptable in the LCS and LCSD.

For EPA Method 8270C, The 4-nitrophenol recovered below TGI criteria in the LCSD. 4-nitrophenol recovered well in both the MS & MSD. The RPD of the LCS and LCSD is also in the acceptable range.



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Amended Report

Date Printed 29-Dec-00

License No. AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado
**Project Number:**
**Work Order:** 0012062
**Date Received:** 08-Dec-00

# Work Order Sample Summary

| Client Sample ID | Lab Sample ID | Test Code | Collection Date |
|---|---|---|---|
| Pilot - 12/8 - 1 | 0012062-01A | 8015AZ | 12/8/2000 8:50:00 AM |
| | | SW8270C | 12/8/2000 8:50:00 AM |
| | 0012062-01B | | 12/8/2000 8:50:00 AM |
| | 0012062-01C | | 12/8/2000 8:50:00 AM |
| | 0012062-01D | SW6010B | 12/8/2000 8:50:00 AM |
| | | SW7471A | 12/8/2000 8:50:00 AM |
| | 0012062-01E | SW1311/6010B | 12/8/2000 8:50:00 AM |
| | | SW1311/7470A | 12/8/2000 8:50:00 AM |
| | 0012062-01F | SW1312/6010B | 12/8/2000 8:50:00 AM |
| | | SW1312/7470A | 12/8/2000 8:50:00 AM |
| Pilot3 - 12/8 - 1 | 0012062-02A | SW1312/6010B | 12/8/2000 10:15:00 AM |
| | | SW1312/7470A | 12/8/2000 10:15:00 AM |
| | 0012062-02B | | 12/8/2000 10:15:00 AM |
| Pilot3 - 12/8 - 2 | 0012062-03A | SW1312/6010B | 12/8/2000 10:20:00 AM |
| | | SW1312/7470A | 12/8/2000 10:20:00 AM |
| | 0012062-03B | | 12/8/2000 10:20:00 AM |

TRANSWEST GEOCHEM

Amended Report

**Date Printed** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado
**Project Number:**
**Work Order:** 0012062
**Date Received:** 08-Dec-00

# Data Qualifiers

One or more of the following data qualifiers may be associated with your analytical and/or quality control data.

| | |
|---|---|
| L2 | The associated blank spike recovery was below laboratory acceptance limits. See case narrative. |
| M2 | Matrix spike recovery was low, the method control sample recovery was acceptable. |

TRANSWEST GEOCHEM

Amended Report

**Date Printed** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Project Name:** Rio Salado
**Project Number:**
**Work Order:** 0012062
**Date Received:** 08-Dec-00

# Definitions

| | |
|---|---|
| Analytical Spike (AS) | The AS is a known amount of a target analyte added to a sample after it has been distilled, digested, or extracted and is ready for analysis. The AS is generally performed if the MS has failed. It is used to indicate interference that arises from sample distillation, digestion, or extraction as opposed to interference that is innate to the matrix. |
| Continuing Curve Verification (CCV) | The CCV is also referred to as a curve check. This is a standard analyzed at specified intervals during an analysis. The CCV verifies the stability and accuracy of the calibration curve. There are specific CCV recovery acceptance criteria for each method. |
| Dilution Factor (DF) | The DF is an indication of how much a sample had to be diluted in order to quantitate it on a standard curve. The DF is indicated in the reported sample result. The sample PQL increases as the dilution increases. |
| Internal Standard (IS) | The IS is a compound that is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. The same concentration of IS is added to every sample for some organic methods. |
| Laboratory Control Sample (LCS) | The LCS is also referred to as a blank spike. The LCS is an addition of a known amount of a target analyte (from the same source as calibration standards or spikes) to an aliquot of deionized water or other appropriate clean matrix. The LCS is processed through the entire method procedure in the same manner as samples. |
| Matrix Spike (MS) | The MS is a known amount of a target analyte added to a sample. The MS is processed through the entire method procedure in the same manner as samples. |
| Method Blank (MB) | The MB is an aliquot of deionized water or other appropriate clean matrix that is thought to be free of the analyte in question. The MB is processed through the entire extraction or analysis procedure and is used to indicate contamination in the lab. |
| Method Detection Limit (MDL) | The MDL is the lowest level of detection of which a method is capable. |
| Practical Quantitation Limit (PQL) | The PQL is the lowest value at which Transwest Geochem can detect an analyte in matrix with a high degree of confidence. The PQL will increase as the DF increases. The PQL is greater than or equal to the MDL. |
| Relative Percent Difference (RPD) | The RPD is a measure of precision (the ability to obtain the same result on re-analysis of the same sample). It is calculated using the result of a sample, MS, LCS, or LCSV and its associated duplicate result. |
| Secondary Source QC Sample (LCSV) | The LCSV is also referred to as a second source laboratory control sample. It is the same type of standard as a calibration or spiking standard but is obtained from a different source. The LCSV is an indication of the primary standard quality, method performance, and instrument performance. |
| Surrogate | A surrogate compound is similar to the organic compound of interest in terms of chemical composition but is unique in that it is rare in the environment. When surrogates are used, they are added to every sample, blank and standard. Surrogate recovery is used as an indication of extraction and/or analytical success. |
| Trip Blank (TB) | The TB is a portion of deionized water preserved in the same manner as the samples. The TB travels from the lab, to the field, and then back to the lab with the samples from the field. The TB serves as an indication of contamination introduced during sample transportation. |

TRANSWEST GEOCHEM

**Amended Report**

**Date Printed** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012062
**Lab ID:** 0012062-01
**Project Name:** Rio Salado
**Project Number:**

**Client Sample ID:** Pilot - 12/8 - 1
**Collection Date:** 12/8/2000 8:50:00 AM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 GRO | <20 | 20 | | mg/Kg | 1 | 8015AZ | 12/8/2000 | 12/8/00 7:31 pm | JH | FUELS1_001208A |
| C10-C22 DRO | <30 | 30 | | mg/Kg | 1 | 8015AZ | 12/8/2000 | 12/8/00 7:31 pm | JH | FUELS1_001208A |
| C22-C32 ORO | <100 | 100 | | mg/Kg | 1 | 8015AZ | 12/8/2000 | 12/8/00 7:31 pm | JH | FUELS1_001208A |
| C10-C32 SRL | <130 | 130 | | mg/Kg | 1 | 8015AZ | 12/8/2000 | 12/8/00 7:31 pm | JH | FUELS1_001208A |
| o-Terphenyl (Surrogate) | 96 | 65-123 | | %REC | 1 | 8015AZ | 12/8/2000 | 12/8/00 7:31 pm | JH | FUELS1_001208A |
| Arsenic | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Barium | 1.1 | 1.0 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Cadmium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Chromium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Lead | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Selenium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/12/00 | MR | 3817 |
| Silver | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/2000 | 12/13/00 | MR | 3817A |
| Mercury | <0.0020 | 0.0020 | | mg/L | 1 | SW1311/7470A | 12/11/2000 | 12/12/00 | TL | 3823 |
| Arsenic | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Barium | <1.0 | 1.0 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Cadmium | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Chromium | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Lead | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Selenium | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Silver | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Mercury | <0.0020 | 0.0020 | | mg/L | 1 | SW1312/7470A | 12/11/2000 | 12/12/00 | TL | 3824 |
| Antimony | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Arsenic | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Beryllium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Cadmium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Chromium | 15 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Copper | 16 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Lead | 39 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Nickel | 18 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Selenium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/13/00 | MR | 3811A |
| Silver | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Thallium | <10 | 10 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Zinc | 110 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/2000 | 12/12/00 | MR | 3811 |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 12/11/2000 | 12/12/00 | TL | 3825 |



**Confidential and Privileged**

TRANSWEST GEOCHEM

**Amended Report**

**Date Printed** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012062
**Lab ID:** 0012062-01
**Project Name:** Rio Salado
**Project Number:**

**Client Sample ID:** Pilot - 12/8 - 1
**Collection Date:** 12/8/2000 8:50:00 AM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Acenaphthylene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Aniline | <50 | 50 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Anthracene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Azobenzene | <20 | 20 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Benz[a]anthracene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Benzo[a]pyrene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Benzo[b]fluoranthene | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Benzo[g,h,i]perylene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Benzo[k]fluoranthene | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Benzoic acid | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Benzyl alcohol | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Bis(2-chloroethoxy)methane | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Bis(2-chloroethyl)ether | <18 | 18 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Bis(2-chloroisopropyl)ether | <20 | 20 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Bis(2-ethylhexyl)phthalate | <20 | 20 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 4-Bromophenyl phenyl ether | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Butyl benzyl phthalate | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Carbazole | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 4-Chloro-3-methylphenol | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 4-Chloroaniline | <18 | 18 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 2-Chloronaphthalene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 2-Chlorophenol | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 4-Chlorophenyl phenyl ether | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Chrysene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Di-n-butyl phthalate | <18 | 18 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Di-n-octyl phthalate | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Dibenz[a,h]anthracene | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Dibenzo[a,i]pyrene | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Dibenzofuran | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 1,2-Dichlorobenzene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 1,3-Dichlorobenzene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 1,4-Dichlorobenzene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 2,4-Dichlorophenol | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Diethyl phthalate | <18 | 18 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Dimethyl phthalate | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 2,4-Dimethylphenol | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 4,6-Dinitro-2-methylphenol | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 2,4-Dinitrophenol | <50 | 50 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 2,4-Dinitrotoluene | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 2,6-Dinitrotoluene | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Fluoranthene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Fluorene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Hexachlorobenzene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |



**Confidential and Privileged**

TRANSWEST GEOCHEM

**Amended Report**

**Date Printed** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012062
**Lab ID:** 0012062-01
**Project Name:** Rio Salado
**Project Number:**

**Client Sample ID:** Pilot - 12/8 - 1
**Collection Date:** 12/8/2000 8:50:00 AM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Hexachlorobutadiene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Hexachlorocyclopentadiene | <50 | 50 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Hexachloroethane | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Indeno[1,2,3-cd]pyrene | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Isophorone | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 2-Methylnaphthalene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 2-Methylphenol | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 4-Methylphenol | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| N-Nitrosodi-n-propylamine | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| N-Nitrosodimethylamine | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| N-Nitrosodiphenylamine | <18 | 18 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Naphthalene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 2-Nitroaniline | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 3-Nitroaniline | <28 | 28 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 4-Nitroaniline | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Nitrobenzene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 2-Nitrophenol | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 4-Nitrophenol | <25 | 25 | L2 | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Pentachlorophenol | <25 | 25 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Phenanthrene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Phenol | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Pyrene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 1,2,4-Trichlorobenzene | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 2,4,5-Trichlorophenol | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 2,4,6-Trichlorophenol | <15 | 15 | | mg/Kg | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 2-Chlorophenol-d4 (Surrogate) | 43 | 20-130 | | %REC | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 1,2-Dichlorobenzene-d4 (Surrogate) | 41 | 20-130 | | %REC | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 2-Fluorobiphenyl (Surrogate) | 59 | 30-115 | | %REC | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 2-Fluorophenol (Surrogate) | 29 | 25-121 | | %REC | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Nitrobenzene-d5 (Surrogate) | 42 | 23-120 | | %REC | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| Phenol-d6 (Surrogate) | 43 | 24-113 | | %REC | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 4-Terphenyl-d14 (Surrogate) | 75 | 18-137 | | %REC | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |
| 2,4,6-Tribromophenol (Surrogate) | 33 | 19-122 | | %REC | 5 | SW8270C | 12/8/2000 | 12/13/00 10:53 am | MHH | 3810 |



**Confidential and Privileged**

TRANSWEST GEOCHEM

**Amended Report**

**Date Printed** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012062
**Lab ID:** 0012062-02
**Project Name:** Rio Salado
**Project Number:**

**Client Sample ID:** Pilot3 - 12/8 - 1
**Collection Date:** 12/8/2000 10:15:00 AM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Barium | <1.0 | 1.0 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Cadmium | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Chromium | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Lead | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Selenium | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Silver | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Mercury | <0.0020 | 0.0020 | | mg/L | 1 | SW1312/7470A | 12/11/2000 | 12/12/00 | TL | 3824 |



**Confidential and Privileged**

TRANSWEST GEOCHEM

Amended Report

Date Printed 29-Dec-00

License No. AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012062
**Lab ID:** 0012062-03
**Project Name:** Rio Salado
**Project Number:**

**Client Sample ID:** Pilot3 - 12/8 - 2
**Collection Date:** 12/8/2000 10:20:00 AM
**Matrix:** SOIL

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Barium | <1.0 | 1.0 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Cadmium | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Chromium | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Lead | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Selenium | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Silver | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/2000 | 12/12/00 | MR | 3816 |
| Mercury | <0.0020 | 0.0020 | | mg/L | 1 | SW1312/7470A | 12/11/2000 | 12/12/00 | TL | 3824 |



Confidential and Privileged

TRANSWEST GEOCHEM

Amended Report

**Date:** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012062
**Project:** Rio Salado

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 GRO | <20 | 20 | | mg/Kg | 1 | 8015AZ | 12/8/00 | 12/8/00 2:05 pm | JH | FUELS1_001208A |
| C10-C22 DRO | <30 | 30 | | mg/Kg | 1 | 8015AZ | 12/8/00 | 12/8/00 2:05 pm | JH | FUELS1_001208A |
| C22-C32 ORO | <100 | 100 | | mg/Kg | 1 | 8015AZ | 12/8/00 | 12/8/00 2:05 pm | JH | FUELS1_001208A |
| C10-C32 SRL | <130 | 130 | | mg/Kg | 1 | 8015AZ | 12/8/00 | 12/8/00 2:05 pm | JH | FUELS1_001208A |
| o-Terphenyl | 117 | 65-123 | | %REC | 1 | 8015AZ | 12/8/00 | 12/8/00 2:05 pm | JH | FUELS1_001208A |
| Arsenic | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Barium | <1.0 | 1.0 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Cadmium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Chromium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Lead | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Selenium | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/12/00 | MR | 3817 |
| Silver | <0.50 | 0.50 | | mg/L | 1 | SW1311/6010B | 12/11/00 | 12/13/00 | MR | 3817A |
| Mercury | <0.0020 | 0.0020 | | mg/L | 1 | SW1311/7470A | 12/11/00 | 12/12/00 | TL | 3823 |
| Arsenic | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/00 | 12/12/00 | MR | 3816 |
| Barium | <1.0 | 1.0 | | mg/L | 1 | SW1312/6010B | 12/11/00 | 12/12/00 | MR | 3816 |
| Cadmium | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/00 | 12/12/00 | MR | 3816 |
| Chromium | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/00 | 12/12/00 | MR | 3816 |
| Lead | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/00 | 12/12/00 | MR | 3816 |
| Selenium | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/00 | 12/12/00 | MR | 3816 |
| Silver | <0.50 | 0.50 | | mg/L | 1 | SW1312/6010B | 12/11/00 | 12/12/00 | MR | 3816 |
| Mercury | <0.0020 | 0.0020 | | mg/L | 1 | SW1312/7470A | 12/11/00 | 12/12/00 | TL | 3824 |
| Antimony | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Arsenic | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Beryllium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Cadmium | <2.5 | 2.5 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Chromium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Copper | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Lead | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Nickel | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Silver | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Thallium | <10 | 10 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Zinc | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/12/00 | MR | 3811 |
| Selenium | <5.0 | 5.0 | | mg/Kg | 1 | SW6010B | 12/8/00 | 12/13/00 | MR | 3811A |
| Mercury | <0.083 | 0.083 | | mg/Kg | 5 | SW7471A | 12/11/00 | 12/12/00 | TL | 3825 |

TRANSWEST GEOCHEM

Amended Report

**Date:** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012062
**Project:** Rio Salado

# QC SUMMARY REPORT
## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Acenaphthylene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Aniline | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Anthracene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Azobenzene | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Benz[a]anthracene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Benzo[a]pyrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Benzo[b]fluoranthene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Benzo[g,h,i]perylene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Benzo[k]fluoranthene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Benzoic acid | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Benzyl alcohol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Bis(2-chloroethoxy)methane | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Bis(2-chloroethyl)ether | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Bis(2-chloroisopropyl)ether | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Bis(2-ethylhexyl)phthalate | <0.13 | 0.13 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 4-Bromophenyl phenyl ether | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Butyl benzyl phthalate | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Carbazole | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 4-Chloro-3-methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 4-Chloroaniline | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2-Chloronaphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2-Chlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 4-Chlorophenyl phenyl ether | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Chrysene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Di-n-butyl phthalate | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Di-n-octyl phthalate | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Dibenz[a,h]anthracene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Dibenzo[a,i]pyrene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Dibenzofuran | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 1,2-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 1,3-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 1,4-Dichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2,4-Dichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Diethyl phthalate | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Dimethyl phthalate | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2,4-Dimethylphenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 4,6-Dinitro-2-methylphenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2,4-Dinitrophenol | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2,4-Dinitrotoluene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2,6-Dinitrotoluene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Fluoranthene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Fluorene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Hexachlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Hexachlorobutadiene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |

TRANSWEST GEOCHEM

Amended Report

**Date:** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012062
**Project:** Rio Salado

# QC SUMMARY REPORT

## Method Blank

| Analyte | Result | PQL | Qual | Units | DF | Test Code | Date Prepared | Date Analyzed | Analyst | Batch ID |
|---|---|---|---|---|---|---|---|---|---|---|
| Hexachlorocyclopentadiene | <0.33 | 0.33 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Hexachloroethane | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Indeno[1,2,3-cd]pyrene | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Isophorone | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2-Methylnaphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2-Methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 4-Methylphenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| N-Nitrosodi-n-propylamine | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| N-Nitrosodimethylamine | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| N-Nitrosodiphenylamine | <0.12 | 0.12 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Naphthalene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2-Nitroaniline | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 3-Nitroaniline | <0.18 | 0.18 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 4-Nitroaniline | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Nitrobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2-Nitrophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 4-Nitrophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Pentachlorophenol | <0.17 | 0.17 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Phenanthrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Phenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Pyrene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 1,2,4-Trichlorobenzene | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2,4,5-Trichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2,4,6-Trichlorophenol | <0.10 | 0.10 | | mg/Kg | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2-Chlorophenol-d4 | 76 | 20-130 | | %REC | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 1,2-Dichlorobenzene-d4 | 75 | 20-130 | | %REC | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2-Fluorobiphenyl | 80 | 30-115 | | %REC | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2-Fluorophenol | 70 | 25-121 | | %REC | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Nitrobenzene-d5 | 53 | 23-120 | | %REC | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| Phenol-d6 | 74 | 24-113 | | %REC | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 4-Terphenyl-d14 | 84 | 18-137 | | %REC | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |
| 2,4,6-Tribromophenol | 64 | 19-122 | | %REC | 1 | SW8270C | 12/8/00 | 12/13/00 2:30 am | MHH | 3810 |

TRANSWEST GEOCHEM

**Amended Report**

**Date:** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012062
**Project:** Rio Salado

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012065-01AS** | Batch ID: FUELS1_001208A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/8/00 11:26 pm | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| C10-C22 DRO | 1020 | 30 | 500 | 851 | 34% | 65 | 121 | | | | M2 |
| o-Terphenyl | 8.93 | N/A | 10.0 | N/A | 89% | 65 | 123 | | | | |
| Sample ID: **0012065-01ASD** | Batch ID: FUELS1_001208A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/9/00 1:00 am | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| C10-C22 DRO | 989 | 30 | 500 | 851 | 28% | 65 | 121 | 1020 | 3% | 20 | M2 |
| o-Terphenyl | 7.87 | N/A | 10.0 | N/A | 79% | 65 | 123 | | | | |
| Sample ID: **0011236-01CSD** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 0.9281 | 0.50 | 1.000 | <0.50 | 93% | 75 | 125 | 0.9565 | 3% | 20 | |
| Barium | 10.17 | 1.0 | 11.00 | <1.0 | 92% | 75 | 125 | 10.46 | 3% | 20 | |
| Cadmium | 0.9028 | 0.50 | 1.000 | <0.50 | 90% | 75 | 125 | 0.9090 | 1% | 20 | |
| Chromium | 0.8571 | 0.50 | 1.000 | <0.50 | 86% | 75 | 125 | 0.8709 | 2% | 20 | |
| Lead | 0.8578 | 0.50 | 1.000 | <0.50 | 86% | 75 | 125 | 0.8789 | 2% | 20 | |
| Selenium | 0.9772 | 0.50 | 1.000 | <0.50 | 98% | 75 | 125 | 0.9541 | 2% | 20 | |
| Sample ID: **0011236-01CS** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 0.9565 | 0.50 | 1.000 | <0.50 | 96% | 75 | 125 | | | | |
| Barium | 10.46 | 1.0 | 11.00 | <1.0 | 95% | 75 | 125 | | | | |
| Cadmium | 0.9090 | 0.50 | 1.000 | <0.50 | 91% | 75 | 125 | | | | |
| Chromium | 0.8709 | 0.50 | 1.000 | <0.50 | 87% | 75 | 125 | | | | |
| Lead | 0.8789 | 0.50 | 1.000 | <0.50 | 88% | 75 | 125 | | | | |
| Selenium | 0.9541 | 0.50 | 1.000 | <0.50 | 95% | 75 | 125 | | | | |
| Sample ID: **0011236-01CSD** | Batch ID: 3817A | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Silver | 0.5334 | 0.50 | 0.5000 | <0.50 | 107% | 75 | 125 | 0.5464 | 2% | 20 | |
| Sample ID: **0011236-01CS** | Batch ID: 3817A | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Silver | 0.5464 | 0.50 | 0.5000 | <0.50 | 109% | 75 | 125 | | | | |
| Sample ID: **0011236-01CSD** | Batch ID: 3823 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01039 | 0.0020 | 0.01000 | <0.0020 | 104% | 85 | 115 | 0.01024 | 1% | 20 | |
| Sample ID: **0011236-01CS** | Batch ID: 3823 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01024 | 0.0020 | 0.01000 | <0.0020 | 102% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Amended Report**

**Date:** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012062
**Project:** Rio Salado

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012062-03AS** | Batch ID: 3816 | | | Test Code: SW1312/6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: **Pilot3 - 12/8 - 2** | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 1.019 | 0.50 | 1.000 | <0.50 | 102% | 75 | 125 | | | | |
| Barium | 10.81 | 1.0 | 11.00 | <1.0 | 98% | 75 | 125 | | | | |
| Cadmium | 0.9971 | 0.50 | 1.000 | <0.50 | 100% | 75 | 125 | | | | |
| Chromium | 0.9875 | 0.50 | 1.000 | <0.50 | 99% | 75 | 125 | | | | |
| Lead | 0.9488 | 0.50 | 1.000 | <0.50 | 95% | 75 | 125 | | | | |
| Selenium | 1.028 | 0.50 | 1.000 | <0.50 | 103% | 75 | 125 | | | | |
| Silver | <0.50 | 0.50 | 0.5000 | <0.50 | 0% | 75 | 125 | | | | |
| Sample ID: **0012062-03ASD** | Batch ID: 3816 | | | Test Code: SW1312/6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: **Pilot3 - 12/8 - 2** | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 1.035 | 0.50 | 1.000 | <0.50 | 104% | 75 | 125 | 1.019 | 2% | 20 | |
| Barium | 10.97 | 1.0 | 11.00 | <1.0 | 100% | 75 | 125 | 10.81 | 1% | 20 | |
| Cadmium | 1.041 | 0.50 | 1.000 | <0.50 | 104% | 75 | 125 | 0.9971 | 4% | 20 | |
| Chromium | 1.018 | 0.50 | 1.000 | <0.50 | 102% | 75 | 125 | 0.9875 | 3% | 20 | |
| Lead | 0.9835 | 0.50 | 1.000 | <0.50 | 98% | 75 | 125 | 0.9488 | 4% | 20 | |
| Selenium | 1.036 | 0.50 | 1.000 | <0.50 | 104% | 75 | 125 | 1.028 | 1% | 20 | |
| Silver | <0.50 | 0.50 | 0.5000 | <0.50 | 0% | 75 | 125 | <0.50 | 0% | 20 | |
| Sample ID: **0012062-03AS** | Batch ID: 3824 | | | Test Code: SW1312/7470A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: **Pilot3 - 12/8 - 2** | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.009780 | 0.0020 | 0.01000 | <0.0020 | 98% | 85 | 115 | | | | |
| Sample ID: **0012062-03ASD** | Batch ID: 3824 | | | Test Code: SW1312/7470A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: **Pilot3 - 12/8 - 2** | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.009635 | 0.0020 | 0.01000 | <0.0020 | 96% | 85 | 115 | 0.009735 | 1% | 0 | |
| Sample ID: **0012050-01DS** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Antimony | 21.80 | 5.0 | 50.00 | <5.0 | 44% | 75 | 125 | | | | M2 |
| Arsenic | 52.46 | 5.0 | 50.00 | 7.785 | 89% | 75 | 125 | | | | |
| Beryllium | 45.83 | 2.5 | 50.00 | <2.5 | 92% | 75 | 125 | | | | |
| Cadmium | 45.97 | 2.5 | 50.00 | <2.5 | 92% | 75 | 125 | | | | |
| Chromium | 59.50 | 5.0 | 50.00 | 13.87 | 91% | 75 | 125 | | | | |
| Copper | 63.07 | 5.0 | 50.00 | 56.99 | 12% | 75 | 125 | | | | M2 |
| Lead | 84.19 | 5.0 | 50.00 | 55.70 | 57% | 75 | 125 | | | | M2 |
| Nickel | 60.11 | 5.0 | 50.00 | 17.65 | 85% | 75 | 125 | | | | |
| Silver | 22.35 | 5.0 | 25.00 | <5.0 | 89% | 75 | 125 | | | | |
| Thallium | 42.32 | 10 | 50.00 | <10 | 85% | 75 | 125 | | | | |
| Zinc | 598.1 | 5.0 | 550.0 | 201.1 | 72% | 75 | 125 | | | | M2 |

TRANSWEST GEOCHEM

**Amended Report**

**Date:** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012062
**Project:** Rio Salado

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012050-01DSD** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Antimony | 22.22 | 5.0 | 50.00 | <5.0 | 44% | 75 | 125 | 21.80 | 2% | 20 | M2 |
| Arsenic | 51.50 | 5.0 | 50.00 | 7.785 | 87% | 75 | 125 | 52.46 | 2% | 20 | |
| Beryllium | 44.95 | 2.5 | 50.00 | <2.5 | 90% | 75 | 125 | 45.83 | 2% | 20 | |
| Cadmium | 45.54 | 2.5 | 50.00 | <2.5 | 91% | 75 | 125 | 45.97 | 1% | 20 | |
| Chromium | 59.89 | 5.0 | 50.00 | 13.87 | 92% | 75 | 125 | 59.50 | 1% | 20 | |
| Copper | 63.56 | 5.0 | 50.00 | 56.99 | 13% | 75 | 125 | 63.07 | 1% | 20 | M2 |
| Lead | 81.99 | 5.0 | 50.00 | 55.70 | 53% | 75 | 125 | 84.19 | 3% | 20 | M2 |
| Nickel | 61.49 | 5.0 | 50.00 | 17.65 | 88% | 75 | 125 | 60.11 | 2% | 20 | |
| Silver | 21.96 | 5.0 | 25.00 | <5.0 | 88% | 75 | 125 | 22.35 | 2% | 20 | |
| Thallium | 40.17 | 10 | 50.00 | <10 | 80% | 75 | 125 | 42.32 | 5% | 20 | |
| Zinc | 600.5 | 5.0 | 550.0 | 201.1 | 73% | 75 | 125 | 598.1 | 0% | 20 | M2 |
| Sample ID: **0012050-01DS** | Batch ID: 3811A | | | Test Code: SW6010B | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Selenium | 44.96 | 5.0 | 50.00 | <5.0 | 90% | 75 | 125 | | | | |
| Sample ID: **0012050-01DSD** | Batch ID: 3811A | | | Test Code: SW6010B | | | | Date Analyzed: 12/13/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Selenium | 49.15 | 5.0 | 50.00 | <5.0 | 98% | 75 | 125 | 44.96 | 9% | 20 | |
| Sample ID: **0012050-01DSD** | Batch ID: 3825 | | | Test Code: SW7471A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 1.167 | 0.083 | 1.250 | <0.083 | 93% | 85 | 115 | 1.175 | 1% | 20 | |
| Sample ID: **0012050-01DS** | Batch ID: 3825 | | | Test Code: SW7471A | | | | Date Analyzed: 12/12/00 | | | |
| Client ID: | | | | Units: mg/Kg | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 1.175 | 0.083 | 1.250 | <0.083 | 94% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

**Amended Report**

**Date:** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012062
**Project:** Rio Salado

# QC SUMMARY REPORT

## Sample Matrix Spike

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **0012062-01A-MS** | Batch ID: 3810 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 11:56 am | | | |
| Client ID: **Pilot - 12/8 - 1** | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Acenaphthene | 15.20 | N/A | 20.00 | 0.000 | 76% | 57 | 101 | | | | |
| 4-Chloro-3-methylphenol | 14.35 | N/A | 20.00 | 0.000 | 72% | 49 | 108 | | | | |
| 2-Chlorophenol | 12.95 | N/A | 20.00 | 0.000 | 65% | 49 | 98 | | | | |
| 1,4-Dichlorobenzene | 12.05 | N/A | 20.00 | 0.000 | 60% | 41 | 100 | | | | |
| 2,4-Dinitrotoluene | 10.55 | N/A | 20.00 | 0.000 | 53% | 50 | 120 | | | | |
| N-Nitrosodi-n-propylamine | 7.600 | N/A | 20.00 | 0.000 | 38% | 43 | 104 | | | | M2 |
| 4-Nitrophenol | 11.60 | N/A | 20.00 | 0.000 | 58% | 55 | 117 | | | | |
| Pentachlorophenol | 13.85 | N/A | 20.00 | 0.000 | 69% | 45 | 115 | | | | |
| Phenol | 11.45 | N/A | 20.00 | 0.000 | 57% | 50 | 100 | | | | |
| Pyrene | 16.65 | N/A | 20.00 | 0.000 | 83% | 59 | 120 | | | | |
| 1,2,4-Trichlorobenzene | 12.85 | N/A | 20.00 | 0.000 | 64% | 43 | 102 | | | | |
| 2-Chlorophenol-d4 | 15.40 | N/A | 30.00 | N/A | 51% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 9.000 | N/A | 20.00 | N/A | 45% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 13.10 | N/A | 20.00 | N/A | 65% | 30 | 115 | | | | |
| 2-Fluorophenol | 11.90 | N/A | 30.00 | N/A | 40% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 10.30 | N/A | 20.00 | N/A | 51% | 23 | 120 | | | | |
| Phenol-d6 | 15.35 | N/A | 30.00 | N/A | 51% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 15.95 | N/A | 20.00 | N/A | 80% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 18.90 | N/A | 30.00 | N/A | 63% | 19 | 122 | | | | |
| Sample ID: **0012062-01A-MS** | Batch ID: 3810 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 12:58 pm | | | |
| Client ID: **Pilot - 12/8 - 1** | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Acenaphthene | 14.90 | N/A | 20.00 | 0.000 | 74% | 57 | 101 | 15.20 | 2% | 19 | |
| 4-Chloro-3-methylphenol | 15.30 | N/A | 20.00 | 0.000 | 76% | 49 | 108 | 14.35 | 6% | 33 | |
| 2-Chlorophenol | 12.80 | N/A | 20.00 | 0.000 | 64% | 49 | 98 | 12.95 | 1% | 50 | |
| 1,4-Dichlorobenzene | 11.60 | N/A | 20.00 | 0.000 | 58% | 41 | 100 | 12.05 | 4% | 27 | |
| 2,4-Dinitrotoluene | 12.85 | N/A | 20.00 | 0.000 | 64% | 50 | 120 | 10.55 | 20% | 47 | |
| N-Nitrosodi-n-propylamine | 14.40 | N/A | 20.00 | 0.000 | 72% | 43 | 104 | 7.600 | 62% | 38 | M2 |
| 4-Nitrophenol | 12.50 | N/A | 20.00 | 0.000 | 62% | 55 | 117 | 11.60 | 7% | 50 | |
| Pentachlorophenol | 12.70 | N/A | 20.00 | 0.000 | 63% | 45 | 115 | 13.85 | 9% | 47 | |
| Phenol | 12.05 | N/A | 20.00 | 0.000 | 60% | 50 | 100 | 11.45 | 5% | 35 | |
| Pyrene | 18.75 | N/A | 20.00 | 0.000 | 94% | 59 | 120 | 16.65 | 12% | 36 | |
| 1,2,4-Trichlorobenzene | 12.85 | N/A | 20.00 | 0.000 | 64% | 43 | 102 | 12.85 | 0% | 23 | |
| 2-Chlorophenol-d4 | 15.55 | N/A | 30.00 | N/A | 52% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 9.850 | N/A | 20.00 | N/A | 49% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 11.85 | N/A | 20.00 | N/A | 59% | 30 | 115 | | | | |
| 2-Fluorophenol | 12.75 | N/A | 30.00 | N/A | 43% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 10.40 | N/A | 20.00 | N/A | 52% | 23 | 120 | | | | |
| Phenol-d6 | 15.90 | N/A | 30.00 | N/A | 53% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 17.35 | N/A | 20.00 | N/A | 87% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 18.25 | N/A | 30.00 | N/A | 61% | 19 | 122 | | | | |

TRANSWEST GEOCHEM

Amended Report

Date: 29-Dec-00

License No. AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012062
**Project:** Rio Salado

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LFB SOIL** | Batch ID: FUELS1_001208A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/8/00 4:25 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| C10-C22 DRO | 483 | 30 | 500 | <30 | 97% | 78 | 111 | | | | |
| o-Terphenyl | 9.72 | N/A | 10.0 | N/A | 97% | 65 | 123 | | | | |
| Sample ID: **LFBS SOIL** | Batch ID: FUELS1_001208A | | | Test Code: 8015AZ | | | | Date Analyzed: 12/8/00 5:12 pm | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| C10-C22 DRO | 501 | 30 | 500 | <30 | 100% | 78 | 111 | 483 | 4% | 20 | |
| o-Terphenyl | 9.88 | N/A | 10.0 | N/A | 99% | 65 | 123 | | | | |
| Sample ID: **LCS-3817** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 0.9550 | 0.50 | 1.000 | <0.50 | 96% | 85 | 115 | | | | |
| Barium | 10.26 | 1.0 | 11.00 | <1.0 | 93% | 85 | 115 | | | | |
| Cadmium | 0.9238 | 0.50 | 1.000 | <0.50 | 92% | 85 | 115 | | | | |
| Chromium | 0.8929 | 0.50 | 1.000 | <0.50 | 89% | 85 | 115 | | | | |
| Lead | 0.8604 | 0.50 | 1.000 | <0.50 | 86% | 85 | 115 | | | | |
| Selenium | 0.9835 | 0.50 | 1.000 | <0.50 | 98% | 85 | 115 | | | | |
| Sample ID: **LCSD-3817** | Batch ID: 3817 | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 0.9570 | 0.50 | 1.000 | <0.50 | 96% | 85 | 115 | 0.9550 | 0% | 20 | |
| Barium | 10.30 | 1.0 | 11.00 | <1.0 | 94% | 85 | 115 | 10.26 | 0% | 20 | |
| Cadmium | 0.9368 | 0.50 | 1.000 | <0.50 | 94% | 85 | 115 | 0.9238 | 1% | 20 | |
| Chromium | 0.9086 | 0.50 | 1.000 | <0.50 | 91% | 85 | 115 | 0.8929 | 2% | 20 | |
| Lead | 0.8651 | 0.50 | 1.000 | <0.50 | 87% | 85 | 115 | 0.8604 | 1% | 20 | |
| Selenium | 1.038 | 0.50 | 1.000 | <0.50 | 104% | 85 | 115 | 0.9835 | 5% | 20 | |
| Sample ID: **LCSD-3817** | Batch ID: 3817A | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Silver | 0.5195 | 0.50 | 0.5000 | <0.50 | 104% | 85 | 115 | 0.5302 | 2% | 20 | |
| Sample ID: **LCS-3817** | Batch ID: 3817A | | | Test Code: SW1311/6010B | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Silver | 0.5302 | 0.50 | 0.5000 | <0.50 | 106% | 85 | 115 | | | | |
| Sample ID: **LCS-3823** | Batch ID: 3823 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01008 | 0.0020 | 0.01000 | <0.0020 | 101% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

Amended Report

**Date:** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012062
**Project:** Rio Salado

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCSD-3816** | Batch ID: 3816 | | | Test Code: SW1312/6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 1.032 | 0.50 | 1.000 | <0.50 | 103% | 85 | 115 | 1.004 | 3% | 20 | |
| Barium | 10.97 | 1.0 | 11.00 | <1.0 | 100% | 85 | 115 | 11.23 | 2% | 20 | |
| Cadmium | 1.033 | 0.50 | 1.000 | <0.50 | 103% | 85 | 115 | 1.034 | 0% | 20 | |
| Chromium | 1.022 | 0.50 | 1.000 | <0.50 | 102% | 85 | 115 | 1.037 | 1% | 20 | |
| Lead | 0.9811 | 0.50 | 1.000 | <0.50 | 98% | 85 | 115 | 1.010 | 3% | 20 | |
| Selenium | 1.069 | 0.50 | 1.000 | <0.50 | 107% | 85 | 115 | 1.046 | 2% | 20 | |
| Silver | <0.50 | 0.50 | 0.5000 | <0.50 | 0% | 85 | 115 | <0.50 | 0% | 20 | |
| Sample ID: **LCS-3816** | Batch ID: 3816 | | | Test Code: SW1312/6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Arsenic | 1.004 | 0.50 | 1.000 | <0.50 | 100% | 85 | 115 | | | | |
| Barium | 11.23 | 1.0 | 11.00 | <1.0 | 102% | 85 | 115 | | | | |
| Cadmium | 1.034 | 0.50 | 1.000 | <0.50 | 103% | 85 | 115 | | | | |
| Chromium | 1.037 | 0.50 | 1.000 | <0.50 | 104% | 85 | 115 | | | | |
| Lead | 1.010 | 0.50 | 1.000 | <0.50 | 101% | 85 | 115 | | | | |
| Selenium | 1.046 | 0.50 | 1.000 | <0.50 | 105% | 85 | 115 | | | | |
| Silver | <0.50 | 0.50 | 0.5000 | <0.50 | 0% | 85 | 115 | | | | |
| Sample ID: **LCS-3824** | Batch ID: 3824 | | | Test Code: SW1312/7470A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.009220 | 0.0020 | 0.01000 | <0.0020 | 92% | 85 | 115 | | | | |
| Sample ID: **LCSD-3811** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Antimony | 47.00 | 5.0 | 50.00 | <5.0 | 94% | 85 | 115 | 47.66 | 1% | 20 | |
| Arsenic | 47.67 | 5.0 | 50.00 | <5.0 | 95% | 85 | 115 | 49.48 | 4% | 20 | |
| Beryllium | 46.71 | 2.5 | 50.00 | <2.5 | 93% | 85 | 115 | 48.98 | 5% | 20 | |
| Cadmium | 47.73 | 2.5 | 50.00 | <2.5 | 95% | 85 | 115 | 49.78 | 4% | 20 | |
| Chromium | 48.71 | 5.0 | 50.00 | <5.0 | 97% | 85 | 115 | 50.92 | 4% | 20 | |
| Copper | 48.40 | 5.0 | 50.00 | <5.0 | 97% | 85 | 115 | 50.59 | 4% | 20 | |
| Lead | 48.21 | 5.0 | 50.00 | <5.0 | 96% | 85 | 115 | 49.87 | 3% | 20 | |
| Nickel | 49.32 | 5.0 | 50.00 | <5.0 | 99% | 85 | 115 | 52.51 | 6% | 20 | |
| Silver | 22.18 | 5.0 | 25.00 | <5.0 | 89% | 85 | 115 | 22.40 | 1% | 20 | |
| Thallium | 50.13 | 10 | 50.00 | <10 | 100% | 85 | 115 | 49.58 | 1% | 20 | |
| Zinc | 526.3 | 5.0 | 550.0 | <5.0 | 96% | 85 | 115 | 534.3 | 2% | 20 | |

TRANSWEST GEOCHEM

**Amended Report**

**Date:** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012062
**Project:** Rio Salado

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCS-3811** | Batch ID: 3811 | | | Test Code: SW6010B | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Antimony | 47.66 | 5.0 | 50.00 | <5.0 | 95% | 85 | 115 | | | | |
| Arsenic | 49.48 | 5.0 | 50.00 | <5.0 | 99% | 85 | 115 | | | | |
| Beryllium | 48.98 | 2.5 | 50.00 | <2.5 | 98% | 85 | 115 | | | | |
| Cadmium | 49.78 | 2.5 | 50.00 | <2.5 | 100% | 85 | 115 | | | | |
| Chromium | 50.92 | 5.0 | 50.00 | <5.0 | 102% | 85 | 115 | | | | |
| Copper | 50.59 | 5.0 | 50.00 | <5.0 | 101% | 85 | 115 | | | | |
| Lead | 49.87 | 5.0 | 50.00 | <5.0 | 100% | 85 | 115 | | | | |
| Nickel | 52.51 | 5.0 | 50.00 | <5.0 | 105% | 85 | 115 | | | | |
| Silver | 22.40 | 5.0 | 25.00 | <5.0 | 90% | 85 | 115 | | | | |
| Thallium | 49.58 | 10 | 50.00 | <10 | 99% | 85 | 115 | | | | |
| Zinc | 534.3 | 5.0 | 550.0 | <5.0 | 97% | 85 | 115 | | | | |
| Sample ID: **LCSD-3811** | Batch ID: 3811A | | | Test Code: SW6010B | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Selenium | 45.49 | 5.0 | 50.00 | <5.0 | 91% | 85 | 115 | 48.34 | 6% | 20 | |
| Sample ID: **LCS-3811** | Batch ID: 3811A | | | Test Code: SW6010B | | | | Date Analyzed: 12/13/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Selenium | 48.34 | 5.0 | 50.00 | <5.0 | 97% | 85 | 115 | | | | |
| Sample ID: **LCS-3825** | Batch ID: 3825 | | | Test Code: SW7471A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 1.213 | 0.083 | 1.250 | <0.083 | 97% | 85 | 115 | | | | |
| Sample ID: **LCSD-3825** | Batch ID: 3825 | | | Test Code: SW7471A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 1.219 | 0.083 | 1.250 | <0.083 | 98% | 85 | 115 | 1.213 | 0% | 20 | |

TRANSWEST GEOCHEM

**Amended Report**

**Date:** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012062
**Project:** Rio Salado

# QC SUMMARY REPORT

## Blank Spike (primary source)

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCS-3810** | Batch ID: 3810 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 3:32 am | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Acenaphthene | 0.5050 | 0.10 | 0.6667 | <0.10 | 76% | 57 | 101 | | | | |
| 4-Chloro-3-methylphenol | 0.5153 | 0.10 | 0.6667 | <0.10 | 77% | 49 | 108 | | | | |
| 2-Chlorophenol | 0.4953 | 0.10 | 0.6667 | <0.10 | 74% | 49 | 98 | | | | |
| 1,4-Dichlorobenzene | 0.4763 | 0.10 | 0.6667 | <0.10 | 71% | 41 | 100 | | | | |
| 2,4-Dinitrotoluene | 0.4790 | 0.17 | 0.6667 | <0.17 | 72% | 50 | 120 | | | | |
| N-Nitrosodi-n-propylamine | 0.5013 | 0.10 | 0.6667 | <0.10 | 75% | 43 | 104 | | | | |
| 4-Nitrophenol | 0.3700 | 0.17 | 0.6667 | <0.17 | 55% | 55 | 117 | | | | |
| Pentachlorophenol | 0.4533 | 0.17 | 0.6667 | <0.17 | 68% | 45 | 115 | | | | |
| Phenol | 0.4947 | 0.10 | 0.6667 | <0.10 | 74% | 50 | 100 | | | | |
| Pyrene | 0.6033 | 0.10 | 0.6667 | <0.10 | 90% | 59 | 120 | | | | |
| 1,2,4-Trichlorobenzene | 0.4740 | 0.10 | 0.6667 | <0.10 | 71% | 43 | 102 | | | | |
| 2-Chlorophenol-d4 | 0.7420 | N/A | 1.000 | N/A | 74% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 0.4943 | N/A | 0.6667 | N/A | 74% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.5113 | N/A | 0.6667 | N/A | 77% | 30 | 115 | | | | |
| 2-Fluorophenol | 0.6740 | N/A | 1.000 | N/A | 67% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 0.4767 | N/A | 0.6667 | N/A | 72% | 23 | 120 | | | | |
| Phenol-d6 | 0.7130 | N/A | 1.000 | N/A | 71% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 0.6020 | N/A | 0.6667 | N/A | 90% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 0.8303 | N/A | 1.000 | N/A | 83% | 19 | 122 | | | | |
| Sample ID: **LCSD-3810** | Batch ID: 3810 | | | Test Code: SW8270C | | | | Date Analyzed: 12/13/00 4:34 am | | | |
| | | | | Units: mg/Kg | | | | Date Prepared: 12/8/00 | | | |
| Acenaphthene | 0.4510 | 0.10 | 0.6667 | <0.10 | 68% | 57 | 101 | 0.5050 | 11% | 19 | |
| 4-Chloro-3-methylphenol | 0.5037 | 0.10 | 0.6667 | <0.10 | 76% | 49 | 108 | 0.5153 | 2% | 33 | |
| 2-Chlorophenol | 0.4330 | 0.10 | 0.6667 | <0.10 | 65% | 49 | 98 | 0.4953 | 13% | 50 | |
| 1,4-Dichlorobenzene | 0.4170 | 0.10 | 0.6667 | <0.10 | 63% | 41 | 100 | 0.4763 | 13% | 27 | |
| 2,4-Dinitrotoluene | 0.4570 | 0.17 | 0.6667 | <0.17 | 69% | 50 | 120 | 0.4790 | 5% | 47 | |
| N-Nitrosodi-n-propylamine | 0.4690 | 0.10 | 0.6667 | <0.10 | 70% | 43 | 104 | 0.5013 | 7% | 38 | |
| 4-Nitrophenol | 0.3557 | 0.17 | 0.6667 | <0.17 | 53% | 55 | 117 | 0.3700 | 4% | 50 | L2 |
| Pentachlorophenol | 0.4500 | 0.17 | 0.6667 | <0.17 | 67% | 45 | 115 | 0.4533 | 1% | 47 | |
| Phenol | 0.4383 | 0.10 | 0.6667 | <0.10 | 66% | 50 | 100 | 0.4947 | 12% | 35 | |
| Pyrene | 0.5777 | 0.10 | 0.6667 | <0.10 | 87% | 59 | 120 | 0.6033 | 4% | 36 | |
| 1,2,4-Trichlorobenzene | 0.4287 | 0.10 | 0.6667 | <0.10 | 64% | 43 | 102 | 0.4740 | 10% | 23 | |
| 2-Chlorophenol-d4 | 0.6497 | N/A | 1.000 | N/A | 65% | 20 | 130 | | | | |
| 1,2-Dichlorobenzene-d4 | 0.4287 | N/A | 0.6667 | N/A | 64% | 20 | 130 | | | | |
| 2-Fluorobiphenyl | 0.4440 | N/A | 0.6667 | N/A | 67% | 30 | 115 | | | | |
| 2-Fluorophenol | 0.6133 | N/A | 1.000 | N/A | 61% | 25 | 121 | | | | |
| Nitrobenzene-d5 | 0.4147 | N/A | 0.6667 | N/A | 62% | 23 | 120 | | | | |
| Phenol-d6 | 0.6337 | N/A | 1.000 | N/A | 63% | 24 | 113 | | | | |
| 4-Terphenyl-d14 | 0.5883 | N/A | 0.6667 | N/A | 88% | 18 | 137 | | | | |
| 2,4,6-Tribromophenol | 0.8300 | N/A | 1.000 | N/A | 83% | 19 | 122 | | | | |

TRANSWEST GEOCHEM

Amended Report

**Date:** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012062
**Project:** Rio Salado

# QC SUMMARY REPORT

Secondary Source QC Sample

| Analyte | Result | PQL | SPK value | SPK Ref Val | % Rec | Low Limit | High Limit | RPD Ref Val | % RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: **LCSV-3823** | Batch ID: 3823 | | | Test Code: SW1311/7470A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.01004 | 0.0020 | 0.01000 | <0.0020 | 100% | 85 | 115 | | | | |
| Sample ID: **LCSV-3824** | Batch ID: 3824 | | | Test Code: SW1312/7470A | | | | Date Analyzed: 12/12/00 | | | |
| | | | | Units: mg/L | | | | Date Prepared: 12/11/00 | | | |
| Mercury | 0.008907 | 0.0020 | 0.01000 | <0.0020 | 89% | 85 | 115 | | | | |

TRANSWEST GEOCHEM

Amended Report

**Date:** 29-Dec-00

**License No.** AZM133/AZ0133

**CLIENT:** SCS Engineers
**Work Order:** 0012062
**Project:** Rio Salado

# QC SUMMARY REPORT
## Analytical Spike

| Analyte | Result | PQL | Units | Spike Value | Spike Ref Val | % Rec | Limit | Date Prepared | Date Analyzed | Analyst | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: 0012050-01DA | | | Test Code: | SW6010B | | | | | Batch ID: 3811 | | |
| Antimony | 44.84 | 5.0 | mg/L | 50 | <5.0 | 90% | 75 - 125 | 12/8/00 | 12/13/00 | MR | |
| Copper | 95.61 | 5.0 | mg/L | 50 | 56.99 | 77% | 75 - 125 | 12/8/00 | 12/13/00 | MR | |
| Lead | 106.4 | 5.0 | mg/L | 50 | 55.70 | 101% | 75 - 125 | 12/8/00 | 12/13/00 | MR | |
| Zinc | 659.8 | 5.0 | mg/L | 550 | 201.1 | 83% | 75 - 125 | 12/8/00 | 12/13/00 | MR | |

TRANSWEST
GEOCHEM

December 29, 2000

Brad Johnston
SCS Engineers
2702 N. 44th St., Suite 105B
Phoenix, AZ 85008

Re: Rio Salado
Work Order No.: 0012062

Dear Brad,

Attached is the original Report of Analysis from Precision Analytical Laboratories, Inc. for the samples received on 12/8/2000 9:45:00 AM. The following analysis was performed:

Method SW1312/8260B – Volatiles, SPLP Leached

If you have any questions regarding the results, please call me. We appreciate your business and thank you for choosing Transwest Geochem.

Sincerely,

Elizabeth Proffitt

Beth Proffitt
Project Manager

ADHS License No. AZM133/AZ0133

CONFIDENTIAL AND PRIVILEGED

3725 E. Atlanta Ave. • Suite 2 • Phoenix, Arizona 85040 • (602) 437-0330 • 1-800-927-5183 • Fax (602) 437-0660

# Precision Analytical Laboratories, Inc.

December 15, 2000

Beth Proffitt
Transwest Geochem, Inc.
3725 E. Atlanta Ave.
Suite 2
Phoenix, AZ 85040
TEL: (602) 437-0330
FAX (602) 437-0660

RE: Rio Salado/0012062 Order No.: 0012194

Dear Beth Proffitt:

Precision Analytical Laboratories, Inc. received 1 sample on 12/8/00 for the analyses presented in the following report.

This report includes the following information:

- Case Narrative. The case narrative contains a listing of common method references, data qualifiers, and any comments that may be needed regarding the analytical results.

- Analytical Report. Analysis results are reported with the compound name first, followed by the test result, report limit (Limit), any required data qualifier (Qual), units, dilution factor (DF), and date analyzed.

- QC Summary Report. This section includes quality control results for some or all of the following: method blanks, sample duplicates, sample matrix spikes, sample matrix spike duplicates, laboratory control spikes, and laboratory control spike duplicates.

If you have any questions regarding these tests results, please do not hesitate to call.

Sincerely,

Heather Oeschger
Account Manager

CC:

# Precision Analytical Laboratories, Inc.

**Date:** *15-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Project:** Rio Salado/0012062
**Lab Order:** 0012194

## CASE NARRATIVE

Data Qualifiers

Listed below are data qualifiers which may be used in your analytical report to explain any analytical or quality control issues. If one or more of the following data qualifiers is associated with your analytical or quality control data it will be noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

B1 Target analyte detected in method blank at or above the method reporting limit.
D1 Sample required dilution due to matrix interference.
D2 Sample required dilution due to high concentration of target analyte.
D4 Minimum reporting level (MRL) adjusted to reflect sample amount received and analyzed.
E2 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E3 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to holding time requirements.
E4 Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL).
E6 Concentration estimated. Internal standard recoveries did not meet method acceptance criteria.
H1 Sample analysis performed past holding time. See case narrative.
H2 Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3 Sample was received and analyzed past holding time.
K1 The sample dilutions set-up for the BOD analysis did not meet the oxygen depletion criteria of at least 2 mg/L. The reported result is an estimated value.
K2 The sample dilutions set up for the BOD analysis failed to meet the criteria of a residual dissolved oxygen of at least 1 mg/L. The reported result is estimated.
M1 Matrix spike recovery was high, the method control sample recovery was acceptable.
M2 Matrix spike recovery was low, the method control sample recovery was acceptable.
M3 The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to spike level. The method control sample recovery was acceptable.
M4 The analysis of the spiked sample required a dilution such that the spike concentration was diluted below the reporting limit. The method control sample recovery was acceptable.



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M5 Analyte concentration was determined by the method of standard addition (MSA).
N1 See case narrative.
Q1 Sample integrity was not maintained. See case narrative.
Q2 Sample received with head space.
Q3 Sample received with improper chemical preservation.
Q5 Sample received without chemical preservation, but preserved by the laboratory.
Q6 Sample was received above recommended temperature.
Q7 Sample inadequately dechlorinated.
Q8 Insufficient sample received to meet method QC requirements. QC requirements satisfy ADEQ policies 0154 and 0155.
Q10 Sample received in inappropriate sample container.
Q11 Sample is heterogeneous. Sample homogeneity could not be readily achieved using routine laboratory practices.
R2 RPD exceeded the laboratory control limit. See case narrative.
R3 Sample RPD between the primary and confirmatory analysis exceeded 40%. Per EPA Method 8000B, the higher value was reported.
R5 RPD exceeded the laboratory control limit. Recovery met acceptance criteria.
S2 Surrogate recovery was above laboratory and method acceptance limits.
S4 Surrogate recovery was above laboratory and method acceptance limits. No target analytes were detected in the sample.
S6 Surrogate recovery was below laboratory and method acceptance limits. Reextraction and/or reanalysis confirms low recovery caused by matrix effect.
S7 Surrogate recovery was below laboratory and method acceptance limits. Unable to confirm matrix effect.
S9 The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria. The method control sample recovery was acceptable.
T2 Cited ADHS licensed method does not contain this analyte as part of method compound list.
T4 Tentatively identified compound. Concentration is estimated and based on the closest internal standard.
V1 CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.
V5 CCV recovery after a group of samples was above acceptance limits. This target analyte was not detected in the sample. Acceptable per EPA Method 8000B.



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## CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1995. Appendix A to Part 136- Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Precision Analytical Laboratories, Inc (PAL) holds the following certifications:
Arizona (certification no. AZ0610) and California (I-2410).
PAL- Tucson laboratory Arizona certification number: AZ0609.
PAL- North Phoenix laboratory Arizona certification number: AZ0611.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.



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# Precision Analytical Laboratories, Inc.

**Date:** *15-Dec-00*

| | | | |
|---|---|---|---|
| **CLIENT:** | Transwest Geochem, Inc. | **Client Sample ID:** | Pilot-12/8-1 |
| **Lab Order:** | 0012194 | **Tag Number:** | 01C |
| **Project:** | Rio Salado/0012062 | **Collection Date:** | 12/8/00 8:50:00 AM |
| **Lab ID:** | 0012194-01A | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES, SPLP LEACHED** | | **SW1312/8260B** | | | | **Analyst: SP** |
| 1,1-Dichloroethene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| 1,2-Dichloroethane | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| 1,4-Dichlorobenzene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| 2-Butanone | < 0.50 | 0.50 | | mg/L | 1 | 12/14/00 |
| Benzene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Carbon tetrachloride | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Chlorobenzene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Chloroform | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Ethylbenzene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Tetrachloroethene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Toluene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Trichloroethene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Vinyl chloride | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Xylenes, Total | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Surr: 4-Bromofluorobenzene | 99.5 | 84-117 | | %REC | 1 | 12/14/00 |
| Surr: Dibromofluoromethane | 110 | 75-129 | | %REC | 1 | 12/14/00 |
| Surr: Toluene-d8 | 106 | 80-125 | | %REC | 1 | 12/14/00 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range



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# Precision Analytical Laboratories, Inc.

**Date:** *15-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012194
**Project:** Rio Salado/0012062

## QC SUMMARY REPORT
Method Blank

Sample ID: **MB-2598** Batch ID: **2598** Test Code: **SW1312/8260** Units: **mg/L** Analysis Date **12/14/00** Prep Date: **12/12/00**
Client ID: Run ID: **MS2_001214A** SeqNo: **61674**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | < 0.10 | 0.1 | | | | | | | | | |
| 1,2-Dichloroethane | < 0.10 | 0.1 | | | | | | | | | |
| 1,4-Dichlorobenzene | < 0.10 | 0.1 | | | | | | | | | |
| 2-Butanone | < 0.50 | 0.5 | | | | | | | | | |
| Benzene | < 0.10 | 0.1 | | | | | | | | | |
| Carbon tetrachloride | < 0.10 | 0.1 | | | | | | | | | |
| Chlorobenzene | < 0.10 | 0.1 | | | | | | | | | |
| Chloroform | < 0.10 | 0.1 | | | | | | | | | |
| Ethylbenzene | < 0.10 | 0.1 | | | | | | | | | |
| Tetrachloroethene | < 0.10 | 0.1 | | | | | | | | | |
| Toluene | < 0.10 | 0.1 | | | | | | | | | |
| Trichloroethene | < 0.10 | 0.1 | | | | | | | | | |
| Vinyl chloride | < 0.10 | 0.1 | | | | | | | | | |
| Xylenes, Total | < 0.10 | 0.1 | | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 4.869 | 0 | 5 | 0 | 97.4 | 84 | 117 | 0 | | | |
| Surr: Dibromofluoromethane | 5.08 | 0 | 5 | 0 | 102 | 75 | 129 | 0 | | | |
| Surr: Toluene-d8 | 5.123 | 0 | 5 | 0 | 102 | 80 | 125 | 0 | | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# Precision Analytical Laboratories, Inc.

**Date:** *15-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012194
**Project:** Rio Salado/0012062

## QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0012203-01AMS** Batch ID: **2598** Test Code: **SW1312/8260** Units: **mg/L** Analysis Date **12/14/00** Prep Date:
Client ID: Run ID: **MS2_001214A** SeqNo: **61680**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 5.066 | 0.1 | 5 | 0 | 101 | 80 | 111 | 0 | | | * |
| Benzene | 5.458 | 0.1 | 5 | 0 | 109 | 80 | 116 | 0 | | | * |
| Chlorobenzene | 4.722 | 0.1 | 5 | 0 | 94.4 | 81.6 | 111 | 0 | | | |
| Trichloroethene | 4.671 | 0.1 | 5 | 0 | 93.4 | 82 | 111 | 0 | | | * |
| Surr: 4-Bromofluorobenzene | 4.995 | 0 | 5 | 0 | 99.9 | 84 | 117 | 0 | | | |
| Surr: Dibromofluoromethane | 5.234 | 0 | 5 | 0 | 105 | 75 | 129 | 0 | | | |
| Surr: Toluene-d8 | 5.141 | 0 | 5 | 0 | 103 | 80 | 125 | 0 | | | |

Sample ID: **0012203-01AMSD** Batch ID: **2598** Test Code: **SW1312/8260** Units: **mg/L** Analysis Date **12/14/00** Prep Date:
Client ID: Run ID: **MS2_001214A** SeqNo: **61681**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 4.985 | 0.1 | 5 | 0 | 99.7 | 80 | 111 | 5.066 | 1.61 | 0 | * |
| Benzene | 5.074 | 0.1 | 5 | 0 | 101 | 80 | 116 | 5.458 | 7.29 | 0 | * |
| Chlorobenzene | 4.536 | 0.1 | 5 | 0 | 90.7 | 81.6 | 111 | 4.722 | 4.02 | 0 | |
| Trichloroethene | 4.559 | 0.1 | 5 | 0 | 91.2 | 82 | 111 | 4.671 | 2.43 | 0 | * |
| Surr: 4-Bromofluorobenzene | 4.507 | 0 | 5 | 0 | 90.1 | 84 | 117 | 4.995 | 0 | 0 | |
| Surr: Dibromofluoromethane | 4.906 | 0 | 5 | 0 | 98.1 | 75 | 129 | 5.234 | 0 | 0 | |
| Surr: Toluene-d8 | 4.9 | 0 | 5 | 0 | 98 | 80 | 125 | 5.141 | 0 | 0 | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# Precision Analytical Laboratories, Inc.

**Date:** *15-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012194
**Project:** Rio Salado/0012062

## QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS-2598** Batch ID: **2598** Test Code: **SW1312/8260** Units: **mg/L** Analysis Date **12/14/00** Prep Date: **12/12/00**

Client ID: Run ID: **MS2_001214A** SeqNo: **61675**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 5.447 | 0.1 | 5 | 0 | 109 | 80 | 111 | 0 | | | * |
| Benzene | 5.636 | 0.1 | 5 | 0 | 113 | 80 | 116 | 0 | | | * |
| Chlorobenzene | 5.023 | 0.1 | 5 | 0 | 100 | 81.6 | 111 | 0 | | | |
| Trichloroethene | 4.977 | 0.1 | 5 | 0 | 99.5 | 82 | 111 | 0 | | | * |
| Surr: 4-Bromofluorobenzene | 5.197 | 0 | 5 | 0 | 104 | 84 | 117 | 0 | | | |
| Surr: Dibromofluoromethane | 5.562 | 0 | 5 | 0 | 111 | 75 | 129 | 0 | | | |
| Surr: Toluene-d8 | 5.375 | 0 | 5 | 0 | 108 | 80 | 125 | 0 | | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# CHAIN-OF-CUSTODY



TRANSWEST GEOCHEM

0-012-194

**Beth Proffitt**
3725 E. Atlanta Avenue
Suite 2
Phoenix, AZ 85040-2960
TEL: (602) 437-0330
FAX: (602) 437-0660

**Work Order:** 0012062

**Project:** Rio Salado

**Subcontractor:**
Precision Analytical Laboratories, Inc.
1725 West 17th St.
Tempe, AZ 85281
TEL: (480) 967-1310
FAX: (480) 967-1019

**08-Dec-00**

| | Client Sample ID | TGI ID | Matrix | Collection Date | Containers | SPLP 8260_S | Requested Tests 8260AZ_S | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| #10 | ~~PILOT - 12/8 -1~~ | ~~01B~~ | ~~Soil~~ | ~~12/8/2000 8:50:00 AM~~ | ~~1~~ | | ~~1~~ | | | | | |
| J1 | PILOT - 12/8 -1 | 01C | Soil | 12/8/2000 8:50:00 AM | 1 | 1 | | | | | | |

8260Az needs to be extracted before 10:50!

**Comments:** After analysis, the samples do not need to be returned and can be disposed per your standa
including Method Blank data.
RUSH Due 12/13 by Noon

| | Date/Time | | Date/Time |
|---|---|---|---|
| **Relinquished by:** Milly Weatherall TGI | 12/8/00 | **Received by:** | 12/8 1015 |
| **Relinquished by:** | | **Received by:** | |

# Precision Analytical Laboratories, Inc.

December 13, 2000

Beth Proffitt
Transwest Geochem, Inc.
3725 E. Atlanta Ave.
Suite 2
Phoenix, AZ 85040
TEL: (602) 437-0330
FAX (602) 437-0660

RE: Rio Salado/0012062 Order No.: 0012192

Dear Beth Proffitt:

Precision Analytical Laboratories, Inc. received 1 sample on 12/8/00 for the analyses presented in the following report.

This report includes the following information:

- Case Narrative. The case narrative contains a listing of common method references, data qualifiers, and any comments that may be needed regarding the analytical results.

- Analytical Report. Analysis results are reported with the compound name first, followed by the test result, report limit (Limit), any required data qualifier (Qual), units, dilution factor (DF), and date analyzed.

- QC Summary Report. This section includes quality control results for some or all of the following: method blanks, sample duplicates, sample matrix spikes, sample matrix spike duplicates, laboratory control spikes, and laboratory control spike duplicates.

If you have any questions regarding these tests results, please do not hesitate to call.

Sincerely,

Heather A. Oeschger

Heather Oeschger
Account Manager

CC:

# Precision Analytical Laboratories, Inc.

**Date:** *13-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Project:** Rio Salado/0012062
**Lab Order:** 0012192

## CASE NARRATIVE

Data Qualifiers

Listed below are data qualifiers which may be used in your analytical report to explain any analytical or quality control issues. If one or more of the following data qualifiers is associated with your analytical or quality control data it will be noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

B1 Target analyte detected in method blank at or above the method reporting limit.
D1 Sample required dilution due to matrix interference.
D2 Sample required dilution due to high concentration of target analyte.
D4 Minimum reporting level (MRL) adjusted to reflect sample amount received and analyzed.
E2 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E3 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to holding time requirements.
E4 Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL).
E6 Concentration estimated. Internal standard recoveries did not meet method acceptance criteria.
H1 Sample analysis performed past holding time. See case narrative.
H2 Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3 Sample was received and analyzed past holding time.
K1 The sample dilutions set-up for the BOD analysis did not meet the oxygen depletion criteria of at least 2 mg/L. The reported result is an estimated value.
K2 The sample dilutions set up for the BOD analysis failed to meet the criteria of a residual dissolved oxygen of at least 1 mg/L. The reported result is estimated.
M1 Matrix spike recovery was high, the method control sample recovery was acceptable.
M2 Matrix spike recovery was low, the method control sample recovery was acceptable.
M3 The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to spike level. The method control sample recovery was acceptable.
M4 The analysis of the spiked sample required a dilution such that the spike concentration was diluted below the reporting limit. The method control sample recovery was acceptable.



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M5 Analyte concentration was determined by the method of standard addition (MSA).
N1 See case narrative.
Q1 Sample integrity was not maintained. See case narrative.
Q2 Sample received with head space.
Q3 Sample received with improper chemical preservation.
Q5 Sample received without chemical preservation, but preserved by the laboratory.
Q6 Sample was received above recommended temperature.
Q7 Sample inadequately dechlorinated.
Q8 Insufficient sample received to meet method QC requirements. QC requirements satisfy ADEQ policies 0154 and 0155.
Q10 Sample received in inappropriate sample container.
Q11 Sample is heterogeneous. Sample homogeneity could not be readily achieved using routine laboratory practices.
R2 RPD exceeded the laboratory control limit. See case narrative.
R3 Sample RPD between the primary and confirmatory analysis exceeded 40%. Per EPA Method 8000B, the higher value was reported.
R5 RPD exceeded the laboratory control limit. Recovery met acceptance criteria.
S2 Surrogate recovery was above laboratory and method acceptance limits.
S4 Surrogate recovery was above laboratory and method acceptance limits. No target analytes were detected in the sample.
S6 Surrogate recovery was below laboratory and method acceptance limits. Reextraction and/or reanalysis confirms low recovery caused by matrix effect.
S7 Surrogate recovery was below laboratory and method acceptance limits. Unable to confirm matrix effect.
S9 The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria. The method control sample recovery was acceptable.
T2 Cited ADHS licensed method does not contain this analyte as part of method compound list.
T4 Tentatively identified compound. Concentration is estimated and based on the closest internal standard.
V1 CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.
V5 CCV recovery after a group of samples was above acceptance limits. This target analyte was not detected in the sample. Acceptable per EPA Method 8000B.



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## CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

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40 CFR, Part 136, Revised 1995. Appendix A to Part 136- Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Precision Analytical Laboratories, Inc (PAL) holds the following certifications:
Arizona (certification no. AZ0610) and California (I-2410).
PAL- Tucson laboratory Arizona certification number: AZ0609.
PAL- North Phoenix laboratory Arizona certification number: AZ0611.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.



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# Precision Analytical Laboratories, Inc.

**Date:** *13-Dec-00*

| | | | |
|---|---|---|---|
| **CLIENT:** | Transwest Geochem, Inc. | **Client Sample ID:** | Pilot-12/8-1 |
| **Lab Order:** | 0012192 | **Tag Number:** | 01B |
| **Project:** | Rio Salado/0012062 | **Collection Date:** | 12/8/00 8:50:00 AM |
| **Lab ID:** | 0012192-01A | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILE ORGANICS BY GC/MS** | | **SW8260B** | | | | **Analyst: SP** |
| 1,1,1-Trichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 1,1,2,2-Tetrachloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 1,1,2-Trichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 1,1-Dichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 1,1-Dichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 1,1-Dichloropropene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 1,2,3-Trichlorobenzene | < 0.10 | 0.10 | | mg/Kg | 1 | 12/12/00 |
| 1,2,3-Trichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 1,2,4-Trimethylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 1,2-Dibromoethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 1,2-Dichlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 1,2-Dichloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 1,2-Dichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 1,3,5-Trimethylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 1,3-Dichlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 1,3-Dichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 1,4-Dichlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 2,2-Dichloropropane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 2-Butanone (MEK) | < 0.25 | 0.25 | | mg/Kg | 1 | 12/12/00 |
| 2-Chloroethyl vinyl ether | < 0.25 | 0.25 | | mg/Kg | 1 | 12/12/00 |
| 2-Chlorotoluene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 2-Hexanone | < 0.25 | 0.25 | | mg/Kg | 1 | 12/12/00 |
| 4-Chlorotoluene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 4-Isopropyltoluene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| 4-Methyl-2-pentanone | < 0.25 | 0.25 | | mg/Kg | 1 | 12/12/00 |
| Acetone | < 0.25 | 0.25 | | mg/Kg | 1 | 12/12/00 |
| Benzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Bromobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Bromochloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Bromodichloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Bromoform | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Bromomethane | < 0.10 | 0.10 | | mg/Kg | 1 | 12/12/00 |
| Carbon tetrachloride | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Chlorobenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Chloroethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Chloroform | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Chloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| cis-1,2-Dichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| cis-1,3-Dichloropropene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Dibromochloromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range



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# Precision Analytical Laboratories, Inc.

**Date:** *13-Dec-00*

| | | | |
|---|---|---|---|
| **CLIENT:** | Transwest Geochem, Inc. | **Client Sample ID:** | Pilot-12/8-1 |
| **Lab Order:** | 0012192 | **Tag Number:** | 01B |
| **Project:** | Rio Salado/0012062 | **Collection Date:** | 12/8/00 8:50:00 AM |
| **Lab ID:** | 0012192-01A | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Ethylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| m,p-Xylene | < 0.10 | 0.10 | | mg/Kg | 1 | 12/12/00 |
| Methyl tert-butyl ether | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Methylene chloride | < 0.10 | 0.10 | | mg/Kg | 1 | 12/12/00 |
| n-Butylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| n-Propylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| o-Xylene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| sec-Butylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Styrene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| tert-Butylbenzene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Tetrachloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Toluene | 0.066 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| trans-1,2-Dichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| trans-1,3-Dichloropropene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Trichloroethene | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Trichlorofluoromethane | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Vinyl acetate | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Vinyl chloride | < 0.050 | 0.050 | | mg/Kg | 1 | 12/12/00 |
| Surr: 4-Bromofluorobenzene | 86.0 | 56.4-139 | | %REC | 1 | 12/12/00 |
| Surr: Dibromofluoromethane | 91.2 | 59.7-130 | | %REC | 1 | 12/12/00 |
| Surr: Toluene-d8 | 91.6 | 57.8-138 | | %REC | 1 | 12/12/00 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range



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# Precision Analytical Laboratories, Inc.

**Date:** *13-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012192
**Project:** Rio Salado/0012062

## QC SUMMARY REPORT
Method Blank

Sample ID: **MB-2583** Batch ID: **2583** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/12/00** Prep Date: **12/8/00**
Client ID: Run ID: **MS2_001211B** SeqNo: **60655**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1,2-Trichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1-Dichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,1-Dichloroethene | < 0.050 | 0.05 | | | | | | | | | |
| 1,1-Dichloropropene | < 0.050 | 0.05 | | | | | | | | | |
| 1,2,3-Trichlorobenzene | < 0.10 | 0.1 | | | | | | | | | |
| 1,2,3-Trichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 1,2,4-Trimethylbenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dibromoethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dichlorobenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dichloroethane | < 0.050 | 0.05 | | | | | | | | | |
| 1,2-Dichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 1,3,5-Trimethylbenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,3-Dichlorobenzene | < 0.050 | 0.05 | | | | | | | | | |
| 1,3-Dichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 1,4-Dichlorobenzene | < 0.050 | 0.05 | | | | | | | | | |
| 2,2-Dichloropropane | < 0.050 | 0.05 | | | | | | | | | |
| 2-Butanone (MEK) | < 0.25 | 0.25 | | | | | | | | | |
| 2-Chloroethyl vinyl ether | < 0.25 | 0.25 | | | | | | | | | |
| 2-Chlorotoluene | < 0.050 | 0.05 | | | | | | | | | |
| 2-Hexanone | < 0.25 | 0.25 | | | | | | | | | |
| 4-Chlorotoluene | < 0.050 | 0.05 | | | | | | | | | |
| 4-Isopropyltoluene | < 0.050 | 0.05 | | | | | | | | | |
| 4-Methyl-2-pentanone | < 0.25 | 0.25 | | | | | | | | | |
| Acetone | < 0.25 | 0.25 | | | | | | | | | |
| Benzene | < 0.050 | 0.05 | | | | | | | | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012192
**Project:** Rio Salado/0012062

## QC SUMMARY REPORT
Method Blank

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Bromobenzene | < 0.050 | 0.05 | | | | | | |
| Bromochloromethane | < 0.050 | 0.05 | | | | | | |
| Bromodichloromethane | < 0.050 | 0.05 | | | | | | |
| Bromoform | < 0.050 | 0.05 | | | | | | |
| Bromomethane | < 0.10 | 0.1 | | | | | | |
| Carbon tetrachloride | < 0.050 | 0.05 | | | | | | |
| Chlorobenzene | < 0.050 | 0.05 | | | | | | |
| Chloroethane | < 0.050 | 0.05 | | | | | | |
| Chloroform | < 0.050 | 0.05 | | | | | | |
| Chloromethane | < 0.050 | 0.05 | | | | | | |
| cis-1,2-Dichloroethene | < 0.050 | 0.05 | | | | | | |
| cis-1,3-Dichloropropene | < 0.050 | 0.05 | | | | | | |
| Dibromochloromethane | < 0.050 | 0.05 | | | | | | |
| Dichlorodifluoromethane | < 0.050 | 0.05 | | | | | | |
| Ethylbenzene | < 0.050 | 0.05 | | | | | | |
| m,p-Xylene | < 0.10 | 0.1 | | | | | | |
| Methyl tert-butyl ether | < 0.050 | 0.05 | | | | | | |
| Methylene chloride | < 0.10 | 0.1 | | | | | | |
| n-Butylbenzene | < 0.050 | 0.05 | | | | | | |
| n-Propylbenzene | < 0.050 | 0.05 | | | | | | |
| o-Xylene | < 0.050 | 0.05 | | | | | | |
| sec-Butylbenzene | < 0.050 | 0.05 | | | | | | |
| Styrene | < 0.050 | 0.05 | | | | | | |
| tert-Butylbenzene | < 0.050 | 0.05 | | | | | | |
| Tetrachloroethene | < 0.050 | 0.05 | | | | | | |
| Toluene | < 0.050 | 0.05 | | | | | | |
| trans-1,2-Dichloroethene | < 0.050 | 0.05 | | | | | | |
| trans-1,3-Dichloropropene | < 0.050 | 0.05 | | | | | | |
| Trichloroethene | < 0.050 | 0.05 | | | | | | |
| Trichlorofluoromethane | < 0.050 | 0.05 | | | | | | |
| Vinyl acetate | < 0.050 | 0.05 | | | | | | |
| Vinyl chloride | < 0.050 | 0.05 | | | | | | |
| Surr: 4-Bromofluorobenzene | 2.173 | 0 | 2.5 | 0 | 86.9 | 56.4 | 139 | 0 |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

# Precision Analytical Laboratories, Inc.

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012192
**Project:** Rio Salado/0012062

## QC SUMMARY REPORT
Method Blank

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Surr: Dibromofluoromethane | 2.329 | 0 | 2.5 | 0 | 93.2 | 59.7 | 130 | 0 |
| Surr: Toluene-d8 | 2.352 | 0 | 2.5 | 0 | 94.1 | 57.8 | 138 | 0 |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# Precision Analytical Laboratories, Inc.

**Date:** *13-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012192
**Project:** Rio Salado/0012062

## QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0012192-01AMS** Batch ID: **2583** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/12/00** Prep Date: **12/8/00**
Client ID: **Pilot-12/8-1** Run ID: **MS2_001211B** SeqNo: **60658**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 2.411 | 0.05 | 2.5 | 0 | 96.4 | 49 | 135 | 0 | | | |
| Benzene | 2.362 | 0.05 | 2.5 | 0 | 94.5 | 59 | 137 | 0 | | | |
| Chlorobenzene | 2.293 | 0.05 | 2.5 | 0 | 91.7 | 61 | 131 | 0 | | | |
| Toluene | 2.388 | 0.05 | 2.5 | 0.0655 | 92.9 | 50 | 146 | 0 | | | |
| Trichloroethene | 2.29 | 0.05 | 2.5 | 0 | 91.6 | 55 | 134 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 2.126 | 0 | 2.5 | 0 | 85.1 | 56.4 | 139 | 0 | | | |
| Surr: Dibromofluoromethane | 2.31 | 0 | 2.5 | 0 | 92.4 | 59.7 | 130 | 0 | | | |
| Surr: Toluene-d8 | 2.316 | 0 | 2.5 | 0 | 92.6 | 57.8 | 138 | 0 | | | |

Sample ID: **0012192-01AMSD** Batch ID: **2583** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/12/00** Prep Date: **12/8/00**
Client ID: **Pilot-12/8-1** Run ID: **MS2_001211B** SeqNo: **60659**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 2.342 | 0.05 | 2.5 | 0 | 93.7 | 49 | 135 | 2.411 | 2.9 | 25 | |
| Benzene | 2.344 | 0.05 | 2.5 | 0 | 93.7 | 59 | 137 | 2.362 | 0.786 | 25 | |
| Chlorobenzene | 2.258 | 0.05 | 2.5 | 0 | 90.3 | 61 | 131 | 2.293 | 1.56 | 25 | |
| Toluene | 2.308 | 0.05 | 2.5 | 0.0655 | 89.7 | 50 | 146 | 2.388 | 3.41 | 25 | |
| Trichloroethene | 2.266 | 0.05 | 2.5 | 0 | 90.7 | 55 | 134 | 2.29 | 1.01 | 25 | |
| Surr: 4-Bromofluorobenzene | 2.006 | 0 | 2.5 | 0 | 80.2 | 56.4 | 139 | 2.126 | 0 | 0 | |
| Surr: Dibromofluoromethane | 2.2 | 0 | 2.5 | 0 | 88 | 59.7 | 130 | 2.31 | 0 | 0 | |
| Surr: Toluene-d8 | 2.219 | 0 | 2.5 | 0 | 88.8 | 57.8 | 138 | 2.316 | 0 | 0 | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# Precision Analytical Laboratories, Inc.

**Date:** *13-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012192
**Project:** Rio Salado/0012062

## QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS-2583** Batch ID: **2583** Test Code: **SW8260B** Units: **mg/Kg** Analysis Date **12/12/00** Prep Date: **12/8/00**
Client ID: Run ID: **MS2_001211B** SeqNo: **60656**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 2.404 | 0.05 | 2.5 | 0 | 96.1 | 49 | 135 | 0 | | | |
| Benzene | 2.3 | 0.05 | 2.5 | 0 | 92 | 59 | 137 | 0 | | | |
| Chlorobenzene | 2.245 | 0.05 | 2.5 | 0 | 89.8 | 61 | 131 | 0 | | | |
| Toluene | 2.246 | 0.05 | 2.5 | 0 | 89.8 | 50 | 146 | 0 | | | |
| Trichloroethene | 2.258 | 0.05 | 2.5 | 0 | 90.3 | 55 | 134 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 2.142 | 0 | 2.5 | 0 | 85.7 | 56.4 | 139 | 0 | | | |
| Surr: Dibromofluoromethane | 2.241 | 0 | 2.5 | 0 | 89.6 | 59.7 | 130 | 0 | | | |
| Surr: Toluene-d8 | 2.276 | 0 | 2.5 | 0 | 91 | 57.8 | 138 | 0 | | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# CHAIN-OF-CUSTODY



TRANSWEST GEOCHEM

0-012-192

**Beth Proffitt**
3725 E. Atlanta Avenue
Suite 2
Phoenix, AZ 85040-2960
TEL: (602) 437-0330
FAX: (602) 437-0660

**Work Order:** 0012062

**Project:** Rio Salado

**Subcontractor:**
Precision Analytical Laboratories, Inc.
1725 West 17th St.
Tempe, AZ 85281
TEL: (480) 967-1310
FAX: (480) 967-1019

**08-Dec-00**

| | | | | | SPLP | Requested Tests | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client Sample ID | TGI ID | Matrix | Collection Date | Containers | 8260_S | 8260AZ_S | | | | | |
| PILOT - 12/8 -1 | 01B | Soil | 12/8/2000 8:50:00 AM | 1 | | 1 | | | | | |
| ~~PILOT - 12/8 -1~~ | ~~01C~~ | ~~Soil~~ | ~~12/8/2000 8:50:00 AM~~ | ~~1~~ | ~~1~~ | | | | | | |

**Comments:** After analysis, the samples do not need to be returned and can be disposed per your standard laboratory practices. Please provide a QC report, including Method Blank data.
RUSH Due 12/13 by Noon

| | Date/Time | | Date/Time |
|---|---|---|---|
| **Relinquished by:** Nilly Weatherall TGI | 12/8/00 | **Received by:** | 12/8 1015 |
| **Relinquished by:** | | **Received by:** | |

**TRANSWEST GEOCHEM**

3725 East Atlanta Avenue, Suite 2
Phoenix, Arizona 85040
Phone: (602) 437-0330
Fax: (602) 437-0660

# Chain of Custody

**TGI Work Order No:** 001262

Date 12/8/00 Page 1 of 1

| | | | |
|---|---|---|---|
| Project Manager: | Brad Johnston | | |
| Client Name: | SCS Engineers | | |
| Address: | | | |
| City, State ZIP: | | | |
| Phone: | 602-840-7596 | Fax: | |

| | | | |
|---|---|---|---|
| Bill to: | | | |
| Company: | | | |
| Address: | | | |
| City, State ZIP: | | | |
| Phone: | | Fax: | |

| | |
|---|---|
| P.O. No.: | |
| Project Name: | Rio Salado |
| Project Number: | |

**SAMPLE RECEIPT**

| | | |
|---|---|---|
| Temperature: | Ambient / Cold | Ice: |
| Received Intact: | Y | Absent / Present |
| Custody Seals: | N/A | Wet / Blue |
| Total No. of Containers: | 6 | |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Lab ID | No. of Containers | TPH, (418.1 /418.1AZ) | TPH, 8015AZR.1 | BTEX (8021B) | Volatile Organics GCMS (624/8260AZ) | SDWA Volatiles, (524.2) | Semi-Volatile Organics GCMS (625/8270) | Organochlorine Pesticides (608/8081) | PCB's, (8082) | PAH, EPA 8310 | SPLP 8 RCRA Metals | 13 Priority Pollutant Metals | TCLP 8 RCRA metals | | SPLP 8260 | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pilot-12/8-1 | Soil | 12/8 | 8:50 | 1 | 6 | | X | | X | | X | | | | X | X | X | | X | | | | | | 3-5 Day |

| Relinquished by: (Signature) | (Print Name) | Date/Time | Received by: (Signature) | (Print Name) | Date/Time |
|---|---|---|---|---|---|
| 1 | Arab Salam | 12/8 9:15 | | Skip Harden | 12/8 9:45 |
| 2 | | | | | |
| 3 | | | | | |

White copy to TGI, Yellow copy for final report, Pink copy to sampler

Revised : 6/29/00

# Precision Analytical Laboratories, Inc.

December 15, 2000

Beth Proffitt
Transwest Geochem, Inc.
3725 E. Atlanta Ave.
Suite 2
Phoenix, AZ 85040
TEL: (602) 437-0330
FAX (602) 437-0660

RE: Rio Salado/0012062 Order No.: 0012203

Dear Beth Proffitt:

Precision Analytical Laboratories, Inc. received 2 samples on 12/8/00 for the analyses presented in the following report.

This report includes the following information:

- Case Narrative. The case narrative contains a listing of common method references, data qualifiers, and any comments that may be needed regarding the analytical results.

- Analytical Report. Analysis results are reported with the compound name first, followed by the test result, report limit (Limit), any required data qualifier (Qual), units, dilution factor (DF), and date analyzed.

- QC Summary Report. This section includes quality control results for some or all of the following: method blanks, sample duplicates, sample matrix spikes, sample matrix spike duplicates, laboratory control spikes, and laboratory control spike duplicates.

If you have any questions regarding these tests results, please do not hesitate to call.

Sincerely,

Heather Oeschger
Account Manager

CC:

**CLIENT:** Transwest Geochem, Inc.
**Project:** Rio Salado/0012062
**Lab Order:** 0012203

## CASE NARRATIVE

Data Qualifiers

Listed below are data qualifiers which may be used in your analytical report to explain any analytical or quality control issues. If one or more of the following data qualifiers is associated with your analytical or quality control data it will be noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

B1 Target analyte detected in method blank at or above the method reporting limit.
D1 Sample required dilution due to matrix interference.
D2 Sample required dilution due to high concentration of target analyte.
D4 Minimum reporting level (MRL) adjusted to reflect sample amount received and analyzed.
E2 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E3 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to holding time requirements.
E4 Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL).
E6 Concentration estimated. Internal standard recoveries did not meet method acceptance criteria.
H1 Sample analysis performed past holding time. See case narrative.
H2 Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3 Sample was received and analyzed past holding time.
K1 The sample dilutions set-up for the BOD analysis did not meet the oxygen depletion criteria of at least 2 mg/L. The reported result is an estimated value.
K2 The sample dilutions set up for the BOD analysis failed to meet the criteria of a residual dissolved oxygen of at least 1 mg/L. The reported result is estimated.
M1 Matrix spike recovery was high, the method control sample recovery was acceptable.
M2 Matrix spike recovery was low, the method control sample recovery was acceptable.
M3 The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to spike level. The method control sample recovery was acceptable.
M4 The analysis of the spiked sample required a dilution such that the spike concentration was diluted below the reporting limit. The method control sample recovery was acceptable.



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M5 Analyte concentration was determined by the method of standard addition (MSA).
N1 See case narrative.
Q1 Sample integrity was not maintained. See case narrative.
Q2 Sample received with head space.
Q3 Sample received with improper chemical preservation.
Q5 Sample received without chemical preservation, but preserved by the laboratory.
Q6 Sample was received above recommended temperature.
Q7 Sample inadequately dechlorinated.
Q8 Insufficient sample received to meet method QC requirements. QC requirements satisfy ADEQ policies 0154 and 0155.
Q10 Sample received in inappropriate sample container.
Q11 Sample is heterogeneous. Sample homogeneity could not be readily achieved using routine laboratory practices.
R2 RPD exceeded the laboratory control limit. See case narrative.
R3 Sample RPD between the primary and confirmatory analysis exceeded 40%. Per EPA Method 8000B, the higher value was reported.
R5 RPD exceeded the laboratory control limit. Recovery met acceptance criteria.
S2 Surrogate recovery was above laboratory and method acceptance limits.
S4 Surrogate recovery was above laboratory and method acceptance limits. No target analytes were detected in the sample.
S6 Surrogate recovery was below laboratory and method acceptance limits. Reextraction and/or reanalysis confirms low recovery caused by matrix effect.
S7 Surrogate recovery was below laboratory and method acceptance limits. Unable to confirm matrix effect.
S9 The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria. The method control sample recovery was acceptable.
T2 Cited ADHS licensed method does not contain this analyte as part of method compound list.
T4 Tentatively identified compound. Concentration is estimated and based on the closest internal standard.
V1 CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.
V5 CCV recovery after a group of samples was above acceptance limits. This target analyte was not detected in the sample. Acceptable per EPA Method 8000B.



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## CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1995. Appendix A to Part 136- Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Precision Analytical Laboratories, Inc (PAL) holds the following certifications:
Arizona (certification no. AZ0610) and California (I-2410).
PAL- Tucson laboratory Arizona certification number: AZ0609.
PAL- North Phoenix laboratory Arizona certification number: AZ0611.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.



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# Precision Analytical Laboratories, Inc.

**Date:** *15-Dec-00*

| | | | |
|---|---|---|---|
| **CLIENT:** | Transwest Geochem, Inc. | **Client Sample ID:** | Pilot3-12/8-1 |
| **Lab Order:** | 0012203 | **Tag Number:** | 02B |
| **Project:** | Rio Salado/0012062 | **Collection Date:** | 12/8/00 10:15:00 AM |
| **Lab ID:** | 0012203-01A | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES, SPLP LEACHED** | | **SW1312/8260B** | | | | **Analyst: SP** |
| 1,1-Dichloroethene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| 1,2-Dichloroethane | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| 1,4-Dichlorobenzene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| 2-Butanone | < 0.50 | 0.50 | | mg/L | 1 | 12/14/00 |
| Benzene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Carbon tetrachloride | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Chlorobenzene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Chloroform | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Ethylbenzene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Tetrachloroethene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Toluene | 0.13 | 0.10 | | mg/L | 1 | 12/14/00 |
| Trichloroethene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Vinyl chloride | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Xylenes, Total | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Surr: 4-Bromofluorobenzene | 98.4 | 84-117 | | %REC | 1 | 12/14/00 |
| Surr: Dibromofluoromethane | 106 | 75-129 | | %REC | 1 | 12/14/00 |
| Surr: Toluene-d8 | 102 | 80-125 | | %REC | 1 | 12/14/00 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range



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# Precision Analytical Laboratories, Inc.

**Date:** *15-Dec-00*

| | | | |
|---|---|---|---|
| **CLIENT:** | Transwest Geochem, Inc. | **Client Sample ID:** | Pilot3-12/8-2 |
| **Lab Order:** | 0012203 | **Tag Number:** | 03B |
| **Project:** | Rio Salado/0012062 | **Collection Date:** | 12/8/00 10:20:00 AM |
| **Lab ID:** | 0012203-02A | **Matrix:** | SOIL |

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILES, SPLP LEACHED** | | **SW1312/8260B** | | | | **Analyst: SP** |
| 1,1-Dichloroethene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| 1,2-Dichloroethane | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| 1,4-Dichlorobenzene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| 2-Butanone | < 0.50 | 0.50 | | mg/L | 1 | 12/14/00 |
| Benzene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Carbon tetrachloride | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Chlorobenzene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Chloroform | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Ethylbenzene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Tetrachloroethene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Toluene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Trichloroethene | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Vinyl chloride | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Xylenes, Total | < 0.10 | 0.10 | | mg/L | 1 | 12/14/00 |
| Surr: 4-Bromofluorobenzene | 95.4 | 84-117 | | %REC | 1 | 12/14/00 |
| Surr: Dibromofluoromethane | 104 | 75-129 | | %REC | 1 | 12/14/00 |
| Surr: Toluene-d8 | 101 | 80-125 | | %REC | 1 | 12/14/00 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range



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# Precision Analytical Laboratories, Inc.

**Date:** *15-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012203
**Project:** Rio Salado/0012062

## QC SUMMARY REPORT
Method Blank

Sample ID: **MB-2598** Batch ID: **2598** Test Code: **SW1312/8260** Units: **mg/L** Analysis Date **12/14/00** Prep Date: **12/12/00**
Client ID: Run ID: **MS2_001214A** SeqNo: **61674**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | < 0.10 | 0.1 | | | | | | | | | |
| 1,2-Dichloroethane | < 0.10 | 0.1 | | | | | | | | | |
| 1,4-Dichlorobenzene | < 0.10 | 0.1 | | | | | | | | | |
| 2-Butanone | < 0.50 | 0.5 | | | | | | | | | |
| Benzene | < 0.10 | 0.1 | | | | | | | | | |
| Carbon tetrachloride | < 0.10 | 0.1 | | | | | | | | | |
| Chlorobenzene | < 0.10 | 0.1 | | | | | | | | | |
| Chloroform | < 0.10 | 0.1 | | | | | | | | | |
| Ethylbenzene | < 0.10 | 0.1 | | | | | | | | | |
| Tetrachloroethene | < 0.10 | 0.1 | | | | | | | | | |
| Toluene | < 0.10 | 0.1 | | | | | | | | | |
| Trichloroethene | < 0.10 | 0.1 | | | | | | | | | |
| Vinyl chloride | < 0.10 | 0.1 | | | | | | | | | |
| Xylenes, Total | < 0.10 | 0.1 | | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 4.869 | 0 | 5 | 0 | 97.4 | 84 | 117 | 0 | | | |
| Surr: Dibromofluoromethane | 5.08 | 0 | 5 | 0 | 102 | 75 | 129 | 0 | | | |
| Surr: Toluene-d8 | 5.123 | 0 | 5 | 0 | 102 | 80 | 125 | 0 | | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# Precision Analytical Laboratories, Inc.

**Date:** *15-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012203
**Project:** Rio Salado/0012062

## QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0012203-01AMS** Batch ID: **2598** Test Code: **SW1312/8260** Units: **mg/L** Analysis Date **12/14/00** Prep Date:
Client ID: **Pilot3-12/8-1** Run ID: **MS2_001214A** SeqNo: **61680**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 5.066 | 0.1 | 5 | 0 | 101 | 80 | 111 | 0 | | | * |
| Benzene | 5.458 | 0.1 | 5 | 0 | 109 | 80 | 116 | 0 | | | * |
| Chlorobenzene | 4.722 | 0.1 | 5 | 0 | 94.4 | 81.6 | 111 | 0 | | | |
| Trichloroethene | 4.671 | 0.1 | 5 | 0 | 93.4 | 82 | 111 | 0 | | | * |
| Surr: 4-Bromofluorobenzene | 4.995 | 0 | 5 | 0 | 99.9 | 84 | 117 | 0 | | | |
| Surr: Dibromofluoromethane | 5.234 | 0 | 5 | 0 | 105 | 75 | 129 | 0 | | | |
| Surr: Toluene-d8 | 5.141 | 0 | 5 | 0 | 103 | 80 | 125 | 0 | | | |

Sample ID: **0012203-01AMSD** Batch ID: **2598** Test Code: **SW1312/8260** Units: **mg/L** Analysis Date **12/14/00** Prep Date:
Client ID: **Pilot3-12/8-1** Run ID: **MS2_001214A** SeqNo: **61681**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 4.985 | 0.1 | 5 | 0 | 99.7 | 80 | 111 | 5.066 | 1.61 | 0 | * |
| Benzene | 5.074 | 0.1 | 5 | 0 | 101 | 80 | 116 | 5.458 | 7.29 | 0 | * |
| Chlorobenzene | 4.536 | 0.1 | 5 | 0 | 90.7 | 81.6 | 111 | 4.722 | 4.02 | 0 | |
| Trichloroethene | 4.559 | 0.1 | 5 | 0 | 91.2 | 82 | 111 | 4.671 | 2.43 | 0 | * |
| Surr: 4-Bromofluorobenzene | 4.507 | 0 | 5 | 0 | 90.1 | 84 | 117 | 4.995 | 0 | 0 | |
| Surr: Dibromofluoromethane | 4.906 | 0 | 5 | 0 | 98.1 | 75 | 129 | 5.234 | 0 | 0 | |
| Surr: Toluene-d8 | 4.9 | 0 | 5 | 0 | 98 | 80 | 125 | 5.141 | 0 | 0 | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# Precision Analytical Laboratories, Inc.

**Date:** *15-Dec-00*

**CLIENT:** Transwest Geochem, Inc.
**Work Order:** 0012203
**Project:** Rio Salado/0012062

## QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS-2598** Batch ID: **2598** Test Code: **SW1312/8260** Units: **mg/L** Analysis Date **12/14/00** Prep Date: **12/12/00**
Client ID: Run ID: **MS2_001214A** SeqNo: **61675**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 5.447 | 0.1 | 5 | 0 | 109 | 80 | 111 | 0 | | | * |
| Benzene | 5.636 | 0.1 | 5 | 0 | 113 | 80 | 116 | 0 | | | * |
| Chlorobenzene | 5.023 | 0.1 | 5 | 0 | 100 | 81.6 | 111 | 0 | | | |
| Trichloroethene | 4.977 | 0.1 | 5 | 0 | 99.5 | 82 | 111 | 0 | | | * |
| Surr: 4-Bromofluorobenzene | 5.197 | 0 | 5 | 0 | 104 | 84 | 117 | 0 | | | |
| Surr: Dibromofluoromethane | 5.562 | 0 | 5 | 0 | 111 | 75 | 129 | 0 | | | |
| Surr: Toluene-d8 | 5.375 | 0 | 5 | 0 | 108 | 80 | 125 | 0 | | | |

**Qualifiers:** ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits



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# CHAIN-OF-CUSTODY



TRANSWEST GEOCHEM

**Beth Proffitt**
3725 E. Atlanta Avenue
Suite 2
Phoenix, AZ 85040-2960
TEL: (602) 437-0330
FAX: (602) 437-0660

**Subcontractor:**
Precision Analytical Laboratories, Inc.
1725 West 17th St.
Tempe, AZ 85281
TEL: (480) 967-1310
FAX: (480) 967-1019

**Work Order:** 0012062

0-012-203

**Project:** Rio Salado

**08-Dec-00**

| | Client Sample ID | TGI ID | Matrix | Collection Date | Containers | SPLP Requested Tests 8260_S | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | PILOT3 - 12/8 - 1 | 02B | Soil | 12/8/2000 10:15:00 AM | 1 | 1 | | | | | | |
| 02 | PILOT3 - 12/8 - 2 | 03B | Soil | 12/8/2000 10:20:00 AM | 1 | 1 | | | | | | |

**Comments:** After analysis, the samples do not need to be returned and can be disposed per your standard laboratory practices. Please provide a QC report, including Method Blank data.
Final due by 12/15

| | | Date/Time | | | Date/Time |
|---|---|---|---|---|---|
| **Relinquished by:** | Bill Whitehead TGI | 12/8/00 1140 | **Received by:** | [signature] | 12/8/00 1140 |
| **Relinquished by:** | | | **Received by:** | | |

**TRANSWEST GEOCHEM**

3725 East Atlanta Avenue, Suite 2
Phoenix, Arizona 85040
Phone: (602) 437-0330
Fax: (602) 437-0660

# Chain of Custody

TGI Work Order No: ~~0010~~ 0012062

Date 12/8/00 Page 1 of 1

| | | | |
|---|---|---|---|
| Project Manager: | Brad Johnston | | |
| Client Name: | SCS Engineers | | |
| Address: | | | |
| City, State ZIP: | | | |
| Phone: | 602-840-2596 | Fax: | |

| | | | |
|---|---|---|---|
| Bill to: | | | |
| Company: | | | |
| Address: | | | |
| City, State ZIP: | | | |
| Phone: | | Fax: | |

| | |
|---|---|
| P.O. No.: | |
| Project Name: | Rio Salado |
| Project Number: | |

**SAMPLE RECEIPT**

| | | | |
|---|---|---|---|
| Temperature: | Ambient / Cold | Ice: | |
| Received Intact: | Y | Absent / Present | |
| Custody Seals: | N/A | Wet / Blue | |
| Total No. of Containers: | 8 | | |

**ANALYSIS REQUEST**

| Sample Identification | Matrix | Date Sampled | Time Sampled | Lab ID | No. of Containers | TPH, (418.1 /418.1AZ) | TPH, 8015AZR.1 | BTEX (8021B) | Volatile Organics GCMS (624/8260AZ) | SDWA Volatiles, (524.2) | Semi-Volatile Organics GCMS (625/8270) | Organochlorine Pesticides (608/8081) | PCB's, (8082) | PAH, EPA 8310 | 8 RCRA Metals SPLP | 13 Priority Pollutant Metals | ~~Total~~ | SPLP 8260 | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pilot 3-12/8-1 | Soil | 12/8 | 10:15 | 2 | 4 | | | | | | | | | | X | | | X | | | | | | | |
| Pilot 3-12/8-2 | Soil | 12/8 | 10:20 | 3 | 4 | | | | | | | | | | X | | | X | | | | | | | |

| Relinquished by: (Signature) | (Print Name) | Date/Time | Received by: (Signature) | (Print Name) | Date/Time |
|---|---|---|---|---|---|
| 1 | Ahab Salam | 12/8 10:45 | | Skye Harden | 12/8/00 10:45 |
| 2 | | | | | |
| 3 | | | | | |

White copy to TGI, Yellow copy for final report, Pink copy to sampler

Revised: 6/29/00

**IAS Laboratories**

2515 East University Drive
Phoenix, Arizona
85034
(602) 273-7248

# SOIL ANALYSIS REPORT



Today's Date: 12/13/2000
Grower: SCS Engineers
Submitted By: Bradley Johnston
Send Report To: SCS Engineers
Report Number: 6612451
Crop: No Interpretive Levels
Date Received: 12/6/2000

VL = Very Low
L = Low
M = Medium
H = High
VH = Very High

| Sender Sample Id | Depth | Lab # | pH | Calcium (Ca) PPM | Magnesium (Mg) PPM | Sodium (Na) PPM | Potash (K) PPM | Iron (Fe) PPM | Zinc (Zn) PPM | Manganese (Mn) PPM | Copper (Cu) PPM | Salinity (EC x K) dS/M | Nitrate Nitrogen (NO3-N) PPM | Phosphorus (Bicarb - Soluble P) PPM | Computed % Sodium (ESP) | Sulfur (SO4-S) PPM | Boron (B) PPM | Free Lime Level |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12/4 | | 300 | 8.0 | 4800 VH | 280 VH | 130 M | 190 H | 78.0 VH | 23.0 VH | 24.0 VH | 3.8 VH | 4.6 H | 4.0 VL | 5.5 L | 2.1 | 740 VH | 1.2 M | High |
| 12/6-1 | | 301 | 8.0 | 4900 VH | 290 VH | 140 M | 220 H | 93.0 VH | 21.0 VH | 33.0 VH | 3.7 VH | 4.2 H | 4.0 VL | 6.1 L | 2.2 | 420 VH | .73 L | High |
| 12/6-2 | | 302 | 7.9 | 5100 VH | 300 VH | 140 M | 210 H | 81.0 VH | 20.0 VH | 34.0 VH | 3.3 VH | 4.4 H | 3.2 VL | 5.6 L | 2.1 | 480 VH | .66 L | High |

**IAS Laboratories**

2515 East University Drive
Phoenix, Arizona 85034
(602) 273-7248
Fax (602) 275-3836

January 4, 2001

Submitted by: Bradley F. Johnston

Report to: SCS Engineers

Report No: 6612451

Date Received: 12/6/00

## BIOASSAY FOR HERBICIDES

| Sender ID | Lab No | Broadleaf | Grasses |
|---|---|---|---|
| 12/4(Pilot 12/4-1) | 300 | None Detected | None Detected |
| 12/6-1(Pilot 12/6-1) | 301 | None Detected | None Detected |
| 12/6-2(Pilot 12/6-2) | 302 | None Detected | None Detected |

**IAS Laboratories**

2515 East University Drive
Phoenix, Arizona
85034
(602) 273-7248

SOIL FERTILITY RECOMMENDATIONS

**Lb/1000 Sq Ft**

Grower: SCS Engineers

Send To: SCS Engineers

Report No: 6612451 Date: 12/6/2000 Page: 2

| Sender Number | Crop | Nitrogen N | Phosphate P2O5 | Potash K2O | Magnesium Mg | Sulfur S | Iron Fe | Zinc Zn | Manganese Mn | Copper Cu | Boron B | AMENDMENTS Elemental Sulfur | Gypsum | Lime | Leaching of Excess Salts |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12/4 | Native Plants | 2.5** | 2** | | | | | | | | | | | | yes |
| 12/6-1 | Native Plants | 2.5** | 2** | | | | | | | | | | | | yes |
| 12/6-2 | Native Plants | 2.5** | 2** | | | | | | | | | | | | yes |

Native plants will benefit from N & P. The pH is adequate for native plants. The salt levels are a little high but if native plants are watered in it should be adequate for reducing the salt levels. Most of the salinity is from sulfate and not that toxic to plants.
** Requires 10 pounds of 16-20-0 and 2 pounds 46-0-0 per 1000 sq.ft. to supply needed N and P.
The VH readings on the micronutrients is a nutrition rating that indicates no plant response to additional fertilizer if applied. As long as the nutrients are balanced the levels are less important.

**IAS Laboratories**

2515 East University Drive
Phoenix, Arizona
85034
(602) 273-7248

# SOIL ANALYSIS REPORT



Today's Date: 12/13/2000
Grower: SCS Engineers
Submitted By: Bradley Johnston
Send Report To: SCS Engineers
Report Number: 6612472
Crop: No Interpretive Levels
Date Received: 12/7/2000

VL = Very Low
L = Low
M = Medium
H = High
VH = Very High

| Sender Sample Id | Depth | Lab # | pH | Calcium (Ca) PPM | Magnesium (Mg) PPM | Sodium (Na) PPM | Potash (K) PPM | Iron (Fe) PPM | Zinc (Zn) PPM | Manganese (Mn) PPM | Copper (Cu) PPM | Salinity (EC x K) dS/M | Nitrate Nitrogen (NO3-N) PPM | Phosphorus (Bicarb - Soluble P) PPM | Computed % Sodium (ESP) | Sulfur (SO4-S) PPM | Boron (B) PPM | Free Lime Level |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 376 | 8.0 | 4700 VH | 270 VH | 130 M | 190 H | 65.0 VH | 15.0 VH | 30.0 VH | 2.3 VH | 4.2 H | 2.6 VL | 4.8 VL | 2.1 | 490 VH | .55 L | High |

**IAS Laboratories**

2515 East University Drive
Phoenix, Arizona 85034
(602) 273-7248
Fax (602) 275-3836

January 4, 2001

Submitted by: Bradley F. Johnston

Report to: SCS Engineers

Report No: 6612472

Date Received: 12/7/00

## BIOASSAY FOR HERBICIDES

| Sender ID | Lab No | Broadleaf | Grasses |
|---|---|---|---|
| 1 | 376 | None Detected | None Detected |

**IAS Laboratories**

2515 East University Drive
Phoenix, Arizona
85034
(602) 273-7248

SOIL FERTILITY RECOMMENDATIONS

**Lb/1000 Sq Ft**

Grower: SCS Engineers

Send To: SCS Engineers

Report No: 6612472 Date: 12/7/2000 Page: 2

| | | | | | | | | | | | | AMENDMENTS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sender Number | Crop | Nitrogen N | Phosphate P2O5 | Potash K2O | Magnesium Mg | Sulfur S | Iron Fe | Zinc Zn | Manganese Mn | Copper Cu | Boron B | Elemental Sulfur | Gypsum | Lime | Leaching of Excess Salts |
| 1 | Native Plants | 2.5** | 2.5** | | | | | | | | | | | | yes |

Native plants will benefit from N & P. The pH is adequate for native plants. The salt levels are a little high but if native plants are watered in it should be adequate for reducing the salt levels. Most of the salinity is from sulfate and not that toxic to plants.
** Requires 12.5 pounds of 16-20-0 per 1000 sq.ft. to supply needed N and P.
The VH readings on the micronutrients is a nutrition rating that indicates no plant response to additional fertilizer if applied. As long as the nutrients are balanced the levels are less important.

# IAS Laboratories

2515 East University Drive
Phoenix, Arizona
85034
(602) 273-7248


## SOIL ANALYSIS REPORT



Today's Date: 12/15/2000
Grower: SCS Engineers
Submitted By: Bradley Johnston
Send Report To: SCS Engineers
Report Number: 6612479
Crop: No Interpretive Levels
Date Received: 12/8/2000

VL = Very Low
L = Low
M = Medium
H = High
VH = Very High

| Sender Sample Id | Depth | Lab # | pH | Calcium (Ca) PPM | Magnesium (Mg) PPM | Sodium (Na) PPM | Potash (K) PPM | Iron (Fe) PPM | Zinc (Zn) PPM | Manganese (Mn) PPM | Copper (Cu) PPM | Salinity (EC x K) dS/M | Nitrate Nitrogen (NO3-N) PPM | Phosphorus (Bicarb - Soluble P) PPM | Computed % Sodium (ESP) | Sulfur (SO4-S) PPM | Boron (B) PPM | Free Lime Level |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 398 | 8.1 | 4800 VH | 270 VH | 120 M | 190 H | 68.0 VH | 18.0 VH | 23.0 VH | 3.2 VH | 4.4 H | 9.7 L | 6.7 L | 1.9 | 417 VH | .70 L | High |

**IAS Laboratories**

2515 East University Drive
Phoenix, Arizona 85034
(602) 273-7248
Fax (602) 275-3836

January 4, 2001

Submitted by: Bradley F. Johnston

Report to: SCS Engineers

Report No: 6612479

Date Received: 12/8/00

## BIOASSAY FOR HERBICIDES

| Sender ID | Lab No | Broadleaf | Grasses |
|---|---|---|---|
| 1 | 398 | None Detected | None Detected |

**IAS Laboratories**

2515 East University Drive
Phoenix, Arizona
85034
(602) 273-7248

SOIL FERTILITY RECOMMENDATIONS

**Lb/1000 Sq Ft**

Grower: SCS Engineers

Send To: SCS Engineers

Report No: 6612479 Date: 12/8/2000 Page: 2

| | | | | | | | | | | | | AMENDMENTS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sender Number | Crop | Nitrogen N | Phosphate P2O5 | Potash K2O | Magnesium Mg | Sulfur S | Iron Fe | Zinc Zn | Manganese Mn | Copper Cu | Boron B | Elemental Sulfur | Gypsum | Lime | Leaching of Excess Salts |
| 1 | Native Plants | 2** | 2** | | | | | | | | | | | | |

Native plants will benefit from N & P. The pH is adequate for native plants. The salt levels are a little high but if native plants are watered in it should be adequate for reducing the salt levels. Most of the salinity is from sulfate and not that toxic to plants.
** Requires 10 pounds of 16-20-0 per 1000 sq.ft. to supply needed N and P.
The VH readings on the micronutrients is a nutrition rating that indicates no plant response to additional fertilizer if applied. As long as the nutrients are balanced the levels are less important.

# APPENDIX C
# PHASE II SEGREGATION PROCESS SPECIFICATIONS

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# SPECIFICATIONS FOR WASTE STOCKPILE SEGREGATION FOR C.O. #4

## CONTRACT FCD 199C062
## RIO SALADO – PHOENX REACH
## LOW FLOW CHANNEL PROJECT – PHASE 1

## SECTION 1 - INTRODUCTION

Waste materials have been encountered during the construction of the low-flow channel of the Rio Salado project between Central Avenue and 7th Avenue. The waste materials were located in the bottom of the Salt River channel, and consist of inert debris, tires, construction debris and very small amounts of municipal solid waste intermixed with soil, gravel, and cobbles. Excavated material that contains waste has been transported and stockpiled in a graded and bermed area located just west of 7th Avenue, against the north bank of the Salt River channel.

This specification is for processing approximately 70,000 cubic yards of waste contained in the stockpile area, which will include segregating waste materials from soil and other materials that can remain on the site as fill material. This specification is based on, but is not identical to, the scope of work performed for the pilot-scale project during which approximately 10,000 cubic yards of material was processed to evaluate segregation and material handling methods.

## SECTION 2 - DEFINITION OF RESPONSIBILITIES

The Flood Control District of Maricopa County (FCDMC) will administer this contract and will be helped by a Consultant provided by the City of Phoenix. They will be the recipient of all requested documentation, and approve locations within or adjacent to the stockpile area where the Segregation Contractor will propose to stockpile each type of material.

The Contractor will be responsible for managing and processing all materials placed within the designated waste stockpile area. This includes, but is not limited to, the following:

- Maintaining (and if necessary, modifying) perimeter drainage control ditches and berms around the waste processing and stockpile areas as directed by the FCDMC;
- Processing the waste materials as specified herein;
- Preparing areas for processed material stockpiles, and creating and maintaining stockpiles of processed materials;
- Transportation and disposal of tires, construction debris, and inert materials (and possibly metallic debris); and

- Restoration of the waste processing and stockpile areas so that no waste materials remain on or beneath the ground surface.

The Consultant will perform periodic monitoring and sampling of the processed materials to evaluate the potential presence of regulated materials. The Consultant will also compile and submit project documentation, including sampling results and disposal documents.

## SECTION 3 - MATERIAL CATEGORIES

The types of materials that will be generated by the waste segregation process are summarized below:

| | |
|---|---|
| Category 1. | ***Tires***. |
| Category 2. | ***Metallic debris*** such as rebar, wire, cable, pipes, etc. |
| Category 3. | Material retained on an 8-inch screen. This material will be considered ***8-inch plus inert material***, and will include concrete, asphaltic pavement, brick, and reinforcing steel contained within concrete, and rocks greater than 8 inches in largest dimension, but will not include special waste, hazardous waste, glass, detached metal, vegetative debris, wood, lumber, or other non-inert debris. |
| Category 4. | Material passing an 8-inch screen and retained on a 3-inch screen. This material will be considered ***non-inert construction debris***, and will include cobbles; fragments of brick and concrete; some soil; and non-inert debris such as wood and small metal debris. This category may also include larger pieces of non-inert materials such as wood, carpet, furniture, or other materials associated with demolition or renovation of buildings, excepting metal and special or hazardous waste. |
| Category 5. | Material passing a 3-inch screen and retained on a 1-inch screen. This material will be considered ***1 to 3-inch inert material***, and will include gravel; fragments of brick and concrete; some soil; and very minor amounts of non-inert debris such as wood and small metal debris. |
| Category 6. | Material passing a 1-inch screen. This material will be considered ***reclaimed soil***, and will include soil, fine gravel, and sand. |
| Category 7. | Other ***unspecified materials*** and waste from stockpile processing. |

## SECTION 4 - SCOPE OF WORK

### Section 4.1 - Mobilization

This task will include planning and mobilization of equipment and labor to the waste processing area(s) for performance of the work. The cost for mobilization will include all costs for mobilization equipment, plant, labor, and necessary appurtenances to the site and the demobilization of same. As discussed under Material Management and Disposal, the Segregation Contractor shall propose to the FCDMC the location of each stockpile, and the extent of site preparation for the stockpiles and processing areas. These items shall be approved by the FCDMC prior to commencement of work by the Contractor. The Contractor shall also propose one or more methods to clearly show the Consultant where reclaimed soil has been added to the stockpile(s) each week.

### Section 4.2 - Waste Segregation

#### Section 4.2.1 - General

During processing of materials, the Contractor shall utilize visual observation to identify potential wind-blown litter, and such litter will be managed to minimize its spread. The Contractor shall also be responsible for dust control measures in all areas utilized by the Contractor. At a minimum, dust control measures shall consist of water trucks to mitigate dust from vehicle traffic and processing equipment. The Contractor shall be responsible for obtaining and complying with an Air Quality Permit from the Maricopa County Environmental Services Department.

#### Section 4.2.2 - First Segregation Phase

The objective of the First Segregation Phase is to perform a visual screening of stockpiled materials, and to remove and reasonably segregate large waste objects (inert debris, tires, vegetative debris, wood, lumber, metal, and other waste materials, etc.) from the stockpiled materials. This process will include spreading of the stockpiled materials or processing them through an 8-inch Grizzly; visual identification of waste objects to be removed; removal and segregation of waste objects by hand or using an excavator bucket, clamshell, grappler, or other similar device.

As applicable, materials recovered by this phase shall be segregated into Categories 1 (tires), 2 (metallic debris), 3 (inert material), 4 (non-inert construction debris), and 7 (unspecified) as described above, and stockpiled as specified in Section 4.3 below. All remaining material will be subjected to the Second Segregation Phase described below.

#### Section 4.2.3 - Second Segregation Phase

Stockpiled material remaining after the first phase of segregation will be processed by mechanical screening. Screen sizes will consist of the following:

- 6 inches (Grizzly or equivalent equipment)
- 3 inches (vibratory screen or equivalent equipment)
- 1 inch (vibratory screen or equivalent equipment)

Materials retained on the first screen (6 inches and larger) are anticipated to include boulders, concrete, metal, tires, logs, and other large-diameter waste objects. Material retained on this screen level will be segregated by visual observation and hand or mechanical methods into Categories 1 (tires), 2 (metallic debris), 3 (inert material), 4 (non-inert construction debris), and 7 (unspecified), as applicable, and stockpiled as specified.

Materials retained on the second screen (3 inches to 8 inches) are anticipated to include cobbles, bricks, and lesser amounts of wood, metal, and other non-inert materials. Any materials not considered construction debris shall be removed from this process stream by the Contractor. Material retained on this screen level will be stockpiled and managed as Category 4 (non-inert construction debris).

Materials retained on the third screen (1 inch to 3 inches) are anticipated to include gravel, fragments of brick and concrete, some soil, and very minor amounts of non-inert materials. Material retained on this screen will be stockpiled and managed as Category 5 (1 to 3-inch inert debris). If the material retained on the second screen does not contain a significant amount of non-inert material (which will be determined by the FCDMC or designated representative), it will be retained for use as landscaping or fill material on the Rio Salado Project site. Otherwise, it may be disposed of as non-inert construction debris.

Material that passes all screen levels (1-inch minus) will consist of reclaimed soil that can be beneficially used within the requirements of the construction of the Rio Salado Project. This material will be stockpiled and managed as Category 6 (reclaimed soil). The contractor shall provide access to the Consultant so that this material can be periodically sampled.

Manual labor will likely be used to visually screen and remove metallic or other debris from the screen conveyor during screening operations. All materials removed in this manner shall be stockpiled and managed as the appropriate material category.

**Section 4.2.4 - Presence of Waste Other Than Solid Waste**

If at any time during the segregation and processing of materials from the stockpile area, the Contractor has reasonable suspicion that he have encountered a type of waste which could include special or hazardous waste, asbestos, medical waste, petroleum contaminated soil, etc., he shall notify the FCDMC immediately.

The Consultant will provide sampling and characterization required for proper handling and disposal of such material. After stockpiling of any such material, the Contractor will not be held responsible for its handling or disposal, but they shall provide access to third parties who may be retained to handle and dispose of the materials.

### Section 4.2.5 - Reclaimed Soil Sampling

The reclaimed soil that passes the final (one inch) screen will be stockpiled for future use on the Rio Salado Project site. This reclaimed soil will be sampled by the consultant to verify that it does not contain potential contamination at a level detrimental to public health or the environment, and is suitable for re-use. The Segregation Contractor shall provide access to the Consultant to perform periodic soil sampling. It is anticipated that the reclaimed soil will be sampled once every 5,000 cubic yards. As stated in Section 4.1, the Contractor shall develop a procedure to clearly indicate to the Consultant where soil has been added to the stockpile(s) since the previous sampling event.

## Section 4.3 - Material Management and Disposal

### Section 4.3.1 - Stockpile and Processing Area Selection and Preparation

During the mobilization phase of the project, the Contractor and FCDMC shall mutually agree on the location and configuration of processing areas and stockpiles for each type of material. If material is to be stockpiled in the processing area after removal of waste materials, the Contractor shall ensure that no waste material is present beneath the stockpile by first grading and processing soils in the area to a depth of at least one foot below the depth at which native soils are encountered. The existing processing area may be expanded or altered only with the approval of the FCDMC.

### Section 4.3.2 - Stockpiling and Management of Materials

Stockpiling and disposal requirements for each Material Category are described below.

#### *Section 4.3.2.1 - Material Category 6 Reclaimed Soil*

It is anticipated that this material will remain on the site for future use. Stockpiles for this Material Category shall remain within the bermed processing area or the locations described below.

At this time, it is proposed that an additional 10,000 cubic yards of Category 6 (reclaimed soil) can be added to the existing stockpile that was generated during pilot scale project. This may require additional preparation and grading of the area west of the existing stockpile, the scope of which will be mutually agreed upon by the Contractor and FCDMC.

A second stockpile for reclaimed soil may be located north of the processing area, on top of the landfill area. Preparation of this area shall include leveling of the area (which will be selected by the FCDMC) using only fill material; no cut grading will be allowed on the landfill surface. Material will be transported to this location either by conveyor or trucks. Any site preparation for the conveyor or haul road will consist only of filling; no cut grading will be allowed on the landfill surface.

*Section 4.3.2.2 - Material Category 1 Tires*

This material shall be removed from the site and disposed of by the Contractor at an authorized facility. Stockpiles for this Material Category shall remain within the bermed processing area unless otherwise specified by the FCDMC. If necessary, up to 40 cubic yards may be temporarily stockpiled outside the bermed area, but anything over this amount must be removed from the site or moved to specified locations within the bermed area if this amount is exceeded.

*Section 4.3.2.3 - Material Category 2 Metallic Debris*

This material shall be stockpiled on the site, and will be properly disposed of or recycled by a third party or the Segregation Contractor. Stockpiles for this Material Category shall remain within the bermed processing area unless otherwise specified by the FCDMC. If necessary, up to 40 cubic yards may be temporarily stockpiled outside the bermed area, but anything over this amount must be removed from the site or moved to specified locations within the bermed area if this amount is exceeded.

*Section 4.3.2.4 - Material Category 3 8-Inch Plus Inert Material*

This material shall be removed from the site and disposed of by the Segregation Contractor at an authorized facility. Stockpiles for this Material Category shall remain within the bermed processing area unless otherwise specified by the FCDMC. If necessary, up to 2000 cubic yards may be temporarily stockpiled outside the bermed area, but anything over this amount must be removed from the site or moved to specified locations within the bermed area if this amount is exceeded.

*Section 4.3.2.5 - Material Category 4 Construction Debris*

This material shall be removed from the site and disposed of by the Segregation Contractor at an authorized facility. Stockpiles for this Material Category shall remain within the bermed processing area unless otherwise specified by the FCDMC. If necessary, up to 2000 cubic yards may be temporarily stockpiled outside the bermed area, but anything over this amount must be removed from the site or moved to specified locations within the bermed area if this amount is exceeded.

*Section 4.3.2.6 - Material Category 5 1 to 3 Inch Inert Material*

It is anticipated that this material will remain on the site for future use. However, the Segregation Contractor shall not use it for fill or place it in an undesignated stockpile area until so authorized by the FCDMC. Stockpiles for this Material Category shall remain within the bermed processing area or locations specifically identified by the FCDMC. If necessary, up to 2000 cubic yards may be temporarily stockpiled outside the bermed area, but anything over this amount must be moved to a location identified for this stockpile (or to a location within the bermed area) if this amount is exceeded.

*Section 4.3.2.7 - Material Category 7 Unspecified Materials*

These materials will be characterized by the Consultant or other party to determine handling and, if necessary, disposal requirements. Depending on the nature of the materials, they will either be removed from the site for disposal by the Contractor or other authorized party, or stockpiled on the site for future use. Stockpiles for this Material Category shall remain within the bermed processing area. Temporary or permanent stockpiling or handling of this material outside the bermed processing area will not be permitted unless authorized in writing by the FCDMC.

**Section 4.3.3 - Maintenance and Restoration of Processing and Stockpiling Areas**

At the end of each day, the Contractor shall regrade the processing area, perimeter berms, and drainage ditches as necessary to ensure that stormwater runoff or flows in the adjacent stormwater outfall will not contact the material or waste stockpiles, and that potential runoff from the waste stockpile will not escape the bermed area. Stormwater protection structures(drainage ditches, berms, or a combination) shall be a minimum of two feet high or deep. The 11$^{th}$ Avenue stormwater outfall channel which is located immediately west of the current processing area shall be kept free of obstructions to allow unimpeded flow to main Salt River channel.

At the completion of the project, the processing and stockpile areas shall be free of all waste materials (Material Categories 1, 2, 3, 4, and 7). The Segregation Contractor shall ensure that no waste material is present in these areas by grading and processing soils in the area to a depth of at least one foot below the depth at which native soils are encountered. Verification that the areas are free of waste materials shall be made by the FCDMC.

**Section 4.4 - Project Documentation**

The Contractor shall provide to FCDMC a written weekly status report including the following:

- Brief narrative of activities,
- Description of any unusual situations,
- The estimated amount of processed material (weekly and cumulative)
- Estimated amounts of each material category (weekly and cumulative)
- Disposal documentation such as truck load counts, disposal facility weight and gate tickets, etc.

## SECTION 5 - COMPLIANCE WITH SPECIFICATIONS

Upon receipt of written notification by FCDMC that project specifications are not being met, the Segregation Contractor shall immediately take action to remedy the deficiency. Failure to adequately respond to such notification within 48 hours may result in reduction of payment.