FOR CONTRACT NO.: 07-267004

INFORMATION HANDOUT

MATERIALS INFORMATION

SITE INVESTIGATION REPORT
Lead Testing at LA, Route 605/210
Los Angeles County, CA

Caltrans Contract No. SA43A0012
Task Order No. 07-053391-3V

ROUTE: 07-LA-210, PM 32.9/39.6

Lead

LA 210
TO # 07-053391-3V
KP 56.1 - 58.4

7N08

06/13/2001

psi Environmental Geotechnical Construction
Consulting • Engineering • Testing

LA-210
07-053391-3V
KP 56.1-58.4
Lead SI

Information To Build On

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SITE INVESTIGATION REPORT
LEAD TESTING AT LA-ROUTE 605/210
LOS ANGELES COUNTY, CALIFORNIA

CALTRANS CONTRACT NUMBER SA43A0012
TASK ORDER NO. 07-053391-3V

Prepared for

State of California
Department of Transportation, District 7
120 South Spring Street
Los Angeles, California 90012-3606

Prepared by

Professional Service Industries
3960 Gilman Street
Long Beach, California 90815

PSI Project No. 559-1G011
June 13, 2001

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STATEMENT OF LIMITATIONS AND PROFESSIONAL CERTIFICATION

by?

Information provided for Professional Services Industries, Inc., (PSI), report is intended exclusively for the California Department of Transportation (Caltrans). PSI is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official view or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation. The professional services provided have been performed in accordance with practices generally accepted by other geologists, hydrologists, hydrogeologists, engineers, and environmental scientists practicing in this field. No other warranty, either expressed or implied, is made. As with all investigations, there is no guarantee that the work conducted will identify any and all sources or locations of contamination.

This report is issued with the understanding that Caltrans is responsible for ensuring that the information contained in this report is brought to the attention of the appropriate regulatory agency. This report has been prepared by an geologist who is registered in the State of California and whose signature and license number appears below.

Mylene M. Torres
Staff Engineer

Jeffrey Friedman, R. G. (5677)
Senior Project Geologist

1.0 INTRODUCTION

This report has been prepared by Professional Services Industries, Inc. (PSI), for the State of California Department of Transportation, District 7 (Caltrans), under Contract Number SA43A0012, Task Order No. 07-053391-3V. The purpose of this project is to evaluate soil for aerial deposited lead (ADL) immediately adjacent to Route 210, situated in the City of Duarte, California. The site is located on Route 210 from postmark (PM) 34.9 to 36.3 in Los Angeles County, California. The location of the area of investigation is shown in Figure 1.

2.0 BACKGROUND

It is PSI's understanding that Caltrans is planning to widen Route 210 in the area of the project site. Caltrans contracted with PSI to perform a site investigation to evaluate the extent of aerial deposited lead (ADL) in surface soil situated immediately adjacent to the edge of the pavement. The data collection is limited to collecting soil samples approximately 4-feet off the edge of the pavement to a depth not to exceed 1.5-feet below ground surface (bgs). The objective is to collect data that can be used to evaluate whether the soil exceeds the 350 milligram per kilogram (mg/kg) threshold limit promulgated in Section 25157.8 of the California Health and Safety Code (H&SC). This section of the H&SC states that after January 1, 1999, no person shall dispose of waste that contains total lead in excess of 350 mg/kg to land other than a Class I hazardous waste disposal facility. This requirement applies to waste whether it is defined as hazardous or not under the California Code of Regulations (CCR) Title 22. Additionally, the data will be used to evaluate whether the soil is a hazardous waste as define in CCR Title 22. If the waste is defined as a hazardous waste, evaluate whether the Department of Toxic Substances Control (DTSC) variance granted to Caltrans (effective September 22, 2000) is applicable.

The variance allows Caltrans to redeposit "lead-contaminated soil(s)" in accordance with requirements specified by DTSC. The DTSC has established three categories lead-impacted soil that can be referred to when evaluating the appropriate management of these "lead contaminated soils". These categories, which are summarized below, are based in part, on using a modified version of CCR Title 22 Wet Extraction Test (WET) which uses a de-ionized water as an extracting agent. For the purpose of this document, this test will be referred hereafter as the "modified WET". Soil defined as hazardous waste that do not meet the criteria set in Categories 1 or 2 of the variance must be manifested, transported, and disposed of as a hazardous waste.

CATEGORY 1: Soil containing soluble lead concentrations established using the modified WET is less than or equal to 0.5 milligrams per liter (mg/l) and less than or equal to total lead concentrations of 350 mg/kg may be used as fill provided that the lead-contaminated soil are placed a minimum of five (5) feet above the maximum water table elevation and covered with at least one (1) foot of nonhazardous soil.

CATEGORY 2: Soil containing soluble lead concentrations using the modified WET between 0.5 and 50 mg/l and less than or equal to total lead concentrations of 350 mg/kg may be used as fill provided that the lead-contaminated soil are placed a minimum of five (5) feet above the maximum water table elevation and protected by a pavement structure which will be maintained by Caltrans. Caltrans shall comply with the lead limits discussed in condition 1.

CATEGORY 3: Soil containing a pH less than 5.0 shall be used only as fill material under the paved portion of the roadway.

3.0 OBJECTIVE AND SCOPE OF WORK

This section provides a summary of the project objectives and scope of work performed by PSI to comply with the Caltrans task order.

3.1 OBJECTIVE

The objective of the scope of work is to assess the areas of concern identified above by collecting subsurface soil samples and analyzing them for constituents of concern.

3.2 SCOPE OF WORK

The scope of work for the field investigation at the above referenced project area is summarized below:

- Attend a pre-work site visit and task order meeting;
- Develop a site-specific health and safety plan;
- Contact Underground Service Alert (USA);
- Conduct an assessment consisting of 27 soil boring locations to a maximum depth of 5-feet below ground surface (bgs);
- Collecting soil samples at each location at the following depth intervals: surface, 1-foot (0.3 meters), 2-feet (0.6 meters) and 5-feet (1.5 meters) bgs;
- Analyzing up to 108 soil samples for total lead using United States Environmental Protection Agency (EPA) Method 6010; and
- Developing a site investigation report detailing the results of the investigation.

4.0 SITE CHARACTERISTICS

The project site is located along the unpaved shoulders on Route 210 east bound from 0.3 KM (west of Mountain Avenue) to the 605 separation and from the 605 Freeway north bound off-ramp to Route 210 west bound in Los Angeles County, California. Refer to Figure 1 for the location of the project site. The United States Geological Survey Azusa Quadrangle Map (USGS, 1966, photo revised 1972) indicates that the surface elevation of the project site is approximately 480-500 feet above mean sea level (msl). The slope of the area is relatively flat, with a sight slope to the southwest.

The field observations collected during the sampling program completed for this investigation indicates that the project site is underlain by silty sand and gravel to the depth investigated of approximately 2-feet bgs. Groundwater was not encountered. Refer to Figures 2 through 8 for the location of the borings.

5.0 FIELD ACTIVITIES

The investigation activities consisted of preparation of a health and safety plan, drilling, sampling and analyses of soil samples.

5.1 HEALTH AND SAFETY PLAN AND WORKPLAN

Prior to the start of fieldwork, PSI prepared a Site Health and Safety Plan to comply with State Law and local regulations. The Health and Safety Plan was submitted to Caltrans for review and approval.

5.2 SAMPLING ACTIVITIES

On February 1 and 2, 2001, twenty-seven (27) soil borings (A1-1 through A4-27) were drilled using hand auger equipment following the general procedures outlined in Appendix A. The boring locations were established prior to the beginning of the sampling activities by Ms. Upa Patel of Caltrans District 7; Mr. Jeffrey Friedman, R.G. and Ms. Mylene M. Torres of PSI during the task order meeting. Please refer to Figures 2 through 8 for the approximate location of the borings. The locations of the borings were not surveyed.

As requested in the Task Order, PSI attempted to collect soil samples at the surface, 1-foot (0.3-meters), 2-feet (0.6-meters) and 5-feet (1.5-meters). However, due to difficult drilling conditions (i.e., the presence of gravel to cobble size clasts), the depth of the soil samples collected varied depending upon the maximum attained depth at a specific location. In general, the sampling depth ranged from 1-foot to 2-feet bgs; with borings A2-6 and A3-15-3.5 advanced to 3-feet and 3.5-feet, respectively. Please refer to Table 1 for a summary of soil samples collected. The soil samples were obtained using a hand auger, which were placed in containers supplied by the laboratory, labeled, and placed in an ice chest for eventual transport to a California certified laboratory. The sampling equipment was de-contaminated between each sample following the general procedures outlined in the Scope of Work described above. Boring locations were abandoned by backfilling with the soil cuttings.

6.0 LABORATORY ANALYSES & RESULTS

This section of the report provides a summary of the analytical methods and results from the sampling and analysis program implemented for this investigation.

6.1 METHODOLOGY

The soil samples collected during this investigation were submitted to Centrum Analytical Laboratories, Inc. of Riverside, California. Centrum is a State of California Department of Health Services certified hazardous waste laboratory (Environmental Laboratory Accreditation Program [ELAP] #2419). All samples were submitted for a 48-hour laboratory turnaround. The type of analyses performed for each sample is described below and in the Caltrans Scope of Work.

All soil samples were analyzed for lead using EPA method 6010 ICAP single element. Surface samples and samples exhibiting total lead concentrations between 50 and 1,000 mg/kg were analyzed using the California Code of Regulation Waste Extraction Test (WET). WET results in excess of 5 milligrams per liter (mg/l) were further analyzed using a modified version of the WET that utilizes deionized water as the extracting agent. Additionally, a minimum of 10% or 4 samples were analyzed for pH using EPA Method 9045. The following is a summary of the number of samples and analyses performed for this project. Duplicate samples are included in the total number of samples below. Refer to Table 1 for the analyses performed on each sample collected.

Caltrans Item No./Analyses	Number of Soil Samples
115/ ICAP (Totals)	79
84/ WET Extract	43
85/ ICAP (Soluble WET-DI)	35
127/pH	8

6.2 ANALYTICAL RESULTS

This section provides a summary of the soil quality results for the investigation. A summary of the analytical results is provided in Tables 1 through 6 and the laboratory data report and chain-of-custody documentation are included in Appendix B.

Lead Results

Total lead was detected in each of soil samples analyzed at concentrations ranging from 3.2 mg/kg to 1,200 mg/kg. A total of forty-three (43) soil samples were analyzed for soluble lead by WET. Thirty-five (35) of 43 soil samples contained soluble lead by WET at a concentrations above 5 mg/l. Analysis for soluble lead using the modified WET indicated the soluble lead concentrations for all 35 of these samples were below the laboratory detection limit of 0.5 mg/l.

PH Results

A total of eight (8) soil samples were analyzed for pH. PH values ranged from 7.1 to 8.6.

7.0 STATISTICAL ANALYSIS AND EVALUATION

The ADL statistical analysis and evaluation was performed in general accordance with USEPA SW-846. It is PSI's understanding that Caltrans will use the information generated in the statistical methodology to identify the most cost effective waste management alternative. A summary of the statistical results is provided in Appendix C. The following elements were calculated using the SW-846 procedure: sample population, mean value, variance, standard deviation, and standard error. These values were used to estimate the Total Threshold Limit Concentration (TTLC) and Soluble Threshold Limit Concentration (STLC) values within a 90% and 95% confidence level. A normally distributed population will form a normal probability distribution or "bell-shaped" symmetric curve. Several methods (i.e. square root transformation, logarithmically and arcsine) were used to evaluate whether the data followed a normal distribution. The upper limit of the one-tailed confidence level (UCL) was compared with the applicable regulatory threshold (350 mg/kg) to evaluate if the in-place soil contained lead in concentrations that would require it to be disposed of at a Class I landfill site.

The samples were grouped according to their sampling location (Areas 1 through 4) and sampling depth {0.3-meters (1-foot) and 0.6-meters{2-feet)} prior to performing the statistical analysis. PSI excluded samples at depths {0.9-meters (3-feet) and 1.05-meters (3.5-feet)} where not enough samples were collected to perform the statistical analysis. Refer to Appendix C for the statistical results for the total lead in each of the grouping scenarios.

In addition, PSI calculated the appropriate number of samples as per SW-846. Based on this calculation, there were not enough samples collected in Area 2 or surface grouping scenario. Refer to Appendix C for the appropriate number of samples per grouping scenario.

7.1 CORRELATION AND REGRESSION OF TOTAL AND SOLUBLE LEAD

This section provides a summary of the correlation and regression results in comparison to total and soluble lead. A summary of the statistical results is provided in Appendix C.

The correlation coefficient is a measure of the degree of linear relationship between two variables. The correlation coefficient assumes a value between -1 and +1. A number close to +1 indicates a strong linear association. The correlation value between Total and soluble lead in samples ($r = 0.973$; $p=0$) suggests that total and soluble lead concentration results for the samples population is positively correlated (refer to Appendix C).

Regression analysis is used to investigate and model the relationship between a response variable (i.e. Totals) and one or more predictors (i.e. soluble by WET). Regression analysis suggests a 94.7% relationship between totals and soluble results, which appears denotes a strong linear relationship. The equation of the regression line was estimated to be $y = -0.335096 + 0.0720320x$, where x and y represent total and soluble lead concentrations, respectively. A fitted regression line plot for Totals vs. soluble lead results using a 90% and 95% confidence level are provided in Appendix C.

8.0 OBSERVATIONS

The following observations are provided to summarize the results generated by the site investigation results and statistical analysis:

- The project area is underlain by silty sand and gravel to the depth investigated of approximately 0.6-meters (2-feet) bgs. Groundwater was not encountered.

- PH values from selected samples ranged from 7.1 to 8.6.

- The concentrations of total lead in all soil samples analyzed ranged from 3.2 mg/kg to 1,200 mg/kg.

- **Project-Wide (All Samples Analyzed)** - The calculated 90% and 95% UCLs for all soil samples is estimated to be 76 and 81 mg/kg, respectively. The calculated UCLs for all samples indicate that lead concentrations are below the California Health and Safety Code threshold of 350 mg/kg. The calculated 90% and 95% UCLs for soluble lead is estimated to be 18 and 19 mg/l, respectively. Soluble results indicate concentrations of lead above the Title 22 hazardous waste threshold of 5 mg/l. No samples analyzed for soluble lead using the modified WET were detected in a concentration that was above the 0.5 mg/l variance limit.

- **Separated by Area (Area 1, Area 2, Area 3 and Area 4)** - The calculated 90% and 95% UCLs for soil along the unpaved shoulders grouped as Area 1, Area 2, Area 3 and Area 4 indicate that the total lead concentration are below the California Health and Safety Code threshold of 350 mg/kg. The calculated 90% and 95% UCLs for soluble lead is estimated to be 17 and 21 mg/l (Area 1); 35 and 45 mg/l (Area 2); 29 and 31 mg/l (Area 3); and 22 and 24 mg/l (Area 4). Soluble results indicate concentrations of lead above the Title 22 hazardous waste threshold of 5 mg/l. No samples analyzed for soluble lead using the modified WET were detected in a concentration that was above the 0.5 mg/l variance limit.

- **Project-Wide (Surface Samples)** - The calculated 90% and 95% UCLs for soil samples collected at the surface are estimated to be 346 and 374 mg/kg, respectively. The calculated UCLs for all surface samples indicate that the total lead concentration is above the California Health and Safety Code threshold of 350 mg/kg and would require disposal at a Class I landfill. The calculated 90% and 95% UCLs for soluble lead is estimated to be 26 and 28 mg/l, respectively. Soluble results indicate concentrations of lead above the Title 22 hazardous waste threshold of 5 mg/l. No samples analyzed for soluble lead using the modified WET were detected in a concentration that was above the 0.5 mg/l variance limit.

- **Project-Wide Separated by Depth {(0.3-meters (1-foot) and 0.6-meters (2-feet)}** - The calculated 90% and 95% UCLs for soil at 0.3-meters (1-foot) and 0.6-meters (2-feet) indicate that the total lead concentration are below the California Health and Safety Code threshold of 350 mg/kg. The calculated 90% and 95% UCLs for soluble lead is estimated to be 12 and 14 mg/l (0.3-meters); and 23 and 28 mg/l (0.6-meters). Soluble lead results indicate concentrations of lead above the Title 22 hazardous waste threshold of 5 mg/l. No samples analyzed for soluble lead using the modified WET were detected in a concentration that was above the 0.5 mg/l variance limit.

9.0 CONCLUSIONS & RECOMMENDATIONS

This section provides a summary of conclusions and recommendations based on the data collected during this investigation.

9.1 CONCLUSIONS

The following conclusions are based on the field observations, analytical and statistical data collected during this investigation:

- The calculated UCLs for soil samples grouped by depth intervals of 0.3-meters (1-foot) and 0.6-meters (2-feet) as well as Project-Wide, Area 1, Area 2, Area 3 and Area 4 along the area of investigation indicate that the total lead concentrations are below the H&SC Section 25157.8 threshold limit of 350 mg/kg and the CCR Title 22 threshold limit of 1,000 mg/kg that is one of the criteria that defines a waste material as hazardous.

- For all samples analyzed (depth intervals of 0.3-meters (1-foot) and 0.6-meters (2-feet) as well as Project-Wide, Area 1, Area 2, Area 3 and Area 4), the calculated UCLs for soil sample results collected during this investigation indicate that the soluble lead concentrations by the WET are above the Title 22 hazardous waste threshold concentration of 5 milligrams per liter (mg/l).

- The calculated 90% and 95% UCLs for Project-Wide soluble lead results is estimated to be 18 and 19 mg/1, respectively. Soil samples were further grouped according to their depths (surface, 0.3-meters and 0.6-meters). Soluble results for these groupings indicate concentrations of lead above the Title 22 hazardous waste threshold of 5 mg/l. No samples analyzed for soluble lead using the modified WET were detected in a concentration that was above the 0.5 mg/l variance limit. Therefore, in accordance with the DTSC variance, Category 1 applies to these groupings.

- The calculated UCLs for surface soil samples indicate concentrations above the California Health and Safety Code threshold of 350 mg/kg. Soil samples above the threshold would require disposal at a Class I landfill.

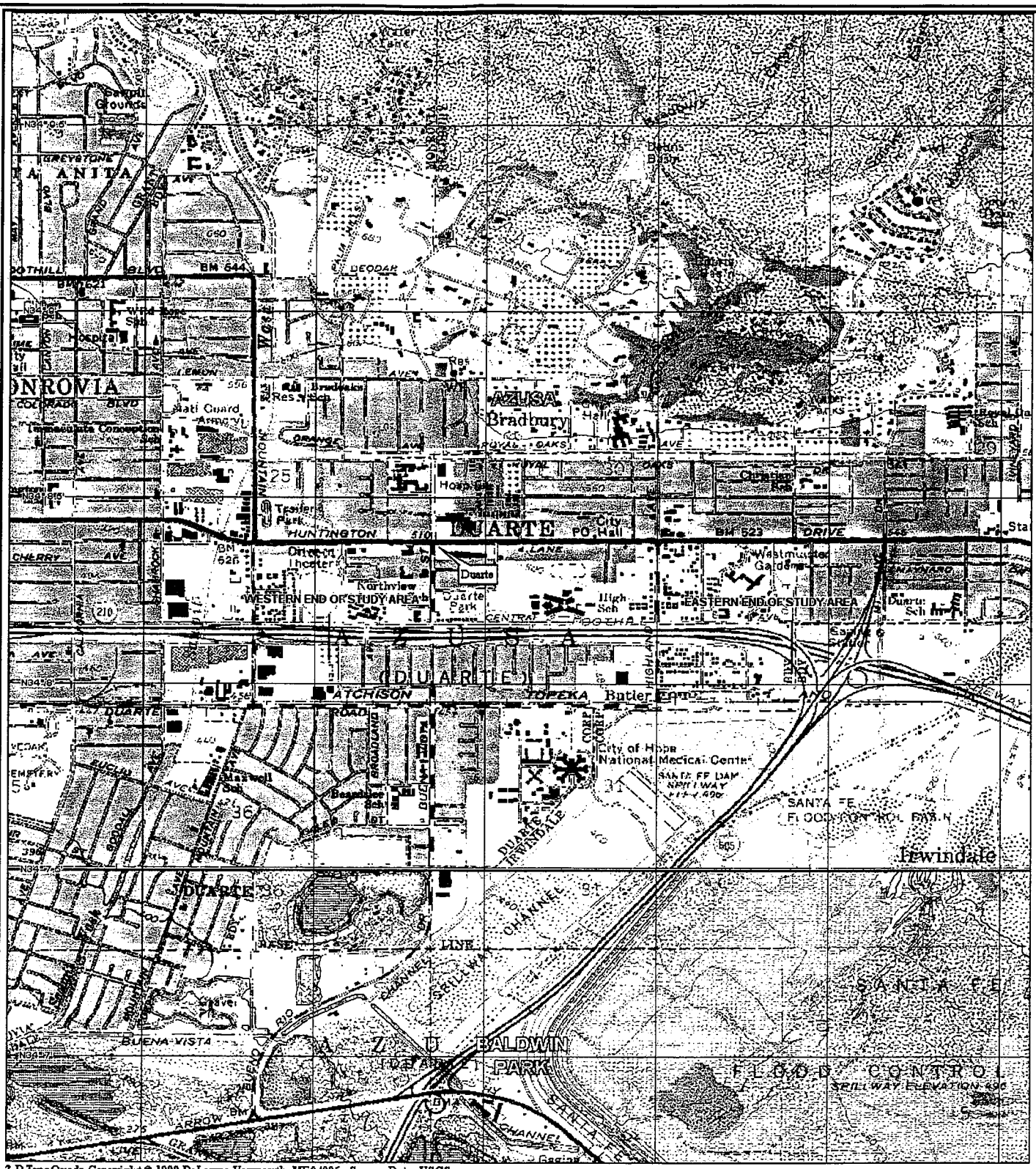
9.2 RECOMMENDATIONS

The following recommendations are based on the field observations, analytical and statistical data collected during this investigation:

- Soil samples grouped by depth intervals of 0.3-meters (1-foot) and 0.6-meters (2-feet) as well as Project-Wide, Area 1, Area 2, Area 3 and Area 4 for this project site may be used as fill provided that the lead-contaminated soils are placed a minimum of five (5) feet above the maximum water table elevation and covered with at least one (1) foot of nonhazardous soil.

- However, should Caltrans choose to segregate the surface soil, appropriate soil management procedures should be implemented to segregate and properly dispose of surface soil (0-0.15 meters) for the project area.

FIGURES



3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME04096 Source Data: USGS 700 ft Scale: 1 : 24,000 Detail: 13-1 Datum: WGS84

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3960 Gilman Street
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562/597-3977
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PROJECT NAME:
Caltrans-District 7
Sound Wall Project
Los Angeles County, California

TASK ORDER NO: 07-053391-3V
PROJECT NO: 559-1G011

FIGURE 1:
SITE LOCATION MAP
Azusa, USGS Topographic Map
SCALE: 1:24,000
DATE: 1966 (photorevised 1972)

N

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	210	KP 56.1/58.4		

INDEX OF SHEETS

1 Title and Location Plan

2 Layout Plan

3-x Drainage Plans, Profiles Title and Quantities

x4-x Utility Plans

x5-x Construction Area Signs

x6-x Sound Wall Plans, Details and Summary of Quantities

x7-x New Standard Plans

STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON STATE HIGHWAY

IN LOS ANGELES COUNTY

FROM 0.1 KM EAST OF MOUNTAIN AVENUE

TO 0.15 KM WEST OF RTES 210/605 INTERCHANGE

To be supplemented by Standard Plans dated July, 1999

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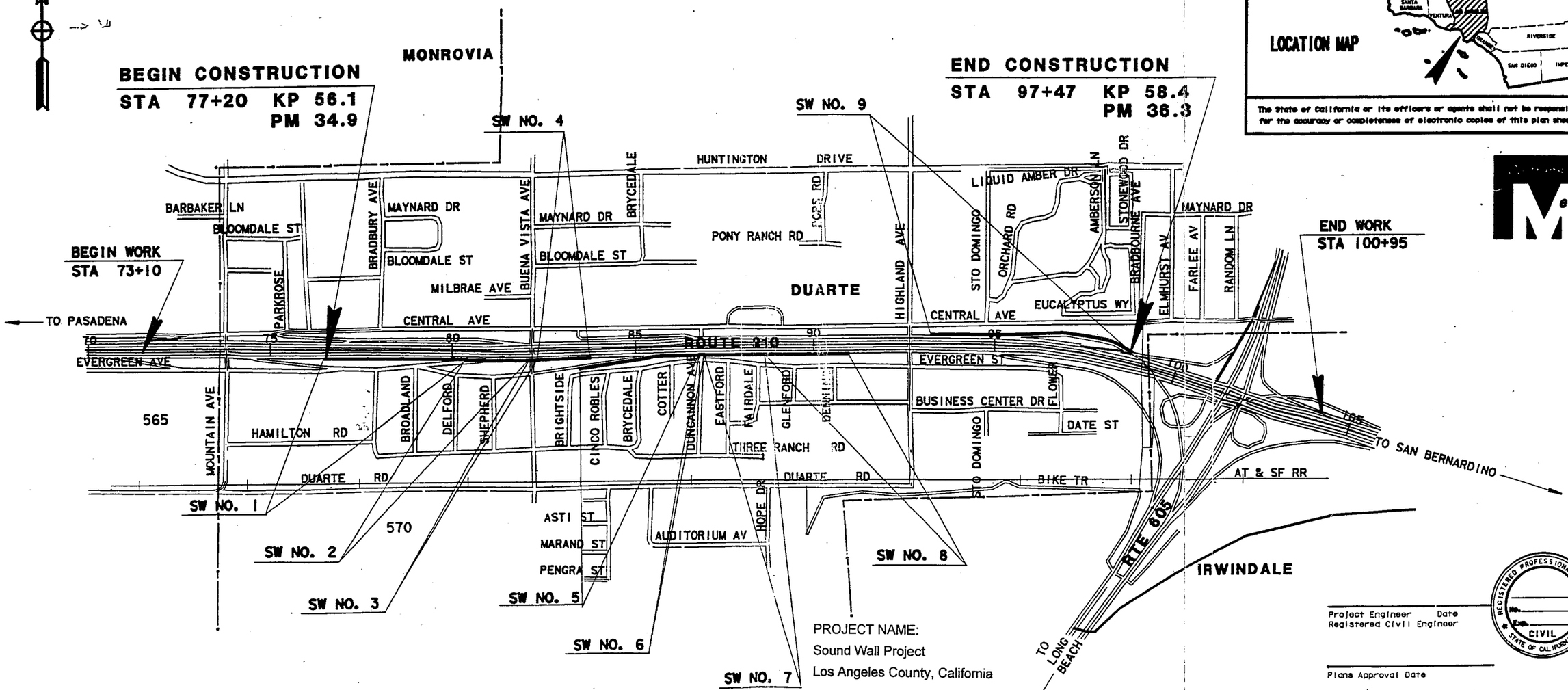

PROJECT NAME:
Sound Wall Project
Los Angeles County, California

Caltrans-District 7

TASK ORDER NO.: 07-053391-3V

PSI PROJECT NO.: 559-1G011

NO SCALE

Project Engineer Date
Registered Civil Engineer

Plans Approval Date

REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA

Priority # 21

FIGURE 2

The Contractor shall possess the Class (or classes) of license as specified in the ''Notice to Contractors''.

PROJECT ENGINEER	DATE	PROJECT MANAGER	DATE

Contract No. 07-53394

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OU 06227

EA 053391

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	210	KP 56.1/ KP 58.4		

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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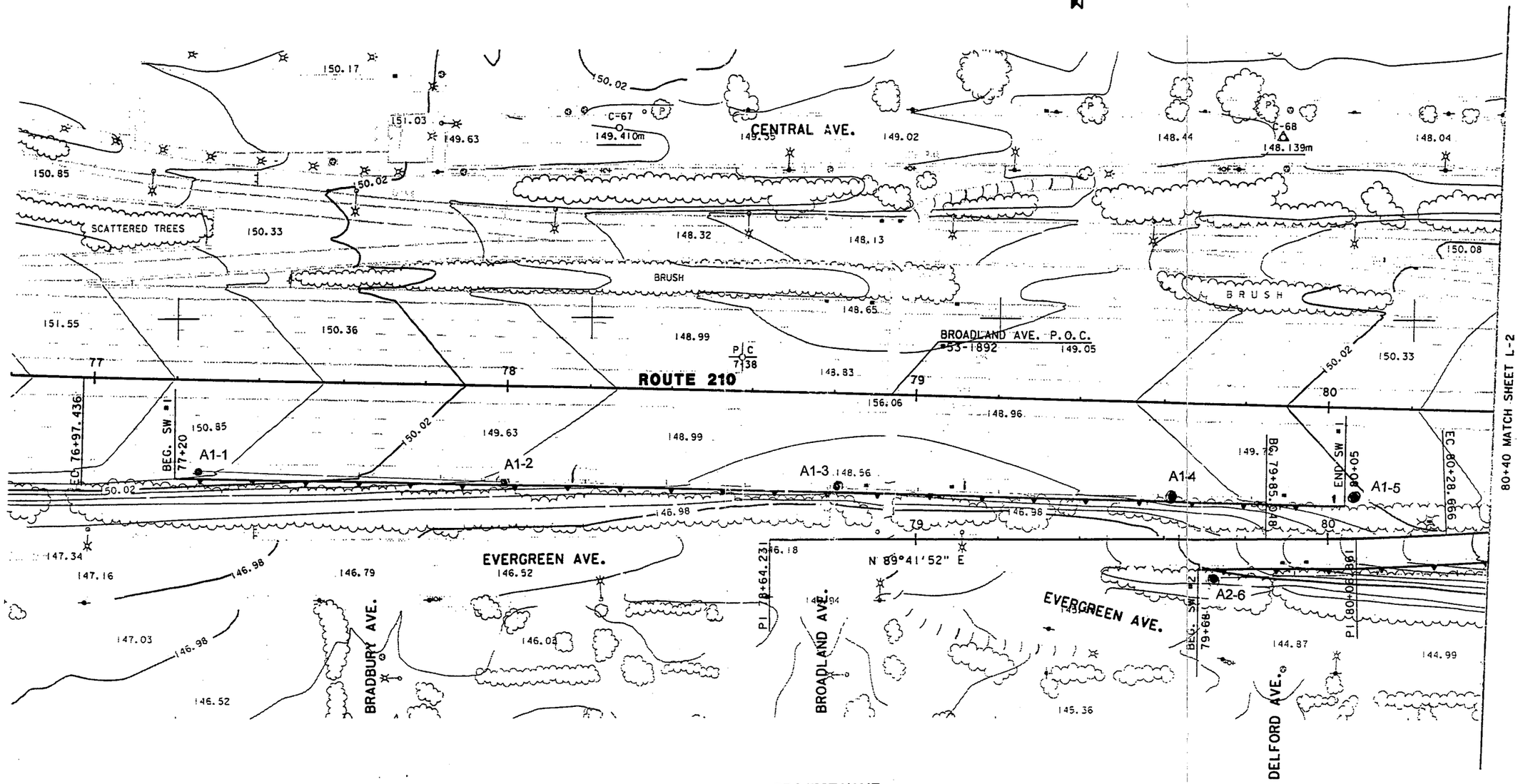

PROJECT NAME:
Sound Wall Project
Los Angeles County, California

Caltrans-District 7
TASK ORDER NO.: 07-053391-3V
PSI PROJECT NO.: 559-1G011

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

FIGURE 3
LAYOUT
SCALE: 1:500
L-1

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Caltrans
DESIGN DIVISION

PROJECT ENGINEER: DALLIA BAHBAH

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CHECKED BY

DATE | REVISED BY
DATE REVISED

LAST REVISION 08-28-00
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TIME PLOTTED -> $TIME

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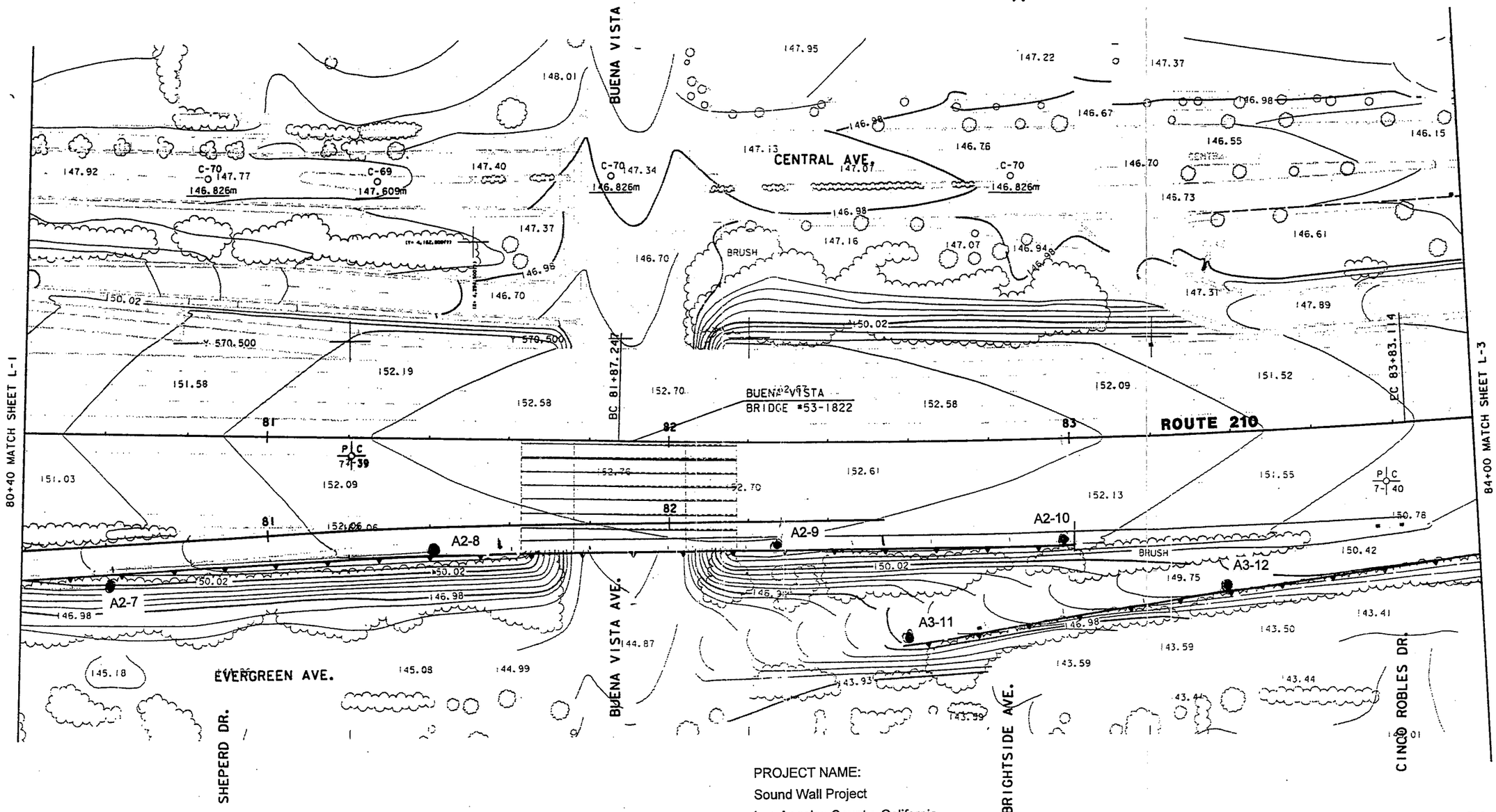

PROJECT NAME:
Sound Wall Project
Los Angeles County, California

Caltrans-District 7
TASK ORDER NO.: 07-053391-3V
PSI PROJECT NO.: 559-1G011

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FIGURE 4
LAYOUT
SCALE: 1:500
L-2

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EA 053394

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DATE PLOTTED => $DATE

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	210	KP 56.1/ KP 58.4		

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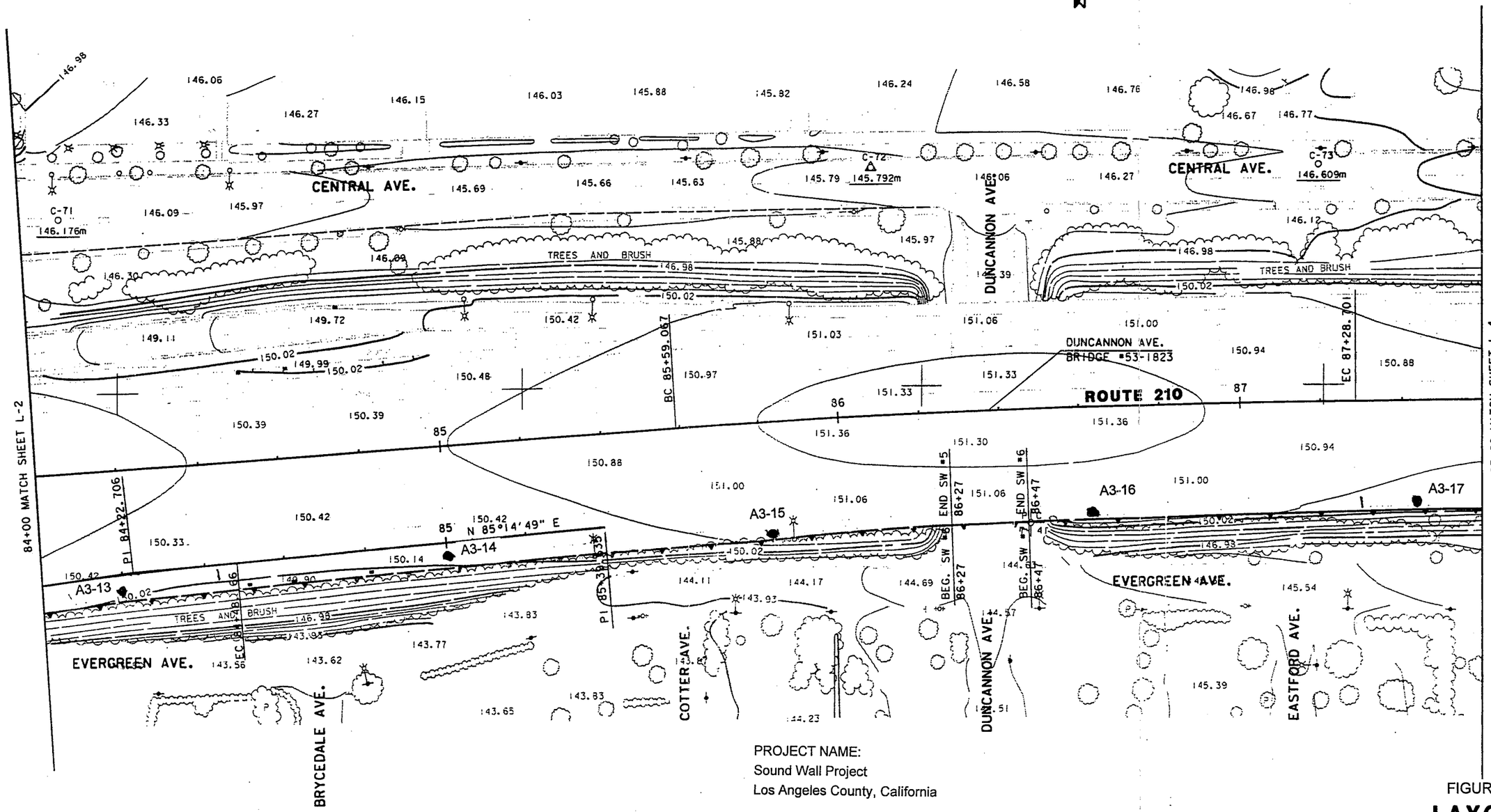

PROJECT NAME:
Sound Wall Project
Los Angeles County, California

Caltrans-District 7
TASK ORDER NO.: 07-053391-3V
PSI PROJECT NO.: 559-1G011

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SCALE: 1:500

FIGURE 5
LAYOUT
L-3

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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	210	KP 56.17 KP 58.4		

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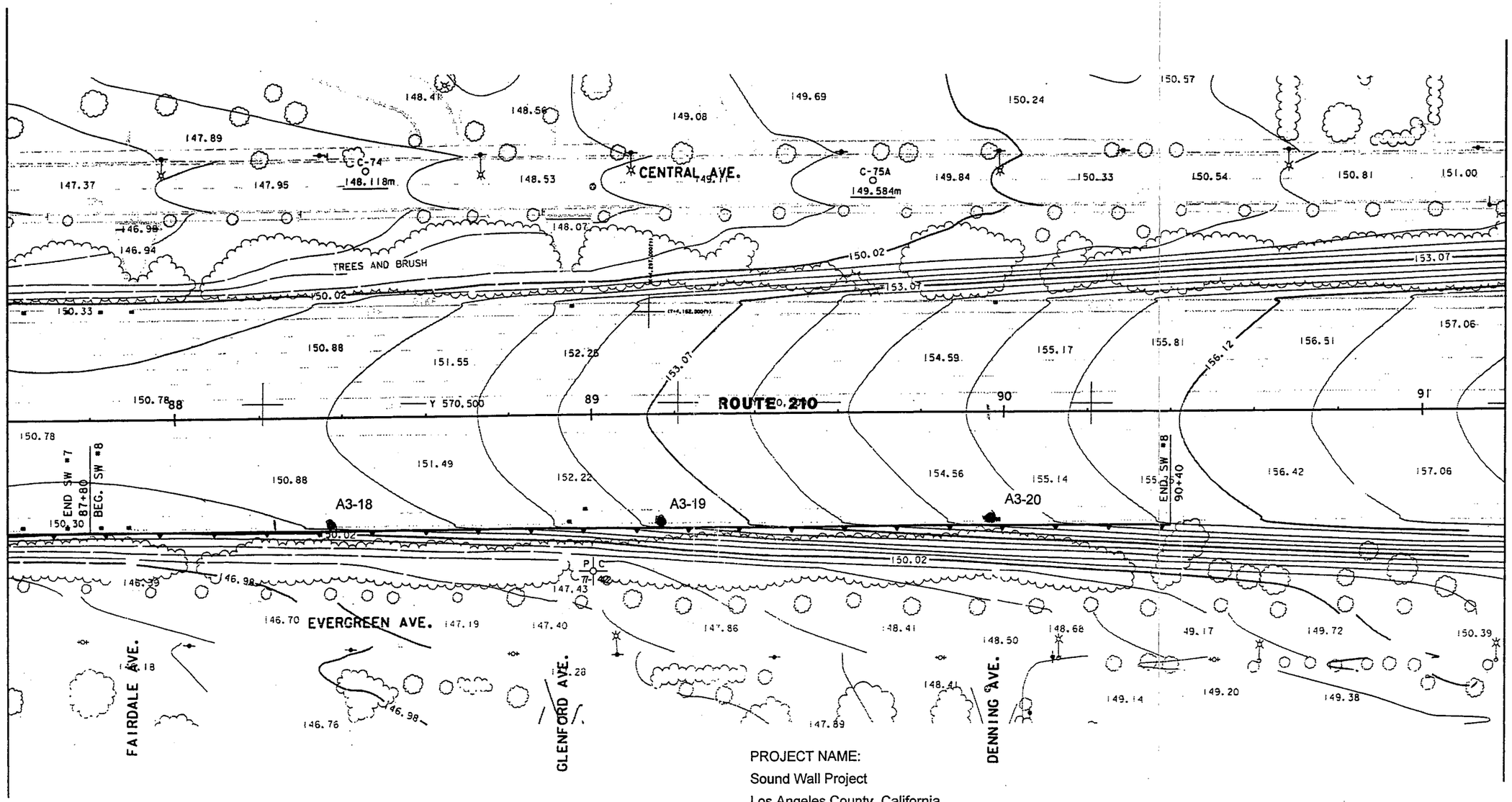

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Caltrans-District 7
TASK ORDER NO.: 07-053391-3V
PSI PROJECT NO.: 559-1G011

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

SCALE: 1:500

FIGURE 6
LAYOUT
L-4

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Caltrans DESIGN DIVISION

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DGN FILE => $REQUEST

CU 06227 | EA 053394

LAST REVISION 08-28-00 | DATE PLOTTED => $DATE | TIME PLOTTED => $TIME

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	210	KP 56.1/ KP 58.4		

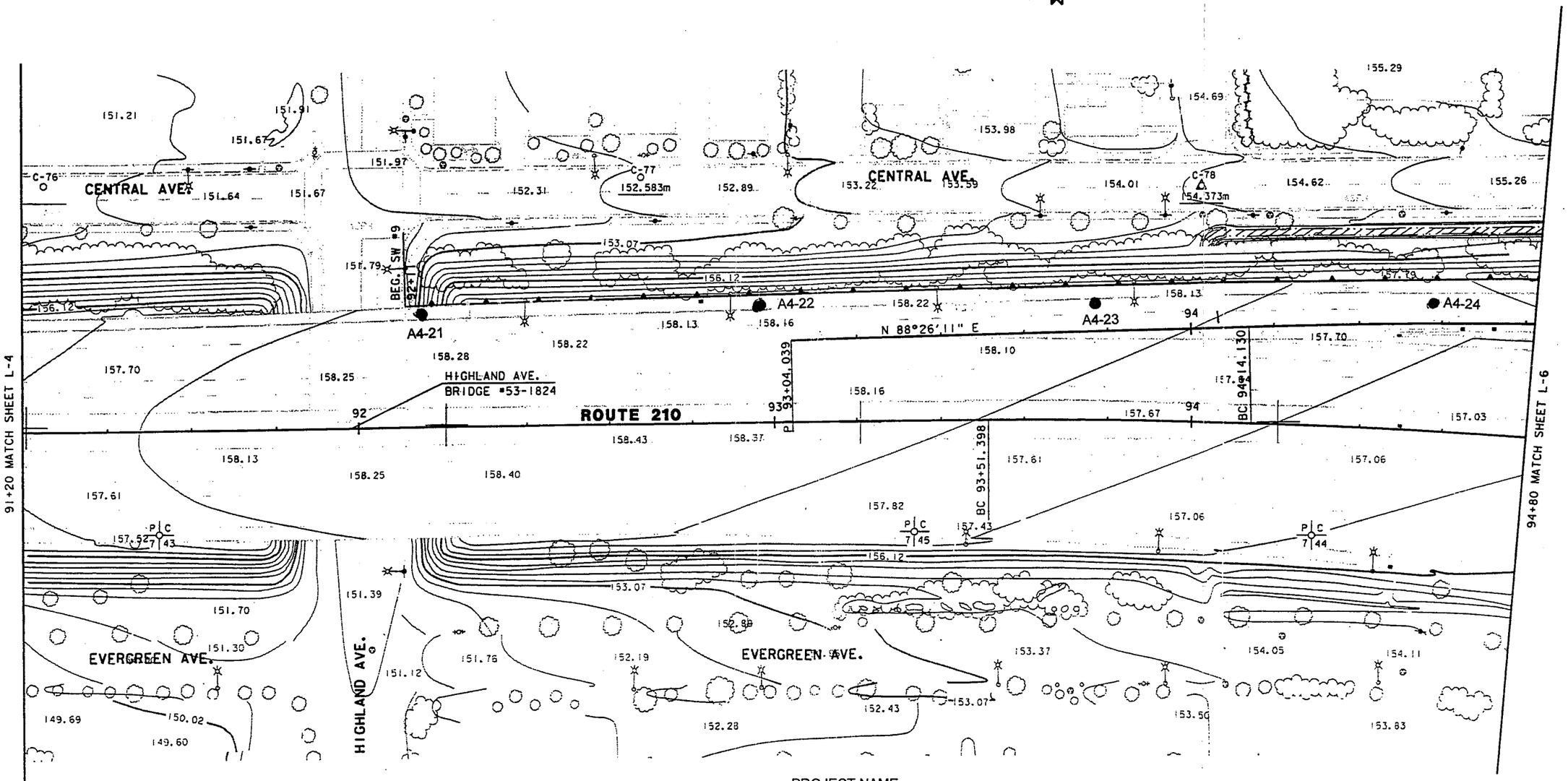
REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE:

REGISTERED PROFESSIONAL ENGINEER NO. EXP. CIVIL STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

Caltrans Metric



PROJECT NAME:
Sound Wall Project
Los Angeles County, California

Caltrans-District 7
TASK ORDER NO.: 07-053391-3V
PSI PROJECT NO.: 559-1G011

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

SCALE: 1:500

FIGURE 7
LAYOUT
L-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN DIVISION

PROJECT ENGINEER: DALLIA BAHBAH

CALCULATED/DESIGNED BY | DATE | REVISED BY
CHECKED BY | | DATE REVISED

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => $USER
DGN FILE => $REQUEST

CU 06227 | EA 053394

LAST REVISION 08-28-00 | DATE PLOTTED => $DATE TIME PLOTTED => $TIME

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	210	KP 56.1/ KP 58.4		

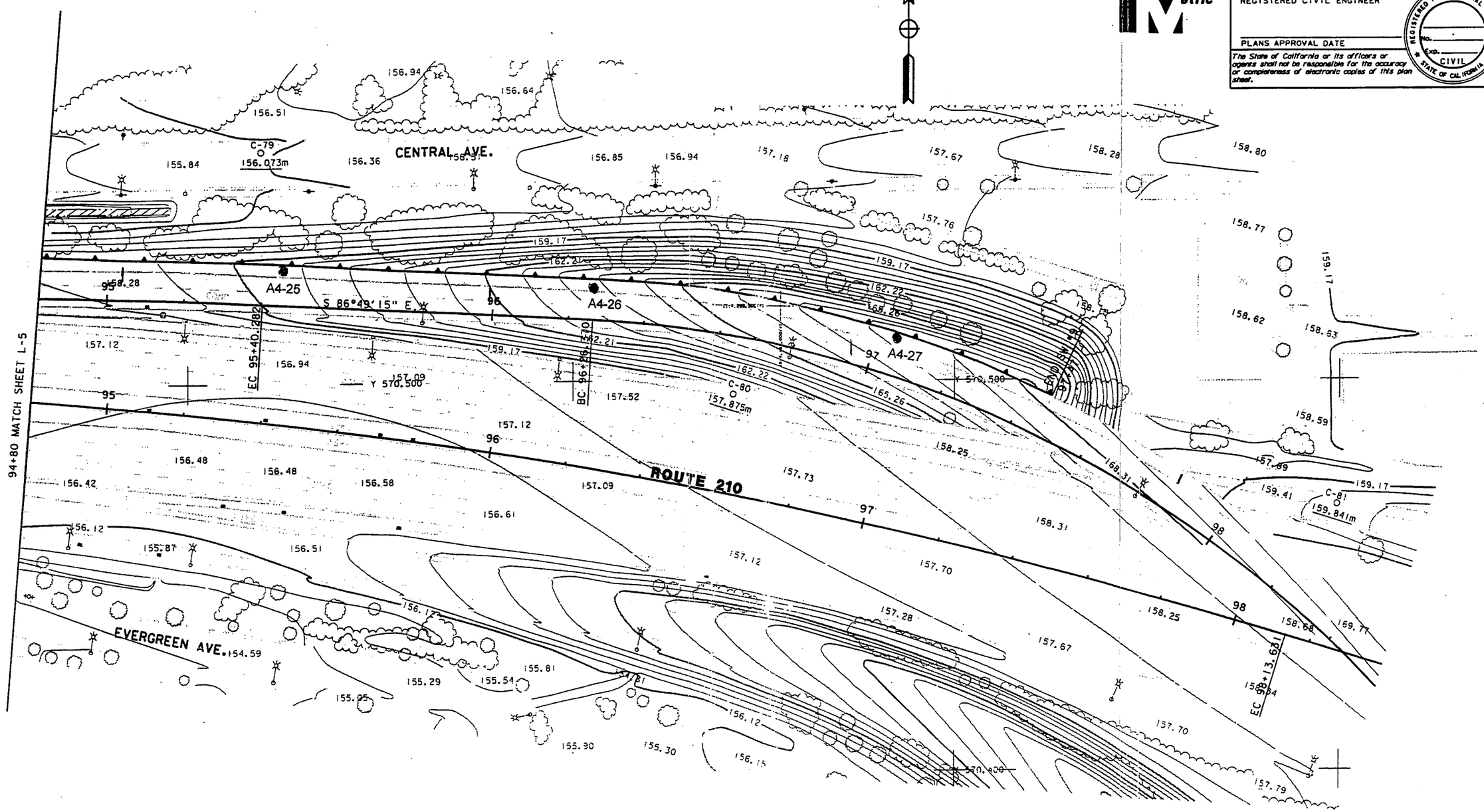
REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER NO. EXP. CIVIL STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

Caltrans Metric



PROJECT NAME:
Sound Wall Project
Los Angeles County, California

Caltrans-District 7
TASK ORDER NO.: 07-053391-3V
PSI PROJECT NO.: 559-1G011

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN SCALE: 1:500

FIGURE 8
LAYOUT
L-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN DIVISION
PROJECT ENGINEER DALLIA BAHBAH
CALCULATED/DESIGNED BY
CHECKED BY
DATE REVISED BY
DATE REVISED

LAST REVISION 08-28-00 DATE PLOTTED => \$DATE

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => \$USER
DGN FILE => \$REQUEST

CU 06227 EA 053394

TABLES

PSI Project No. 559-1G011
Task Order No. 07-053391-3V

TABLE 1
SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS
SOIL SAMPLES

Sample ID	Depth (feet)	Total Lead (mg/kg)	Soluble Lead (mg/l)	Soluble Lead by DI (mg/l)	pH
A1-1	surface	390	22	<0.5	7.1
	1	86	8.2	<0.5	NA
	2	210	13	<0.5	NA
A1-2	surface	140	12	<0.5	NA
	1	23	NA	NA	NA
A1-3	surface	35	<2	NA	NA
	1	150	<2	NA	NA
A1-4	surface	470	25	<0.5	NA
	1	40	NA	NA	NA
	1.5	83	12	<0.5	NA
A1-5	surface	290	18	<0.5	NA
	1	20	NA	NA	8.3
A2-6	surface	310	16	<0.5	NA
	1	9.3	NA	NA	NA
	2	9.2	NA	NA	NA
	3	14	NA	NA	8.6
A2-7	surface	1100	79	<0.5	NA
	1	7.8	NA	NA	NA
	2	28	NA	NA	NA
A2-8	surface	250	20	<0.5	NA
	1	89	3.1	NA	NA
A2-9	surface	12	<2	NA	NA
	1	8.3	NA	NA	NA
	1.5	31	NA	NA	7.9
A2-10	surface	1200	91	<0.5	NA
	1	100	8	<0.5	NA
	2	190	11	<0.5	NA
A3-11	surface	99	11	<0.5	NA
	1	3.5	NA	NA	NA
	2	4.7	NA	NA	NA
A3-12	surface	950	57	<0.5	NA
	1	3.2	NA	NA	NA
	2	13	NA	NA	NA
A3-13	surface	16	6.2	<0.5	8.5
	1	520	39	<0.5	NA
	2	230	29	<0.5	NA
A3-14	surface	260	26	<0.5	NA
	1	11	NA	NA	NA
	1.5	4.4	NA	NA	NA

TABLE 1
SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS
SOIL SAMPLES

Sample ID	Depth (feet)	Total Lead (mg/kg)	Soluble Lead (mg/l)	Soluble Lead by DI (mg/l)	pH
A3-15	surface	300	25	<0.5	NA
	1	11	NA	NA	NA
	2	11	NA	NA	NA
	3.5	28	NA	NA	8.2
A3-16	surface	130	18	<0.5	NA
	1	27	NA	NA	NA
	1.5	97	8.8	<0.5	NA
A3-17	surface	750	65	<0.5	NA
	1	120	9.6	<0.5	NA
A3-18	surface	200	12	<0.5	NA
	1	25	NA	NA	NA
	1.5	21	NA	NA	NA
A3-19	surface	580	42	<0.5	NA
	1	5.6	NA	NA	NA
	1.5	3.3	NA	NA	NA
A3-20	surface	370	18	<0.5	NA
	1	4.9	NA	NA	NA
A4-21	surface	480	35	<0.5	8
	1	120	4.4	NA	NA
	2	78	4.9	NA	NA
A4-22	surface	410	31	<0.5	NA
	1	23	NA	NA	NA
	2	4.7	NA	NA	NA
A4-23	surface	140	9.1	<0.5	NA
	1	18	NA	NA	NA
A4-24	surface	340	26	<0.5	NA
	1	14	NA	NA	NA
	2	240	16	<0.5	NA
A4-25	surface	190	28	<0.5	NA
	1	26	NA	NA	NA
	2	9.8	NA	NA	NA
A4-26	surface	580	36	<0.5	NA
	1	6.2	NA	NA	8.3
	2	7.8	NA	NA	NA
A4-27	surface	79	6.1	<0.5	NA
	1	59	4.1	NA	NA

Notes:

mg/kg = milligram per kilogram

mg/l = milligram per liter

NA = not analyzed

< = not reported above laboratory detection limit

PSI Project No. 559-1G011
Task Order No. 07-053391-3V

TABLE 2
SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS
SURFACE SOIL SAMPLES

Sample ID	Depth (feet)	Total Lead (mg/kg)
A1-1	surface	390
A1-2	surface	140
A1-3	surface	35
A1-4	surface	470
A1-5	surface	290
A2-6	surface	310
A2-7	surface	1100
A2-8	surface	250
A2-9	surface	12
A2-10	surface	1200
A3-11	surface	99
A3-12	surface	950
A3-13	surface	16
A3-14	surface	260
A3-15	surface	300
A3-16	surface	130
A3-17	surface	750
A3-18	surface	200
A3-19	surface	580
A3-20	surface	370
A4-21	surface	480
A4-22	surface	410
A4-23	surface	140
A4-24	surface	340
A4-25	surface	190
A4-26	surface	580
A4-27	surface	79

Notes:

mg/kg = milligram per kilogram

mg/l = milligram per liter

NA = not analyzed

< = not reported above laboratory detection limit

PSI Project No. 559-1G011
Task Order No. 07-053391-3V

TABLE 3
SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS
1-FOOT SOIL SAMPLES

Sample ID	Depth (feet)	Total Lead (mg/kg)
A1-1	1	86
A1-2	1	23
A1-3	1	150
A1-4	1	40
A1-5	1	20
A2-6	1	9.3
A2-7	1	7.8
A2-8	1	89
A2-9	1	8.3
A2-10	1	100
A3-11	1	3.5
A3-12	1	3.2
A3-13	1	520
A3-14	1	11
A3-15	1	11
A3-16	1	27
A3-17	1	120
A3-18	1	25
A3-19	1	5.6
A3-20	1	4.9
A4-21	1	120
A4-22	1	23
A4-23	1	18
A4-24	1	14
A4-25	1	26
A4-26	1	6.2
A4-27	1	59

Notes:

mg/kg = milligram per kilogram

mg/l = milligram per liter

NA = not analyzed

< = not reported above laboratory detection limit

PSI Project No. 559-1G011
Task Order No. 07-053391-3V

TABLE 4
SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS
1.5-FOOT SOIL SAMPLES

Sample ID	Depth (feet)	Total Lead (mg/kg)
A1-4	1.5	83
A2-9	1.5	31
A3-14	1.5	4.4
A3-16	1.5	97
A3-18	1.5	21
A3-19	1.5	3.3

Notes:

mg/kg = milligram per kilogram

mg/l = milligram per liter

NA = not analyzed

< = not reported above laboratory detection limit

PSI Project No. 559-1G011
Task Order No. 07-053391-3V

TABLE 5
SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS
2-FOOT SOIL SAMPLES

Sample ID	Depth (feet)	Total Lead (mg/kg)
A1-1	2	210
A2-6	2	9.2
A2-7	2	28
A2-10	2	190
A3-11	2	4.7
A3-12	2	13
A3-13	2	230
A3-15	2	11
A4-21	2	78
A4-22	2	4.7
A4-24	2	240
A4-25	2	9.8
A4-26	2	7.8

Notes:

mg/kg = milligram per kilogram

mg/l = milligram per liter

NA = not analyzed

< = not reported above laboratory detection limit

PSI Project No. 559-1G011
Task Order No. 07-053391-3V

TABLE 6
SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS
SOIL SAMPLES DISTRIBUTED BY AREA

AREA 1

Sample ID	Depth (feet)	Total Lead (mg/kg)
A1-1	surface	390
	1	86
	2	210
A1-2	surface	140
	1	23
A1-3	surface	35
	1	150
A1-4	surface	470
	1	40
	1.5	83
A1-5	surface	290
	1	20

AREA 2

Sample ID	Depth (feet)	Total Lead (mg/kg)
A2-6	surface	310
	1	9.3
	2	9.2
	3	14
A2-7	surface	1100
	1	7.8
	2	28
A2-8	surface	250
	1	89
A2-9	surface	12
	1	8.3
	1.5	31
A2-10	surface	1200
	1	100
	2	190

AREA 3

Sample ID	Depth (feet)	Total Lead (mg/kg)
A3-11	surface	99
	1	3.5
	2	4.7
A3-12	surface	950
	1	3.2
	2	13
A3-13	surface	16
	1	520
	2	230
A3-14	surface	260
	1	11
	1.5	4.4
A3-15	surface	300
	1	11
	2	11
	3.5	28
A3-16	surface	130
	1	27
	1.5	97
A3-17	surface	750
	1	120
A3-18	surface	200
	1	25
	1.5	21
A3-19	surface	580
	1	5.6
	1.5	3.3
A3-20	surface	370
	1	4.9

AREA 4

Sample ID	Depth (feet)	Total Lead (mg/kg)
A4-21	surface	480
	1	120
	2	78
A4-22	surface	410
	1	23
	2	4.7
A4-23	surface	140
	1	18
A4-24	surface	340
	1	14
	2	240
A4-25	surface	190
	1	26
	2	9.8
A4-26	surface	580
	1	6.2
	2	7.8
A4-27	surface	79
	1	59

Notes:
mg/kg = milligram per kilogram
mg/l = milligram per liter
NA = not analyzed
< = not reported above laboratory detection limit
***Per SW-846 guildlines, no transform is necessary

APPENDIX A
SUMMARY OF PSI FIELD PROCEDURES

PSI PROCEDURES FOR SOIL SAMPLING BY HAND (GRAB SAMPLES)

The following paragraphs describe PSI procedures for soil sampling by hand.

1. Soil is excavated to a specified depth by hand-auger, backhoe, or other excavating tool. A soil sample is collected from soil excavated at the specified depth.

2. The soil is packed into precleaned, 250-ml Quorpak jars without headspace. The jar is then tightly capped with a Teflon-lined lid.

3. Each collected soil sample is labeled, recorded on a chain-of-custody form, and placed on ice while awaiting transport to a certified hazardous waste laboratory.

APPENDIX B
LABORATORY REPORTS AND CHAIN-OF-CUSTODY FORMS

Centrum Analytical Laboratories, Inc.
CERTIFIED HAZARDOUS WASTE TESTING MOBILE & IN HOUSE LABORATORIES

Client:	PSI 3960 Gilman Street Long Beach, CA 90815	Date Sampled: Date Received: Job Number:	03/01/01 03/01/01 18041

Project: Caltrans 605/210

CASE NARRATIVE

The following information applies to samples which were received on 03/01/01 :

The samples were received at the laboratory at ambient temperature. All sample containers were intact.

Unless otherwise noted below, the Quality Control acceptance criteria were met for all samples for every analysis requested.

Report approved by:

Robert R. Clark, Ph.D.
Laboratory Director

ELAP # 2419

DL : Detection Limit -- The lowest level at which the compound can reliably be detected under normal laboratory conditions.
ND : Not Detected -- The compound was analyzed for but was not found to be present at or above the detection limit.
NA : Not Analyzed -- Per client request, this analyte was not on the list of compounds to be analyzed for.

909•779•0310 OR 800•798•9336 fax 909•779•0344
www.centrum-labs.com 1401 Research Park Drive, Suite 100, Riverside, CA 92507

Centrum Analytical Laboratories, Inc.

General Chemistry

Client:	PSI	Date Sampled:	03/01/01
Project:	Caltrans 605/210	Date Received:	03/01/01
Job No.:	18041		
Matrix:	Soil		
Analyst:	TLR		

Analysis:	pH
Method Number:	9045
Sample ID	pH Units
A1-1 SURFACE	**7.1**
A1-5-1'	**8.3**
A2-6-3'	**8.6**
A2-9-1.5'	**7.9**
A3-13-SURFACE	**8.5**
A3-15-3.5'	**8.2**
Detection Limit:	4.0-12.5
Date Analyzed:	03/07/01
QC Batch # :	9045S0358

Centrum Analytical Laboratories, Inc.

QC Sample Report - General Chemistry

Matrix: Soil
Batch #: 9045S0358
Sample ID: A3-15-3.5'

Duplicates:

Analysis	Sample Results	Sample Duplicate Results	Relative % Difference	Upper Control Limit RPD	Pass / Fail
pH	8.154	8.042	**1%**	20%	**Pass**

Analytical Notes:

Centrum Analytical Laboratories, Inc.

Lead by ICP

Client:	PSI	Date Sampled:	03/01/01
Project:	Caltrans 605/210	Date Received:	03/01/01
Job No.:	18041	Date Digested:	03/06/01
Matrix:	Soil	Date Analyzed:	03/12/01
Analyst:	RVJ	Batch Number:	6010S1901
		Method Number:	6010B

	Reporting Limit	Lead
Sample ID	mg/kg	mg/kg
Method Blank	1.0	ND
A1-1-SURFACE	1.0	390
A1-1-1'	1.0	86
A1-1-2'	1.0	210
A1-2-SURFACE	1.0	140
A1-2-1'	1.0	23
A1-3-SURFACE	1.0	35
A1-3-1'	1.0	150
A1-4-SURFACE	1.0	470
A1-4-1'	1.0	40
A1-4-1.5'	1.0	83
A1-5-SURFACE	1.0	290
A1-5-1'	1.0	20
A2-6-SURFACE	1.0	310
A2-6-1'	1.0	9.3
A2-6-2'	1.0	9.2
A2-6-3'	1.0	14
A2-7-SURFACE	1.0	1,100
A2-7-1'	1.0	7.8
A2-7-2'	1.0	28
A2-8-SURFACE	1.0	250

Centrum Analytical Laboratories, Inc.

Lead by ICP

Client:	PSI	Date Sampled:	03/01/01
Project:	Caltrans 605/210	Date Received:	03/01/01
Job No.:	18041	Date Digested:	03/06/01
Matrix:	Soil	Date Analyzed:	03/12/01
Analyst:	RVJ	Batch Number:	6010S1902
		Method Number:	6010B

	Reporting Limit	Lead
Sample ID	mg/kg	mg/kg
Method Blank	1.0	ND
A2-8-1'	1.0	89
A2-9-SURFACE	1.0	12
A2-9-1'	1.0	8.3
A2-9-1.5'	1.0	31
A2-10-SURFACE	1.0	1,200
A2-10-1'	1.0	100
A2-10-2'	1.0	190
A3-11-SURFACE	1.0	99
A3-11-1'	1.0	3.5
A3-11-2'	1.0	4.7
A3-12-SURFACE	1.0	950
A3-12-1'	1.0	3.2
A3-12-2'	1.0	13
A3-13-SURFACE	1.0	16
A3-13-1'	1.0	520
A3-13-2'	1.0	230
A3-14-SURFACE	1.0	260
A3-14-1'	1.0	11
A3-14-1.5'	1.0	4.4
A3-15-SURFACE	1.0	300

Centrum Analytical Laboratories, Inc.

Lead by ICP

Client:	PSI	Date Sampled:	03/01/01
Project:	Caltrans 605/210	Date Received:	03/01/01
Job No.:	18041	Date Digested:	03/07/01
Matrix:	Soil	Date Analyzed:	03/12/01
Analyst:	RVJ	Batch Number:	6010S1903
		Method Number:	6010B

	Reporting Limit	Lead
Sample ID	mg/kg	mg/kg
Method Blank	1.0	ND
A3-15-1'	1.0	11
A3-15-2'	1.0	11
A3-15-3.5'	1.0	28
A3-16-SURFACE	1.0	130
A3-16-1'	1.0	27
A3-16-1.5'	1.0	97
A3-17-SURFACE	1.0	750
A3-17-1'	1.0	120
A3-18-SURFACE	1.0	200
A3-18-1'	1.0	25
A3-18-1.5'	1.0	21
A3-19-SURFACE	1.0	580
A3-19-1'	1.0	5.6
A3-19-1.5'	1.0	3.3
A3-20-SURFACE	1.0	370
A3-20-1'	1.0	4.9
BLIND Dup 1	1.0	8.8
BLIND Dup 2	1.0	360
BLIND Dup 3	1.0	500

Centrum Analytical Laboratories, Inc.

QC Sample Report - Metals

Matrix: Soil
Batch #: 6010S1901

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Compound	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	50	102.5	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: A2-8-SURFACE

Compound	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	332.6	280.6	17%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum Analytical Laboratories, Inc.

QC Sample Report - Metals

Matrix: Soil
Batch #: 6010S1902

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Compound	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	50	102.7	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: Laboratory Control Sample

Compound	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	51.33	51.13	0%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum Analytical Laboratories, Inc.

QC Sample Report - Metals

Matrix: Soil
Batch #: 6010S1903

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Compound	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	50	103.1	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: BLIND Dup 3

Compound	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	575.2	494.1	15%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum Analytical Laboratories, Inc.

STLC Lead by ICP

Client:	PSI	Date Sampled:	03/01/01
Project:	Caltrans 605/210	Date Received:	03/01/01
Job No.:	18041	Date Extracted:	03/05/01
Matrix:	STLC Leachate*	Date Analyzed:	03/14/01
Analyst:	RVJ	Batch Number:	6010W1906
		Method Number:	6010B

	Reporting Limit	Lead
Sample ID	mg/L	mg/L
Method Blank	2.0	ND
A1-1-SURFACE	2.0	**22**
A1-2-SURFACE	2.0	**12**
A1-3-SURFACE	2.0	ND
A1-4-SURFACE	2.0	**25**
A1-5-SURFACE	2.0	**18**
A2-6-SURFACE	2.0	**16**
A2-7-SURFACE	2.0	**79**
A2-8-SURFACE	2.0	**20**
A2-9-SURFACE	2.0	ND
A2-10-SURFACE	2.0	**91**
A3-11-SURFACE	2.0	**11**
A3-12-SURFACE	2.0	**57**
A3-13-SURFACE	2.0	**6.2**
A3-14-SURFACE	2.0	**26**
A3-15-SURFACE	2.0	**25**
A3-16-SURFACE	2.0	**18**
A3-17-SURFACE	2.0	**65**
A3-18-SURFACE	2.0	**12**
A3-19-SURFACE	2.0	**42**
A3-20-SURFACE	2.0	**18**

* Sample was prepared by CAC Title 22 Method 66700 (STLC).

Centrum Analytical Laboratories, Inc.

STLC Lead by ICP

Client:	PSI	Date Sampled:	03/01/01
Project:	Caltrans 605/210	Date Received:	03/01/01
Job No.:	18041	Date Extracted:	03/05/01
Matrix:	STLC Leachate*	Date Analyzed:	03/14/01
Analyst:	RVJ	Batch Number:	6010W1910
		Method Number:	6010B

	Reporting Limit	**Lead**
Sample ID	mg/L	mg/L
Method Blank	2.0	ND
BLIND DUP 3	2.0	**37**

* Sample was prepared by CAC Title 22 Method 66700 (STLC).

Centrum Analytical Laboratories, Inc.

STLC Lead by ICP

Client:	PSI	Date Sampled:	03/01/01
Project:	Caltrans 605/210	Date Received:	03/01/01
Job No.:	18041	Date Extracted:	03/16/01
Matrix:	STLC Leachate*	Date Analyzed:	03/22/01
Analyst:	RVJ	Batch Number:	6010W1938
		Method Number:	6010B

	Reporting Limit	Lead
Sample ID	mg/L	mg/L
Method Blank	2.0	ND
A1-1-1'	2.0	**8.2**
A1-1-2'	2.0	**13**
A1-3-1'	2.0	ND
A1-4-1.5'	2.0	**12**
A2-8-1'	2.0	**3.1**
A2-10-1'	2.0	**8.0**
A2-10-2'	2.0	**11**
A3-13-1'	2.0	**39**
A3-13-2'	2.0	**29**
A3-16-1.5'	2.0	**8.8**
A3-17-1'	2.0	**9.6**

* Sample was prepared by CAC Title 22 Method 66700 (STLC).

Centrum Analytical Laboratories, Inc.

QC Sample Report - Metals

Matrix: Water
Batch #: 6010W1906

Batch Accuracy Results

Sample ID: Initial Calibration Verification Standard

Compound	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	1.0	102.2	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: Initial Calibration Verification Standard

Compound	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	1.022	1.013	1%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum Analytical Laboratories, Inc.

QC Sample Report - Metals

Matrix: Water
Batch #: 6010W1910

Batch Accuracy Results

Sample ID: Initial Calibration Verification Standard

Compound	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	1.0	105.1	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: Initial Calibration Verification Standard

Compound	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	1.051	1.033	2%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum Analytical Laboratories, Inc.

QC Sample Report - Metals

Matrix: Water
Batch #: 6010W1938

Batch Accuracy Results

Sample ID: Initial Calibration Verification Standard

Compound	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	1.0	106.2	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: Initial Calibration Verification Standard

Compound	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	1.062	1.098	3%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum Analytical Laboratories, Inc.

DI Water STLC Lead by ICP

Client:	PSI	Date Sampled:	03/01/01
Project:	Caltrans 605/210	Date Received:	03/01/01
Job No.:	18041	Date Extracted:	03/19/01
Matrix:	DI Water STLC Leachate*	Date Analyzed:	03/22/01
Analyst:	RVJ	Batch Number:	6010W1937
		Method Number:	6010B

	Reporting Limit	Lead
Sample ID	mg/L	mg/L
Method Blank	2.0	ND
A1-1-SURFACE	2.0	ND
A1-2-SURFACE	2.0	ND
A1-4-SURFACE	2.0	ND
A1-5-SURFACE	2.0	ND
A2-6-SURFACE	2.0	ND
A2-7-SURFACE	2.0	ND
A2-8-SURFACE	2.0	ND
A2-10-SURFACE	2.0	ND
A3-11-SURFACE	2.0	ND
A3-12-SURFACE	2.0	ND
A3-13-SURFACE	2.0	ND
A3-14-SURFACE	2.0	ND
A3-15-SURFACE	2.0	ND
A3-16-SURFACE	2.0	ND
A3-17-SURFACE	2.0	ND
A3-18-SURFACE	2.0	ND
A3-19-SURFACE	2.0	ND
A3-20-SURFACE	2.0	ND

* Sample was prepared by Modified CAC Title 22 Method 66700 (DI Water STLC).

Centrum Analytical Laboratories, Inc.

QC Sample Report - Metals

Matrix: Water
Batch #: 6010W1937

Batch Accuracy Results

Sample ID: Initial Calibration Verification Standard

Compound	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	1.0	100.1	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: Initial Calibration Verification Standard

Compound	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	1.001	1.084	8%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

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Chain of Custody Record

Centrum Job # 18041

Project No: 559-16011

Project Name: CALTRANS 605/210

Project Manager: MYLENE TORRES

Phone: 562-597-3977

Fax: 562-597-8459

Client Name: (Report and Billing) PSI

Address: (Report and Billing) 3960 GILMAN ST. LONG BEACH, CA 90815

Please Circle Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	8015M: Diesel, Fuel Screen, Carbon Chain	~~8015M: Gas only~~	~~8021B: BTEX/MTBE Only~~	~~418.1 (TRPH), 413.2, 1664~~	1311 TCLP EXTRACT	1311 TCLP TEST	6010, SINGLE ELEMENT (1)	GC or GCMS Volatiles by 5035*	GCMS: 8260B, 8021B, 624, 524.2	GCMS: MtBE Conf. Only, BTEX/Oxygenates Only	GCMS: 8270C, 625	8080: Pesticides, PCBs, Pest/PCB	~~8080~~ SOLUBLE LEAD BY WET	Metals: Title 22 (CAM), RCRA, PP	pH, TDS, TSS, Conductivity	Flashpoint, Hex Cr	~~8080~~ EXTRACTION BY DI	Remarks/Special Instructions
1	A1-1-SURFACE	3/1/01	815	SL		4oz JAR		X					X						X				X	Need
2	A1-1-1'		817										X						X					results
3	A1-1-2'		827										X						X					3/5/01 pm
4	A1-2-SURFACE		840										X						X				X	
5	A1-2-1'		842										X											
6	A1-3-SURFACE		900										X						X					
7	A1-3-1'		907										X						X					
8	A1-4-SURFACE		920										X						X				X	
9	A1-4-1'		922										X											
10	A1-4-1.5'		925										X						X					

Turn-Around Time
☐ 24 Hr. RUSH*
~~☒ 48 Hr. RUSH*~~
☒ Normal TAT
*Requires PRIOR approval, additional charges apply
Requested due date: _____

	Date:	Time:
1) Relinquished by: (Sampler's Signature) Mylene Torres	3/1/01	1640
2) Received by: [signature]	3/1/01	1640
3) Relinquished by: [signature]	3/2/01	1115
4) Received by: [signature]	3/2/01	1115
5) Relinquished by: [signature]	3/2/01	1250
6) Received for Laboratory by: [signature]	3/2	1250

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

To be completed by Laboratory personnel:
Samples chilled? ☐ Yes ☐ No ☒ From Field
Custody seals? ☐ Yes ☒ No
All sample containers intact? ☒ Yes ☐ No
☐ Courier ☐ UPS/Fed Ex ☒ Hand carried

Sample Disposal
☐ Client will pick up
☐ Return to client
☒ Lab disposal

Sample Locator No. (A)

Laboratory Notes:
(1) CALTRANS TASK ITEM 115 - ALL SAMPLES RUN BY EPA METHOD 6010 SINGLE ELEMENT
PLEASE FAX PRELIMINARY RESULTS SO WE CAN CHOOSE ADDITIONAL ANALYSES.

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Signal Hill, CA 90806
Voice: 562.498.7005
Fax: 562.498.8617

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Chain of Custody Record

Centrum Job # 18047

Project No: 559-16011

Project Name: CALTRANS 605/210

Project Manager: MYLENE TORRES

Phone: 562-597-3977

Fax: 562-597-8459

Client Name: (Report and Billing) PSI

Address: (Report and Billing) 3960 GILMAN ST. LONG BEACH, CA 90815

Please Circle Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	8015M: Diesel, Fuel Screen, Carbon Chain	~~8015M: Gas only~~	~~8021B: BTEX/MTBE only~~	~~448.1 (TRPH), 413.2, 4664~~	1311 TCLP EXTRACT	6010, SINGLE ELEMENT ①	GC or GCMS Volatiles by 5035*	GCMS: 8260B, 8021B, 624, 524.2	GCMS: MtBE Conf. Only, BTEX/Oxygenates Only	GCMS: 8270C, 625	8080: Pesticides, PCBs, Pest/PCB	SOLUBLE LEAD BY WET	Metals: Title 22 (CAM), RCRA, PP	pH, TDS, TSS, Conductivity	Flashpoint, Hex Cr	EXTRACTION BY DI *[illegible]	Remarks/Special Instructions
11	A1-5-SURFACE	3/1/01	930	SL		4 oz JAR						X						X				X	need
12	A1-5-1'		935					X				X											results
13	A2-6-SURFACE		940									X						X				X	3/5/01 pm
14	A2-6-1'		942									X											
15	A2-6-2'		945									X											
16	A2-6-3'		948					X				X											
17	A2-7-SURFACE		1010									X						X				X	
18	A2-7-1'		1012									X											
19	A2-7-2'		1015									X											
20	A2-8-SURFACE		1025									X						X				X	

1) Relinquished by: (Sampler's Signature) Mylene Torres — Date: 3/1/01 Time: 1640

2) Received by: [signature] — Date: 3/1/01 Time: 1640

3) Relinquished by: [signature] — Date: 3/2/01 Time: 1115

4) Received by: [signature] — Date: 3/2/01 Time: 1115

5) Relinquished by: [signature] — Date: 3/2/01 Time: 1250

6) Received for Laboratory by: [signature] — Date: 3/2 Time: 1250

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

To be completed by Laboratory personnel:
Samples chilled? ☐ Yes ☐ No ☒ From Field
Custody seals? ☐ Yes ☒ No
All sample containers intact? ☒ Yes ☐ No
☐ Courier ☐ UPS/Fed Ex ☒ Hand carried

Turn-Around Time
☐ 24 Hr. RUSH*
☒ 48 Hr. RUSH*
☐ Normal TAT
*Requires PRIOR approval, additional charges apply
Requested due date: _____

Sample Disposal
☐ Client will pick up
☐ Return to client
☒ Lab disposal

Sample Locator No. (A)

Laboratory Notes:
① CALTRANS TASK ITEM 115 - ALL SAMPLES RUN BY EPA METHOD 6010 SINGLE ELEMENT

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Voice: 562.498.7005
Fax: 562.498.8617

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Chain of Custody Record

Centrum Job # 18041

Project No: 559-16011

Project Name: CALTRANS 605/210

Project Manager: MYLENE TORRES

Phone: 562-597-3977

Fax: 562-597-8459

Client Name: (Report and Billing) PSI

Address: (Report and Billing) 3960 GILMAN ST, LONG BEACH, CA 90815

Please Circle Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	8015M: Diesel, Fuel Screen, Carbon Chain	~~8015M: Gas only~~	8021B: BTEX/MBE Only	418.1 (TRPH), 413.2, 1664	1311 TCLP Extract	1311 TCLP Test	6010, SINGLE ELEMENT (1)	GC or GCMS Volatiles by 5035*	GCMS: 8260B, 8021B, 624, 524.2	GCMS: MtBE Conf. Only, BTEX/Oxygenates Only	GCMS: 8270C, 625	8080: Pesticides, PCBs, Pest/PCB	SOLUBLE LEAD BY WET Kaolal 3/16	Metals: Title 22 (CAM), RCRA, PP	pH, TDS, TSS, Conductivity	Flashpoint, Hex Cr	EXTRACTION BY DI Kaolal 3/16	Remarks/Special Instructions
21	A2-8-1'	3/1/01	1027	SL		4oz JAR							X						X					
22	A2-9-SURFACE		1030										X						X					
23	A2-9-1'		1032										X											
24	A2-9-1.5'		1040					X					X											
25	A2-10-SURFACE		1050										X						X				X	
26	A2-10-1'		1055										X						X					
27	A2-10-2'		1100										X						X					
28	A3-11-SURFACE		1105										X						X				X	
29	A3-11-1'		1107										X											
30	A3-11-2'		1110										X											

	Date:	Time:
1) Relinquished by: (Sampler's Signature) Mylene Torres	3/1/01	1640
2) Received by: [signature]	3/1/01	1640
3) Relinquished by: [signature]	3/2/01	1115
4) Received by: [signature]	3/2/01	1115
5) Relinquished by: [signature]	3/2/01	1250
6) Received for Laboratory by: [signature]	3/2	1250

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

To be completed by Laboratory personnel:
Samples chilled? ☐ Yes ☐ No ☒ From Field
Custody seals? ☐ Yes ☒ No
All sample containers intact? ☒ Yes ☐ No
☐ Courier ☐ UPS/Fed Ex ☒ Hand carried

Turn-Around Time
☐ 24 Hr. RUSH*
☒ 48 Hr. RUSH*
☐ Normal TAT
*Requires PRIOR approval, additional charges apply
Requested due date: _____

Sample Disposal
☐ Client will pick up
☐ Return to client
☒ Lab disposal

Laboratory Notes:
(1) CALTRANS TASK ITEM 115 - ALL SAMPLES RUN BY EPA METHOD 6010 SINGLE ELEMENT

Sample Locator No. (A)

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Fax: 562.498.8617

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Chain of Custody Record

Centrum Job # 18141

Project No: 559-16011

Project Name: CALTRANS 605/210

Project Manager: MYLENE TORRES

Phone: 562-597-3977

Fax: 562-597-8459

Client Name: (Report and Billing) PSI

Address: (Report and Billing) 3960 GILMAN ST, LONG BEACH, CA 90815

Please Circle Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	8015M: Diesel, Fuel Screen, Carbon Chain	~~8015M: Gas only~~ 9045 pH	~~8021B: BTEX/MtBE Only~~ 1311 TCLP Extract	~~418.1 (TRPH), 413.2, 1664~~ 1311 TCLP Test	6010, SINGLE ELEMENT ①	GC or GCMS Volatiles by 5035*	GCMS: 8260B, 8021B, 624, 524.2	GCMS: MtBE Conf. Only, BTEX/Oxygenates Only	GCMS: 8270C, 625	8080: Pesticides, PCBs, Pest/PCB	Source lead by WET # added per Mylene 3/16 date	Metals: Title 22 (CAM), RCRA, PP	pH, TDS, TSS, Conductivity	Flashpoint, Hex Cr	Extracting on DI # added per Mylene 3/16 date	Remarks/Special Instructions
31	A3-12-SURFACE	3/1/01	1115	SL		4 WEJAR					X						X				X	
32	A3-12-1'		1120								X											
33	A3-12-2'		1125								X											
34	A3-13-SURFACE		1330					X			X						X				X	
35	A3-13-1'		1332								X						X					
36	A3-13-2'		1335								X						X					
37	A3-14-SURFACE		1355								X						X				X	
38	A3-14-1'		1357								X											
39	A3-14-1.5'		1400								X											
40	A3-15-SURFACE		1405								X						X				X	

Turn-Around Time
- ☐ 24 Hr. RUSH*
- ☒ 48 Hr. RUSH*
- ☐ Normal TAT

*Requires PRIOR approval, additional charges apply

Requested due date: _____

	Date:	Time:
1) Relinquished by: (Sampler's Signature) Mylene Torres	3/1/01	1640
2) Received by: [signature]	3/1/01	1640
3) Relinquished by: [signature]	3/2/01	1115
4) Received by: [signature]	3/2/01	1115
5) Relinquished by: [signature]	3/2/01	1250
6) Received for Laboratory by: [signature]	3/2	1250

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

To be completed by Laboratory personnel:
- Samples chilled? ☐ Yes ☐ No ☒ From Field
- Custody seals? ☐ Yes ☒ No
- All sample containers intact? ☒ Yes ☐ No
- ☐ Courier ☐ UPS/Fed Ex ☒ Hand carried

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☒ Lab disposal

Laboratory Notes:
① CALTRANS TASK ITEM 115 - ALL SAMPLES RUN BY EPA METHOD 6010 SINGLE ELEMENT

Sample Locator No. ④

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Chain of Custody Record

Centrum Job # 18041

Project No: 559-16011

Project Name: CALTRANS 605/210

Project Manager: MYLENE TORRES

Phone: 562-597-3977

Fax: 562-597-8459

Client Name: (Report and Billing) PSI

Address: (Report and Billing) 3960 GILMAN ST. LONG BEACH, CA 90815

Please Circle Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	8015M: Diesel, Fuel Screen, Carbon Chain	~~8015M: Gas only~~ pH	8021B: BTEX/MtBE ~~Only~~ 1311 TCLP Extract	~~410.1 (TRPH), 413.2, 1664~~ 1311 TCLP Test	6010, SINGLE ELEMENT	GC or GCMS Volatiles by 5035*	GCMS: 8260B, 8021B, 624, 524.2	GCMS: MtBE Conf. Only, BTEX/Oxygenates Only	GCMS: 8270C, 625	8080: Pesticides, PCBs, Pest/PCB	SOLUBLE LEAD BY WET *~~[illegible]~~ Mylene 3/16 fax	Metals: Title 22 (CAM), RCRA, PP	pH, TDS, TSS, Conductivity	Flashpoint, Hex Cr	EXTRACTION BY DI *~~[illegible]~~ Mylene 3/16 fax	Remarks/Special Instructions
41	A3-15-1'	3/1/01	1407	SL		4oz JAR					X											
42	A3-15-2'		1409								X											
43	A3-15-3.5'		1411					X			X											
44	A3-16-SURFACE		1415								X						X				⊗	
45	A3-16-1'		1417								X											
46	A3-16-1.5'		1419								X						⊗					
47	A3-17-SURFACE		1424								X						X				⊗	
48	A3-17-1'		1426								X						⊗					
49	A3-18-SURFACE		1433								X						X				⊗	
50	A3-18-1'		1435								X											

1) Relinquished by: (Sampler's Signature) Mylene Torres — Date: 3/1/01 Time: 1640

2) Received by: [signature] — Date: 3/1/01 Time: 1640

3) Relinquished by: [signature] — Date: 3/2/01 Time: 1115

4) Received by: [signature] — Date: 3/2/01 Time: 1115

5) Relinquished by: [signature] — Date: 3/2/01 Time: 1250

6) Received for Laboratory by: [signature] — Date: 3/2 Time: 1250

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

To be completed by Laboratory personnel:
Samples chilled? ☐ Yes ☐ No ☒ From Field
Custody seals? ☐ Yes ☒ No
All sample containers intact? ☒ Yes ☐ No
☐ Courier ☐ UPS/Fed Ex ☒ Hand carried

Turn-Around Time
☐ 24 Hr. RUSH*
☒ 48 Hr. RUSH*
☐ Normal TAT
*Requires PRIOR approval, additional charges apply
Requested due date: _____

Sample Disposal
☐ Client will pick up
☐ Return to client
☒ Lab disposal

Laboratory Notes:
① CALTRANS TASK ITEM 115-ALL SAMPLES RUN BY EPA METHOD 6010 SINGLE ELEMENT

Sample Locator No. ④

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Fax: 909.779.0344

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Signal Hill, CA 90806
Voice: 562.498.7005
Fax: 562.498.8617

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Chain of Custody Record

Centrum Job # 18047

Project No: 559-16011
Project Name: CALTRANS 605/210
Project Manager: MYLENE TORRES
Phone: 562-597-3977
Fax: 562-597-8459
Client Name: (Report and Billing) PSI
Address: (Report and Billing) 3960 GILMAN ST, LONG BEACH, CA 90815

Please Circle Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	8015M: Diesel, Fuel Screen, Carbon Chain	~~8015M: Gas only~~ 9045 pH	~~8021B: BTEX/MtBE Only~~ 1311 TCLP Extract	~~418.1 (TRPH), 413.2, 1664~~ 1311 TCLP Test	6010, SINGLE ELEMENT	GC or GCMS Volatiles by 5035*	GCMS: 8260B, 8021B, 624, 524.2	GCMS: MtBE Conf. Only, BTEX/Oxygenates Only	GCMS: 8270C, 625	8080: Pesticides, PCBs, Pest/PCB	SOLUBLE LEAD BY WET	Metals: Title 22 (CAM), RCRA, PP	pH, TDS, TSS, Conductivity	Flashpoint, Hex Cr	EXTRACTIONS BY DI Mylene 3/16 fax *added only	Remarks/Special Instructions
51	A3-18-1.5'	3/1/01	1437	SL		4oz-JAR					X											
52	A3-19-SURFACE		1455								X						X				X	
53	A3-19-1'		1457								X											
54	A3-19-1.5'		1500								X											
55	A3-20-SURFACE		1503								X						X				X	
56	A3-20-1'		1505								X											
57	BLIND DUP 1		—								X											
58	BLIND DUP 2		—								X											
59	BLIND DUP 3		—								X						X					

1) Relinquished by: (Sampler's Signature) Mylene Torres — Date: 3/1/01 — Time: 1640
2) Received by: [signature] — Date: 3/1/01 — Time: 1640
3) Relinquished by: [signature] — Date: 3/2/01 — Time: 1115
4) Received by: [signature] — Date: 3/2/01 — Time: 1115
5) Relinquished by: [signature] — Date: 3/2/01 — Time: 1250
6) Received for Laboratory by: [signature] — Date: 3/2 — Time: 1250

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

To be completed by Laboratory personnel:
Samples chilled? ☐ Yes ☐ No ☒ From Field
Custody seals? ☐ Yes ☒ No
All sample containers intact? ☒ Yes ☐ No
☐ Courier ☐ UPS/Fed Ex ☒ Hand carried

Turn-Around Time
☐ 24 Hr. RUSH*
☒ 48 Hr. RUSH*
☐ Normal TAT
*Requires PRIOR approval, additional charges apply
Requested due date: _____

Sample Disposal
☐ Client will pick up
☐ Return to client
☒ Lab disposal

Sample Locator No. (A)

Laboratory Notes:
① CALTRANS TASK ITEM 115 - ALL SAMPLES RUN BY EPA METHOD 6010 SINGLE ELEMENT

Centrum Analytical Laboratories, Inc.
CERTIFIED HAZARDOUS WASTE TESTING MOBILE & IN HOUSE LABORATORIES

Client:	PSI 3960 Gilman Street Long Beach, CA 90815	Date Sampled: Date Received: Job Number:	03/02/01 03/02/01 18046

Project: Caltrans 605/210

CASE NARRATIVE

The following information applies to samples which were received on 03/02/01 :

The samples were received at the laboratory at ambient temperature. All sample containers were intact.

Unless otherwise noted below, the Quality Control acceptance criteria were met for all samples for every analysis requested.

Report approved by:

Robert R. Clark, Ph.D.
Laboratory Director

ELAP # 2419

DL : Detection Limit -- The lowest level at which the compound can reliably be detected under normal laboratory conditions.
ND : Not Detected -- The compound was analyzed for but was not found to be present at or above the detection limit.
NA : Not Analyzed -- Per client request, this analyte was not on the list of compounds to be analyzed for.

909•779•0310 OR 800•798•9336 fax 909•779•0344
www.centrum-labs.com 1401 Research Park Drive, Suite 100, Riverside, CA 92507

Centrum Analytical Laboratories, Inc.

General Chemistry

Client:	PSI	Date Sampled:	03/02/01
Project:	Caltrans 605/210	Date Received:	03/02/01
Job No.:	18046		
Matrix:	Soil		
Analyst:	TLR		

Analysis:	pH
Method Number:	9045
Sample ID	pH Units
A4-21-SURFACE	**8.0**
A4-26-1'	**8.3**
Detection Limit:	4.0-12.5
Date Analyzed:	03/07/01
QC Batch # :	9045S0358

Centrum Analytical Laboratories, Inc.

QC Sample Report - General Chemistry

Matrix: Soil
Batch #: 9045S0358
Sample ID: 18041-43

Duplicates:

Analysis	Sample Results	Sample Duplicate Results	Relative % Difference	Upper Control Limit RPD	Pass / Fail
pH	8.154	8.042	**1%**	20%	**Pass**

Analytical Notes:

Centrum Analytical Laboratories, Inc.

Lead by ICP

Client:	PSI	Date Sampled:	03/02/01
Project:	Caltrans 605/210	Date Received:	03/02/01
Job No.:	18046	Date Digested:	03/07-08/01
Matrix:	Soil	Date Analyzed:	03/13/01
Analyst:	RVJ	Batch Number:	6010S1905
			6010S1907
		Method Number:	6010B

	Reporting Limit	Lead
Sample ID	mg/kg	mg/kg
Method Blank	1.0	ND
A4-21-SURFACE	1.0	**480**
A4-21-1'	1.0	**120**
A4-21-2'	1.0	**78**
A4-22-SURFACE	1.0	**410**
A4-22-1'	1.0	**23**
A4-22-2'	1.0	**4.7**
A4-23-SURFACE	1.0	**140**
A4-23-1'	1.0	**18**
A4-24-SURFACE	1.0	**340**
A4-24-1'	1.0	**14**
A4-24-2'	1.0	**240**
A4-25-SURFACE	1.0	**190**
A4-25-1'	1.0	**26**
A4-25-2'	1.0	**9.8**
A4-26-SURFACE	1.0	**580**
A4-26-1'	1.0	**6.2**
A4-26-2'	1.0	**7.8**
A4-27-SURFACE	1.0	**79**
A4-27-1'	1.0	**59**
BLIND DUP	1.0	**160**

Centrum Analytical Laboratories, Inc.

QC Sample Report - Metals

Matrix: Soil
Batch #: 6010S1905

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Compound	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	50	99.26	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: BLIND DUP

Compound	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	185.0	155.1	18%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum Analytical Laboratories, Inc.

QC Sample Report - Metals

Matrix: Soil
Batch #: 6010S1907

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Compound	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	50	106.4	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: Laboratory Control Sample

Compound	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	53.18	53.00	0%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum Analytical Laboratories, Inc.

TCLP Lead by ICP

Client:	PSI	Date Sampled:	03/02/01
Project:	Caltrans 605/210	Date Received:	03/02/01
Job No.:	18046	Date Extracted:	03/06/01
Matrix:	TCLP Leachate*	Date Analyzed:	03/13/01
Analyst:	RVJ	Batch Number:	6010W1904
		Method Number:	6010B

	Reporting Limit	Lead
Sample ID	mg/L	mg/L
Method Blank	0.10	ND
A5-28-SURFACE	0.10	ND
A5-29-SURFACE	0.10	**5.8**
A5-30-SURFACE	0.10	**0.39**
A5-31-SURFACE	0.10	**2.4**
A5-32-SURFACE	0.10	**0.11**

* Sample was prepared by SW-846 Method 1311 (TCLP).

Centrum Analytical Laboratories, Inc.

QC Sample Report - Metals

Matrix: Water
Batch #: 6010W1904

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Compound	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	1.0	96.72	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: 18053-4

Compound	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	0.9457	0.9589	1%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum Analytical Laboratories, Inc.

STLC Lead by ICP

Client:	PSI	Date Sampled:	03/02/01
Project:	Caltrans 605/210	Date Received:	03/02/01
Job No.:	18046	Date Extracted:	03/06/01
Matrix:	STLC Leachate*	Date Analyzed:	03/14/01
Analyst:	RVJ	Batch Number:	6010W1910
		Method Number:	6010B

	Reporting Limit	Lead
Sample ID	mg/L	mg/L
Method Blank	2.0	ND
A4-21-SURFACE	2.0	**35**
A4-22-SURFACE	2.0	**31**
A4-23-SURFACE	2.0	**9.1**
A4-24-SURFACE	2.0	**26**
A4-25-SURFACE	2.0	**28**
A4-26-SURFACE	2.0	**36**
A4-27-SURFACE	2.0	**6.1**

* Sample was prepared by CAC Title 22 Method 66700 (STLC).

Centrum Analytical Laboratories, Inc.

STLC Lead by ICP

Client:	PSI	Date Sampled:	03/02/01
Project:	Caltrans 605/210	Date Received:	03/02/01
Job No.:	18046	Date Extracted:	03/20/01
Matrix:	STLC Leachate*	Date Analyzed:	03/27/01
Analyst:	RVJ/TLR	Batch Number:	6010W1942
		Method Number:	6010B

	Reporting Limit	**Lead**
Sample ID	mg/L	mg/L
Method Blank	2.0	ND
A4-21-1'	2.0	**4.4**
A4-21-2'	2.0	**4.9**
A4-24-2'	2.0	**16**
A4-27-1'	2.0	**4.1**

* Sample was prepared by CAC Title 22 Method 66700 (STLC).

Centrum Analytical Laboratories, Inc.

QC Sample Report - Metals

Matrix: Water
Batch #: 6010W1910

Batch Accuracy Results

Sample ID: Initial Calibration Verification Standard

Compound	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	1.0	105.1	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: Initial Calibration Verification Standard

Compound	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	1.051	1.033	2%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum Analytical Laboratories, Inc.

QC Sample Report - Metals

Matrix: Water
Batch #: 6010W1942

Batch Accuracy Results

Sample ID: Initial Calibration Verification Standard

Compound	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	1.0	101.7	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: Initial Calibration Verification Standard

Compound	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	1.017	1.008	1%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum Analytical Laboratories, Inc.

DI Water STLC Lead by ICP

Client:	PSI	Date Sampled:	03/02/01
Project:	Caltrans 605/210	Date Received:	03/02/01
Job No.:	18046	Date Extracted:	03/20/01
Matrix:	DI Water STLC Leachate*	Date Analyzed:	03/27/01
Analyst:	RVJ/TLR	Batch Number:	6010W1943
		Method Number:	6010B

	Reporting Limit	Lead
Sample ID	mg/L	mg/L
Method Blank	2.0	ND
A4-21-SURFACE	2.0	ND
A4-22-SURFACE	2.0	ND
A4-23-SURFACE	2.0	ND
A4-24-SURFACE	2.0	ND
A4-25-SURFACE	2.0	ND
A4-26-SURFACE	2.0	ND
A4-27-SURFACE	2.0	ND

* Sample was prepared by Modified CAC Title 22 Method 66700 (DI Water STLC).

DI Water STLC Lead by ICP

Client:	PSI	Date Sampled:	03/02/01
Project:	Caltrans 605/210	Date Received:	03/02/01
Job No.:	18046	Date Extracted:	04/04/01
Matrix:	DI Water STLC Leachate*	Date Analyzed:	04/09/01
Analyst:	RVJ/TLR	Batch Number:	6010W1986
		Method Number:	6010B

	Reporting Limit	Lead
Sample ID	mg/L	mg/L
Method Blank	0.50	ND
A4-24-2'	0.50	ND

* Sample was prepared by Modified CAC Title 22 Method 66700 (DI Water STLC).

Centrum Analytical Laboratories, Inc.

QC Sample Report - Metals

Matrix: Water
Batch #: 6010W1943

Batch Accuracy Results

Sample ID: Initial Calibration Verification Standard

Compound	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	1.0	101.7	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: Initial Calibration Verification Standard

Compound	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	1.017	1.008	1%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum Analytical Laboratories, Inc.
1401 Research Park Drive, Suite 100
Riverside, CA 92507
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Fax: 909.779.0344

3299 Hill Street, Suite 305
Signal Hill, CA 90806
Voice: 562.498.7005
Fax: 562.498.8617

www.centrum-labs.com lab@centrum-labs.com

Chain of Custody Record

Centrum Job # 18046

Project No: 559-16011

Project Name: CALTRANS 605/210

Project Manager: MYLENE TORRES

Phone: 562-597-3977

Fax: 562-597-8459

Client Name: (Report and Billing) PSI

Address: (Report and Billing) 3960 GILMAN ST, LONG BEACH, CA 90815

Please Circle Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	8015M: Diesel, Fuel Screen, Carbon Chain	~~8045M: Geo only~~ 9045 pH	8021B: BTEX/MtBE Only 1311 TCLP Extract	~~410.1 (TRPH), 413.2, 1664~~ 1311 TCLP Test	6010, SINGLE ELEMENT ①	GC or GCMS Volatiles by 5035*	GCMS: 8260B, 8021B, 624, 524.2	GCMS: MtBE Conf. Only, BTEX/Oxygenates Only	GCMS: 8270C, 625	8080: Pesticides, PCBs, Pest/PCB	SOLUBLE LEAD BY WET	Metals: Title 22 (CAM), RCRA, PP	pH, TDS, TSS, Conductivity	Flashpoint, Hex Cr	EXTRACTION BY DI
1	A4-21-SURFACE	3/2/01	940	SL		4oz JAR		X			X						X				X
2	A4-21-1'		945								X						X				
3	A4-21-2'		950								X						X				
4	A4-22-SURFACE		952								X						X				X
5	A4-22-1'		954								X										
6	A4-22-2'		956								X										
7	A4-23-SURFACE		1000								X						X				X
8	A4-23-1'		1002								X										
9	A4-24-SURFACE		1008								X						X				X
10	A4-24-1'		1010								X										

Turn-Around Time
- ☐ 24 Hr. RUSH*
- ~~☐ 48 Hr. RUSH*~~
- ☒ Normal TAT
- *Requires PRIOR approval, additional charges apply

Requested due date: _____

Remarks/Special Instructions

1) Relinquished by: (Sampler's Signature) Mylene Torres	Date: 3/2/01	Time: 1525	3) Relinquished by: Ryan Gates
2) Received by: [signature]	Date: 3/2/01	Time: 1525	4) Received by: [signature]
			5) Relinquished by: [signature]
			6) Received for Laboratory by: [signature]

Date: 3-5-01 Time: 1025
Date: 3/5/01 Time: 1025
Date: 3/5/01 Time: 1315
Date: 3/5 Time: 1315

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

To be completed by Laboratory personnel:
Samples chilled? ☐ Yes ☐ No ☒ From Field
Custody seals? ☐ Yes ☒ No
All sample containers intact? ☒ Yes ☐ No
☐ Courier ☐ UPS/Fed Ex ☒ Hand carried

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☒ Lab disposal

Laboratory Notes:
① CALTRANS TASK ITEM 115 - ALL SAMPLES RUN BY EPA METHOD 6010 SINGLE ELEMENT
PLEASE FAX PRELIMINARY RESULTS SO WE CAN CHOOSE ADDITIONAL ANALYSES

Sample Locator No. (A)

Centrum Analytical Laboratories, Inc.
1401 Research Park Drive, Suite 100
Riverside, CA 92507
Voice: 909.779.0310 ● 800.798.9336
Fax: 909.779.0344

3299 Hill Street, Suite 305
Signal Hill, CA 90806
Voice: 562.498.7005
Fax: 562.498.8617

www.centrum-labs.com lab@centrum-labs.com

Chain of Custody Record

Centrum Job # 18046

Project No: 559-16011

Project Name: CALTRANS 605/210

Project Manager: MYLENE TORRES

Phone: 562-597-3977

Fax: 562-597-8459

Client Name: (Report and Billing) PSI

Address: (Report and Billing) 3960 GILMAN ST, LONG BEACH, CA 90815

Please Circle Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	8015M: Diesel, Fuel Screen, Carbon Chain	~~8015M: Gas only~~ 9045	~~8021B: BTEX/MtBE Only~~ 1311 Extract	~~418.1 (TRPH), 413.2, 1664~~ 1311 Test	6015, SINGLE ELEMENT ①	GC or GCMS Volatiles by 5035*	GCMS: 8260B, 8021B, 624, 524.2	GCMS: MtBE Conf. Only, BTEX/Oxygenates Only	GCMS: 8270C, 625	8080: Pesticides, PCBs, Pest/PCB	SOLUBLE LEAD BY WET	Metals: Title 22 (CAM), RCRA, PP	pH, TDS, TSS, Conductivity	Flashpoint, Hex Cr	EXTRACTION BY DI	Remarks/Special Instructions
11	A4-24-2'	3/2/01	1012	SL		4 oz JAR					X						X				X	
12	A4-25-SURFACE		1016								X						X				X	
13	A4-25-1'		1018								X											
14	A4-25-2'		1021								X											
15	A4-26-SURFACE		1025								X						X				X	
16	A4-26-1'		1027					X			X											
17	A4-26-2'		1030								X											
18	A4-27-SURFACE		1035								X						X				X	
19	A4-27-1'		1038								X						X					
20	A5-28-SURFACE		1115						X	X	X											

1) Relinquished by: (Sampler's Signature) — Date: 3/2/01 Time: 1525

2) Received by: — Date: 3/2/01 Time: 1525

3) Relinquished by: — Date: 3-5-01 Time: 1025

4) Received by: — Date: 3-5-01 Time: 1025

5) Relinquished by: — Date: 3/5/01 Time: 1315

6) Received for Laboratory by: — Date: 3/5 Time: 1315

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

To be completed by Laboratory personnel:
Samples chilled? ☐ Yes ☐ No ☒ From Field
Custody seals? ☐ Yes ☒ No
All sample containers intact? ☒ Yes ☐ No
☐ Courier ☐ UPS/Fed Ex ☒ Hand carried

Turn-Around Time
☐ 24 Hr. RUSH*
~~☒ 48 Hr. RUSH*~~
☒ Normal TAT
per BOD 3/1
*Requires PRIOR approval, additional charges apply
Requested due date: _____

Sample Disposal
☐ Client will pick up
☐ Return to client
☒ Lab disposal

Laboratory Notes:
① CALTRANS TASK ITEM 115 - ALL SAMPLES RUN BY EPA METHOD 6010 SINGLE ELEMENT

Sample Locator No. ④

Centrum Analytical Laboratories, Inc.
1401 Research Park Drive, Suite 100
Riverside, CA 92507
Voice: 909.779.0310 ● 800.798.9336
Fax: 909.779.0344

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Signal Hill, CA 90806
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Fax: 562.498.8617

www.centrum-labs.com lab@centrum-labs.com

Chain of Custody Record

Centrum Job #

Project No: 559-16011
Project Name: CALTRANS 605/210
Project Manager: MYLENE TORRES
Phone: 562-597-3977
Fax: 562-597-8459
Client Name: (Report and Billing) PSI
Address: (Report and Billing) 3960 GILMAN ST. LONG BEACH, CA 90815

Please Circle Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	8015M: Diesel, Fuel Screen, Carbon Chain	~~8015M: Geo only~~	~~8021B: BTEX/MtBE Only~~	~~440.1 (TRPH), 442.2, 1664~~	6015, SINGLE ELEMENT ①	GC or GCMS Volatiles by 5035*	GCMS: 8260B, 8021B, 624, 524.2	GCMS: MtBE Conf. Only, BTEX/Oxygenates Only	GCMS: 8270C, 625	8080: Pesticides, PCBs, Pest/PCB	SOLUBLE LEAD BY WET	Metals: Title 22 (CAM), RCRA, PP	pH, TDS, TSS, Conductivity	Flashpoint, Hex Cr	EXTRACTION BY DI	Remarks/Special Instructions
21.	A5-29-SURFACE	3/2/01	1122	SL		4oz JAR				X	X											
22.	A5-30-SURFACE	↓	1128	↓		↓				X	X											
23.	A5-31-SURFACE	↓	1135	↓		↓				X	X											
24.	A5-32-SURFACE	↓	1140	↓		↓				X	X											
25.	BLIND DUP	↓	—	↓		↓						X										

Turn-Around Time
- ☐ 24 Hr. RUSH*
- ☒ 48 Hr. RUSH*
- ☐ Normal TAT

*Requires PRIOR approval, additional charges apply

Requested due date: _____

Remarks/Special Instructions

1) Relinquished by: (Sampler's Signature) Mylene Torres	Date: 3/2/01	Time: 1525	3) Relinquished by: Ryan Gates
2) Received by: [signature]	Date: 3/2/01	Time: 1529	4) Received by: R. Brown
			5) Relinquished by: R. Brown
			6) Received for Laboratory by:

Date	Time
3-2-01	1525
3-5-01	1025
3/5/01	1315

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

To be completed by Laboratory personnel:
Samples chilled? ☐ Yes ☐ No ☒ From Field
Custody seals? ☐ Yes ☒ No
All sample containers intact? ☒ Yes ☐ No
☐ Courier ☐ UPS/Fed Ex ☒ Hand carried

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal

Laboratory Notes:
① CALTRANS TASK ITEM 115 - ALL SAMPLES RUN BY EPA METHOD 6010 SINGLE ELEMENT

Sample Locator No.

APPENDIX C
SUMMARY OF STATISICAL RESULTS

Caltrans 605/210
Task Order No. 07-053391-3V

ALL SAMPLES

		Square Root Data		Log Data		Arcsine Data	
Mean	172.3	Mean	12.3	Mean	1.70	Mean	0.16
Variance	63647.6	Variance	64.0	Variance	0.53	Variance	0.07
Standard Deviation	252.3	Standard Deviation	8.0	Standard Deviation	0.73	Standard Deviation	0.27
Standard Error	29.1	Standard Error	1	Standard Error	0.08	Standard Error	0.03
90% UCL	220.8	90% UCL	11.51	90% UCL	1.88	90% UCL	0.21
95% UCL	230.3	95% UCL	11.84	95% UCL	1.91	95% UCL	0.22
		Real 90% UCL	133	Real 90% UCL	77	Real 90% UCL	252
n=75		Real 95% UCL	140	Real 95% UCL	81	Real 95% UCL	264
Appropriate No. Samples=4		Real Mean	97	Real Mean	55	Real Mean	190

AREA 1

		Square Root Data		Log Data		Arcsine Data	
Mean	161.4	Mean	11.4	Mean	2	Mean	0.41
Variance	22606.8	Variance	33.9	Variance	0.22	Variance	0.21
Standard Deviation	153.4	Standard Deviation	5.8	Standard Deviation	0.47	Standard Deviation	0.46
Standard Error	43.4	Standard Error	1.68	Standard Error	0.14	Standard Error	0.13
90% UCL	239.4	90% UCL	14.5	90% UCL	2.25	90% UCL	0.65
95% UCL	256.9	95% UCL	15.1	95% UCL	2.30	95% UCL	0.7
		Real 90% UCL	209	Real 90% UCL	177	Real 90% UCL	305
n=12		Real 95% UCL	229	Real 95% UCL	201	Real 95% UCL	330
Appropriate No. Samples=2		Real Mean	131	Real Mean	101	Real Mean	193

AREA 2

		Square Root Data		Log Data		Arcsine Data	
Mean	223.9	Mean	10.2	Mean	2	Mean	0.24
Variance	150928	Variance	126.57	Variance	0.60	Variance	0.22
Standard Deviation	388.5	Standard Deviation	11.25	Standard Deviation	0.78	Standard Deviation	0.47
Standard Error	100	Standard Error	2.9	Standard Error	0.20	Standard Error	0.12
90% UCL	400.6	90% UCL	15.3	90% UCL	2.10	90% UCL	0.45
95% UCL	439.1	95% UCL	16.4	95% UCL	2.17	95% UCL	0.5
		Real 90% UCL	234	Real 90% UCL	125	Real 90% UCL	546
n=15		Real 95% UCL	270	Real 95% UCL	149	Real 95% UCL	602
Appropriate No. Samples=18		Real Mean	104	Real Mean	55	Real Mean	289

Caltrans 605/210
Task Order No. 07-053391-3V

AREA 3

		Square Root Data		Log Data		Arcsine Data	
Mean	165.5	Mean	9.2	Mean	1.62	Mean	0.2
Variance	61399.6	Variance	82.51	Variance	0.67	Variance	0.12
Standard Deviation	247.8	Standard Deviation	9.08	Standard Deviation	0.82	Standard Deviation	0.35
Standard Error	46	Standard Error	1.69	Standard Error	0.15	Standard Error	0.06
90% UCL	243.7	90% UCL	12.01	90% UCL	1.87	90% UCL	0.31
95% UCL	259.7	95% UCL	12.68	95% UCL	1.93	95% UCL	0.33
		Real 90% UCL	146	Real 90% UCL	76	Real 90% UCL	296
n=29		Real 95% UCL	161	Real 95% UCL	85	Real 95% UCL	317
Appropriate No. Samples=4		Real Mean	85	Real Mean	42	Real Mean	191

AREA 4

		Square Root Data		Log Data		Arcsine Data	
Mean	148.7	Mean	9.5	Mean	1.77	Mean	0.3
Variance	31987	Variance	60.58	Variance	0.47	Variance	0.17
Standard Deviation	178.8	Standard Deviation	7.78	Standard Deviation	0.69	Standard Deviation	0.42
Standard Error	41	Standard Error	1.79	Standard Error	0.16	Standard Error	0.1
90% UCL	219.9	90% UCL	12.6	90% UCL	2.04	90% UCL	0.47
95% UCL	234.9	95% UCL	13.25	95% UCL	2.1	95% UCL	0.5
		Real 90% UCL	159	Real 90% UCL	110	Real 90% UCL	271
n=29		Real 95% UCL	176	Real 95% UCL	125	Real 95% UCL	292
Appropriate No. Samples=2		Real Mean	90	Real Mean	58	Real Mean	175

SURFACE

		Square Root Data		Log Data		Arcsine Data	
Mean	373	Mean	17.6	Mean	2.37	Mean	0.35
Variance	100211.0	Variance	66.36	Variance	0.25	Variance	0.13
Standard Deviation	316.56	Standard Deviation	8.15	Standard Deviation	0.50	Standard Deviation	0.36
Standard Error	60.9	Standard Error	1.57	Standard Error	0.1	Standard Error	0.07
90% UCL	476.9	90% UCL	20.3	90% UCL	2.54	90% UCL	0.47
95% UCL	498.2	95% UCL	20.82	95% UCL	2.57	95% UCL	0.49
		Real 90% UCL	411	Real 90% UCL	346	Real 90% UCL	564
n=27		Real 95% UCL	433	Real 95% UCL	374	Real 95% UCL	593
Appropriate No. Samples=328		Real Mean	310	Real Mean	237	Real Mean	421

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1-FOOT

		Square Root Data		Log Data		Arcsine Data	
Mean	56.7	Mean	5.35	Mean	1.37	Mean	0.13
Variance	10380.4	Variance	27.6	Variance	0.32	Variance	0.09
Standard Deviation	101.9	Standard Deviation	5.26	Standard Deviation	0.56	Standard Deviation	0.3
Standard Error	19.6	Standard Error	1.01	Standard Error	0.11	Standard Error	0.06
90% UCL	90.1	90% UCL	7.08	90% UCL	1.56	90% UCL	0.23
95% UCL	97.0	95% UCL	7.43	95% UCL	1.6	95% UCL	0.25
		Real 90% UCL	50	Real 90% UCL	36	Real 90% UCL	119
n=27		Real 95% UCL	55	Real 95% UCL	40	Real 95% UCL	129
Appropriate No. Samples=0.209		Real Mean	29	Real Mean	24	Real Mean	68

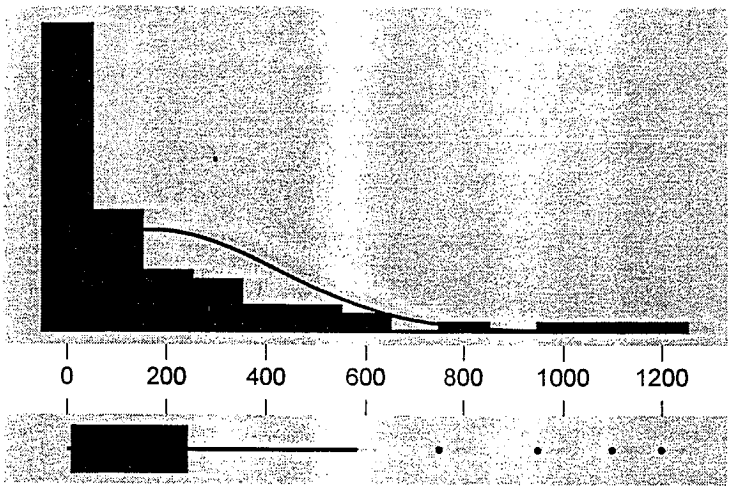
1.5-FEET

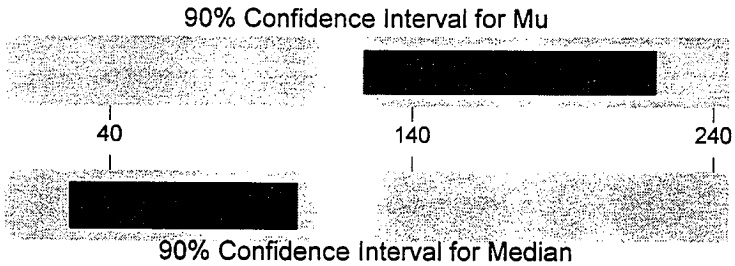
		Square Root Data		Log Data		Arcsine Data	
Mean	40	Mean	4.88	Mean	1.31	Mean	0.54
Variance	1630.85	Variance	18.25	Variance	0.39	Variance	0.39
Standard Deviation	40.38	Standard Deviation	4.27	Standard Deviation	0.62	Standard Deviation	0.62
Standard Error	17	Standard Error	1.74	Standard Error	0.25	Standard Error	0.26
90% UCL	73.2	90% UCL	8.39	90% UCL	1.82	90% UCL	1.05
95% UCL	82.3	95% UCL	9.36	95% UCL	1.97	95% UCL	1.19
		Real 90% UCL	70	Real 90% UCL	67	Real 90% UCL	102
n=6		Real 95% UCL	88	Real 95% UCL	92	Real 95% UCL	116
Appropriate No. Samples=0.037		Real Mean	24	Real Mean	21	Real Mean	52

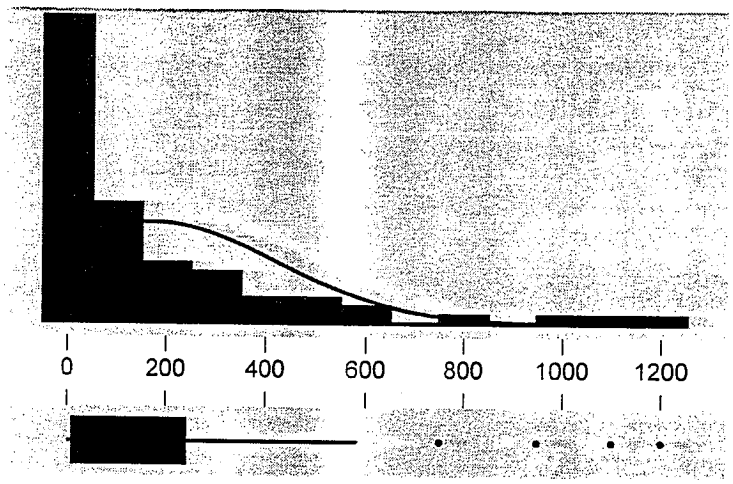
2-FEET

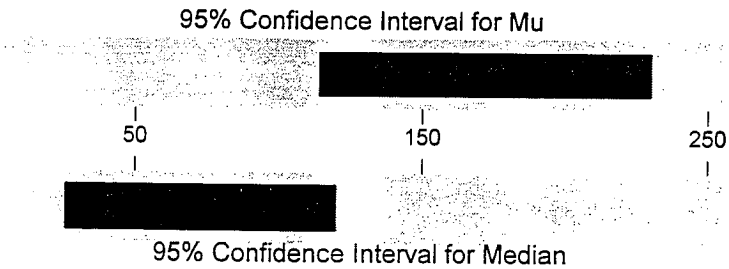
		Square Root Data		Log Data		Arcsine Data	
Mean	79.7	Mean	6.17	Mean	1.46	Mean	0.43
Variance	9629.2	Variance	42.37	Variance	0.47	Variance	0.32
Standard Deviation	98.13	Standard Deviation	6.51	Standard Deviation	0.68	Standard Deviation	0.57
Standard Error	27.2	Standard Error	1.81	Standard Error	0.19	Standard Error	0.16
90% UCL	128.2	90% UCL	9.39	90% UCL	1.80	90% UCL	0.71
95% UCL	139	95% UCL	10.11	95% UCL	1.88	95% UCL	0.77
		Real 90% UCL	88	Real 90% UCL	63	Real 90% UCL	169
n=13		Real 95% UCL	102	Real 95% UCL	75	Real 95% UCL	184
Appropriate No. Samples=0.242		Real Mean	38	Real Mean	29	Real Mean	102

Descriptive Statistics









Variable: Totals

Anderson-Darling Normality Test

A-Squared:	7.551
P-Value:	0.000
Mean	172.263
StDev	252.285
Variance	63647.6
Skewness	2.31413
Kurtosis	5.74592
N	75
Minimum	3.20
1st Quartile	12.00
Median	78.00
3rd Quartile	240.00
Maximum	1200.00

90% Confidence Interval for Mu

123.74	220.79

90% Confidence Interval for Sigma

222.57	292.13

90% Confidence Interval for Median

26.90	102.02

Anderson-Darling Normality Test

A-Squared:	7.551
P-Value:	0.000
Mean	172.263
StDev	252.285
Variance	63647.6
Skewness	2.31413
Kurtosis	5.74592
N	75
Minimum	3.20
1st Quartile	12.00
Median	78.00
3rd Quartile	240.00
Maximum	1200.00

95% Confidence Interval for Mu

114.22	230.31

95% Confidence Interval for Sigma

217.37	300.66

95% Confidence Interval for Median

25.57	120.00

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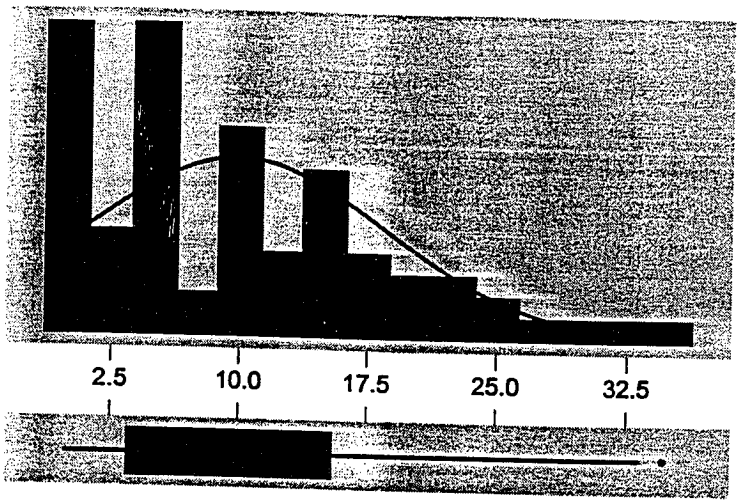
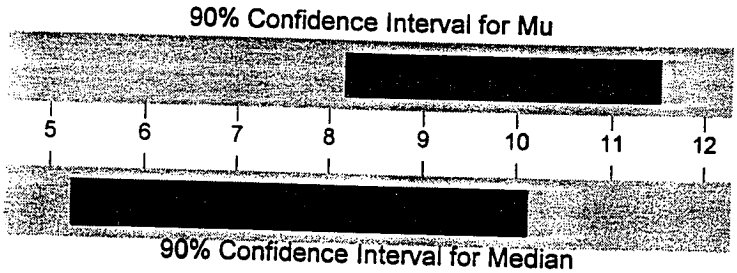
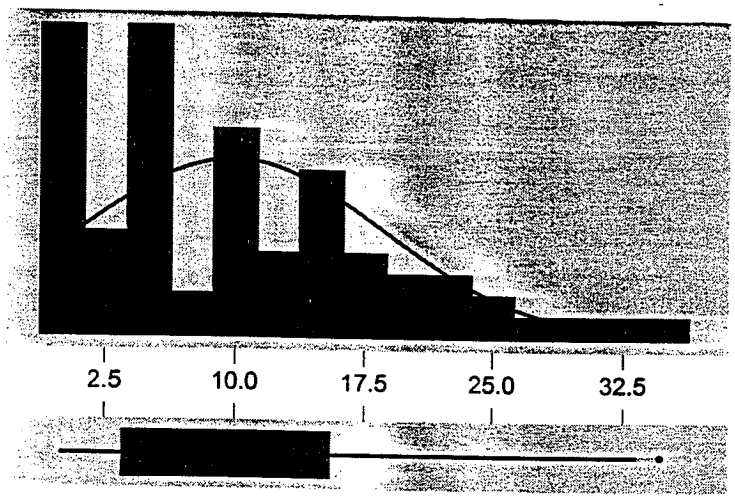
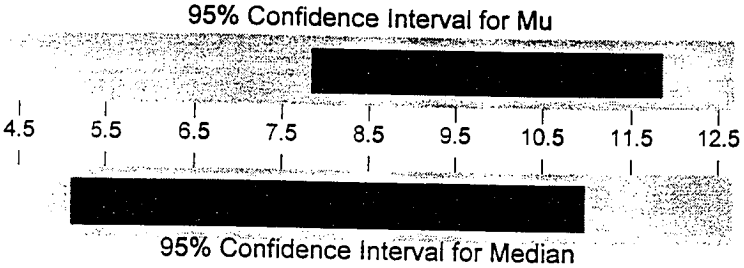
Descriptive Statistics









Variable: Transform

Anderson-Darling Normality Test

A-Squared:	1.816
P-Value:	0.000
Mean	9.84260 97
StDev	8.69230
Variance	75.5561
Skewness	0.895817
Kurtosis	0.277255
N	75
Minimum	0.0000
1st Quartile	3.5348
Median	8.8600
3rd Quartile	15.5081
Maximum	34.6482

90% Confidence Interval for Mu

8.1707	11.5145	132.6

90% Confidence Interval for Sigma

7.6684	10.0652

90% Confidence Interval for Median

5.2341	10.1213

Anderson-Darling Normality Test

A-Squared:	1.816
P-Value:	0.000
Mean	9.84260
StDev	8.69230
Variance	75.5561
Skewness	0.895817
Kurtosis	0.277255
N	75
Minimum	0.0000
1st Quartile	3.5348
Median	8.8600
3rd Quartile	15.5081
Maximum	34.6482

95% Confidence Interval for Mu

7.8427	11.8425	140.2

95% Confidence Interval for Sigma

7.4895	10.3591

95% Confidence Interval for Median

5.1056	10.9772

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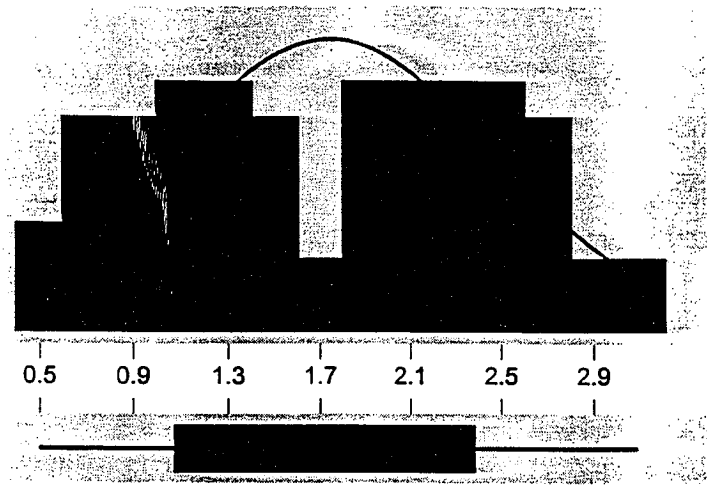
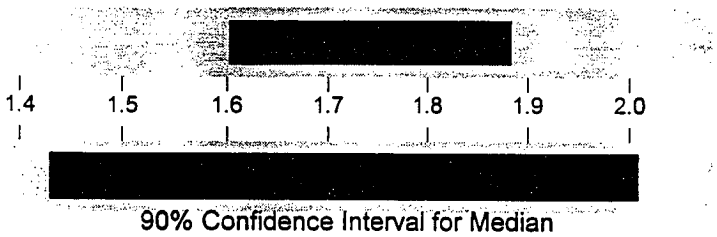
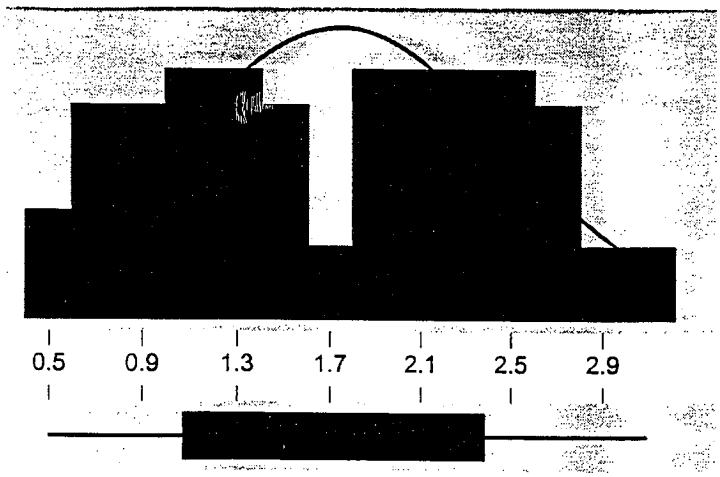
Descriptive Statistics



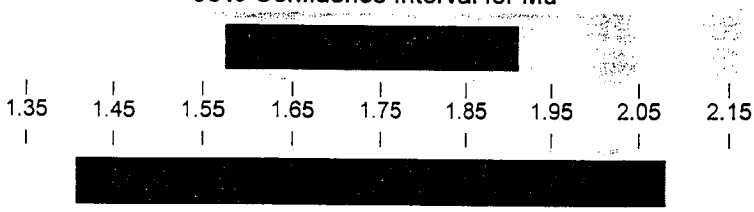
90% Confidence Interval for Mu



90% Confidence Interval for Median



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: Log

Anderson-Darling Normality Test

A-Squared:	1.115
P-Value:	0.006
Mean	1.74308 55
StDev	0.72847
Variance	0.530666
Skewness	4.03E-03
Kurtosis	-1.22124
N	75
Minimum	0.50515
1st Quartile	1.07918
Median	1.89209
3rd Quartile	2.38021
Maximum	3.07918

90% Confidence Interval for Mu

1.60296	1.88319 = 76.4

90% Confidence Interval for Sigma

0.64266	0.84353

90% Confidence Interval for Median

1.42970	2.00802

Anderson-Darling Normality Test

A-Squared:	1.115
P-Value:	0.006
Mean	1.74308
StDev	0.72847
Variance	0.530666
Skewness	4.03E-03
Kurtosis	-1.22124
N	75
Minimum	0.50515
1st Quartile	1.07918
Median	1.89209
3rd Quartile	2.38021
Maximum	3.07918

95% Confidence Interval for Mu

1.57547	1.91068 = [illegible]

95% Confidence Interval for Sigma

0.62766	0.86815

95% Confidence Interval for Median

1.40767	2.07918

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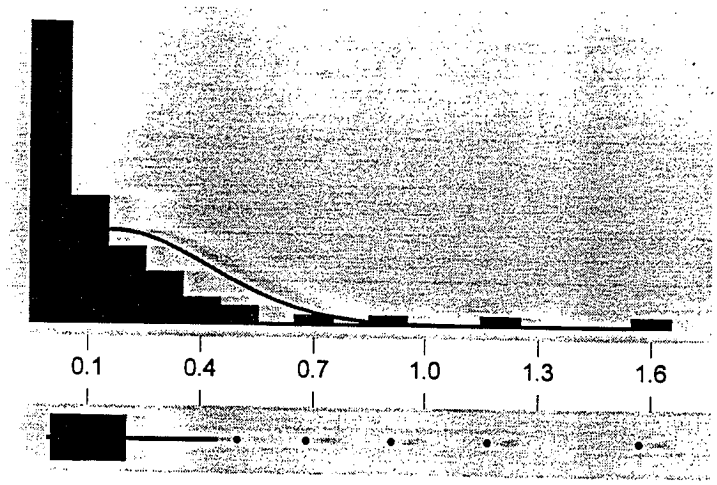
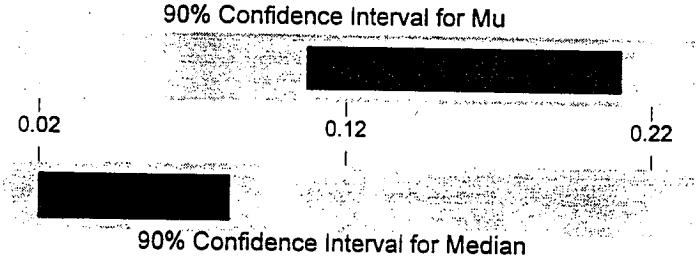
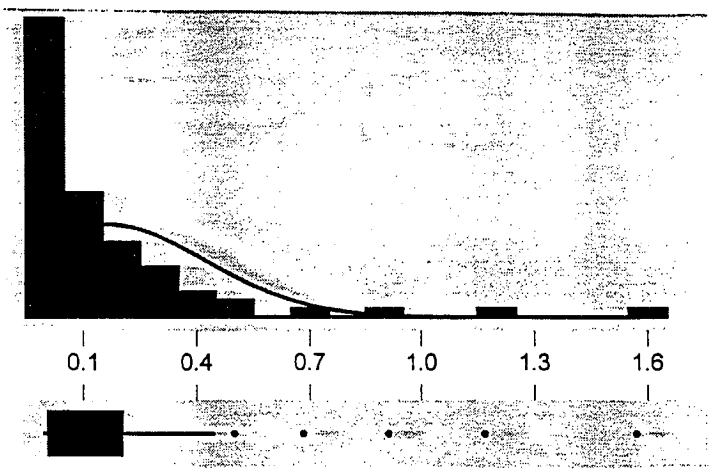
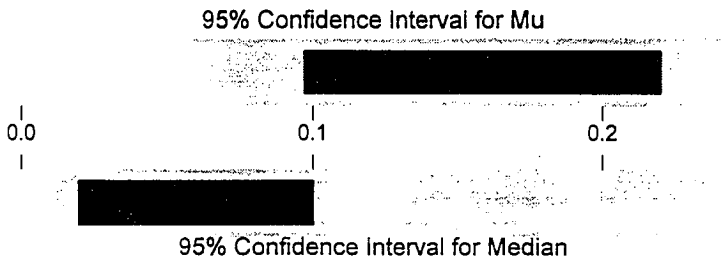
Descriptive Statistics









Variable: Arcsine

Anderson-Darling Normality Test

A-Squared:	8.969
P-Value:	0.000

Mean	0.158542	190
StDev	0.267416	
Variance	7.15E-02	
Skewness	3.22971	
Kurtosis	12.5618	
N	75	

Minimum	0.00000
1st Quartile	0.01000
Median	0.07006
3rd Quartile	0.20136
Maximum	1.57080

90% Confidence Interval for Mu

0.10711	0.20998	252

90% Confidence Interval for Sigma

0.23591	0.30965

90% Confidence Interval for Median

0.02000	0.08212

Anderson-Darling Normality Test

A-Squared:	8.969
P-Value:	0.000

Mean	0.158542
StDev	0.267416
Variance	7.15E-02
Skewness	3.22971
Kurtosis	12.5618
N	75

Minimum	0.00000
1st Quartile	0.01000
Median	0.07006
3rd Quartile	0.20136
Maximum	1.57080

95% Confidence Interval for Mu

0.09702	0.22007	264

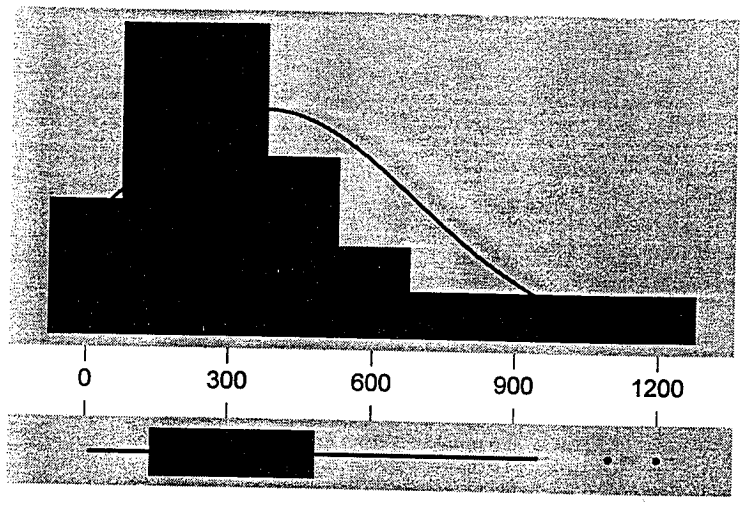
95% Confidence Interval for Sigma

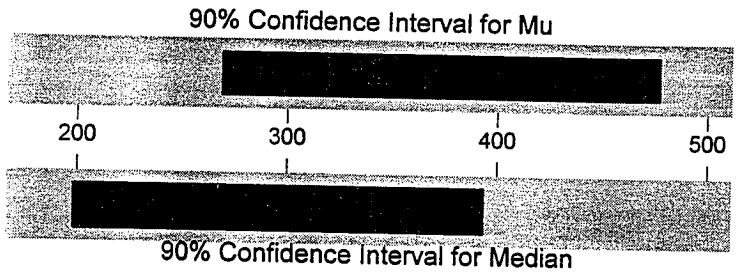
0.23041	0.31869

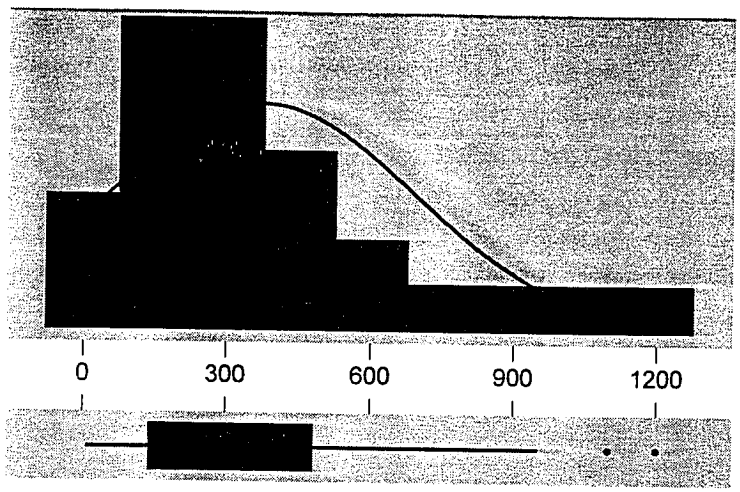
95% Confidence Interval for Median

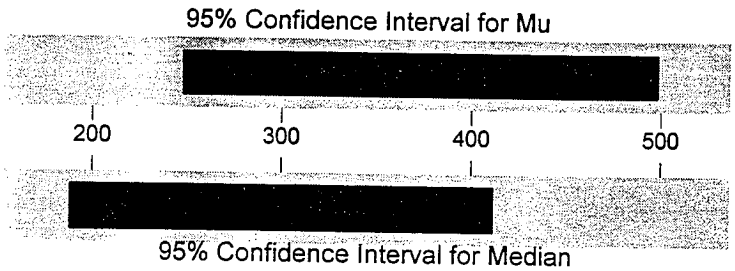
0.02000	0.10017

Descriptive Statistics









Variable: Surface

Anderson-Darling Normality Test

A-Squared:	1.091
P-Value:	0.006
Mean	373.000
StDev	316.561
Variance	100211
Skewness	1.28692
Kurtosis	1.22045
N	27
Minimum	12.00
1st Quartile	140.00
Median	300.00
3rd Quartile	480.00
Maximum	1200.00

90% Confidence Interval for Mu

269.09	476.91

90% Confidence Interval for Sigma

258.85	411.60

90% Confidence Interval for Median

198.12	393.75

Anderson-Darling Normality Test

A-Squared:	1.091
P-Value:	0.006
Mean	373.000
StDev	316.561
Variance	100211
Skewness	1.28692
Kurtosis	1.22045
N	27
Minimum	12.00
1st Quartile	140.00
Median	300.00
3rd Quartile	480.00
Maximum	1200.00

95% Confidence Interval for Mu

247.77	498.23

95% Confidence Interval for Sigma

249.30	433.83

95% Confidence Interval for Median

188.52	411.78

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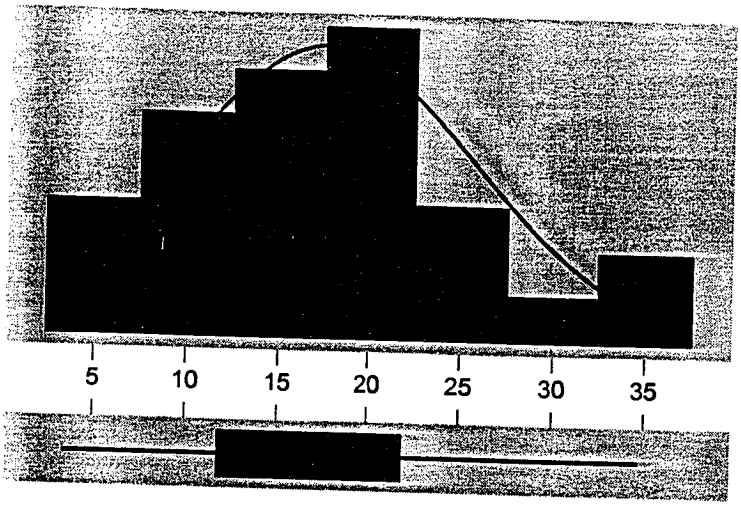

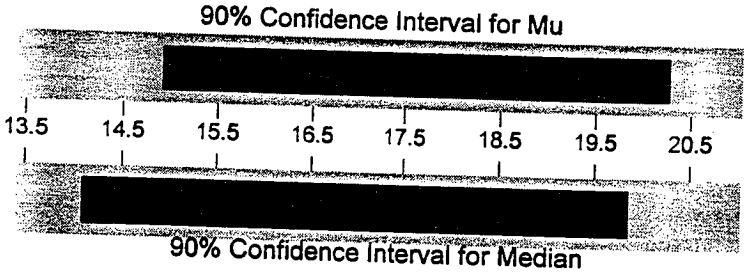

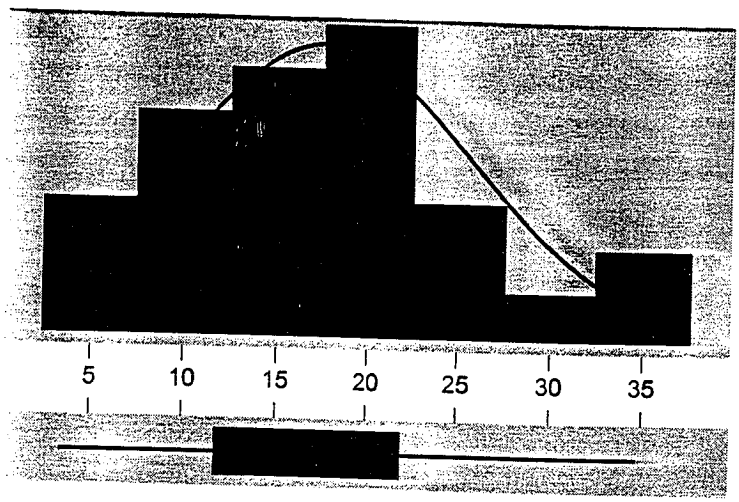

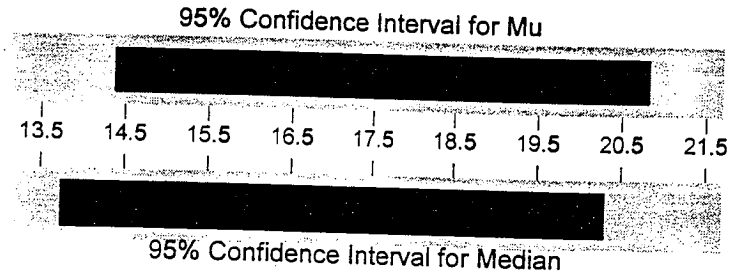

Variable: Transform-S

Anderson-Darling Normality Test

A-Squared:	0.194
P-Value:	0.884

Mean	17.5953	310
StDev	8.1463	
Variance	66.3620	
Skewness	0.313747	
Kurtosis	-1.7E-01	
N	27	

Minimum	3.5348
1st Quartile	11.8533
Median	17.3349
3rd Quartile	21.9203
Maximum	34.6482

90% Confidence Interval for Mu

14.9213	20.2693	410.8

90% Confidence Interval for Sigma

6.6612	10.5921

90% Confidence Interval for Median

14.0927	19.8549

Anderson-Darling Normality Test

A-Squared:	0.194
P-Value:	0.884

Mean	17.5953
StDev	8.1463
Variance	66.3620
Skewness	0.313747
Kurtosis	-1.7E-01
N	27

Minimum	3.5348
1st Quartile	11.8533
Median	17.3349
3rd Quartile	21.9203
Maximum	34.6482

95% Confidence Interval for Mu

14.3728	20.8179	433.4

95% Confidence Interval for Sigma

6.4153	11.1639

95% Confidence Interval for Median

13.7444	20.3032

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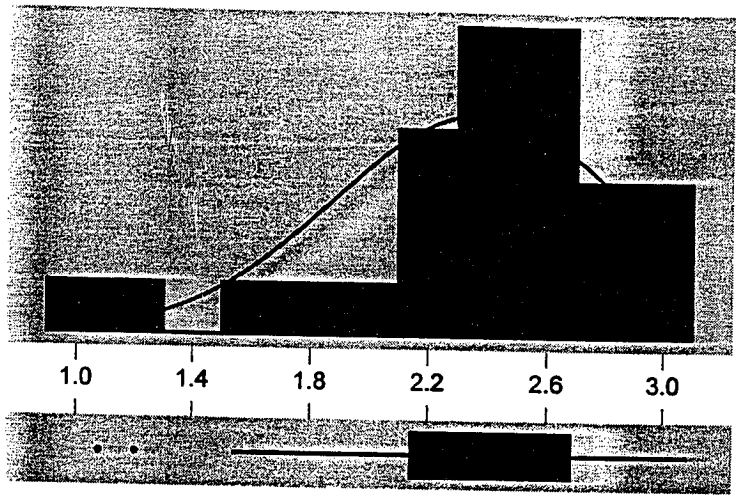

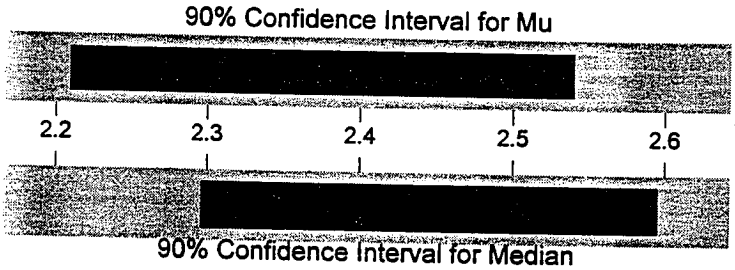

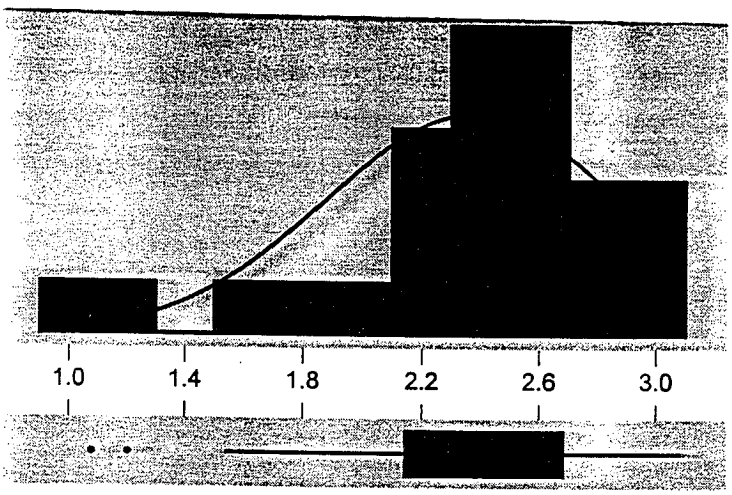

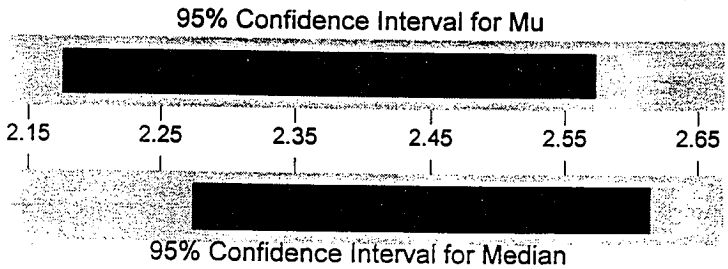

Variable: Log-S

Anderson-Darling Normality Test

A-Squared:	0.746
P-Value:	0.046
Mean	2.37435 237
StDev	0.50138
Variance	0.251379
Skewness	-1.10386
Kurtosis	1.18873
N	27
Minimum	1.07918
1st Quartile	2.14613
Median	2.47712
3rd Quartile	2.68124
Maximum	3.07918

90% Confidence Interval for Mu

2.20978	2.53893 346

90% Confidence Interval for Sigma

0.40998	0.65191

90% Confidence Interval for Median

2.29685	2.59514

Anderson-Darling Normality Test

A-Squared:	0.746
P-Value:	0.046
Mean	2.37435
StDev	0.50138
Variance	0.251379
Skewness	-1.10386
Kurtosis	1.18873
N	27
Minimum	1.07918
1st Quartile	2.14613
Median	2.47712
3rd Quartile	2.68124
Maximum	3.07918

95% Confidence Interval for Mu

2.17601	2.57269 374

95% Confidence Interval for Sigma

0.39484	0.68710

95% Confidence Interval for Median

2.27482	2.61454

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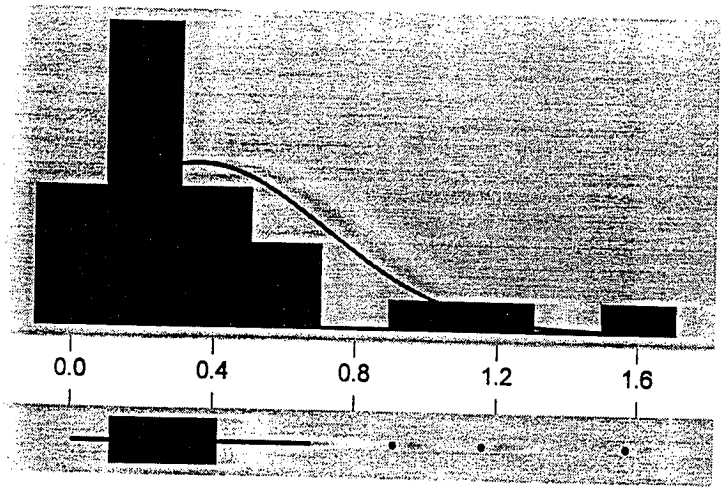
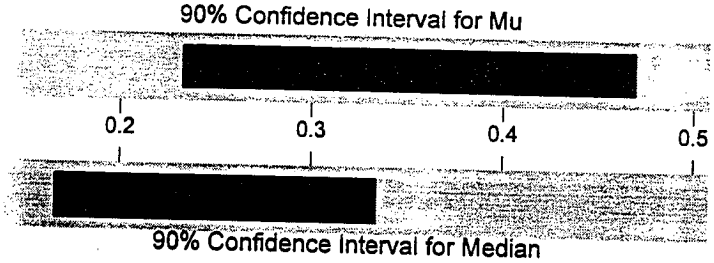
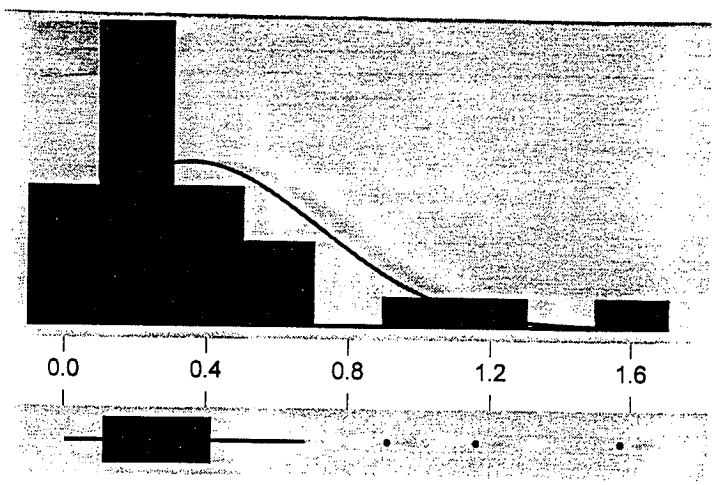
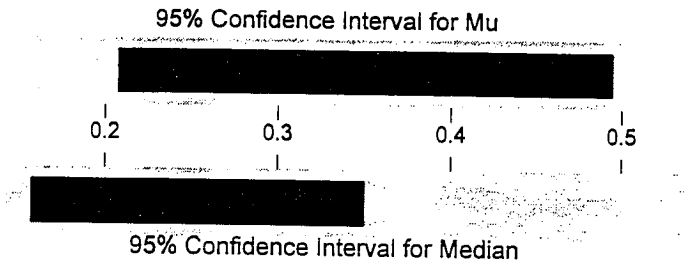
Descriptive Statistics









Variable: Arcsine-S

Anderson-Darling Normality Test

A-Squared:	1.937
P-Value:	0.000
Mean	0.351101 421
StDev	0.362525
Variance	0.131425
Skewness	2.04792
Kurtosis	4.52370
N	27
Minimum	0.01000
1st Quartile	0.11727
Median	0.25268
3rd Quartile	0.41152
Maximum	1.57080

90% Confidence Interval for Mu

0.23210	0.47010 564

90% Confidence Interval for Sigma

0.29644	0.47137

90% Confidence Interval for Median

0.16607	0.33440

Anderson-Darling Normality Test

A-Squared:	1.937
P-Value:	0.000
Mean	0.351101
StDev	0.362525
Variance	0.131425
Skewness	2.04792
Kurtosis	4.52370
N	27
Minimum	0.01000
1st Quartile	0.11727
Median	0.25268
3rd Quartile	0.41152
Maximum	1.57080

95% Confidence Interval for Mu

0.20769	0.49451 593

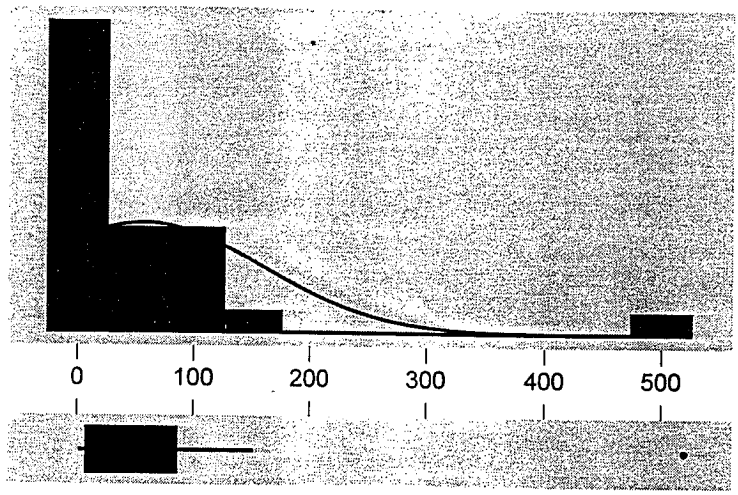
95% Confidence Interval for Sigma

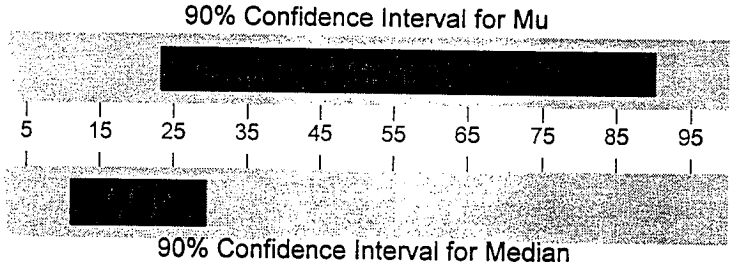
0.28549	0.49682

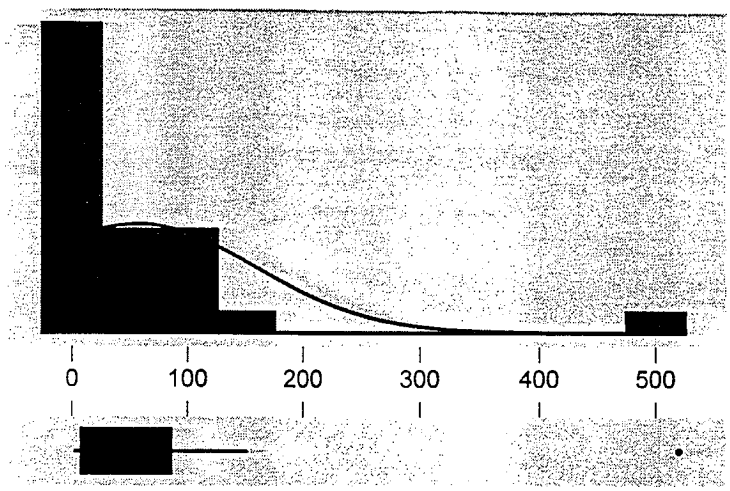
95% Confidence Interval for Median

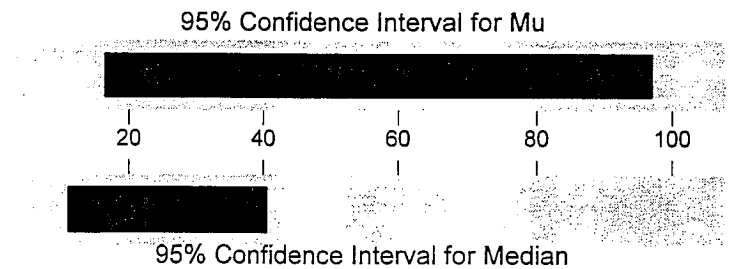
0.15744	0.35064

Descriptive Statistics









Variable: 1-foot

Anderson-Darling Normality Test

A-Squared:	4.094
P-Value:	0.000
Mean	56.696
StDev	101.884
Variance	10380.4
Skewness	3.90101
Kurtosis	17.4265
N	27
Minimum	3.200
1st Quartile	8.300
Median	23.000
3rd Quartile	86.000
Maximum	520.000

90% Confidence Interval for Mu

23.253	90.139

90% Confidence Interval for Sigma

83.311	132.473

90% Confidence Interval for Median

11.000	29.441

Anderson-Darling Normality Test

A-Squared:	4.094
P-Value:	0.000
Mean	56.696
StDev	101.884
Variance	10380.4
Skewness	3.90101
Kurtosis	17.4265
N	27
Minimum	3.200
1st Quartile	8.300
Median	23.000
3rd Quartile	86.000
Maximum	520.000

95% Confidence Interval for Mu

16.392	97.000

95% Confidence Interval for Sigma

80.235	139.625

95% Confidence Interval for Median

10.950	40.564

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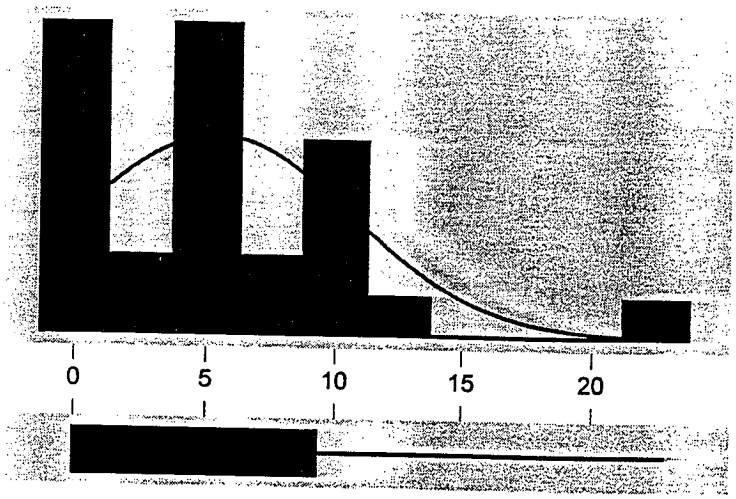
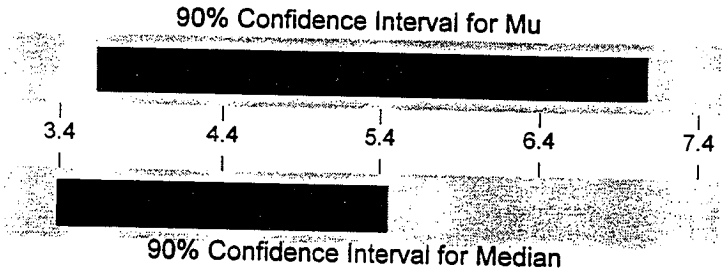
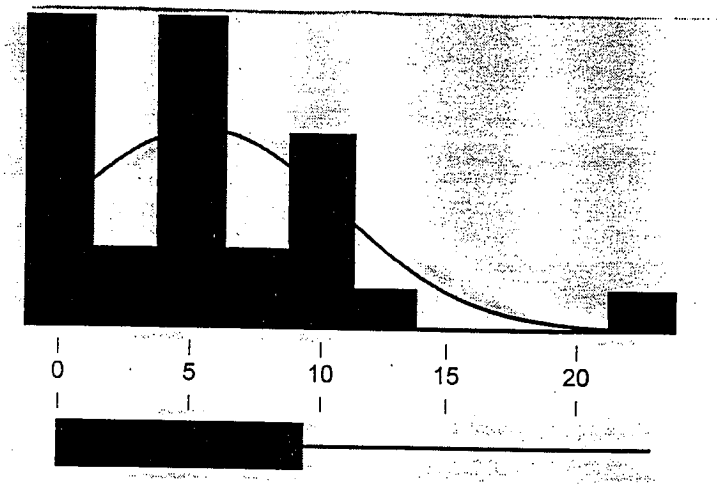
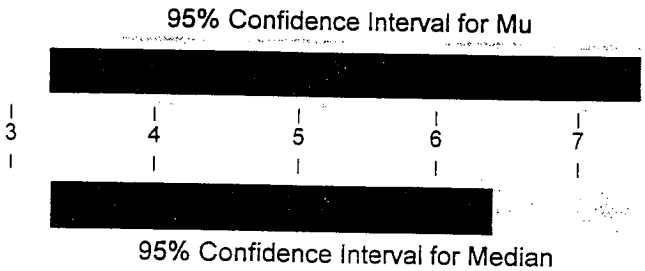
Descriptive Statistics









Variable: Transform-1 ft

Anderson-Darling Normality Test

A-Squared:	1.001
P-Value:	0.010
Mean	5.35007 29
StDev	5.25735
Variance	27.6397
Skewness	1.43382
Kurtosis	3.27777
N	27
Minimum	0.0000
1st Quartile	0.0000
Median	4.8474
3rd Quartile	9.3005
Maximum	22.8145

90% Confidence Interval for Mu

3.6244	7.0758 50

90% Confidence Interval for Sigma

4.2989	6.8358

90% Confidence Interval for Median

3.3904	5.4541

Anderson-Darling Normality Test

A-Squared:	1.001
P-Value:	0.010
Mean	5.35007
StDev	5.25735
Variance	27.6397
Skewness	1.43382
Kurtosis	3.27777
N	27
Minimum	0.0000
1st Quartile	0.0000
Median	4.8474
3rd Quartile	9.3005
Maximum	22.8145

95% Confidence Interval for Mu

3.2703	7.4298 55

95% Confidence Interval for Sigma

4.1402	7.2048

95% Confidence Interval for Median

3.2898	6.4039

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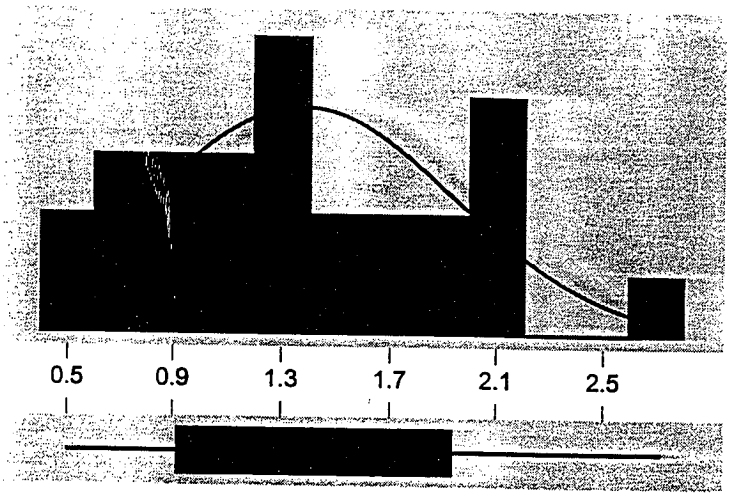
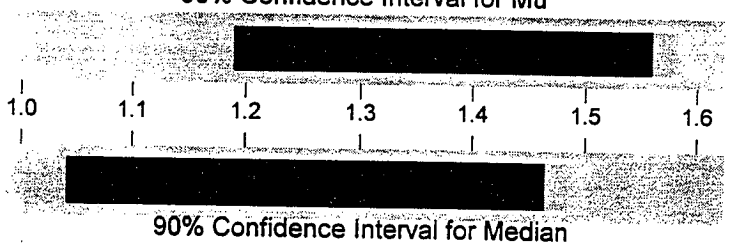
Task Order No. 07-053391-3V

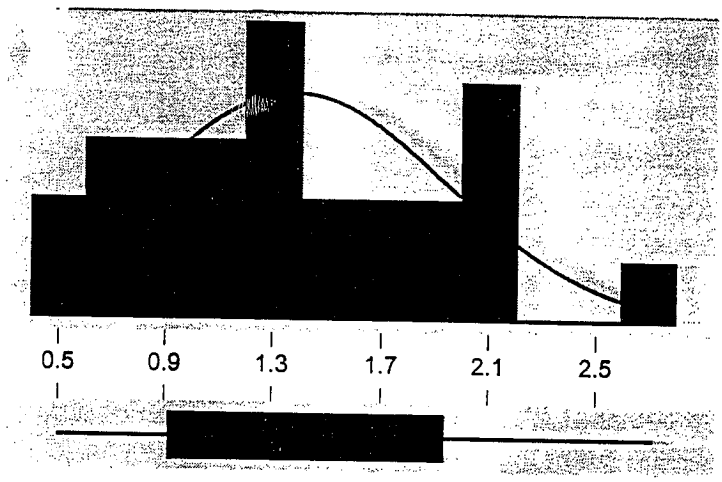
Descriptive Statistics



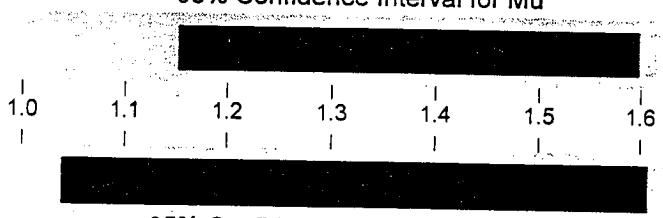
90% Confidence Interval for Mu



90% Confidence Interval for Median



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: Log-1~~(-)~~

Anderson-Darling Normality Test

A-Squared:	0.351
P-Value:	0.445
Mean	1.37481 24
StDev	0.56257
Variance	0.316490
Skewness	0.455276
Kurtosis	-3.7E-01
N	27
Minimum	0.50515
1st Quartile	0.91908
Median	1.36173
3rd Quartile	1.93450
Maximum	2.71600

90% Confidence Interval for Mu

1.19015	1.55947 36

90% Confidence Interval for Sigma

0.46002	0.73148

90% Confidence Interval for Median

1.04139	1.46341

Anderson-Darling Normality Test

A-Squared:	0.351
P-Value:	0.445
Mean	1.37481
StDev	0.56257
Variance	0.316490
Skewness	0.455276
Kurtosis	-3.7E-01
N	27
Minimum	0.50515
1st Quartile	0.91908
Median	1.36173
3rd Quartile	1.93450
Maximum	2.71600

95% Confidence Interval for Mu

1.15226	1.59736 40

95% Confidence Interval for Sigma

0.44304	0.77097

95% Confidence Interval for Median

1.03923	1.60707

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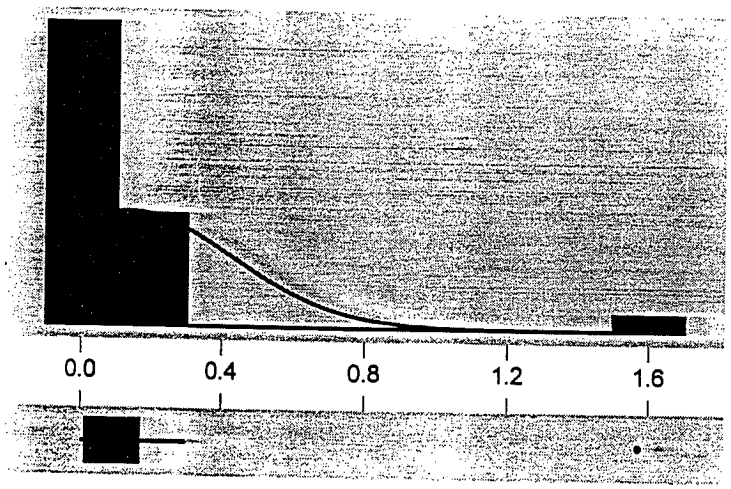
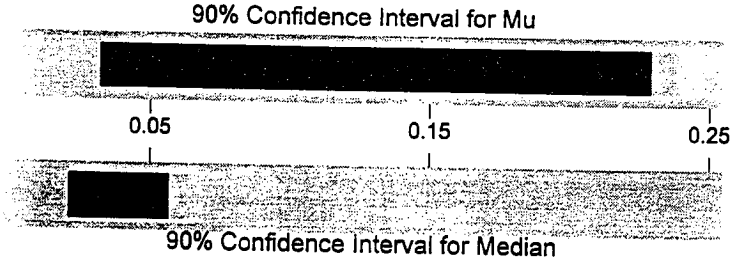
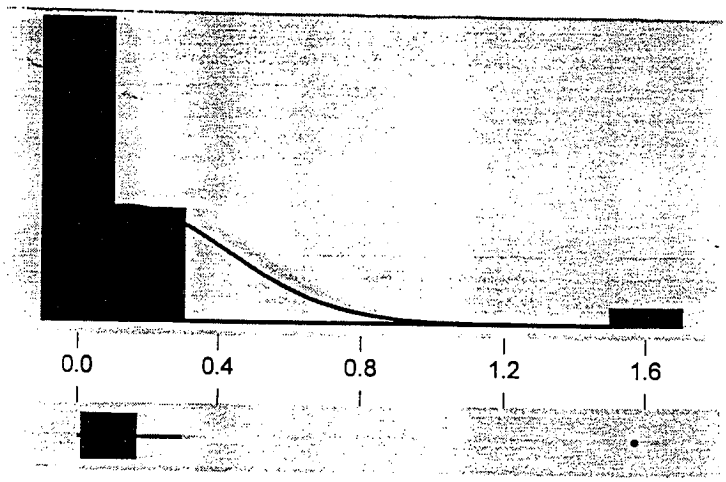
Descriptive Statistics



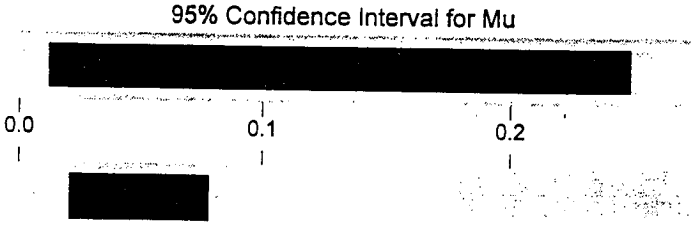
90% Confidence Interval for Mu



90% Confidence Interval for Median



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: Arcsine-1ft

Anderson-Darling Normality Test

A-Squared:	5.525
P-Value:	0.000
Mean	0.130533 68
StDev	0.299447
Variance	8.97E-02
Skewness	4.59845
Kurtosis	22.5751
N	27
Minimum	0.00600
1st Quartile	0.01600
Median	0.04401
3rd Quartile	0.16576
Maximum	1.57080

90% Confidence Interval for Mu

0.03224	0.22882 119

90% Confidence Interval for Sigma

0.24486	0.38935

90% Confidence Interval for Median

0.02100	0.05673

Anderson-Darling Normality Test

A-Squared:	5.525
P-Value:	0.000
Mean	0.130533
StDev	0.299447
Variance	8.97E-02
Skewness	4.59845
Kurtosis	22.5751
N	27
Minimum	0.00600
1st Quartile	0.01600
Median	0.04401
3rd Quartile	0.16576
Maximum	1.57080

95% Confidence Interval for Mu

0.01208	0.24899 129

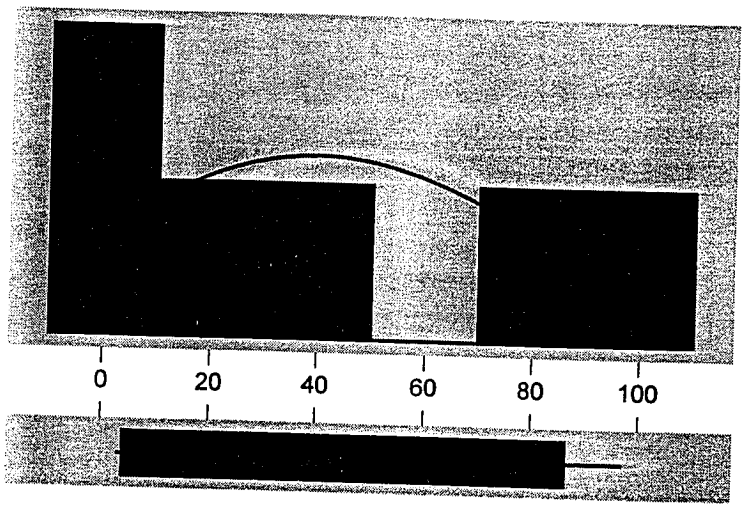
95% Confidence Interval for Sigma

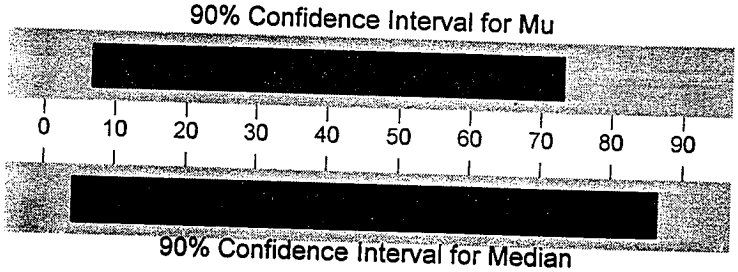
0.23582	0.41037

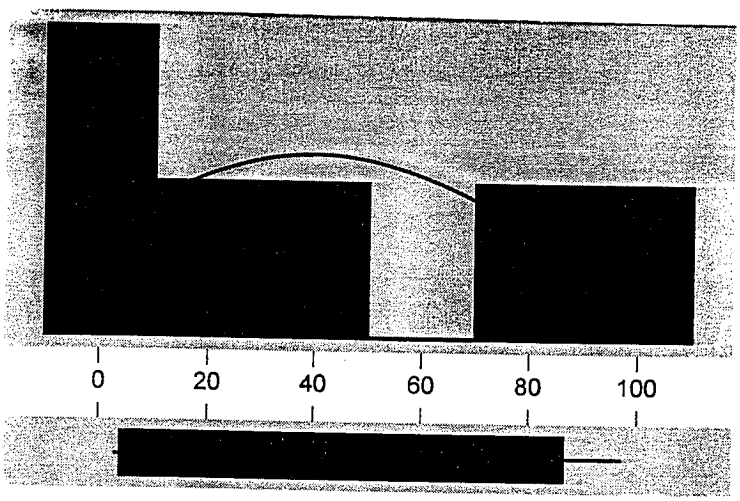
95% Confidence Interval for Median

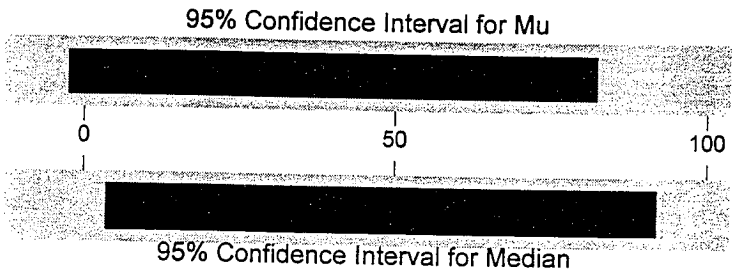
0.02091	0.07815

Descriptive Statistics









Variable: 1.5-feet

Anderson-Darling Normality Test

A-Squared:	0.453
P-Value:	0.168
Mean	39.9500
StDev	40.3837
Variance	1630.85
Skewness	0.746069
Kurtosis	-1.62714
N	6
Minimum	3.3000
1st Quartile	4.1250
Median	26.0000
3rd Quartile	86.5000
Maximum	97.0000

90% Confidence Interval for Mu

6.7287	73.1713

90% Confidence Interval for Sigma

27.1399	84.3720

90% Confidence Interval for Median

4.1176	86.5946

Anderson-Darling Normality Test

A-Squared:	0.453
P-Value:	0.168
Mean	39.9500
StDev	40.3837
Variance	1630.85
Skewness	0.746069
Kurtosis	-1.62714
N	6
Minimum	3.3000
1st Quartile	4.1250
Median	26.0000
3rd Quartile	86.5000
Maximum	97.0000

95% Confidence Interval for Mu

-2.4301	82.3301

95% Confidence Interval for Sigma

25.2079	99.0457

95% Confidence Interval for Median

3.6929	92.0000

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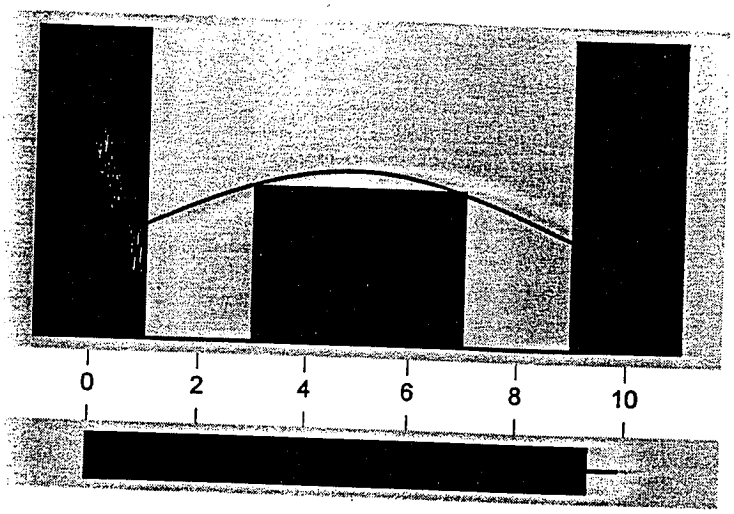
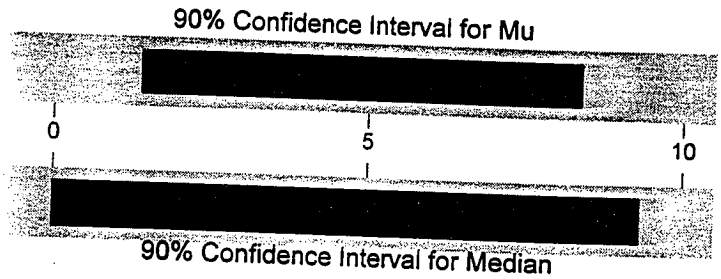
Descriptive Statistics





Variable: Transform-1.5

Anderson-Darling Normality Test

A-Squared:	0.329
P-Value:	0.382
Mean	4.87680 24
StDev	4.27305
Variance	18.2590
Skewness	-1.1E-01
Kurtosis	-1.87245
N	6
Minimum	0.00000
1st Quartile	0.00000
Median	5.12440
3rd Quartile	9.32189
Maximum	9.87418

90% Confidence Interval for Mu

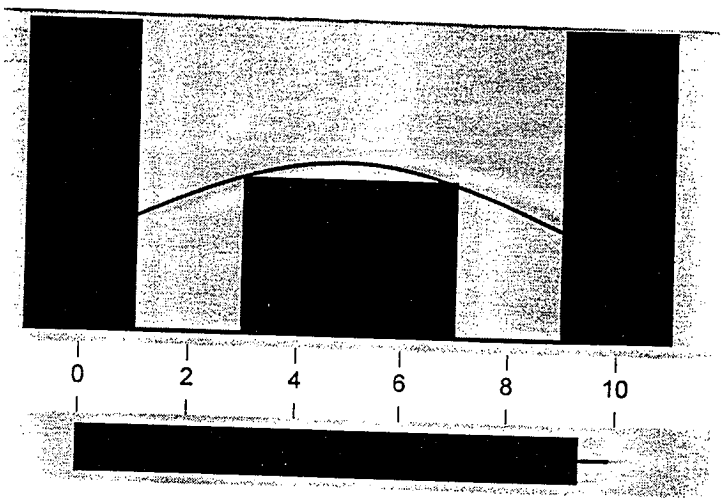
1.36161	8.39198 70

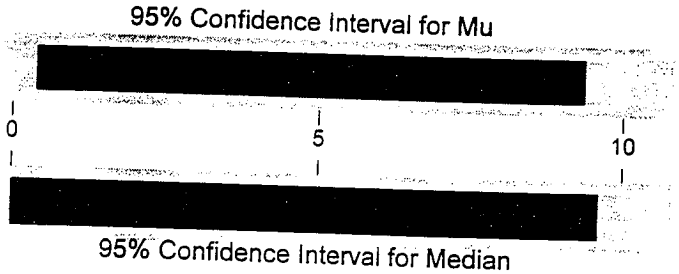
90% Confidence Interval for Sigma

2.87170	8.92751

90% Confidence Interval for Median

0.00000	9.32686





Anderson-Darling Normality Test

A-Squared:	0.329
P-Value:	0.382
Mean	4.87680
StDev	4.27305
Variance	18.2590
Skewness	-1.1E-01
Kurtosis	-1.87245
N	6
Minimum	0.0000
1st Quartile	0.0000
Median	5.1244
3rd Quartile	9.3219
Maximum	9.8742

95% Confidence Interval for Mu

0.3925	9.3611 88

95% Confidence Interval for Sigma

2.6673	10.4801

95% Confidence Interval for Median

0.0000	9.6112

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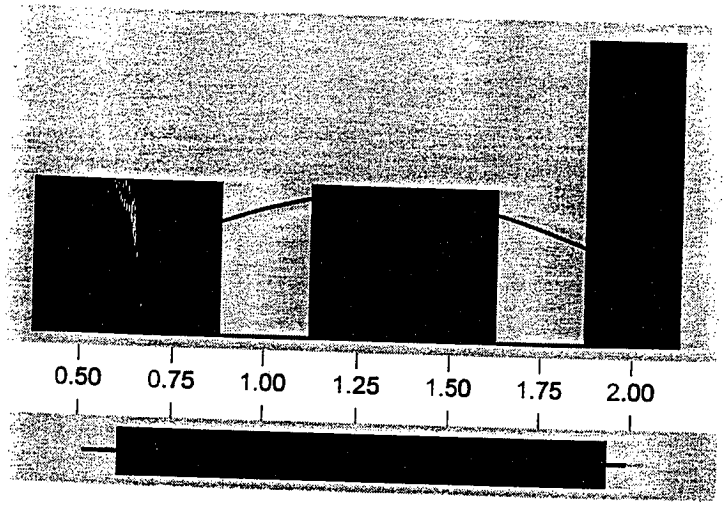
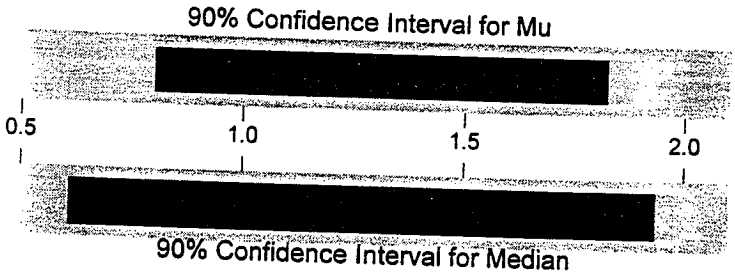
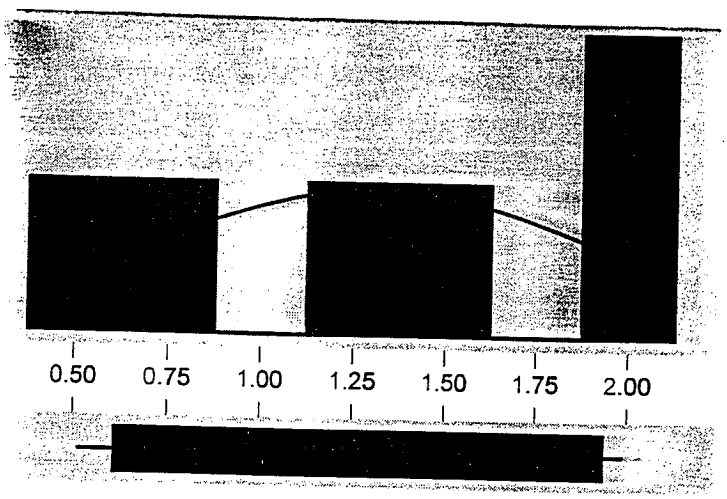
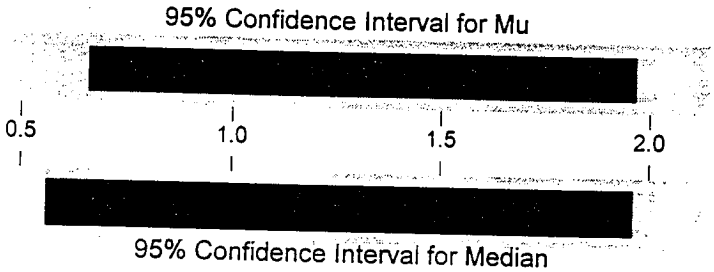
Descriptive Statistics









Variable: Log-1.5

Anderson-Darling Normality Test

A-Squared:	0.312
P-Value:	0.423

Mean	1.31357 21
StDev	0.62172
Variance	0.386539
Skewness	-3.4E-01
Kurtosis	-1.83657
N	6

Minimum	0.51851
1st Quartile	0.61222
Median	1.40679
3rd Quartile	1.93600
Maximum	1.98677

90% Confidence Interval for Mu

0.80211	1.82502 67

90% Confidence Interval for Sigma

0.41783	1.29894

90% Confidence Interval for Median

0.61137	1.93646

Anderson-Darling Normality Test

A-Squared:	0.312
P-Value:	0.423

Mean	1.31357
StDev	0.62172
Variance	0.386539
Skewness	-3.4E-01
Kurtosis	-1.83657
N	6

Minimum	0.51851
1st Quartile	0.61222
Median	1.40679
3rd Quartile	1.93600
Maximum	1.98677

95% Confidence Interval for Mu

0.66111	1.96602 92

95% Confidence Interval for Sigma

0.38808	1.52485

95% Confidence Interval for Median

0.56313	1.96260

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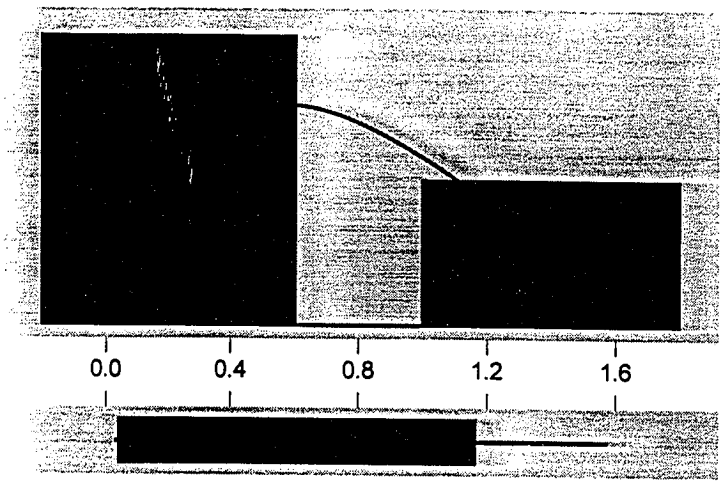
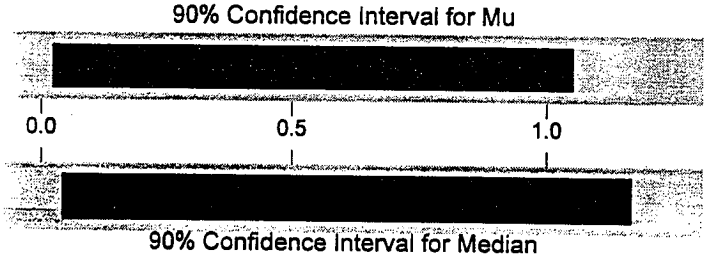
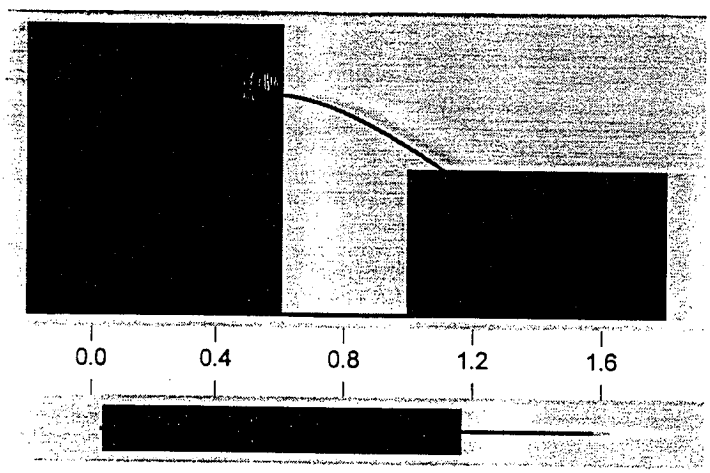
Descriptive Statistics



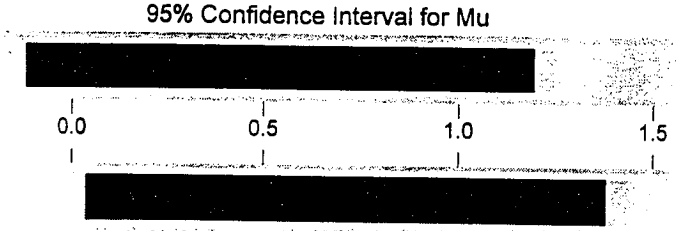
90% Confidence Interval for Mu



90% Confidence Interval for Median



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: Arcsine-1.5ft

Anderson-Darling Normality Test

A-Squared:	0.514
P-Value:	0.113
Mean	0.536791 52
StDev	0.624650
Variance	0.390187
Skewness	1.15179
Kurtosis	-1.1E-01
N	6
Minimum	0.03401
1st Quartile	0.04226
Median	0.27172
3rd Quartile	1.16331
Maximum	1.57080

90% Confidence Interval for Mu

0.02293	1.05065 102

90% Confidence Interval for Sigma

0.41980	1.30505

90% Confidence Interval for Median

0.04219	1.16698

Anderson-Darling Normality Test

A-Squared:	0.514
P-Value:	0.113
Mean	0.536791
StDev	0.624650
Variance	0.390187
Skewness	1.15179
Kurtosis	-1.1E-01
N	6
Minimum	0.03401
1st Quartile	0.04226
Median	0.27172
3rd Quartile	1.16331
Maximum	1.57080

95% Confidence Interval for Mu

-0.11874	1.19232 116

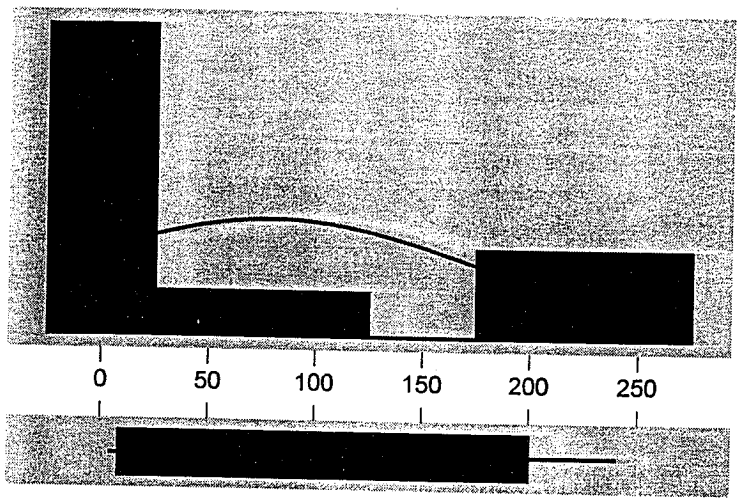
95% Confidence Interval for Sigma

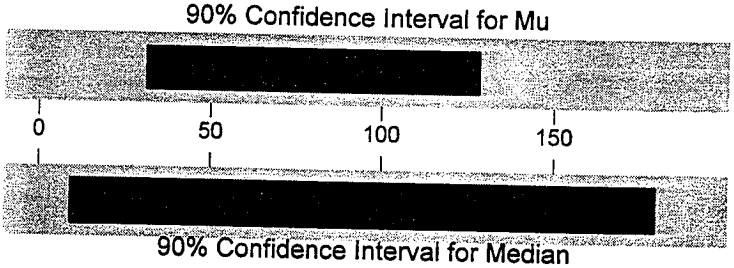
0.38991	1.53202

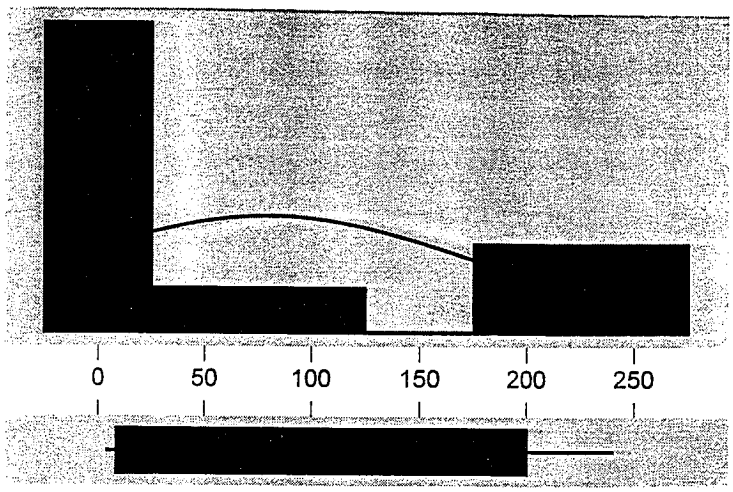
95% Confidence Interval for Median

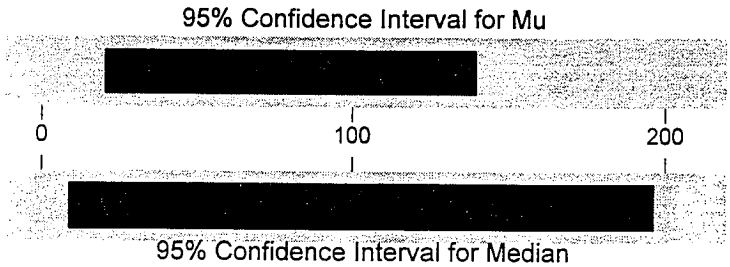
0.03794	1.37676

Descriptive Statistics









Variable: 2-feet

Anderson-Darling Normality Test

A-Squared:	1.644
P-Value:	0.000
Mean	79.7077
StDev	98.1286
Variance	9629.22
Skewness	0.875441
Kurtosis	-1.25896
N	13
Minimum	4.700
1st Quartile	8.500
Median	13.000
3rd Quartile	200.000
Maximum	240.000

90% Confidence Interval for Mu

31.201	128.214

90% Confidence Interval for Sigma

74.132	148.696

90% Confidence Interval for Median

9.257	179.446

Anderson-Darling Normality Test

A-Squared:	1.644
P-Value:	0.000
Mean	79.7077
StDev	98.1286
Variance	9629.22
Skewness	0.875441
Kurtosis	-1.25896
N	13
Minimum	4.700
1st Quartile	8.500
Median	13.000
3rd Quartile	200.000
Maximum	240.000

95% Confidence Interval for Mu

20.409	139.006

95% Confidence Interval for Sigma

70.367	161.984

95% Confidence Interval for Median

8.758	196.307

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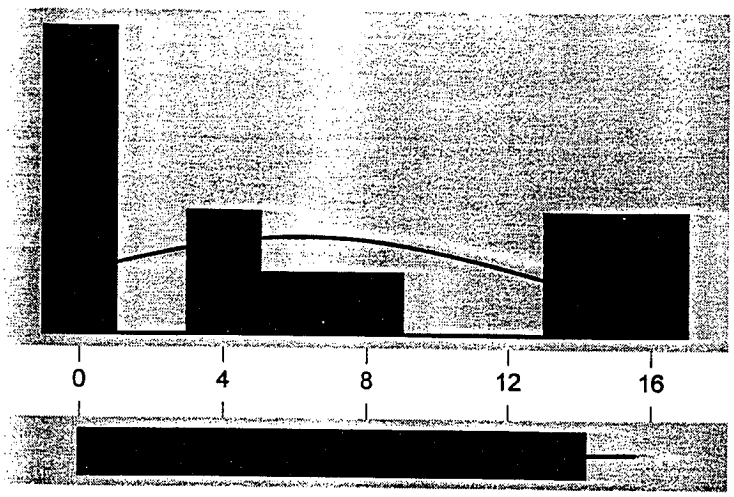
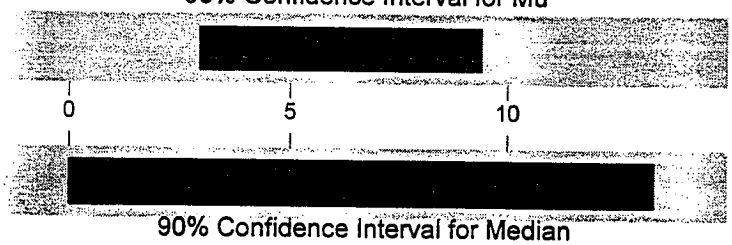
Task Order No. 07-053391-3V

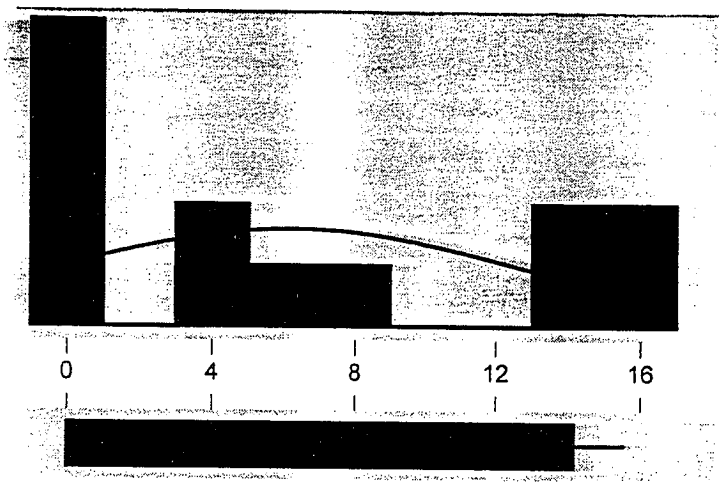
Descriptive Statistics



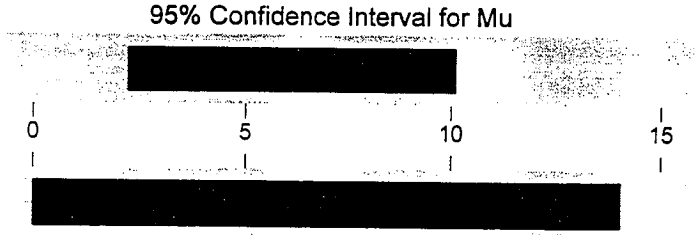
90% Confidence Interval for Mu



90% Confidence Interval for Median



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: Transform-2 ft

Anderson-Darling Normality Test

A-Squared:	0.965
P-Value:	0.010
Mean	6.17410 38
StDev	6.50917
Variance	42.3693
Skewness	0.489870
Kurtosis	-1.63821
N	13
Minimum	0.0000
1st Quartile	0.0000
Median	3.6736
3rd Quartile	14.1554
Maximum	15.5081

90% Confidence Interval for Mu

2.9565	9.3917 88

90% Confidence Interval for Sigma

4.9174	9.8635

90% Confidence Interval for Median

0.0000	13.3364

Anderson-Darling Normality Test

A-Squared:	0.965
P-Value:	0.010
Mean	6.17410
StDev	6.50917
Variance	42.3693
Skewness	0.489870
Kurtosis	-1.63821
N	13
Minimum	0.0000
1st Quartile	0.0000
Median	3.6736
3rd Quartile	14.1554
Maximum	15.5081

95% Confidence Interval for Mu

2.2406	10.1076 102

95% Confidence Interval for Sigma

4.6676	10.7449

95% Confidence Interval for Median

0.0000	14.0250

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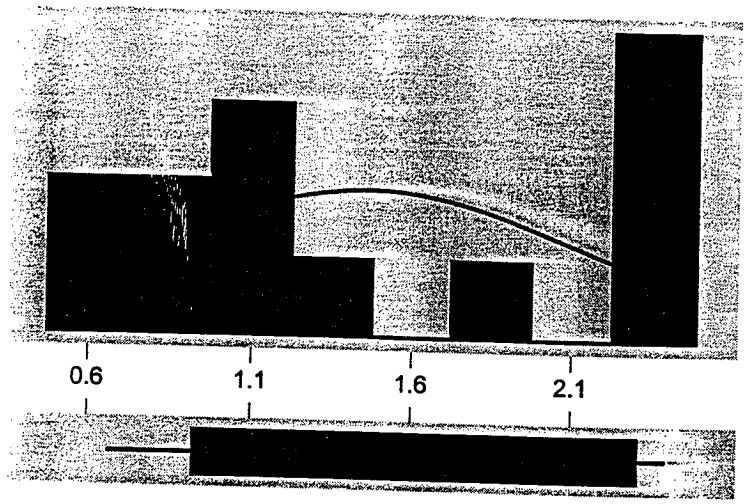
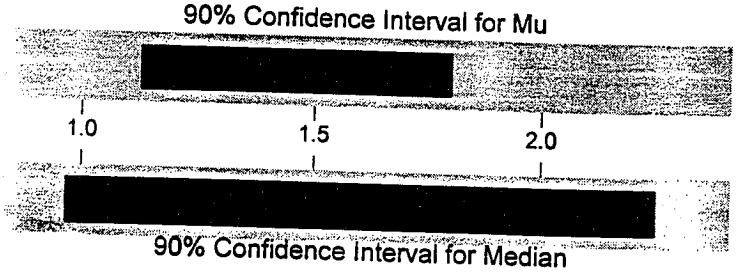
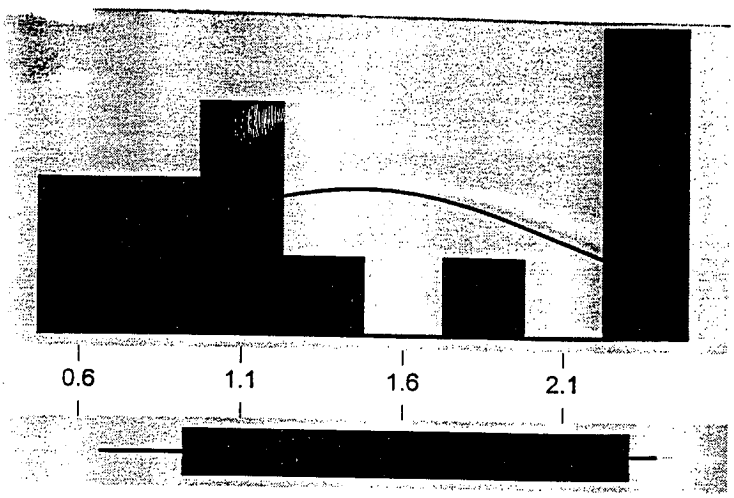
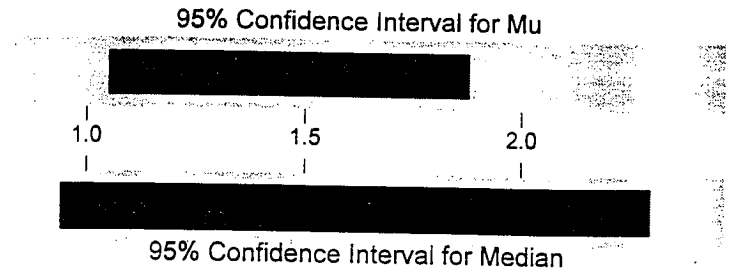
Task Order No. 07-053391-3V

Descriptive Statistics









Variable: Log-2 ft

Anderson-Darling Normality Test

A-Squared:	0.839
P-Value:	0.022
Mean	1.46375 29
StDev	0.68224
Variance	0.465452
Skewness	0.377953
Kurtosis	-1.74746
N	13
Minimum	0.67210
1st Quartile	0.92794
Median	1.11394
3rd Quartile	2.30049
Maximum	2.38021

90% Confidence Interval for Mu

1.12651	1.80100 63

90% Confidence Interval for Sigma

0.51541	1.03381

90% Confidence Interval for Median

0.96637	2.24232

Anderson-Darling Normality Test

A-Squared:	0.839
P-Value:	0.022
Mean	1.46375
StDev	0.68224
Variance	0.465452
Skewness	0.377953
Kurtosis	-1.74746
N	13
Minimum	0.67210
1st Quartile	0.92794
Median	1.11394
3rd Quartile	2.30049
Maximum	2.38021

95% Confidence Interval for Mu

1.05148	1.87603 75

95% Confidence Interval for Sigma

0.48923	1.12620

95% Confidence Interval for Median

0.94118	2.29246

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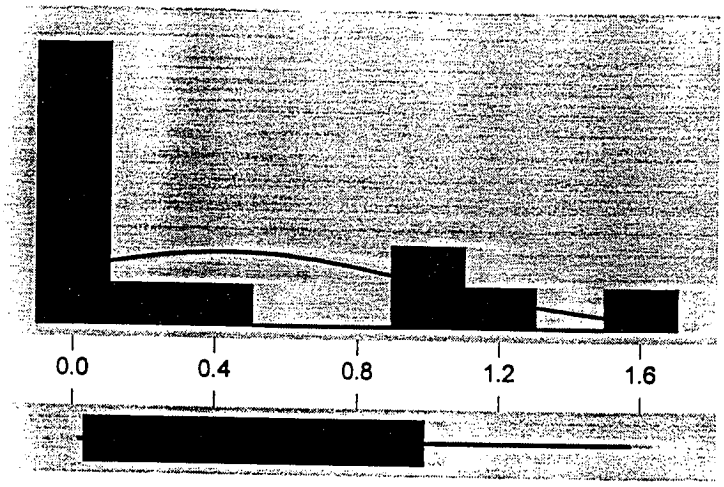
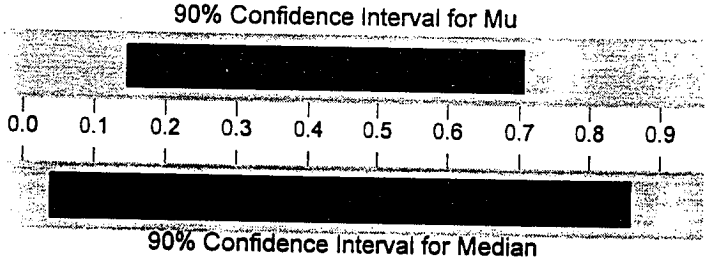
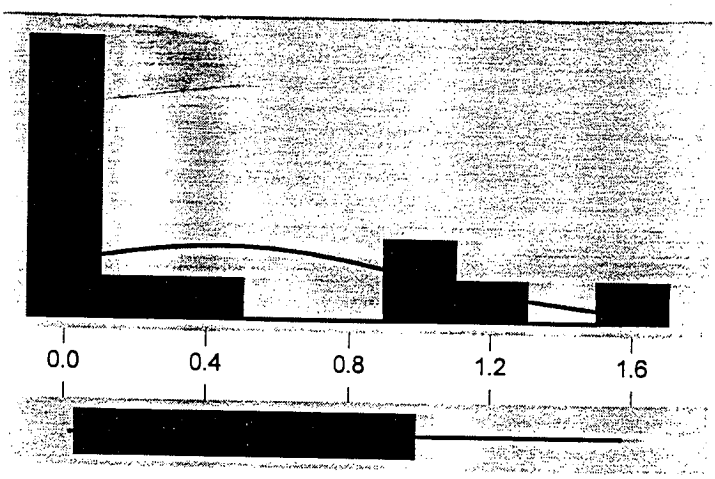
Descriptive Statistics



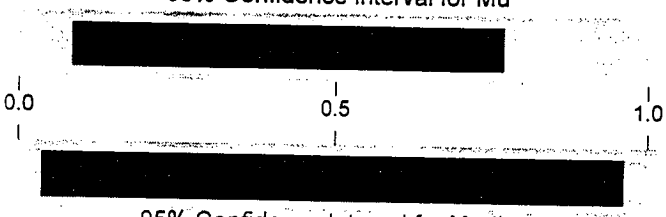
90% Confidence Interval for Mu



90% Confidence Interval for Median



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: Arcsine-2ft

Anderson-Darling Normality Test

A-Squared:	1.590
P-Value:	0.000

Mean	0.425431	102
StDev	0.566924	
Variance	0.321403	
Skewness	1.11381	
Kurtosis	-3.9E-01	
N	13	

Minimum	0.02000
1st Quartile	0.03551
Median	0.05403
3rd Quartile	0.98976
Maximum	1.57080

90% Confidence Interval for Mu

0.14519	0.70567	169

90% Confidence Interval for Sigma

0.42829	0.85907

90% Confidence Interval for Median

0.03829	0.85913

Anderson-Darling Normality Test

A-Squared:	1.590
P-Value:	0.000

Mean	0.425431
StDev	0.566924
Variance	0.321403
Skewness	1.11381
Kurtosis	-3.9E-01
N	13

Minimum	0.02000
1st Quartile	0.03551
Median	0.05403
3rd Quartile	0.98976
Maximum	1.57080

95% Confidence Interval for Mu

0.08284	0.76802	184

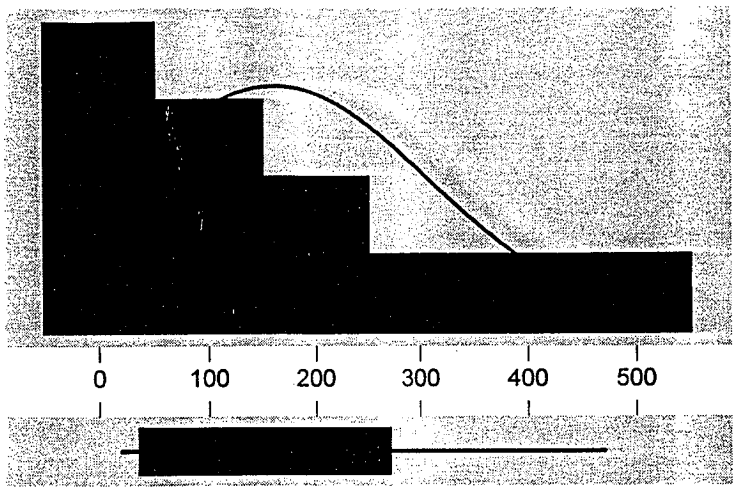
95% Confidence Interval for Sigma

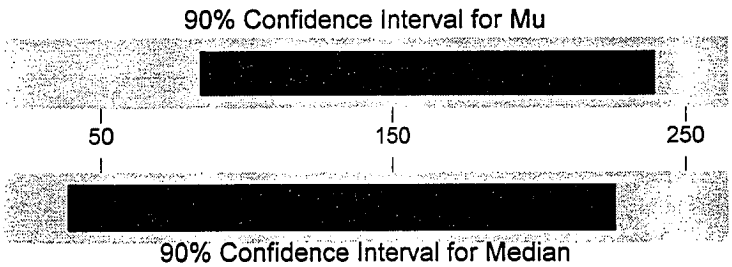
0.40653	0.93584

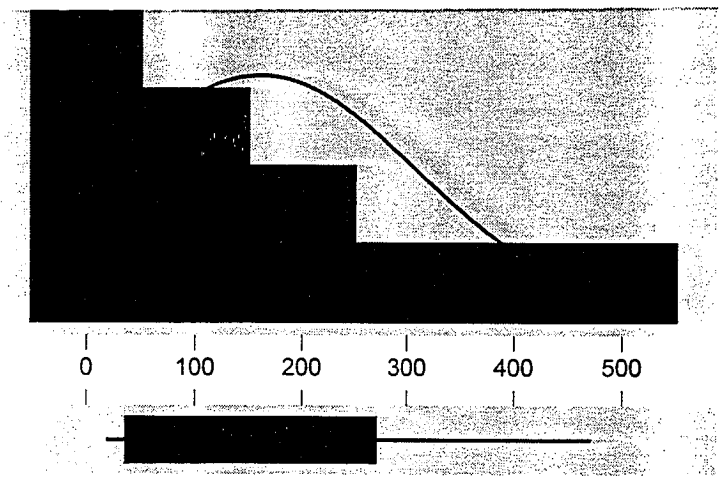
95% Confidence Interval for Median

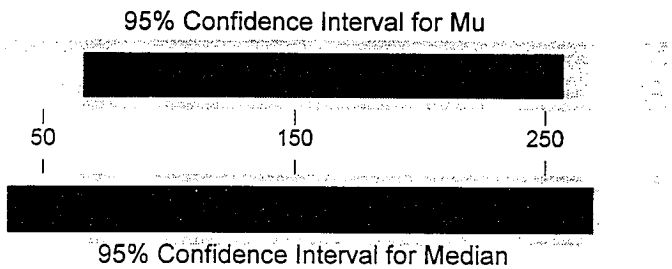
0.03643	0.96181

Descriptive Statistics









Variable: Totals1

Anderson-Darling Normality Test

A-Squared:	0.648
P-Value:	0.068
Mean	161.417
StDev	150.356
Variance	22606.8
Skewness	1.07054
Kurtosis	9.41E-02
N	12
Minimum	20.000
1st Quartile	36.250
Median	113.000
3rd Quartile	270.000
Maximum	470.000

90% Confidence Interval for Mu

83.468	239.365

90% Confidence Interval for Sigma

112.423	233.147

90% Confidence Interval for Median

39.001	225.980

Anderson-Darling Normality Test

A-Squared:	0.648
P-Value:	0.068
Mean	161.417
StDev	150.356
Variance	22606.8
Skewness	1.07054
Kurtosis	9.41E-02
N	12
Minimum	20.000
1st Quartile	36.250
Median	113.000
3rd Quartile	270.000
Maximum	470.000

95% Confidence Interval for Mu

65.885	256.948

95% Confidence Interval for Sigma

106.511	255.285

95% Confidence Interval for Median

36.316	268.951

Caltrans 605/210
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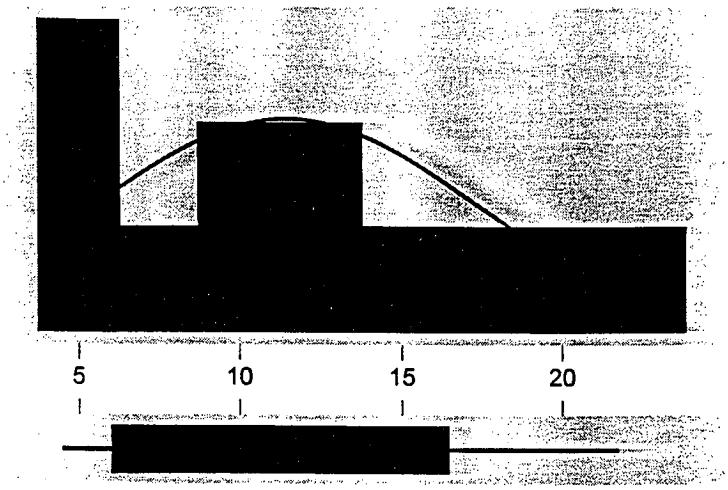
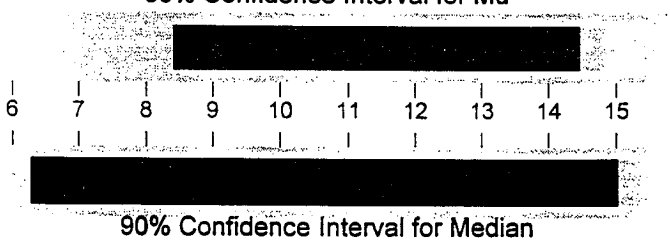
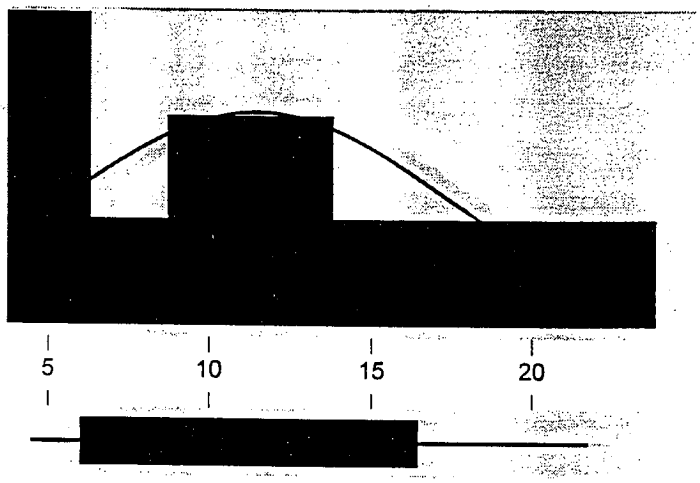
Descriptive Statistics



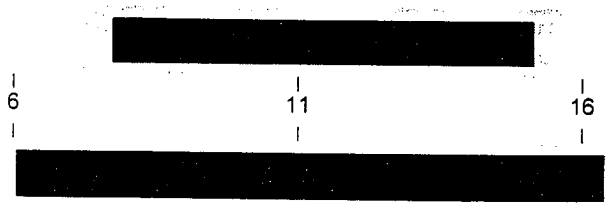
90% Confidence Interval for Mu



90% Confidence Interval for Median



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: Transfom1

Anderson-Darling Normality Test

A-Squared:	0.311
P-Value:	0.507
Mean	11.4384 131
StDev	5.8227
Variance	33.9041
Skewness	0.511873
Kurtosis	-9.2E-01
N	12
Minimum	4.5274
1st Quartile	6.0595
Median	10.5769
3rd Quartile	16.4102
Maximum	21.6910

90% Confidence Interval for Mu

8.4197	14.4571 209

90% Confidence Interval for Sigma

4.3538	9.0289

90% Confidence Interval for Median

6.2828	15.0151

Anderson-Darling Normality Test

A-Squared:	0.311
P-Value:	0.507
Mean	11.4384
StDev	5.8227
Variance	33.9041
Skewness	0.511873
Kurtosis	-9.2E-01
N	12
Minimum	4.5274
1st Quartile	6.0595
Median	10.5769
3rd Quartile	16.4102
Maximum	21.6910

95% Confidence Interval for Mu

7.7388	15.1380 229

95% Confidence Interval for Sigma

4.1248	9.8863

95% Confidence Interval for Median

6.0648	16.3769

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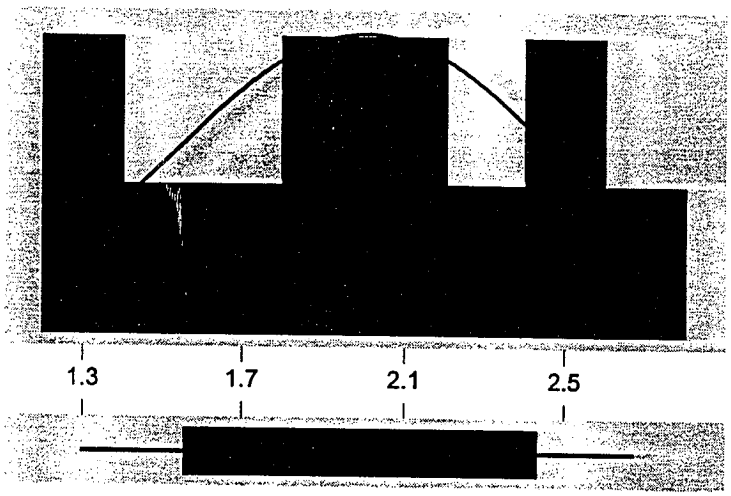
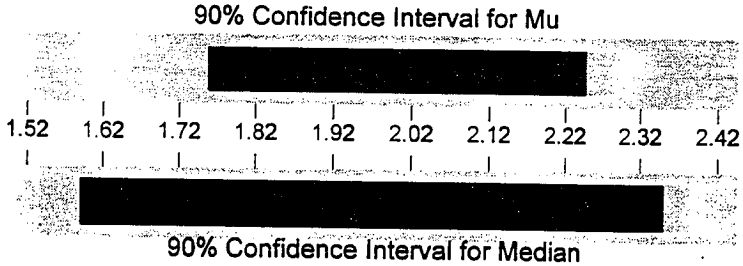
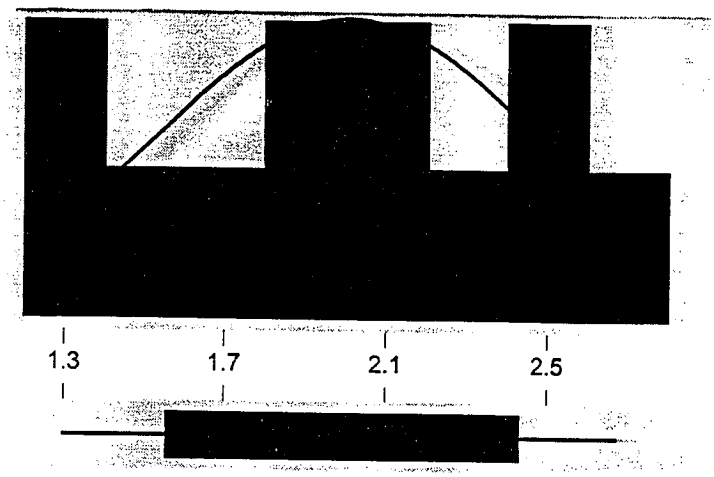
Descriptive Statistics



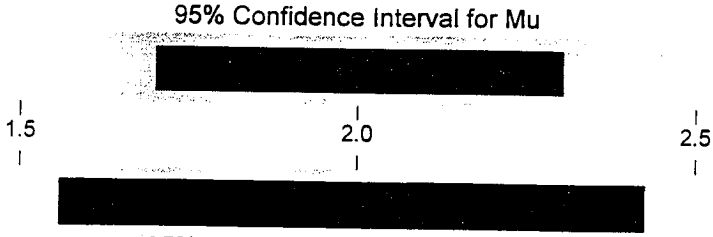
90% Confidence Interval for Mu



90% Confidence Interval for Median



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: Log1

Anderson-Darling Normality Test

A-Squared:	0.246
P-Value:	0.694
Mean	2.00271
StDev	0.47136
Variance	0.222182
Skewness	-1.3E-01
Kurtosis	-1.29357
N	12
Minimum	1.30103
1st Quartile	1.55857
Median	2.04031
3rd Quartile	2.42735
Maximum	2.67210

90% Confidence Interval for Mu

1.75834	2.24707

90% Confidence Interval for Sigma

0.35245	0.73091

90% Confidence Interval for Median

1.59048	2.35022

Anderson-Darling Normality Test

A-Squared:	0.246
P-Value:	0.694
Mean	2.00271
StDev	0.47136
Variance	0.222182
Skewness	-1.3E-01
Kurtosis	-1.29357
N	12
Minimum	1.30103
1st Quartile	1.55857
Median	2.04031
3rd Quartile	2.42735
Maximum	2.67210

95% Confidence Interval for Mu

1.70322	2.30219

95% Confidence Interval for Sigma

0.33391	0.80032

95% Confidence Interval for Median

1.55933	2.42551

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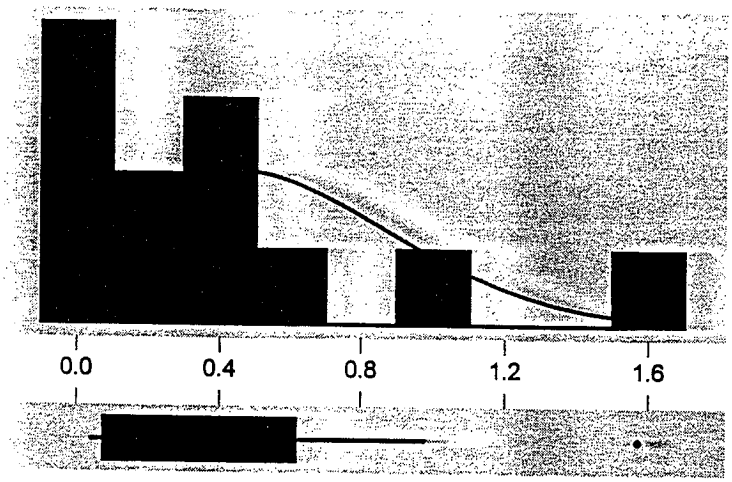
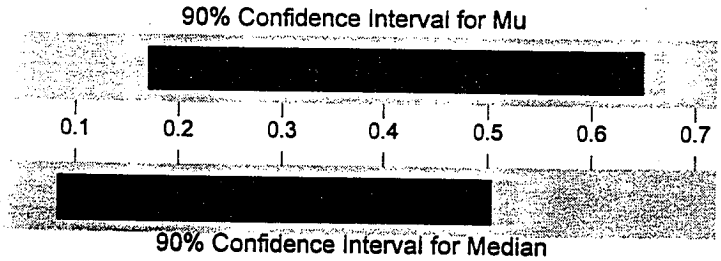
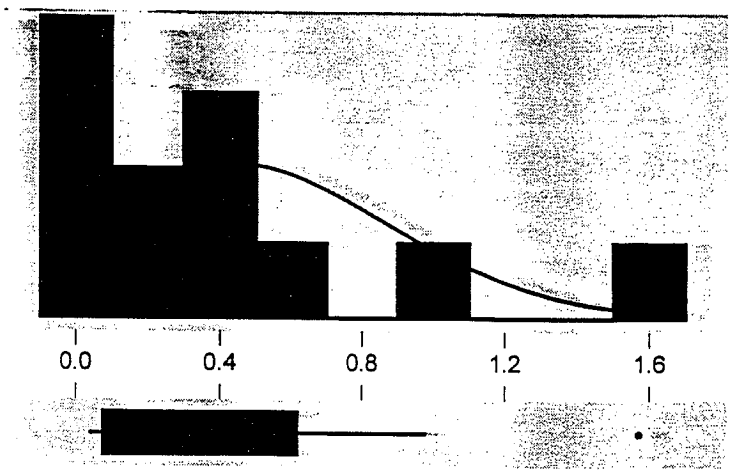
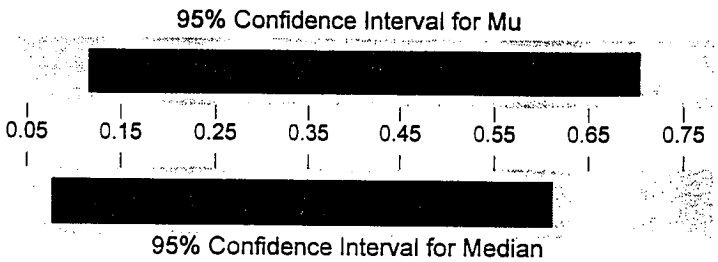
Descriptive Statistics









Variable: Arcsine1

Anderson-Darling Normality Test

A-Squared:	0.966
P-Value:	0.010
Mean	0.409815 193
StDev	0.461819
Variance	0.213277
Skewness	1.74050
Kurtosis	2.86167
N	12
Minimum	0.04257
1st Quartile	0.07721
Median	0.24324
3rd Quartile	0.61451
Maximum	1.57080

90% Confidence Interval for Mu

0.17040	0.64923 305

90% Confidence Interval for Sigma

0.34531	0.71611

90% Confidence Interval for Median

0.08308	0.50349

Anderson-Darling Normality Test

A-Squared:	0.966
P-Value:	0.010
Mean	0.409815
StDev	0.461819
Variance	0.213277
Skewness	1.74050
Kurtosis	2.86167
N	12
Minimum	0.04257
1st Quartile	0.07721
Median	0.24324
3rd Quartile	0.61451
Maximum	1.57080

95% Confidence Interval for Mu

0.11639	0.70324 330

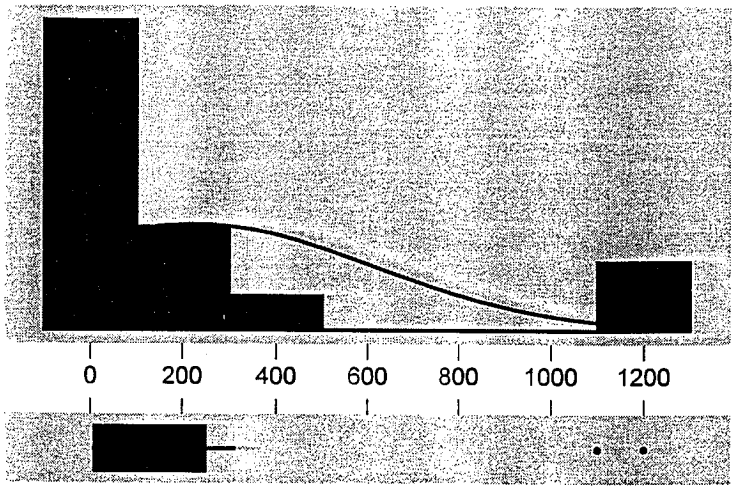
95% Confidence Interval for Sigma

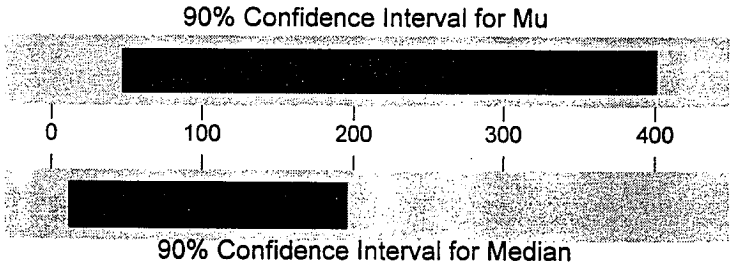
0.32715	0.78411

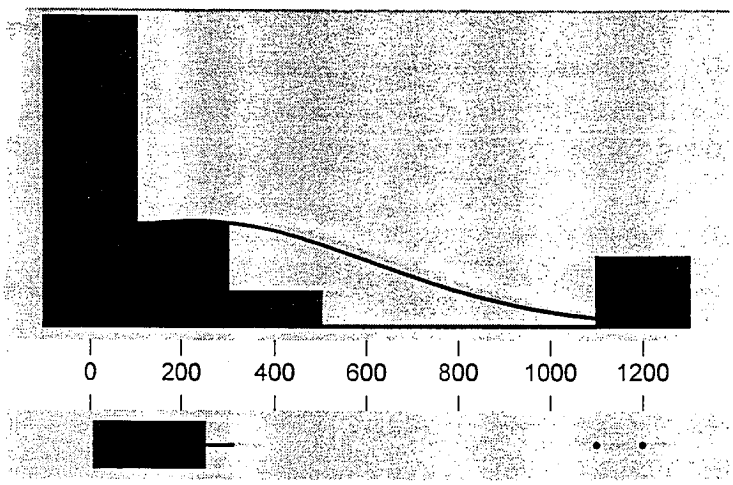
95% Confidence Interval for Median

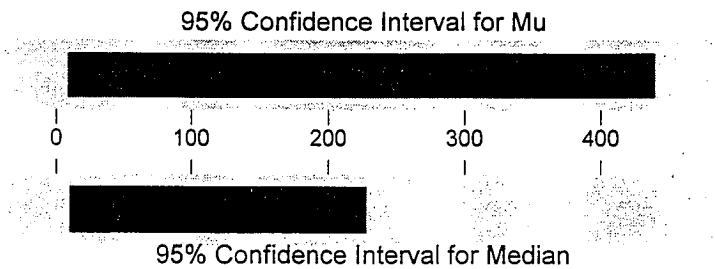
0.07735	0.61187

Descriptive Statistics









Variable: Totals2

Anderson-Darling Normality Test

A-Squared:	2.577
P-Value:	0.000
Mean	223.907
StDev	388.495
Variance	150928
Skewness	2.14400
Kurtosis	3.52915
N	15
Minimum	7.80
1st Quartile	9.30
Median	31.00
3rd Quartile	250.00
Maximum	1200.00

90% Confidence Interval for Mu

47.23	400.58

90% Confidence Interval for Sigma

298.69	567.08

90% Confidence Interval for Median

11.75	195.63

Anderson-Darling Normality Test

A-Squared:	2.577
P-Value:	0.000
Mean	223.907
StDev	388.495
Variance	150928
Skewness	2.14400
Kurtosis	3.52915
N	15
Minimum	7.80
1st Quartile	9.30
Median	31.00
3rd Quartile	250.00
Maximum	1200.00

95% Confidence Interval for Mu

8.77	439.05

95% Confidence Interval for Sigma

284.43	612.69

95% Confidence Interval for Median

10.31	227.59

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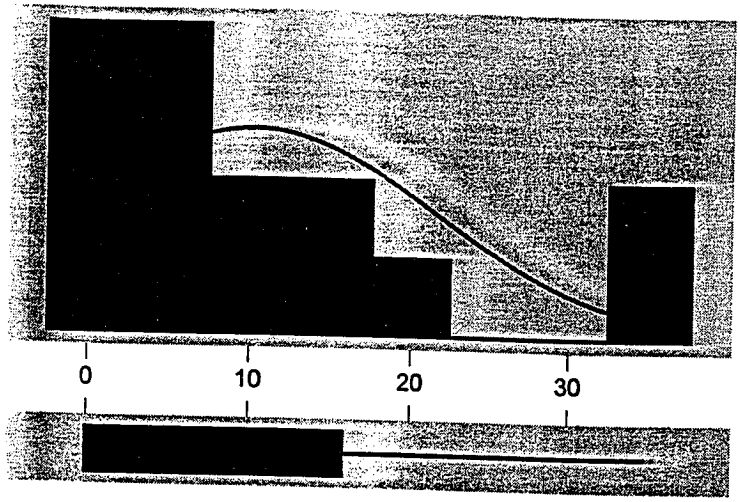
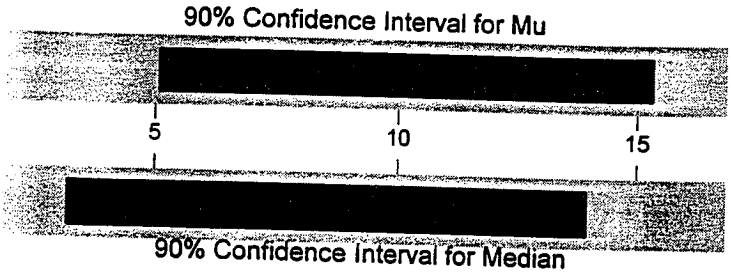
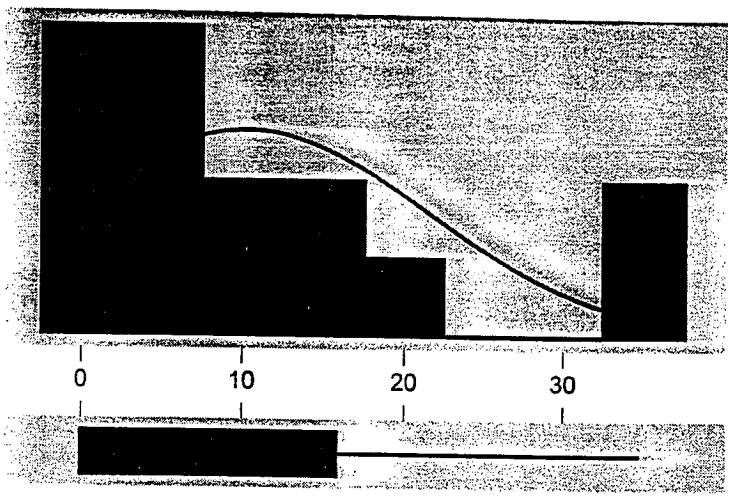
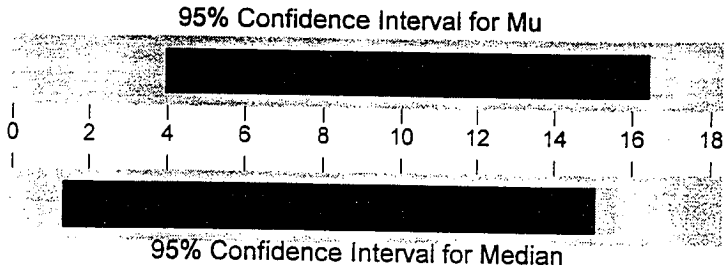
Descriptive Statistics









Variable: Transform2

Anderson-Darling Normality Test

A-Squared:	0.910
P-Value:	0.015
Mean	10.1900 104
StDev	11.2502
Variance	126.567
Skewness	1.29719
Kurtosis	0.956382
N	15
Minimum	0.0000
1st Quartile	0.0000
Median	5.6123
3rd Quartile	15.8272
Maximum	34.6482

90% Confidence Interval for Mu

5.0738	15.3063 234.3

90% Confidence Interval for Sigma

8.6495	16.4218

90% Confidence Interval for Median

3.2031	13.9922

Anderson-Darling Normality Test

A-Squared:	0.910
P-Value:	0.015
Mean	10.1900
StDev	11.2502
Variance	126.567
Skewness	1.29719
Kurtosis	0.956382
N	15
Minimum	0.0000
1st Quartile	0.0000
Median	5.6123
3rd Quartile	15.8272
Maximum	34.6482

95% Confidence Interval for Mu

3.9599	16.4202 269.6

95% Confidence Interval for Sigma

8.2366	17.7427

95% Confidence Interval for Median

1.3203	15.0708

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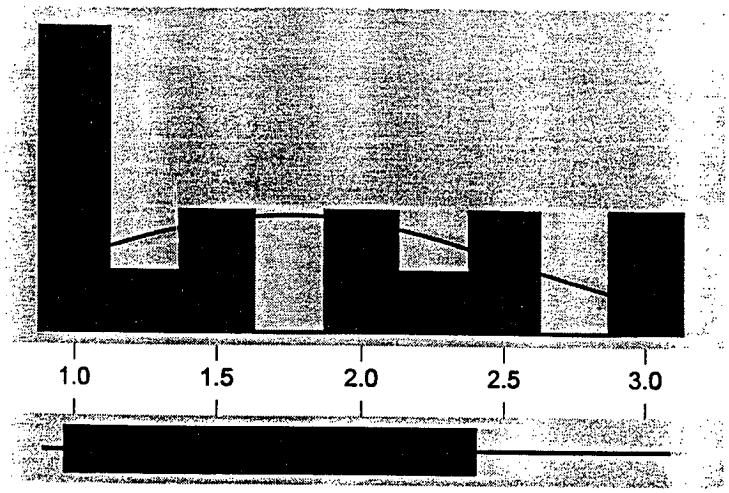
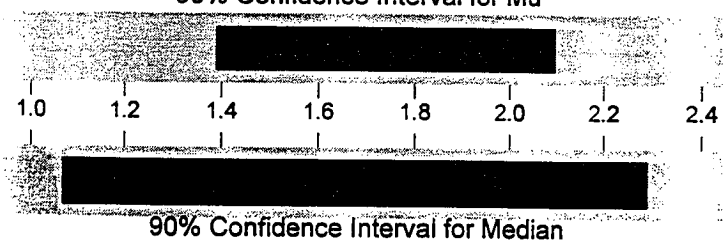
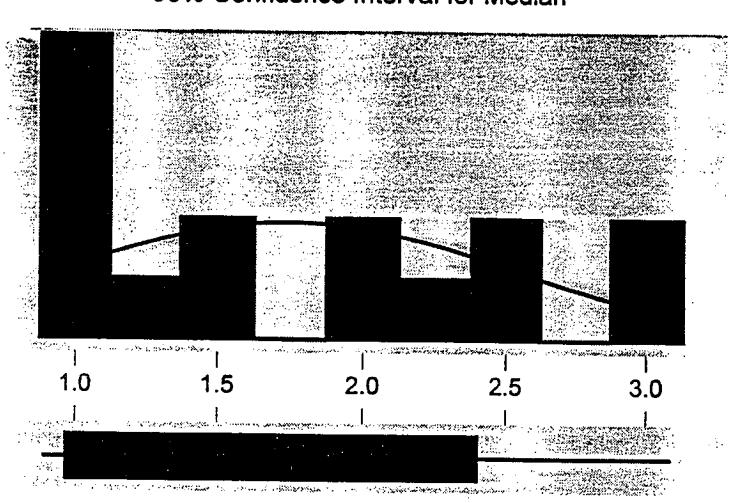
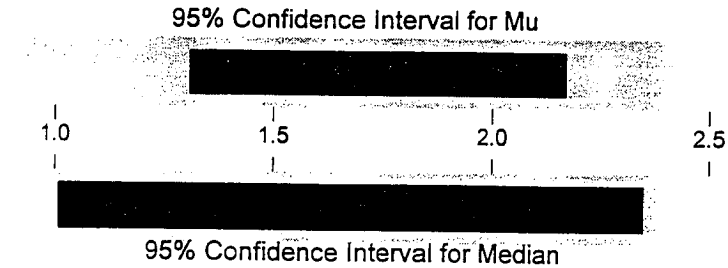
Task Order No. 07-053391-3V

Descriptive Statistics









95% Confidence Interval for Median

Variable: Log2

Anderson-Darling Normality Test

A-Squared:	0.580
P-Value:	0.110
Mean	1.74302 55
StDev	0.77522
Variance	0.600969
Skewness	0.494175
Kurtosis	-1.13370
N	15
Minimum	0.89209
1st Quartile	0.96848
Median	1.49136
3rd Quartile	2.39794
Maximum	3.07918

90% Confidence Interval for Mu REAL NO.

1.39047	2.09557 = 124.6

90% Confidence Interval for Sigma

0.59601	1.13158

90% Confidence Interval for Median

1.06879	2.28994

Anderson-Darling Normality Test

A-Squared:	0.580
P-Value:	0.110
Mean	1.74302
StDev	0.77522
Variance	0.600969
Skewness	0.494175
Kurtosis	-1.13370
N	15
Minimum	0.89209
1st Quartile	0.96848
Median	1.49136
3rd Quartile	2.39794
Maximum	3.07918

95% Confidence Interval for Mu REAL NO.

1.31372	2.17232 = [illegible]

95% Confidence Interval for Sigma

0.56756	1.22260

95% Confidence Interval for Median

1.00983	2.35342

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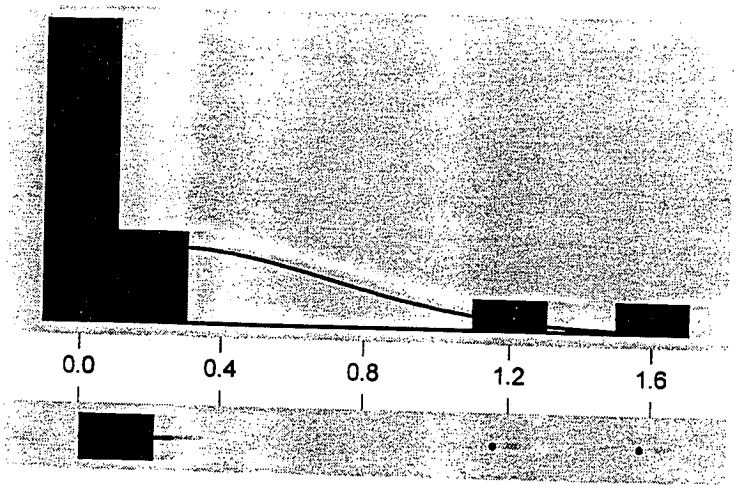
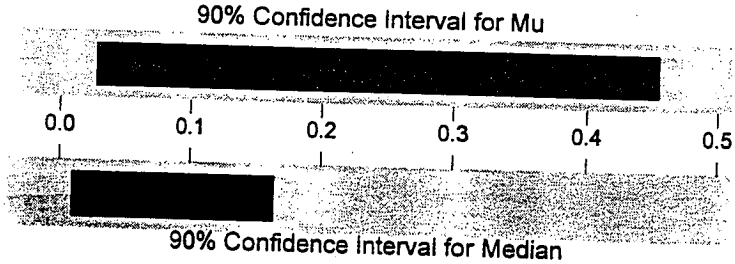
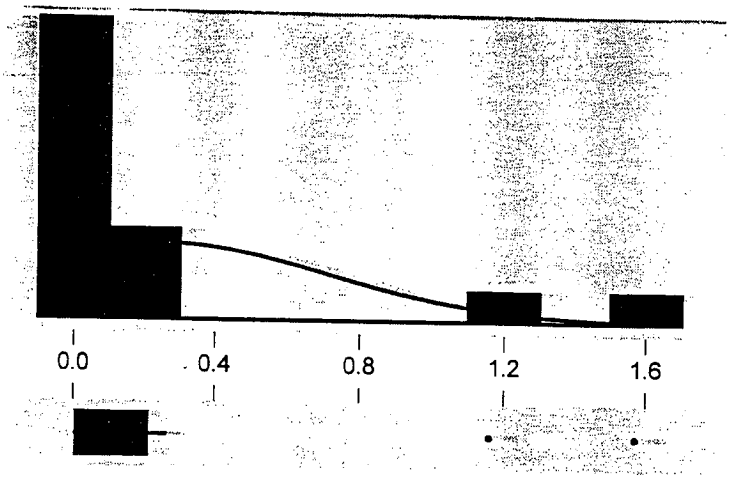
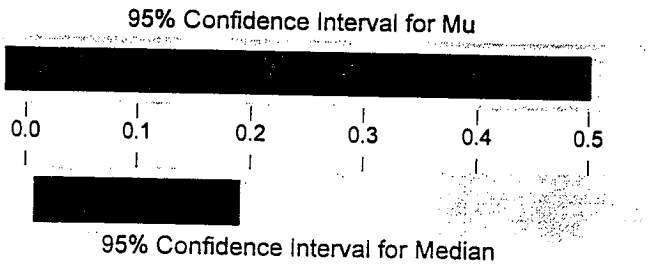
Descriptive Statistics









Variable: Arcsine2

Anderson-Darling Normality Test

A-Squared:	2.948
P-Value:	0.000

Mean	0.241197	289
StDev	0.469901	
Variance	0.220807	
Skewness	2.39896	
Kurtosis	4.93151	
N	15	

Minimum	0.00650
1st Quartile	0.00775
Median	0.02584
3rd Quartile	0.20987
Maximum	1.57080

90% Confidence Interval for Mu

0.02750	0.45489	546

90% Confidence Interval for Sigma

0.36127	0.68591

90% Confidence Interval for Median

0.00979	0.16378

Anderson-Darling Normality Test

A-Squared:	2.948
P-Value:	0.000

Mean	0.241197
StDev	0.469901
Variance	0.220807
Skewness	2.39896
Kurtosis	4.93151
N	15

Minimum	0.00650
1st Quartile	0.00775
Median	0.02584
3rd Quartile	0.20987
Maximum	1.57080

95% Confidence Interval for Mu

-0.01903	0.50142	602

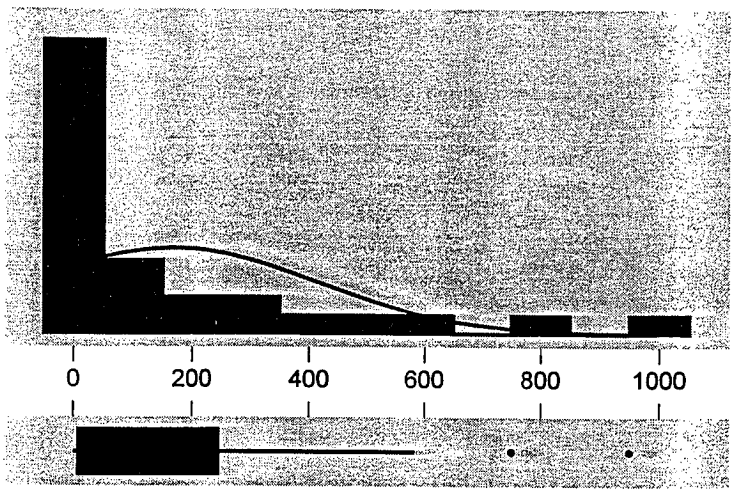
95% Confidence Interval for Sigma

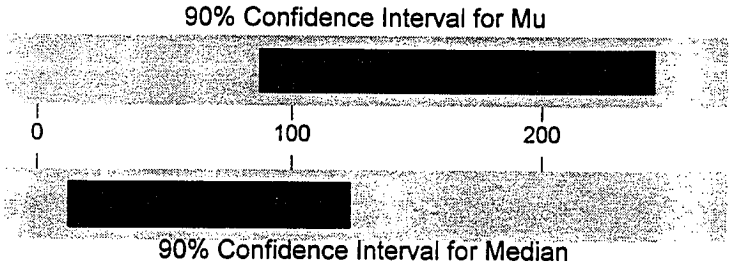
0.34403	0.74108

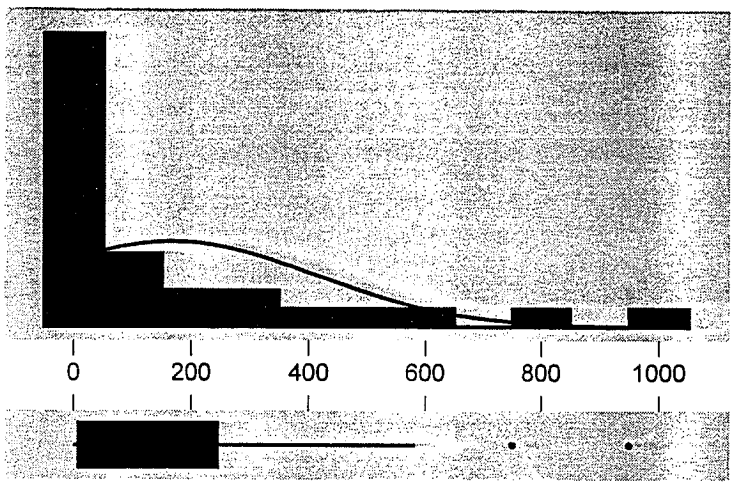
95% Confidence Interval for Median

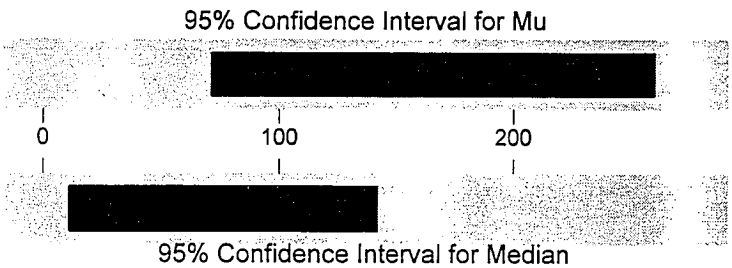
0.00859	0.19087

Descriptive Statistics









Variable: Totals3

Anderson-Darling Normality Test

A-Squared:	3.277
P-Value:	0.000
Mean	165.469
StDev	247.789
Variance	61399.6
Skewness	1.89464
Kurtosis	3.13218
N	29
Minimum	3.200
1st Quartile	8.300
Median	27.000
3rd Quartile	245.000
Maximum	950.000

90% Confidence Interval for Mu

87.194	243.744

90% Confidence Interval for Sigma

203.935	318.684

90% Confidence Interval for Median

12.341	123.297

Anderson-Darling Normality Test

A-Squared:	3.277
P-Value:	0.000
Mean	165.469
StDev	247.789
Variance	61399.6
Skewness	1.89464
Kurtosis	3.13218
N	29
Minimum	3.200
1st Quartile	8.300
Median	27.000
3rd Quartile	245.000
Maximum	950.000

95% Confidence Interval for Mu

71.215	259.723

95% Confidence Interval for Sigma

196.641	335.123

95% Confidence Interval for Median

11.000	141.604

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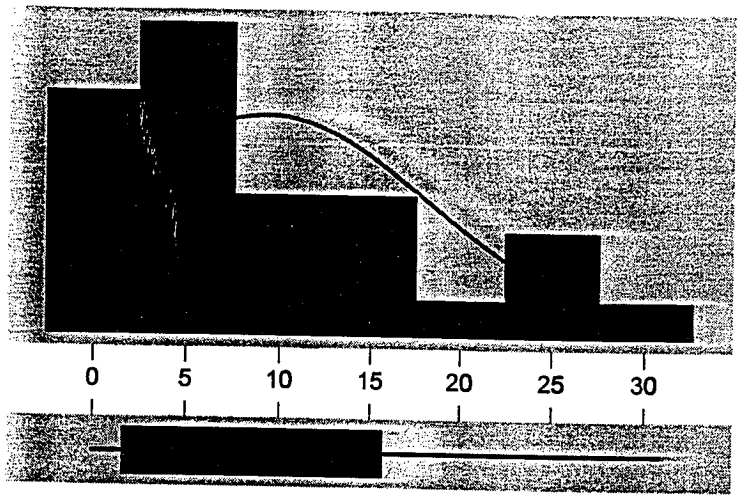
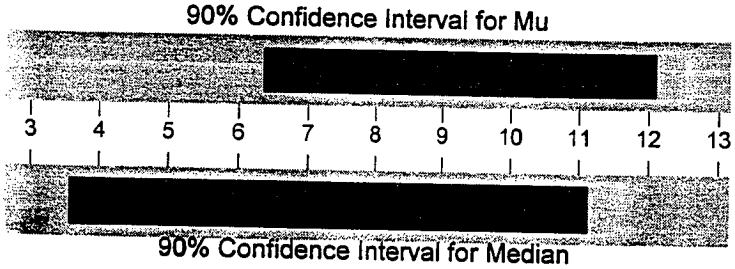
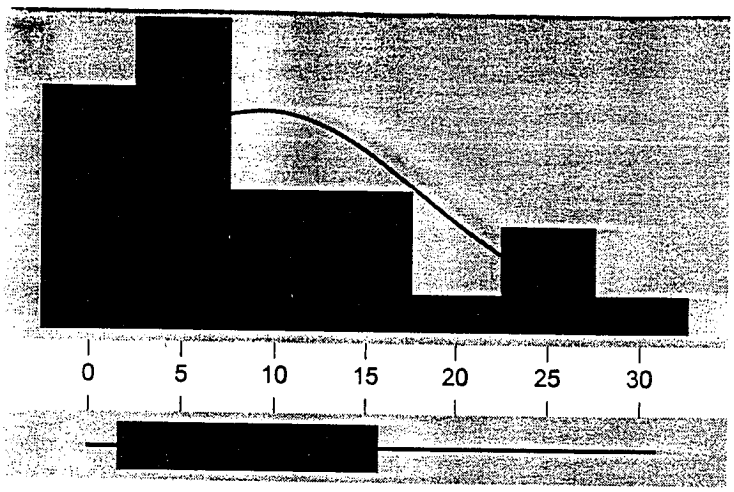
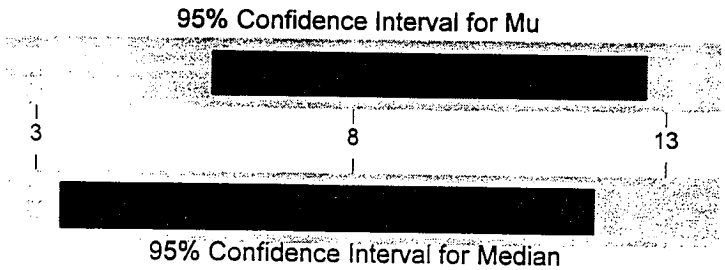
Descriptive Statistics









Variable: Transform3

Anderson-Darling Normality Test

A-Squared:	1.189
P-Value:	0.003
Mean	9.22839 85
StDev	9.08341
Variance	82.5083
Skewness	0.889844
Kurtosis	-2.0E-01
N	29
Minimum	0.0000
1st Quartile	1.6952
Median	5.2438
3rd Quartile	15.6611
Maximum	30.8302

90% Confidence Interval for Mu

6.3590	12.0978 146.4

90% Confidence Interval for Sigma

7.4758	11.6823

90% Confidence Interval for Median

3.5802	11.1244

Anderson-Darling Normality Test

A-Squared:	1.189
P-Value:	0.003
Mean	9.22839
StDev	9.08341
Variance	82.5083
Skewness	0.889844
Kurtosis	-2.0E-01
N	29
Minimum	0.0000
1st Quartile	1.6952
Median	5.2438
3rd Quartile	15.6611
Maximum	30.8302

95% Confidence Interval for Mu

5.7732	12.6835 160.9

95% Confidence Interval for Sigma

7.2084	12.2849

95% Confidence Interval for Median

3.3904	11.8772

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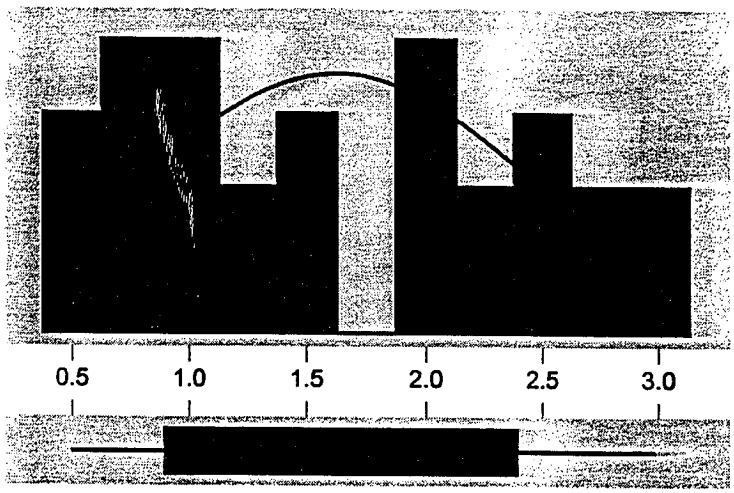
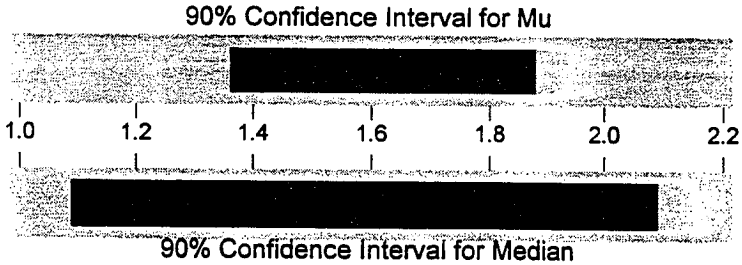
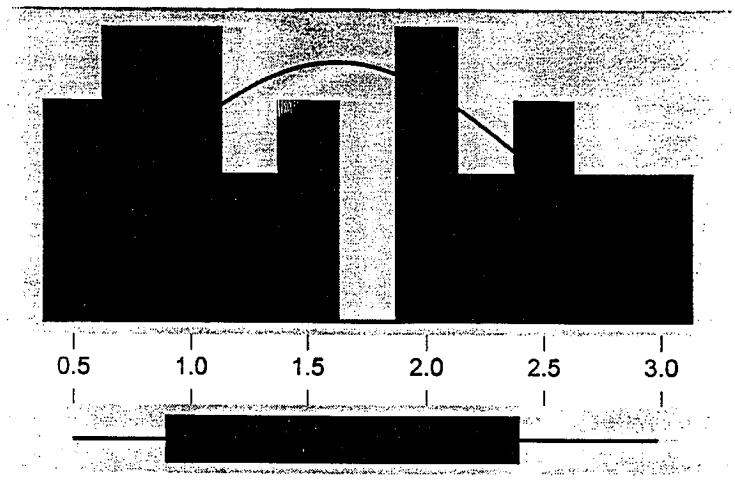
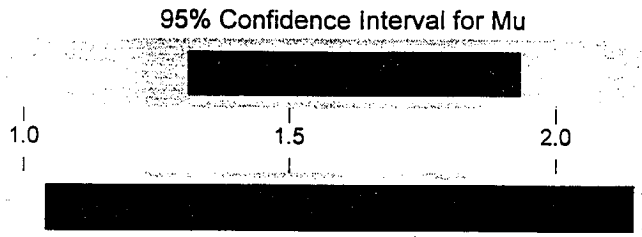
Descriptive Statistics









Variable: Log3

Anderson-Darling Normality Test

A-Squared:	0.782
P-Value:	0.037
Mean	1.62046 42
StDev	0.81646
Variance	0.666599
Skewness	0.158213
Kurtosis	-1.43021
N	29
Minimum	0.50515
1st Quartile	0.89479
Median	1.43136
3rd Quartile	2.38835
Maximum	2.97772

90% Confidence Interval for Mu

1.36255	1.87837 = 75.6

90% Confidence Interval for Sigma

0.67196	1.05005

90% Confidence Interval for Median

1.09002	2.09064

Anderson-Darling Normality Test

A-Squared:	0.782
P-Value:	0.037
Mean	1.62046
StDev	0.81646
Variance	0.666599
Skewness	0.158213
Kurtosis	-1.43021
N	29
Minimum	0.50515
1st Quartile	0.89479
Median	1.43136
3rd Quartile	2.38835
Maximum	2.97772

95% Confidence Interval for Mu

1.30990	1.93102 = 85.3

95% Confidence Interval for Sigma

0.64792	1.10422

95% Confidence Interval for Median

1.04139	2.14496

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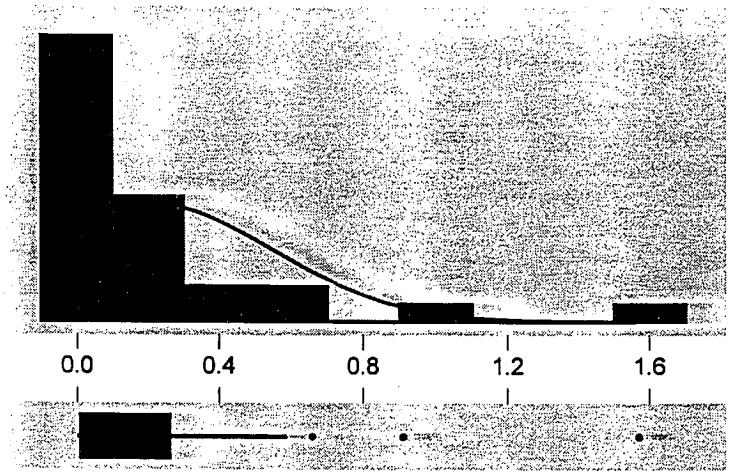
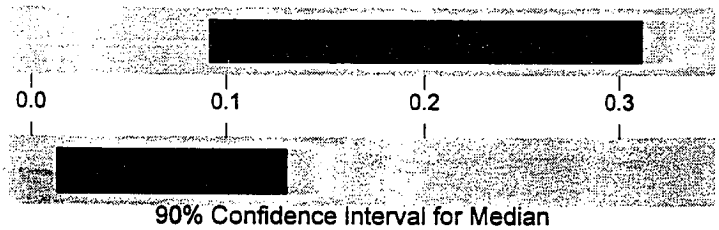
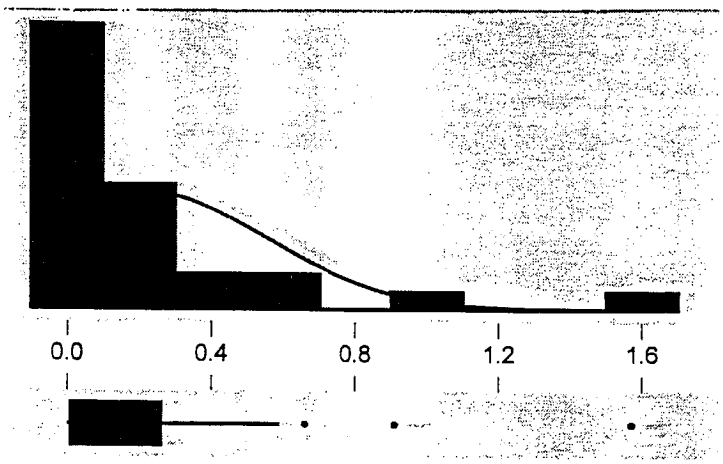
Descriptive Statistics



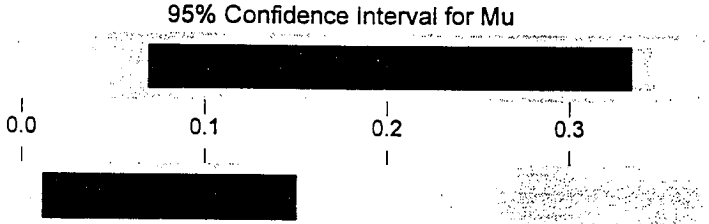
90% Confidence Interval for Mu



90% Confidence Interval for Median



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: Arcsine3

Anderson-Darling Normality Test

A-Squared:	3.803
P-Value:	0.000
Mean	0.201561 191
StDev	0.347904
Variance	0.121038
Skewness	2.70517
Kurtosis	8.28932
N	29
Minimum	0.00337
1st Quartile	0.00874
Median	0.02842
3rd Quartile	0.26088
Maximum	1.57080

90% Confidence Interval for Mu

0.09166	0.31146 296

90% Confidence Interval for Sigma

0.28633	0.44744

90% Confidence Interval for Median

0.01299	0.13016

Anderson-Darling Normality Test

A-Squared:	3.803
P-Value:	0.000
Mean	0.201561
StDev	0.347904
Variance	0.121038
Skewness	2.70517
Kurtosis	8.28932
N	29
Minimum	0.00337
1st Quartile	0.00874
Median	0.02842
3rd Quartile	0.26088
Maximum	1.57080

95% Confidence Interval for Mu

0.06923	0.33390 317

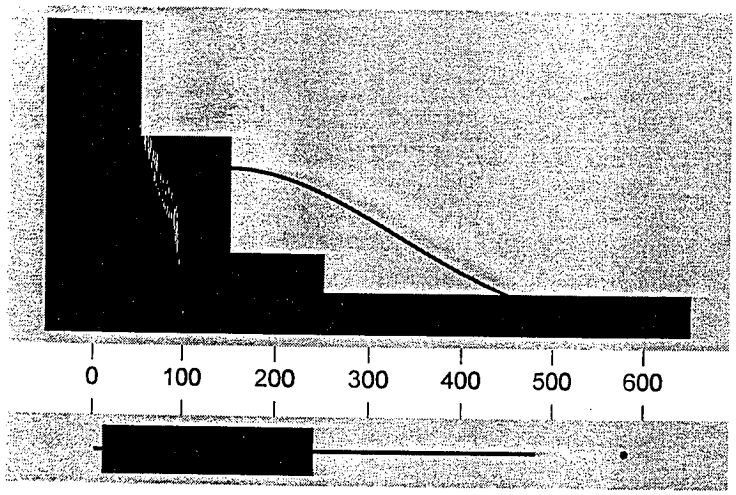
95% Confidence Interval for Sigma

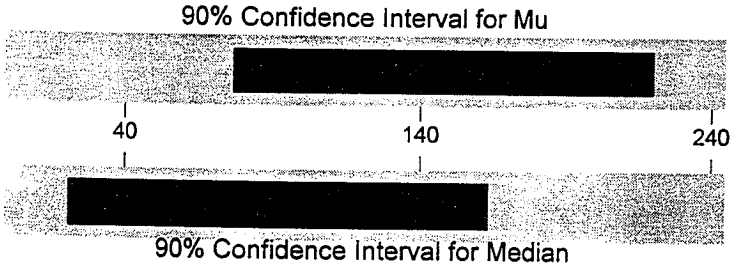
0.27609	0.47052

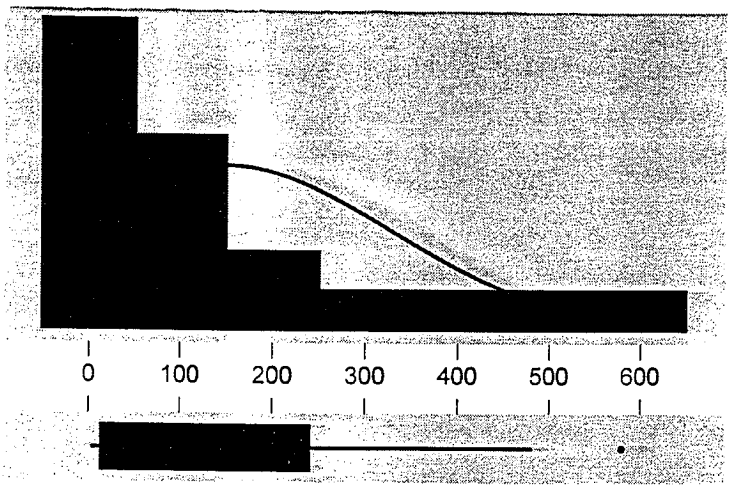
95% Confidence Interval for Median

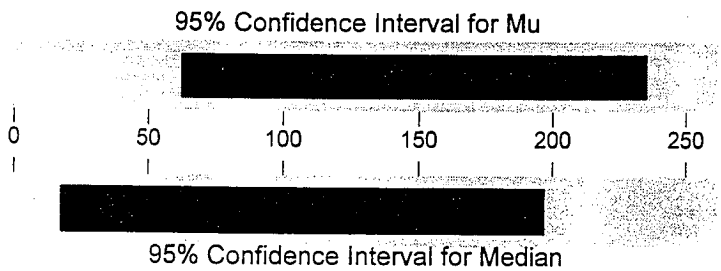
0.01158	0.14968

Descriptive Statistics









Variable: Totals4

Anderson-Darling Normality Test

A-Squared:	1.527
P-Value:	0.000
Mean	148.711
StDev	178.849
Variance	31987.0
Skewness	1.31267
Kurtosis	0.639471
N	19
Minimum	4.700
1st Quartile	14.000
Median	78.000
3rd Quartile	240.000
Maximum	580.000

90% Confidence Interval for Mu

77.560	219.861

90% Confidence Interval for Sigma

141.223	247.617

90% Confidence Interval for Median

20.703	162.968

Anderson-Darling Normality Test

A-Squared:	1.527
P-Value:	0.000
Mean	148.711
StDev	178.849
Variance	31987.0
Skewness	1.31267
Kurtosis	0.639471
N	19
Minimum	4.700
1st Quartile	14.000
Median	78.000
3rd Quartile	240.000
Maximum	580.000

95% Confidence Interval for Mu

62.508	234.913

95% Confidence Interval for Sigma

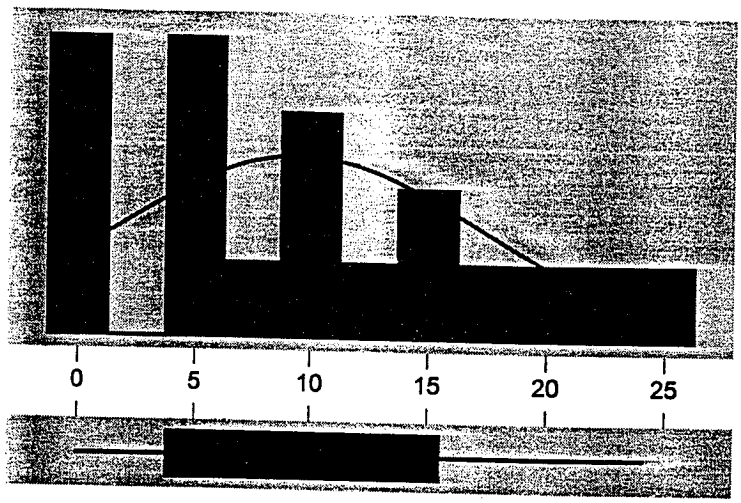
135.141	264.487

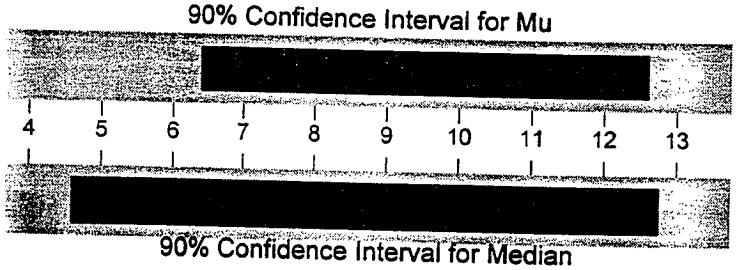
95% Confidence Interval for Median

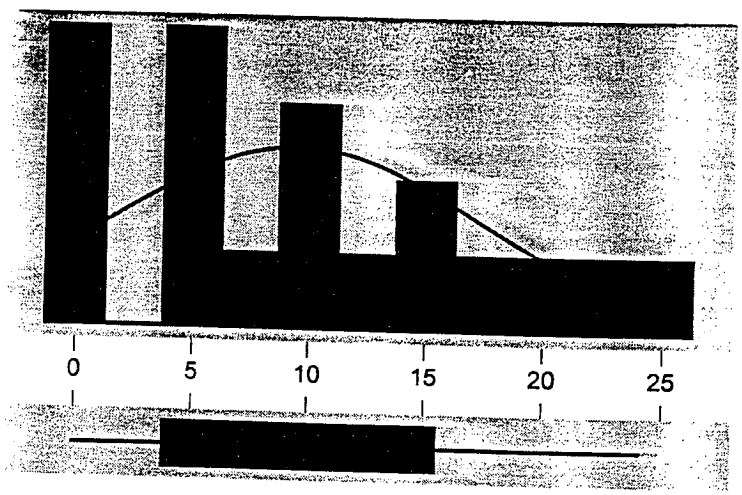
17.456	196.799

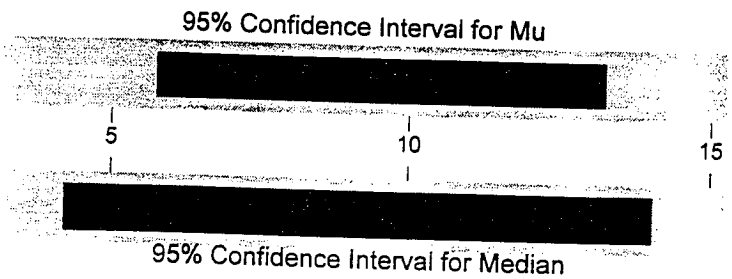
Caltrans 605/210
Task Order No. 07-053391-3V

Descriptive Statistics









Variable: Transform4

Anderson-Darling Normality Test

A-Squared:	0.405
P-Value:	0.320
Mean	9.49794 90
StDev	7.78345
Variance	60.5820
Skewness	0.442872
Kurtosis	-9.1E-01
N	19
Minimum	0.0000
1st Quartile	3.8073
Median	8.8600
3rd Quartile	15.5081
Maximum	24.0936

90% Confidence Interval for Mu

6.4015	12.5944 158.6

90% Confidence Interval for Sigma

6.1460	10.7762

90% Confidence Interval for Median

4.5963	12.7485

Anderson-Darling Normality Test

A-Squared:	0.405
P-Value:	0.320
Mean	9.49794
StDev	7.78345
Variance	60.5820
Skewness	0.442872
Kurtosis	-9.1E-01
N	19
Minimum	0.0000
1st Quartile	3.8073
Median	8.8600
3rd Quartile	15.5081
Maximum	24.0936

95% Confidence Interval for Mu

5.7464	13.2494 175.5

95% Confidence Interval for Sigma

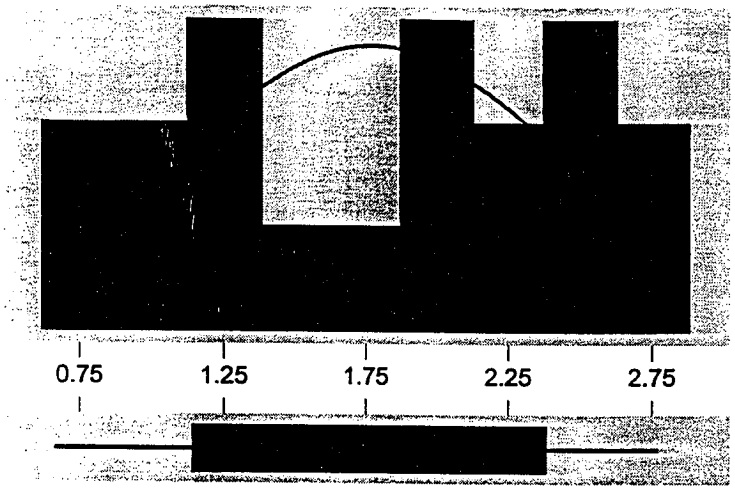
5.8813	11.5103

95% Confidence Interval for Median

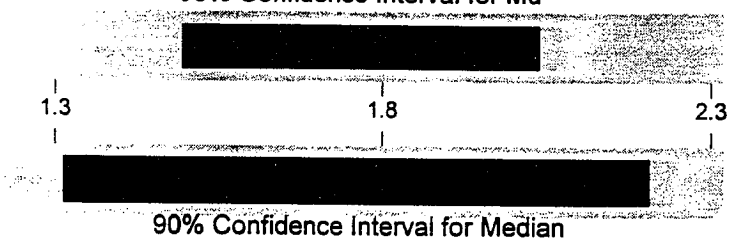
4.2337	14.0341

Caltrans 605/210
Task Order No. 07-053391-3V

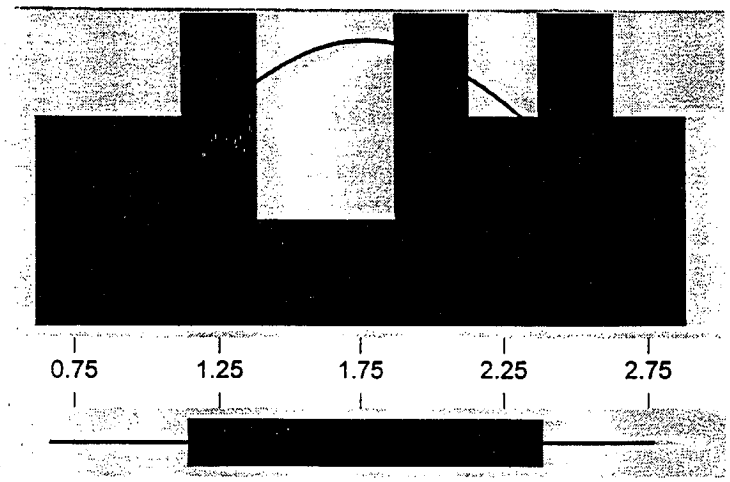
Descriptive Statistics



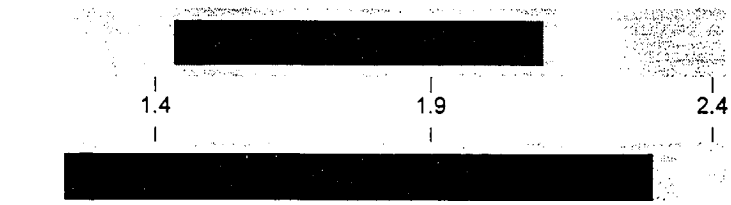
90% Confidence Interval for Mu



90% Confidence Interval for Median



95% Confidence Interval for Mu



95% Confidence Interval for Median

Variable: Log4

Anderson-Darling Normality Test

A-Squared:	0.371
P-Value:	0.388
Mean	1.76630 58
StDev	0.68685
Variance	0.471766
Skewness	-1.1E-01
Kurtosis	-1.36826
N	19
Minimum	0.67210
1st Quartile	1.14613
Median	1.89209
3rd Quartile	2.38021
Maximum	2.76343

90% Confidence Interval for Mu

1.49305	2.03954

90% Confidence Interval for Sigma

0.54235	0.95095

90% Confidence Interval for Median

1.31283	2.20705

Anderson-Darling Normality Test

A-Squared:	0.371
P-Value:	0.388
Mean	1.76630
StDev	0.68685
Variance	0.471766
Skewness	-1.1E-01
Kurtosis	-1.36826
N	19
Minimum	0.67210
1st Quartile	1.14613
Median	1.89209
3rd Quartile	2.38021
Maximum	2.76343

95% Confidence Interval for Mu

1.43525	2.09735

95% Confidence Interval for Sigma

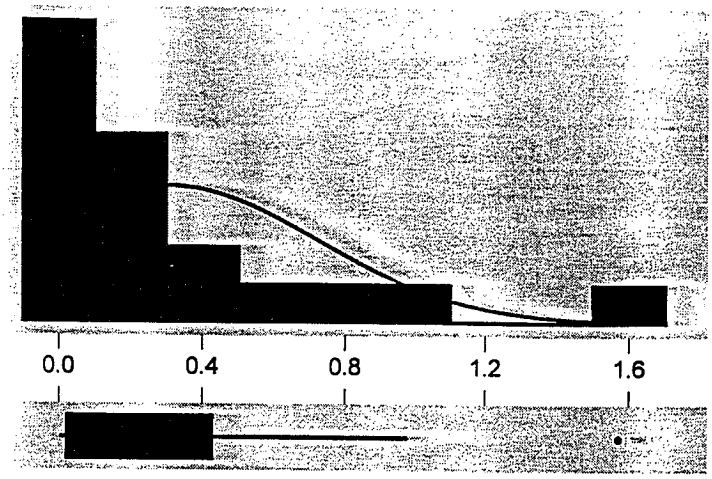
0.51899	1.01573

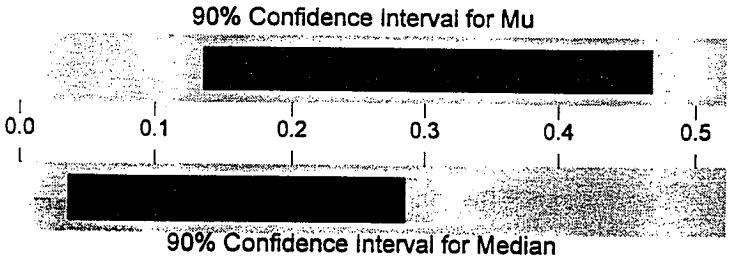
95% Confidence Interval for Median

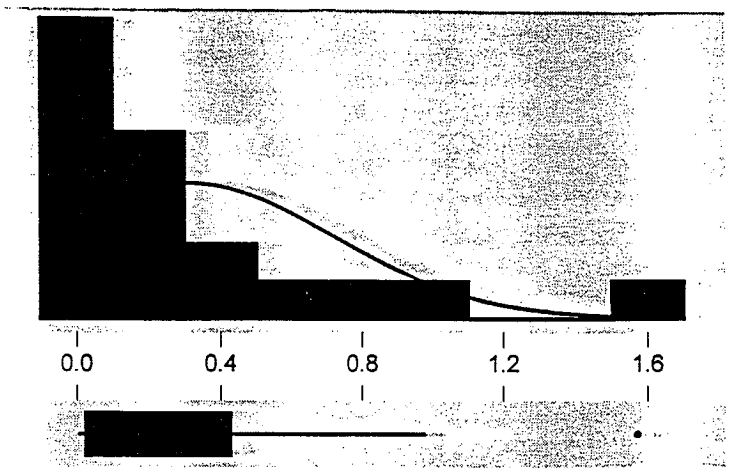
1.24043	2.29255

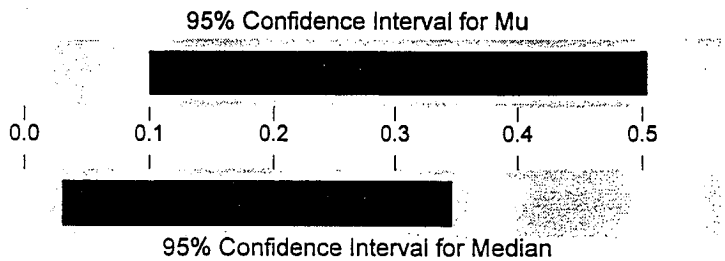
Caltrans 605/210
Task Order No. 07-053391-3V

Descriptive Statistics









Variable: Arcsine4

Anderson-Darling Normality Test

A-Squared:	1.862
P-Value:	0.000
Mean	0.301677 175
StDev	0.418094
Variance	0.174803
Skewness	1.96006
Kurtosis	3.83619
N	19
Minimum	0.00810
1st Quartile	0.02414
Median	0.13489
3rd Quartile	0.42662
Maximum	1.57080

90% Confidence Interval for Mu

0.13535	0.46800 271

90% Confidence Interval for Sigma

0.33014	0.57885

90% Confidence Interval for Median

0.03570	0.28511

Anderson-Darling Normality Test

A-Squared:	1.862
P-Value:	0.000
Mean	0.301677
StDev	0.418094
Variance	0.174803
Skewness	1.96006
Kurtosis	3.83619
N	19
Minimum	0.00810
1st Quartile	0.02414
Median	0.13489
3rd Quartile	0.42662
Maximum	1.57080

95% Confidence Interval for Mu

0.10016	0.50319 292

95% Confidence Interval for Sigma

0.31592	0.61829

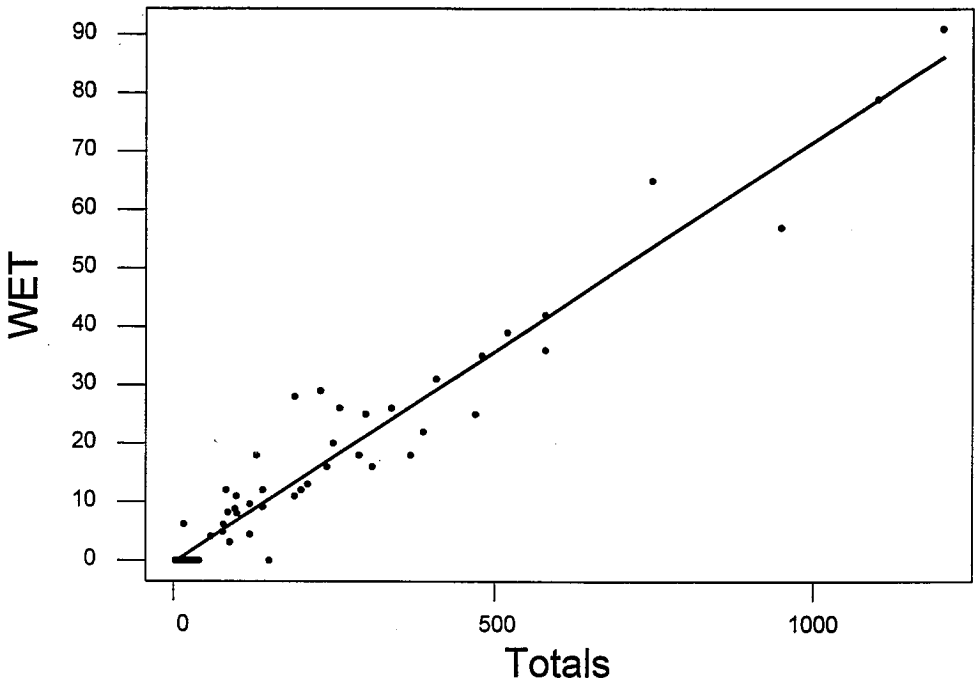
95% Confidence Interval for Median

0.03010	0.34638

Regression Plot for Totals vs. WET (90% CL)

WET = -0.335096 + 0.0720320 Totals

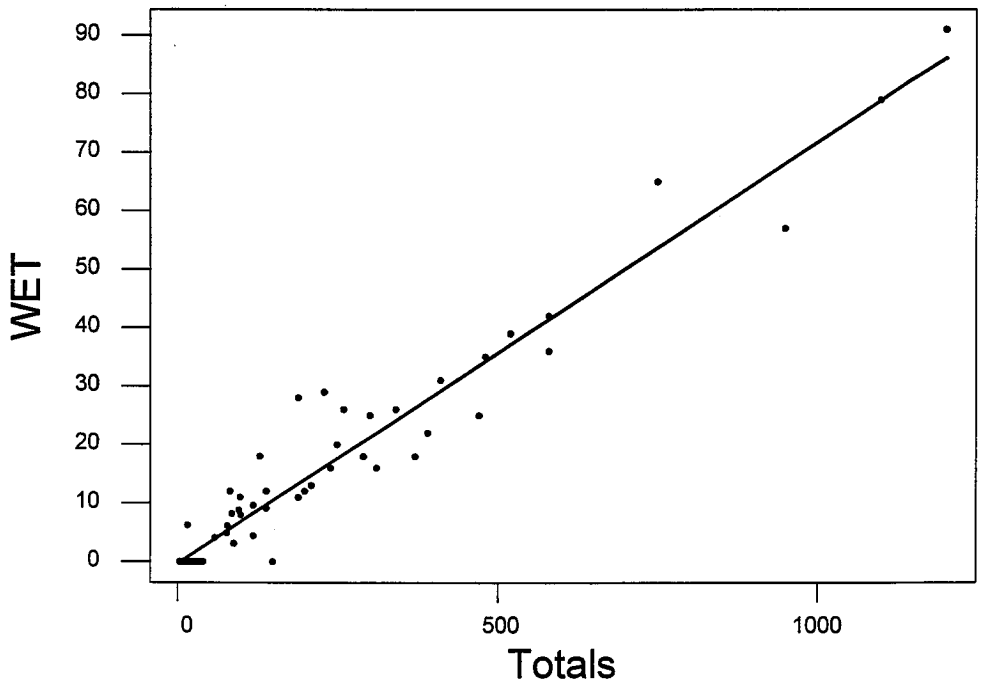
S = 4.31585 R-Sq = 94.7 % R-Sq(adj) = 94.7 %



Regression Plot for Totals vs. WET (95% CL)

WET = -0.335096 + 0.0720320 Totals

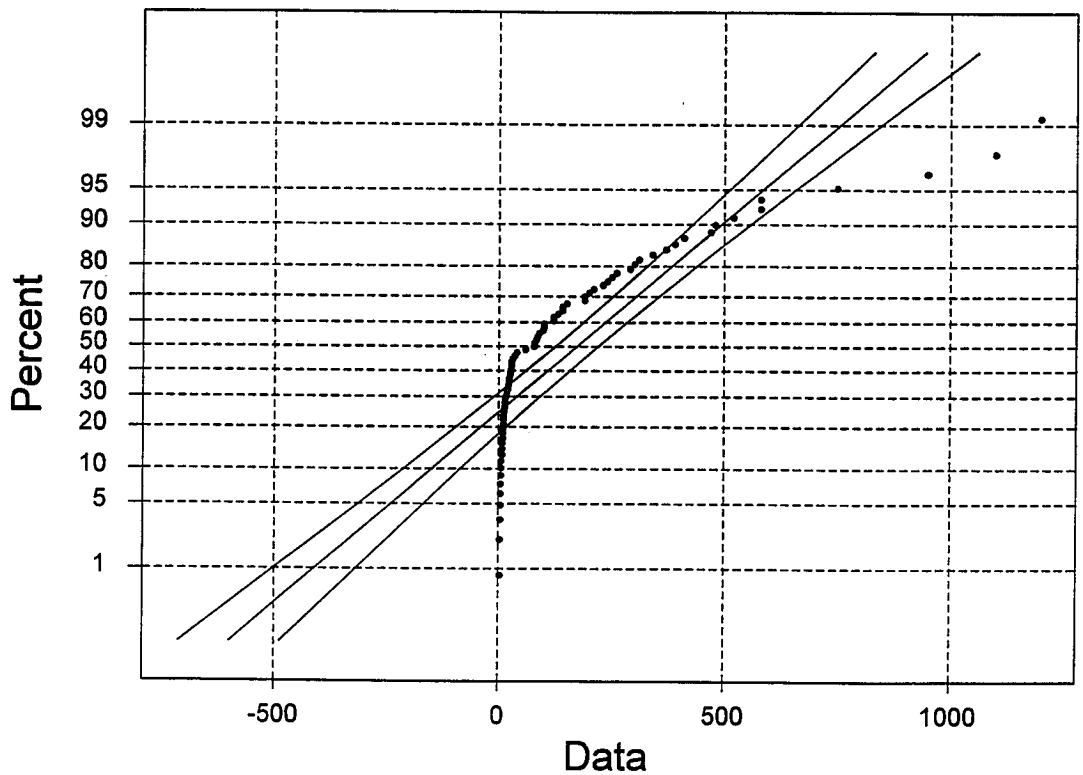
S = 4.31585 R-Sq = 94.7 % R-Sq(adj) = 94.7 %



Caltrans 605/210
Task Order No. 07-053391-3V

Normal Probability Plot for Totals

ML Estimates - 90% CI



ML Estimates

Mean	172.263
StDev	250.597

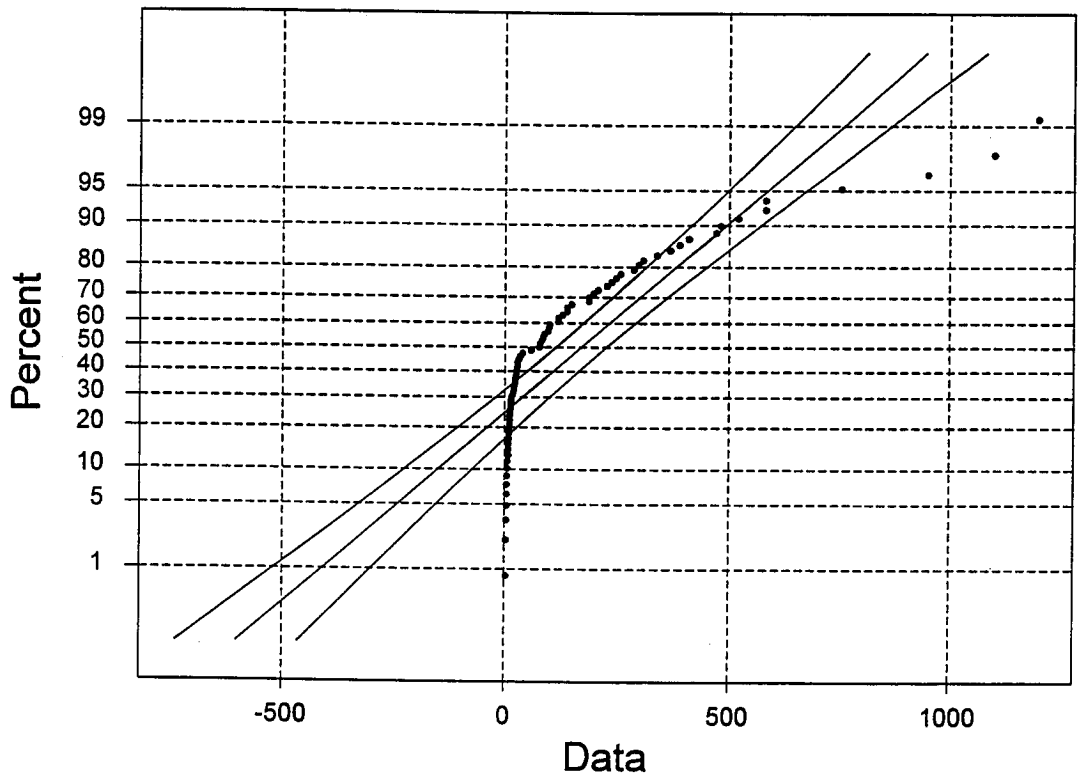
Goodness of Fit

AD*	7.569

Caltrans 605/210
Task Order No. 07-053391-3V

Normal Probability Plot for Totals

ML Estimates - 95% CI



ML Estimates

Mean	172.263
StDev	250.597

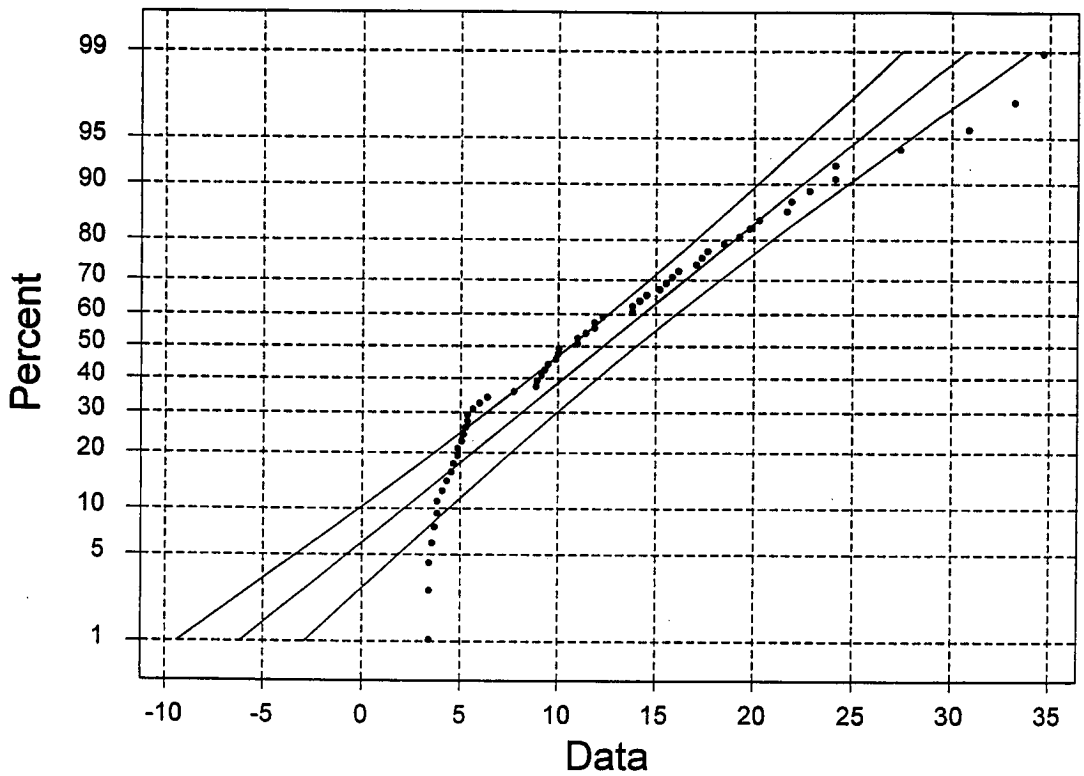
Goodness of Fit

AD*	7.569

Caltrans 605/210
Task Order No. 07-053391-3V

Normal Probability Plot for Transform

ML Estimates - 90% CI



ML Estimates

Mean	12.3033
StDev	7.93170

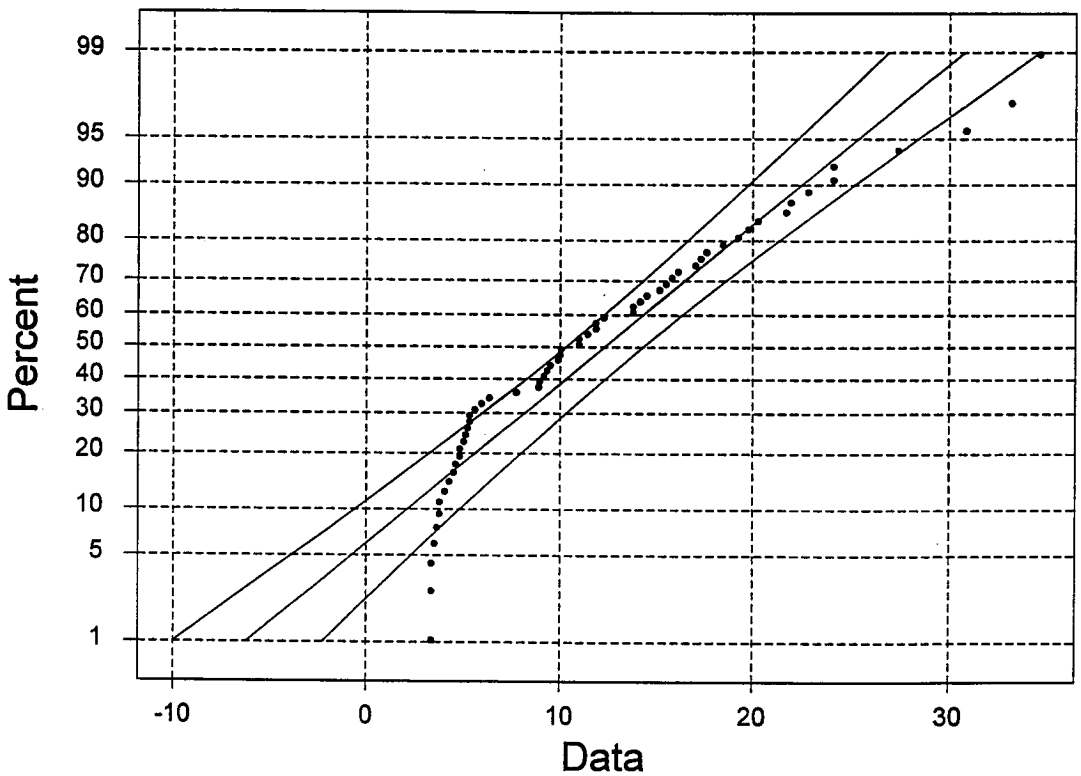
Goodness of Fit

AD*	1.747

Caltrans 605/210
Task Order No. 07-053391-3V

Normal Probability Plot for Transform

ML Estimates - 95% CI



ML Estimates

Mean	12.3033
StDev	7.93170

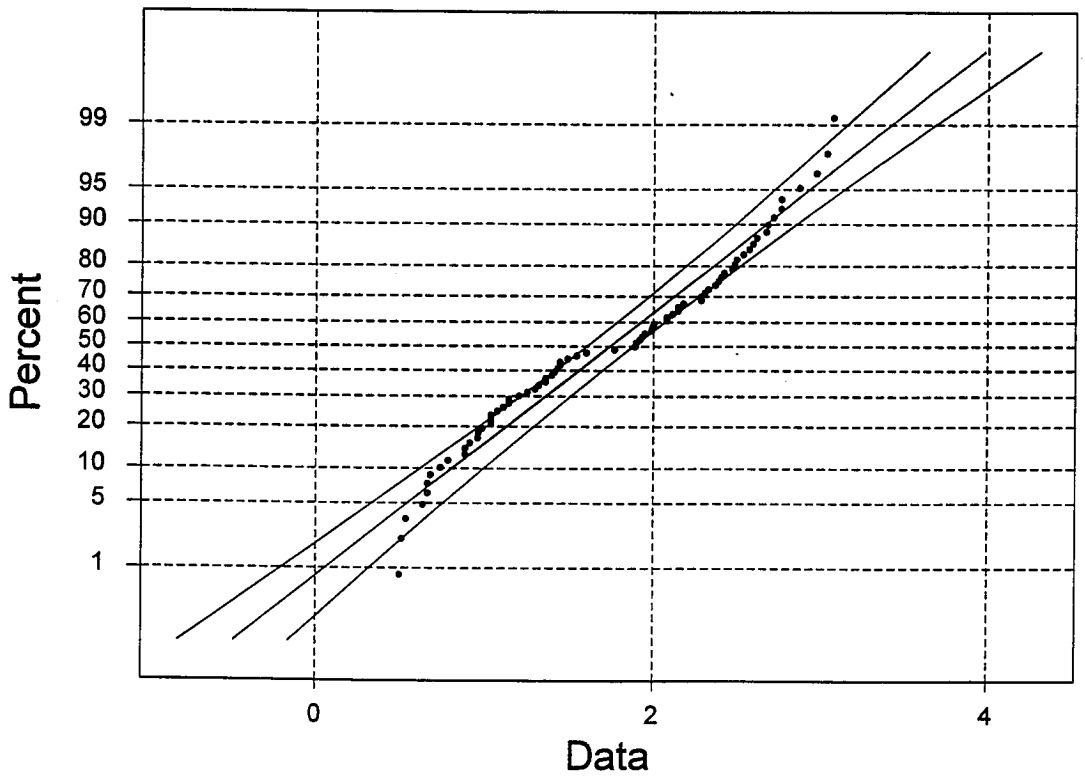
Goodness of Fit

AD*	1.747

Caltrans 605/210
Task Order No. 07-053391-3V

Normal Probability Plot for Log

ML Estimates - 90% CI



ML Estimates

Mean	1.74308
StDev	0.723595

Goodness of Fit

AD*	1.262

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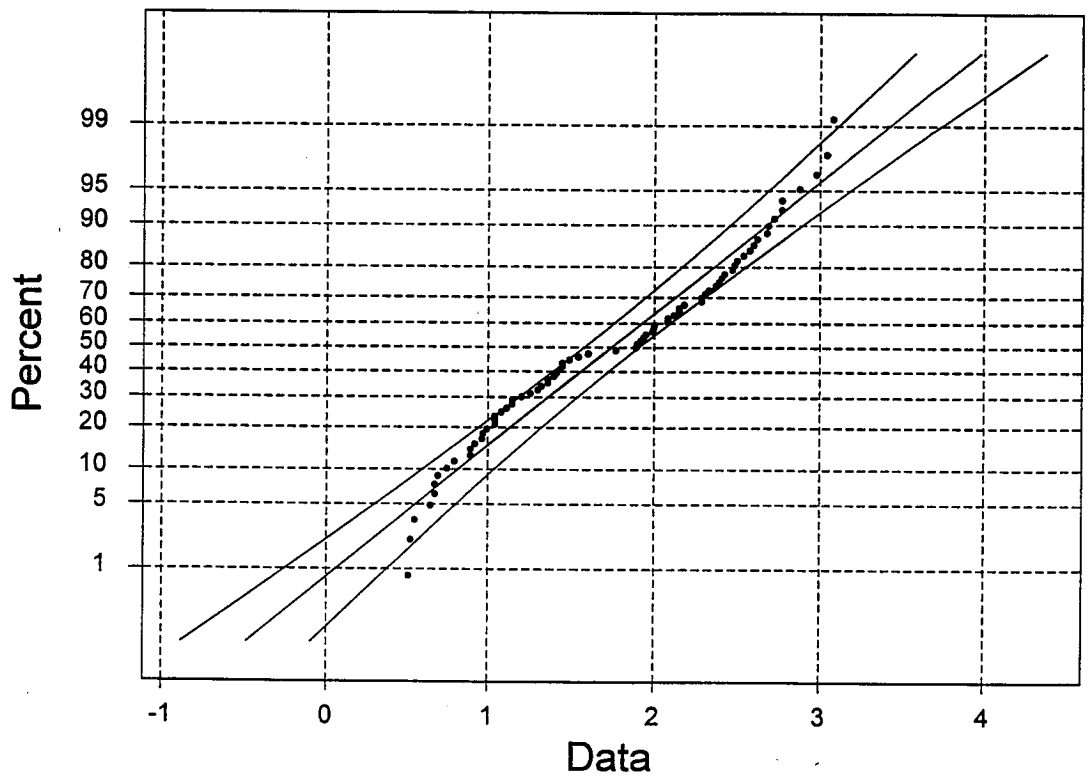
Task Order No. 07-053391-3V

Normal Probability Plot for Log

ML Estimates - 95% CI



ML Estimates

Mean	1.74308
StDev	0.723595

Goodness of Fit

AD*	1.262

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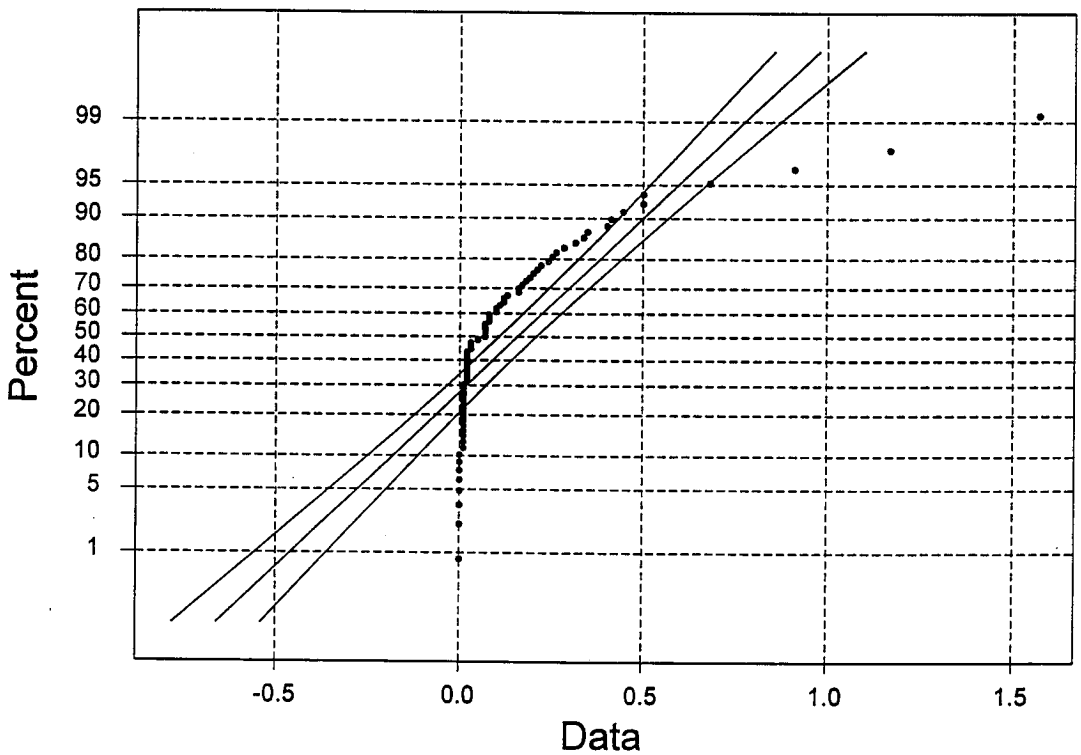
Task Order No. 07-053391-3V

Normal Probability Plot for Arcsine

ML Estimates - 90% CI



ML Estimates

Mean	0.158542
StDev	0.265627

Goodness of Fit

AD*	8.969

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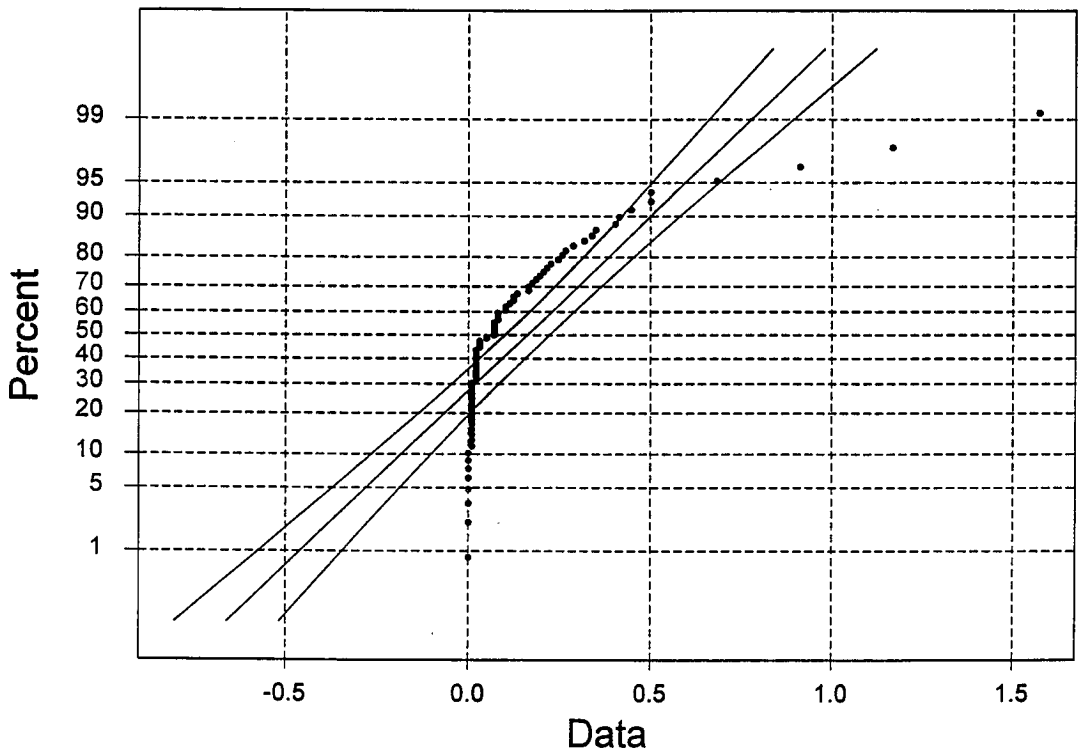
Task Order No. 07-053391-3V

Normal Probability Plot for Arcsine

ML Estimates - 95% CI



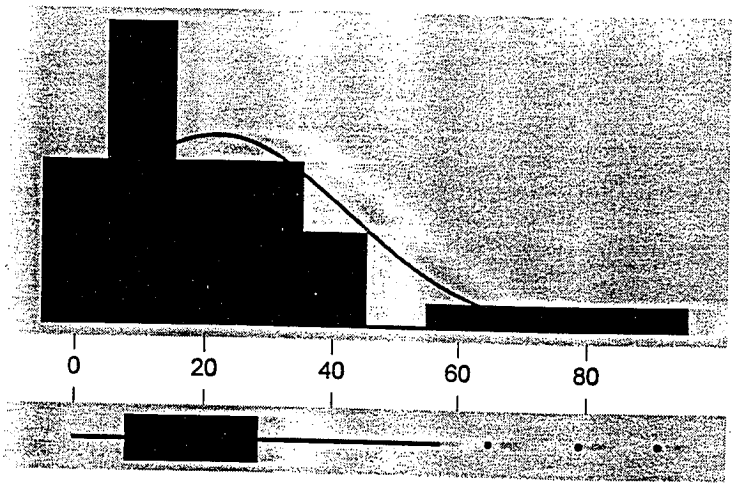
ML Estimates

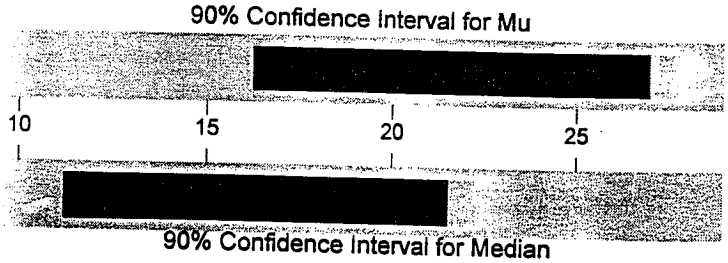
Mean	0.158542
StDev	0.265627

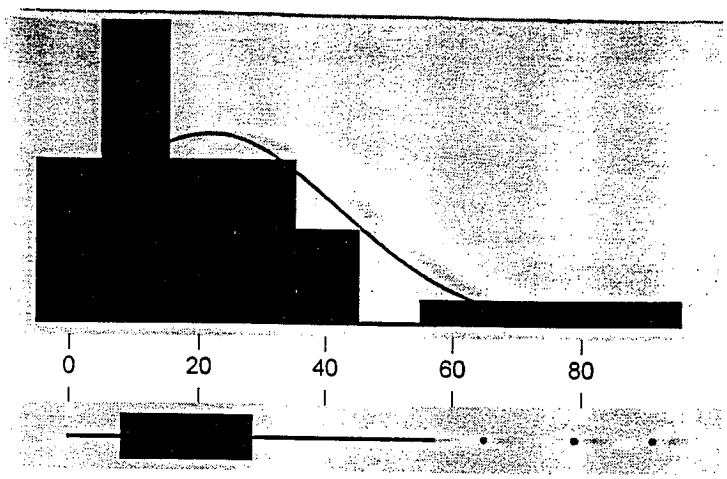
Goodness of Fit

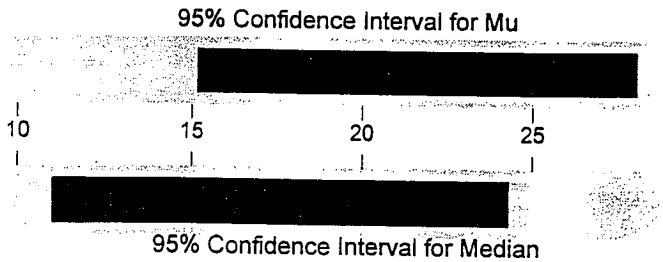
AD*	8.969

Descriptive Statistics









Variable: STLC-all

Anderson-Darling Normality Test

A-Squared:	2.217
P-Value:	0.000
Mean	21.5595
StDev	20.4867
Variance	419.706
Skewness	1.77680
Kurtosis	3.33319
N	42
Minimum	0.0000
1st Quartile	8.1500
Median	16.0000
3rd Quartile	28.2500
Maximum	91.0000

90% Confidence Interval for Mu

16.2397	26.8794

90% Confidence Interval for Sigma

17.3839	25.0946

90% Confidence Interval for Median

11.2267	21.5467

Anderson-Darling Normality Test

A-Squared:	2.217
P-Value:	0.000
Mean	21.5595
StDev	20.4867
Variance	419.706
Skewness	1.77680
Kurtosis	3.33319
N	42
Minimum	0.0000
1st Quartile	8.1500
Median	16.0000
3rd Quartile	28.2500
Maximum	91.0000

95% Confidence Interval for Mu

15.1754	27.9436

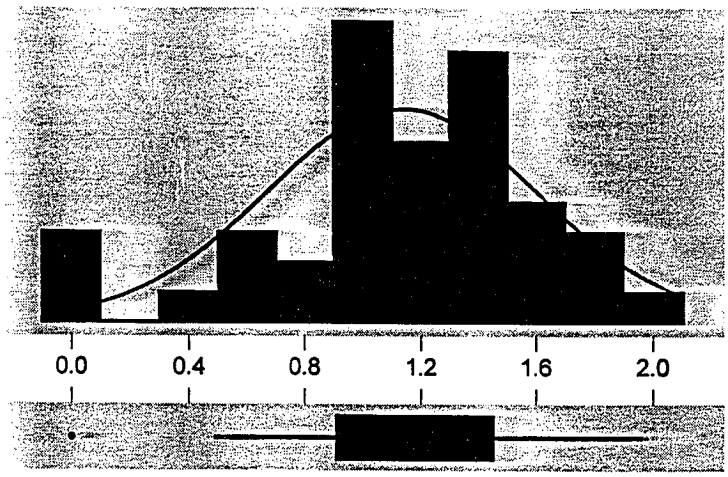
95% Confidence Interval for Sigma

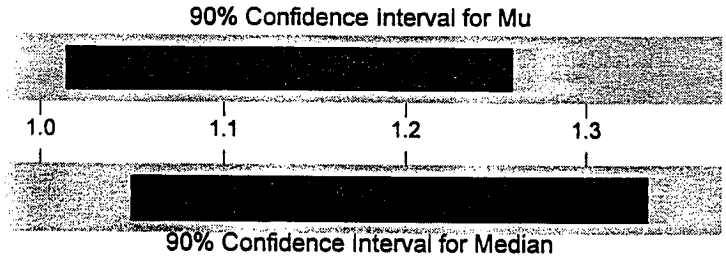
16.8566	26.1240

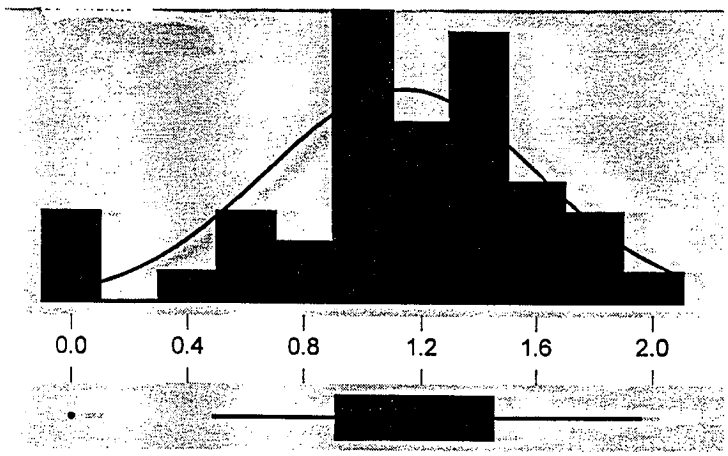
95% Confidence Interval for Median

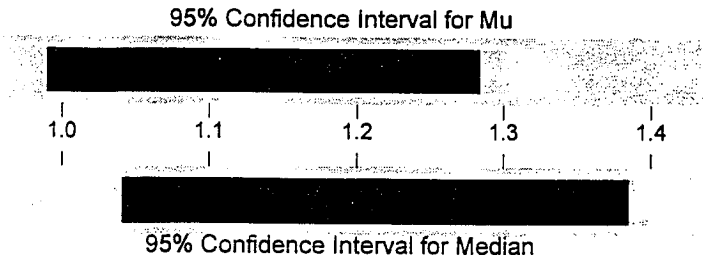
11.0000	24.3047

Descriptive Statistics









Variable: L-STLC-all

Anderson-Darling Normality Test

A-Squared:	0.571
P-Value:	0.130
Mean	1.13659 14
StDev	0.47108
Variance	0.221912
Skewness	-7.5E-01
Kurtosis	0.643056
N	42
Minimum	0.00000
1st Quartile	0.91113
Median	1.20412
3rd Quartile	1.45097
Maximum	1.95904

90% Confidence Interval for Mu

1.01427	1.25892 18

90% Confidence Interval for Sigma

0.39973	0.57703

90% Confidence Interval for Median

1.04996	1.33304

Anderson-Darling Normality Test

A-Squared:	0.571
P-Value:	0.130
Mean	1.13659
StDev	0.47108
Variance	0.221912
Skewness	-7.5E-01
Kurtosis	0.643056
N	42
Minimum	0.00000
1st Quartile	0.91113
Median	1.20412
3rd Quartile	1.45097
Maximum	1.95904

95% Confidence Interval for Mu

0.98980	1.28339 19

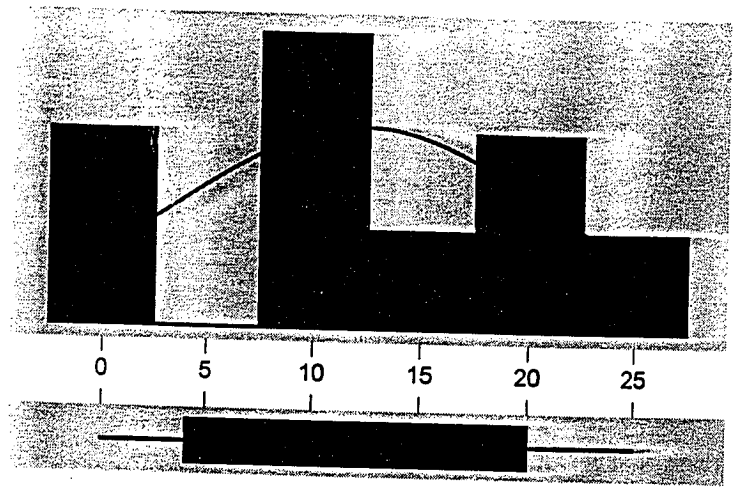
95% Confidence Interval for Sigma

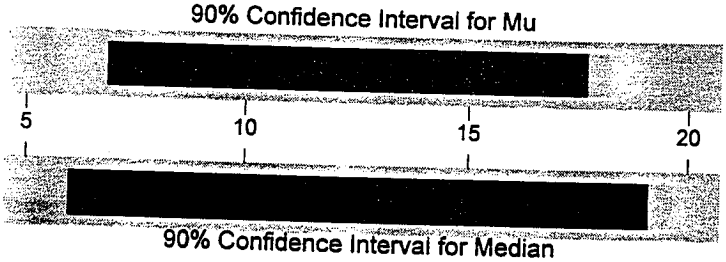
0.38760	0.60070

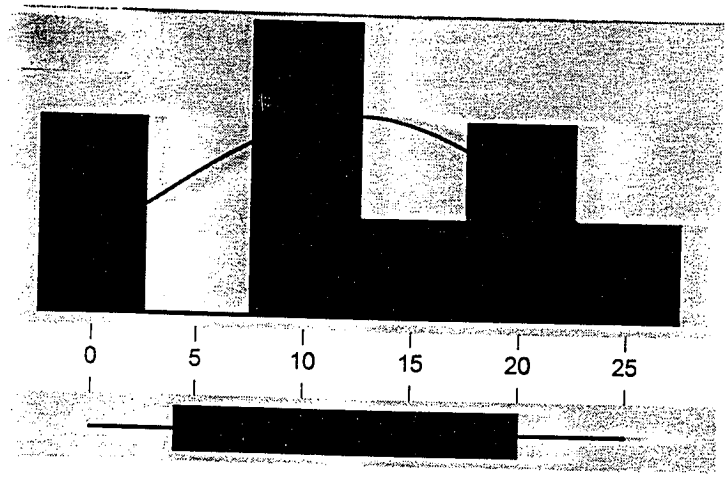
95% Confidence Interval for Median

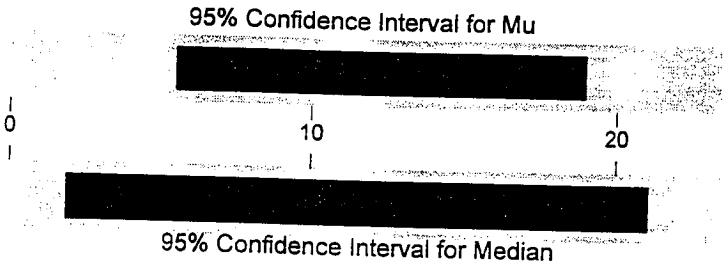
1.04139	1.38507

Descriptive Statistics









Variable: STLC-A1

Anderson-Darling Normality Test

A-Squared:	0.263
P-Value:	0.607
Mean	12.2444
StDev	8.7171
Variance	75.9878
Skewness	-1.3E-01
Kurtosis	-7.7E-01
N	9
Minimum	0.0000
1st Quartile	4.1000
Median	12.0000
3rd Quartile	20.0000
Maximum	25.0000

90% Confidence Interval for Mu

6.8412	17.6477

90% Confidence Interval for Sigma

6.2611	14.9151

90% Confidence Interval for Median

5.9696	19.0880

Anderson-Darling Normality Test

A-Squared:	0.263
P-Value:	0.607
Mean	12.2444
StDev	8.7171
Variance	75.9878
Skewness	-1.3E-01
Kurtosis	-7.7E-01
N	9
Minimum	0.0000
1st Quartile	4.1000
Median	12.0000
3rd Quartile	20.0000
Maximum	25.0000

95% Confidence Interval for Mu

5.5439	18.9450

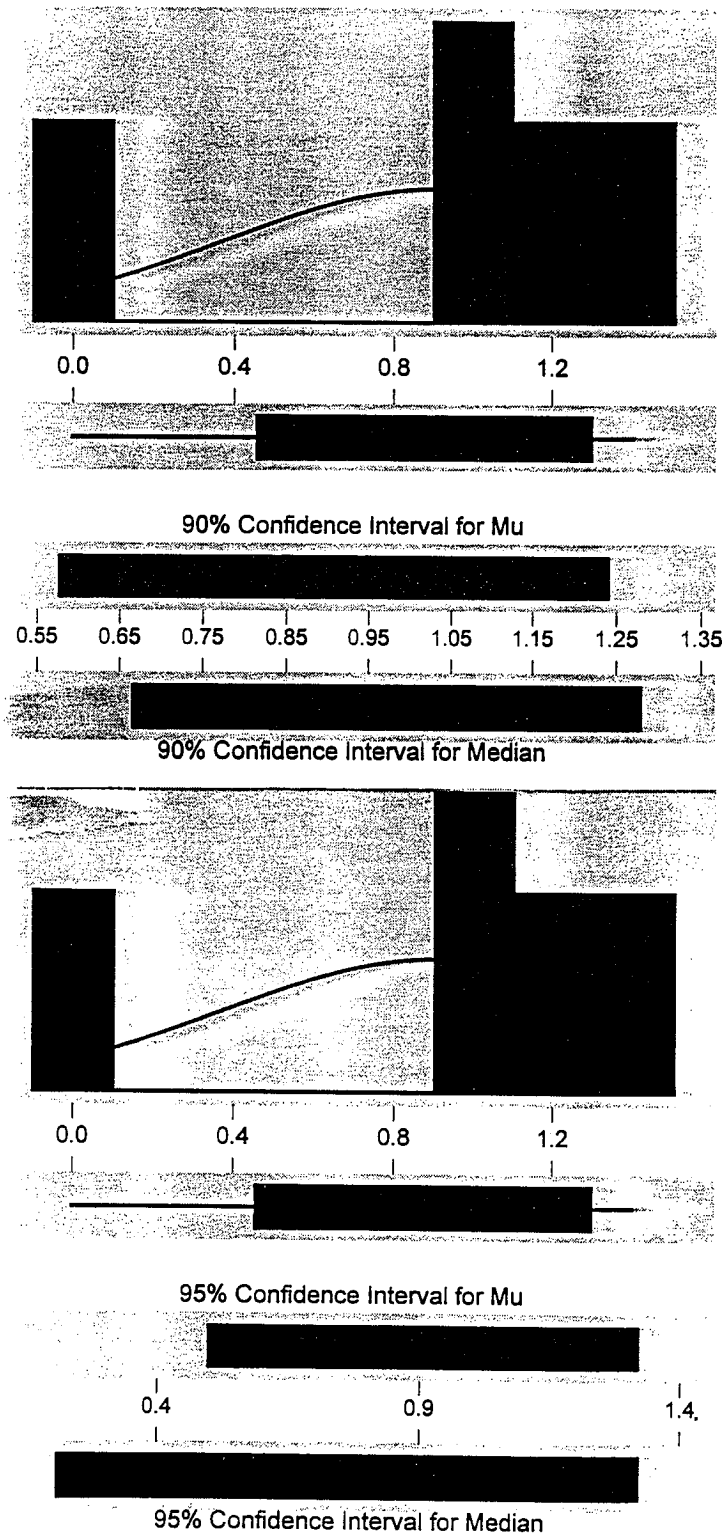
95% Confidence Interval for Sigma

5.8880	16.7000

95% Confidence Interval for Median

1.8688	21.0884

Descriptive Statistics



Variable: L-STLC-A1

Anderson-Darling Normality Test

A-Squared:	0.954
P-Value:	0.009

Mean	0.909084 8
StDev	0.536112
Variance	0.287417
Skewness	-1.29798
Kurtosis	0.215008
N	9

Minimum	0.00000
1st Quartile	0.45691
Median	1.07918
3rd Quartile	1.29885
Maximum	1.39794

90% Confidence Interval for Mu

0.57677	1.24139 17

90% Confidence Interval for Sigma

0.38506	0.91730

90% Confidence Interval for Median

0.66526	1.27898

Anderson-Darling Normality Test

A-Squared:	0.954
P-Value:	0.009

Mean	0.909084
StDev	0.536112
Variance	0.287417
Skewness	-1.29798
Kurtosis	0.215008
N	9

Minimum	0.00000
1st Quartile	0.45691
Median	1.07918
3rd Quartile	1.29885
Maximum	1.39794

95% Confidence Interval for Mu

0.49699	1.32118 21

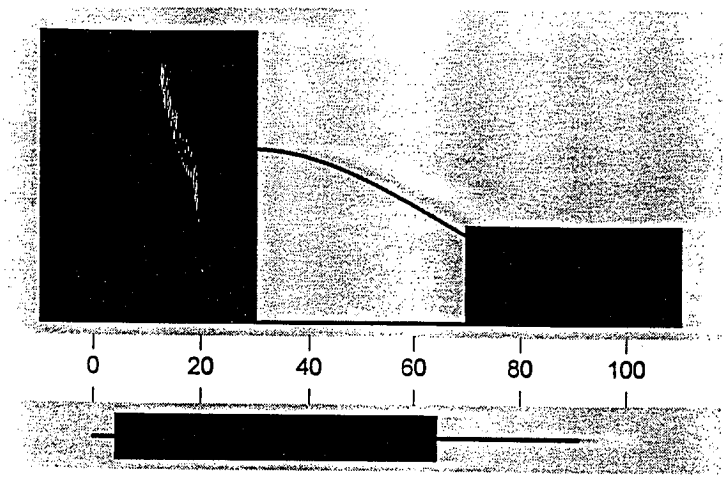
95% Confidence Interval for Sigma

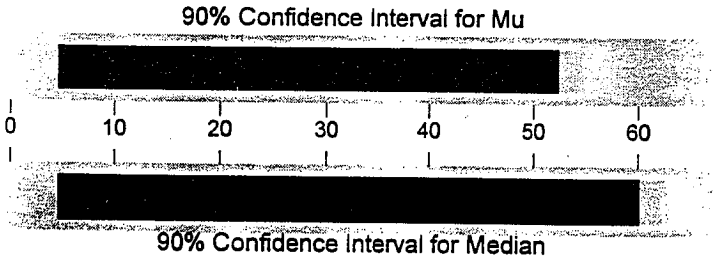
0.36212	1.02707

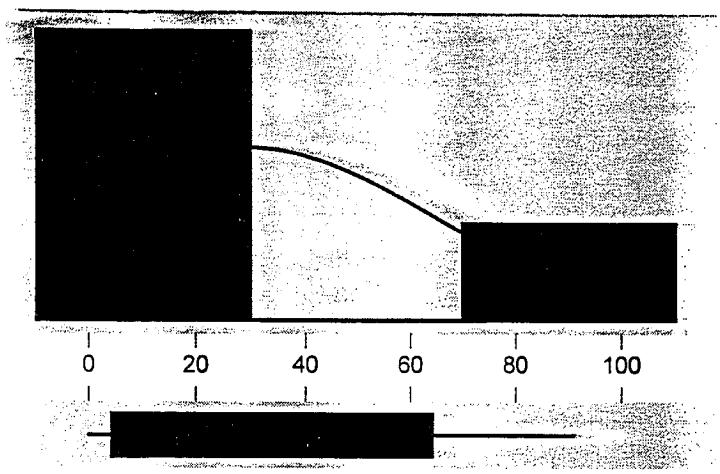
95% Confidence Interval for Median

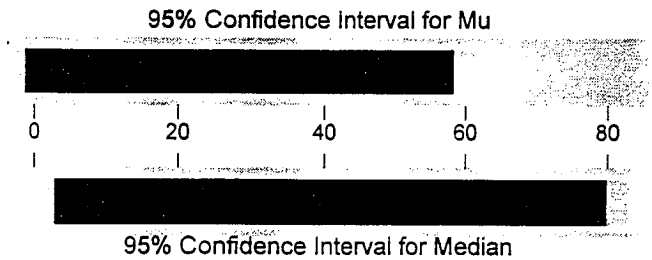
0.20826	1.32256

Descriptive Statistics









Variable: STLC-A2

Anderson-Darling Normality Test

A-Squared:	0.976
P-Value:	0.007
Mean	28.5125
StDev	35.5948
Variance	1266.99
Skewness	1.33684
Kurtosis	3.87E-02
N	8
Minimum	0.0000
1st Quartile	4.3250
Median	13.5000
3rd Quartile	64.2500
Maximum	91.0000

90% Confidence Interval for Mu

4.6699	52.3551

90% Confidence Interval for Sigma

25.1092	63.9691

90% Confidence Interval for Median

4.6691	60.1067

Anderson-Darling Normality Test

A-Squared:	0.976
P-Value:	0.007
Mean	28.5125
StDev	35.5948
Variance	1266.99
Skewness	1.33684
Kurtosis	3.87E-02
N	8
Minimum	0.0000
1st Quartile	4.3250
Median	13.5000
3rd Quartile	64.2500
Maximum	91.0000

95% Confidence Interval for Mu

-1.2455	58.2705

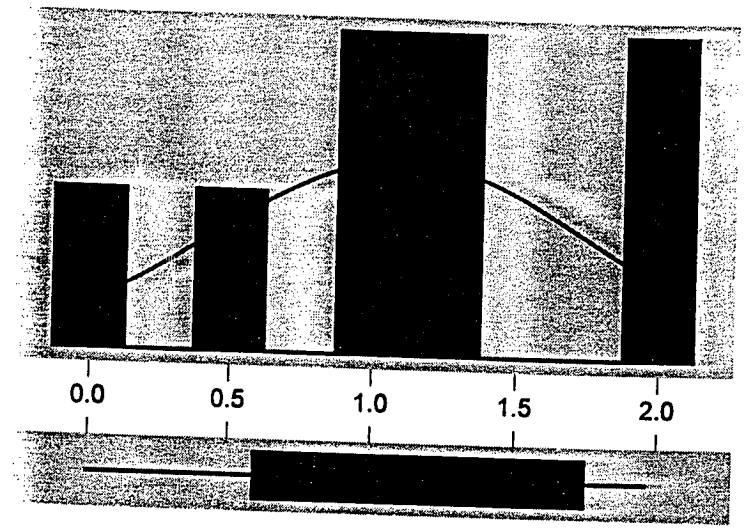
95% Confidence Interval for Sigma

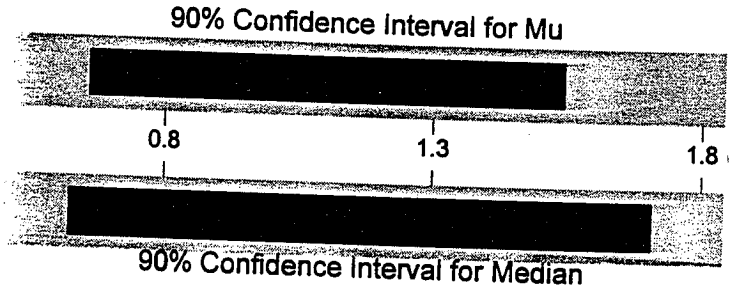
23.5343	72.4450

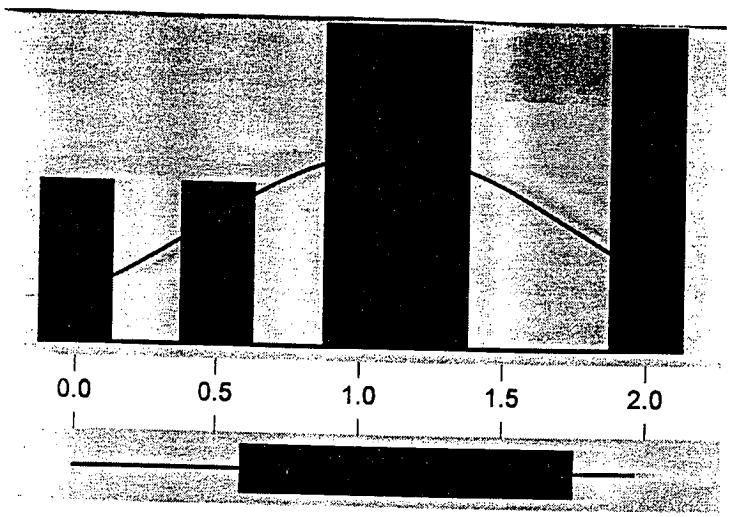
95% Confidence Interval for Median

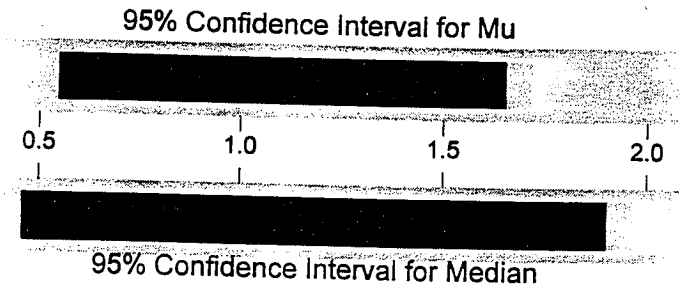
2.9005	79.7723

Descriptive Statistics









Variable: L-STLC-A2

Anderson-Darling Normality Test

A-Squared:	0.202
P-Value:	0.812
Mean	1.09971 13
StDev	0.65988
Variance	0.435438
Skewness	-2.7E-01
Kurtosis	-2.8E-01
N	8
Minimum	0.00000
1st Quartile	0.59429
Median	1.12276
3rd Quartile	1.74848
Maximum	1.95904

90% Confidence Interval for Mu

0.65770	1.54172 35

90% Confidence Interval for Sigma

0.46549	1.18590

90% Confidence Interval for Median

0.62321	1.70658

Anderson-Darling Normality Test

A-Squared:	0.202
P-Value:	0.812
Mean	1.09971
StDev	0.65988
Variance	0.435438
Skewness	-2.7E-01
Kurtosis	-2.8E-01
N	8
Minimum	0.00000
1st Quartile	0.59429
Median	1.12276
3rd Quartile	1.74848
Maximum	1.95904

95% Confidence Interval for Mu

0.54804	1.65138 45

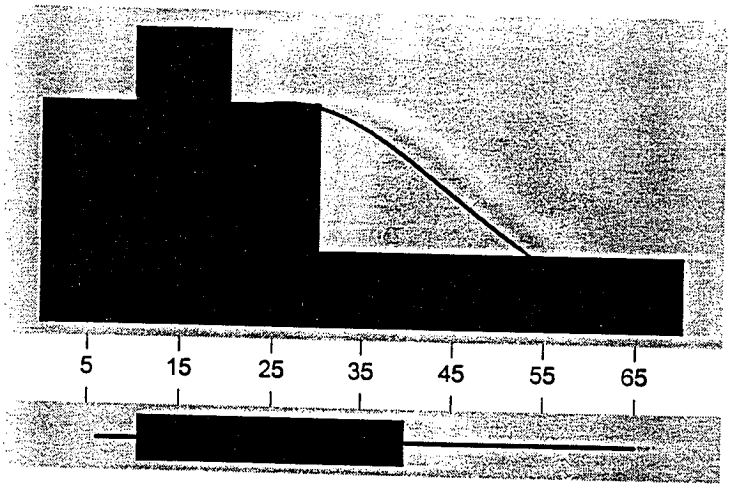
95% Confidence Interval for Sigma

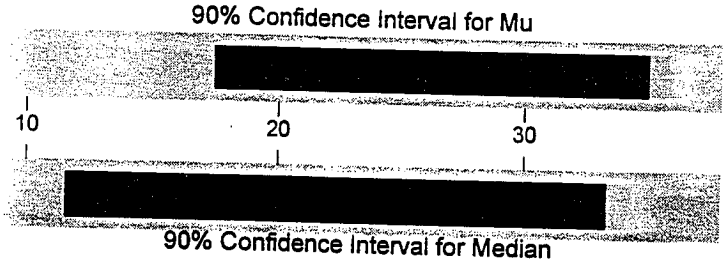
0.43629	1.34303

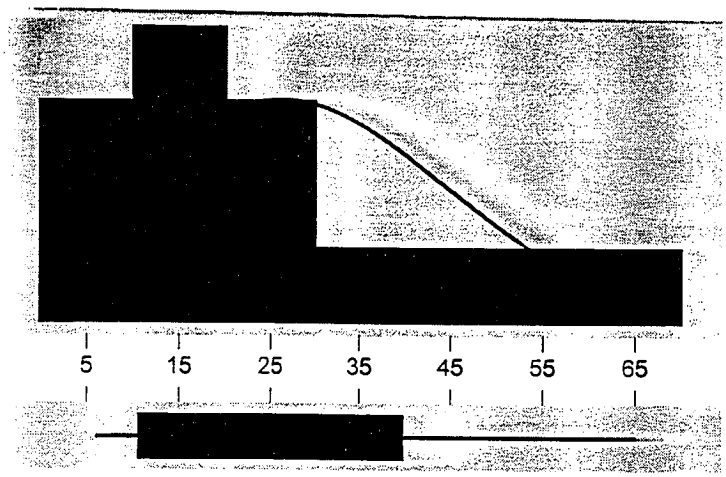
95% Confidence Interval for Median

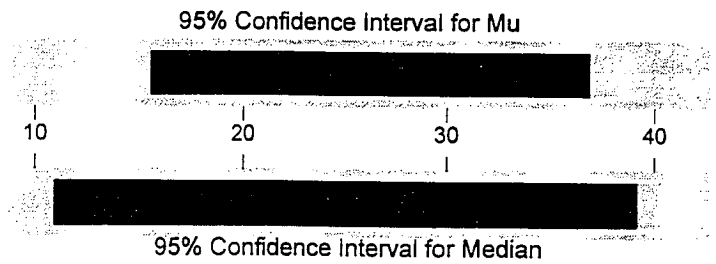
0.45974	1.90158

Descriptive Statistics









Variable: STLC-A3

Anderson-Darling Normality Test

A-Squared:	0.576
P-Value:	0.110
Mean	26.1857
StDev	18.4440
Variance	340.181
Skewness	0.980641
Kurtosis	6.14E-02
N	14
Minimum	6.2000
1st Quartile	10.6500
Median	21.5000
3rd Quartile	39.7500
Maximum	65.0000

90% Confidence Interval for Mu

17.4561	34.9153

90% Confidence Interval for Sigma

14.0628	27.3968

90% Confidence Interval for Median

11.5725	33.2747

Anderson-Darling Normality Test

A-Squared:	0.576
P-Value:	0.110
Mean	26.1857
StDev	18.4440
Variance	340.181
Skewness	0.980641
Kurtosis	6.14E-02
N	14
Minimum	6.2000
1st Quartile	10.6500
Median	21.5000
3rd Quartile	39.7500
Maximum	65.0000

95% Confidence Interval for Mu

15.5365	36.8350

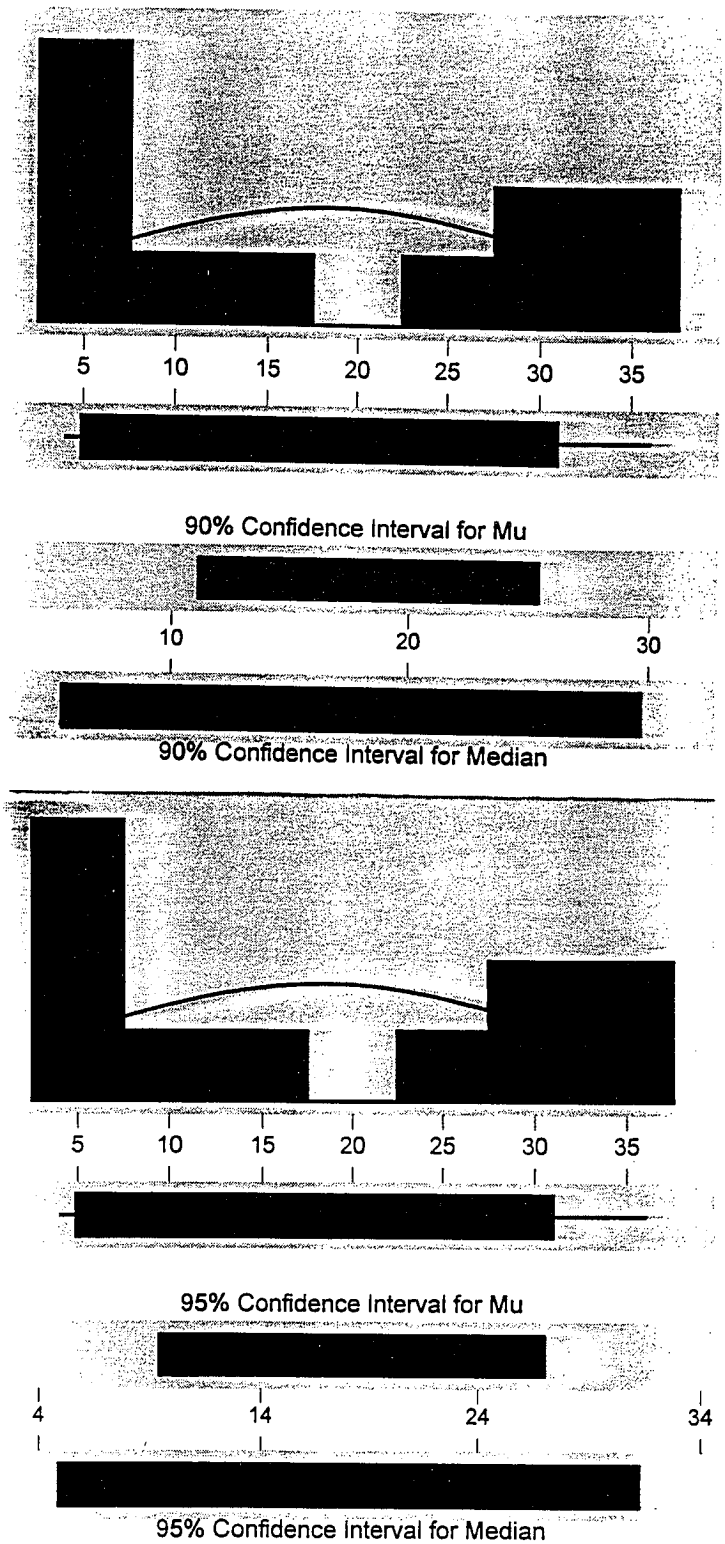
95% Confidence Interval for Sigma

13.3711	29.7141

95% Confidence Interval for Median

10.9279	39.1544

Descriptive Statistics



Variable: STLC-A4

Anderson-Darling Normality Test

A-Squared:	0.662
P-Value:	0.061
Mean	18.2364
StDev	13.1148
Variance	171.999
Skewness	0.183514
Kurtosis	-1.96848
N	11
Minimum	4.1000
1st Quartile	4.9000
Median	16.0000
3rd Quartile	31.0000
Maximum	36.0000

90% Confidence Interval for Mu

11.0694	25.4033

90% Confidence Interval for Sigma

9.6929	20.8929

90% Confidence Interval for Median

5.4057	29.7357

Anderson-Darling Normality Test

A-Squared:	0.662
P-Value:	0.061
Mean	18.2364
StDev	13.1148
Variance	171.999
Skewness	0.183514
Kurtosis	-1.96848
N	11
Minimum	4.1000
1st Quartile	4.9000
Median	16.0000
3rd Quartile	31.0000
Maximum	36.0000

95% Confidence Interval for Mu

9.4257	27.0470

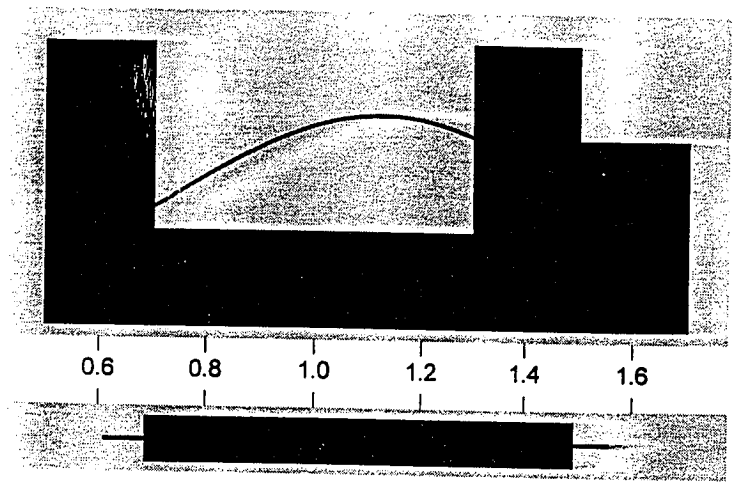
95% Confidence Interval for Sigma

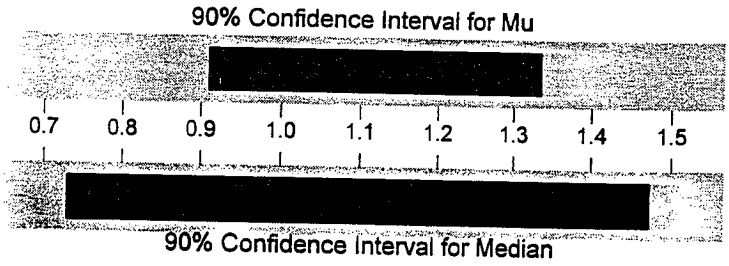
9.1635	23.0156

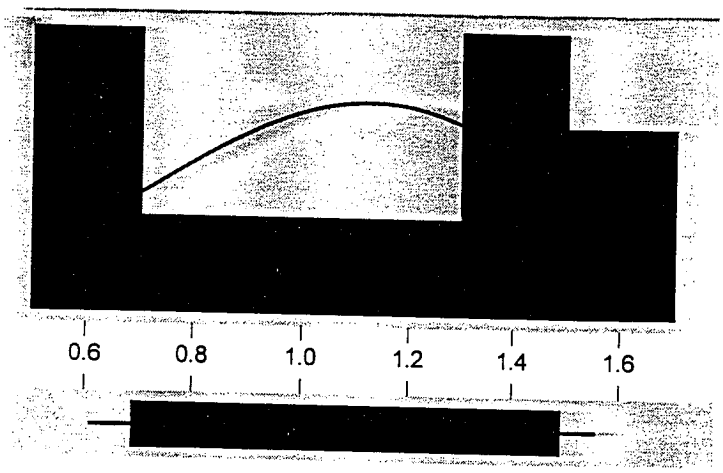
95% Confidence Interval for Median

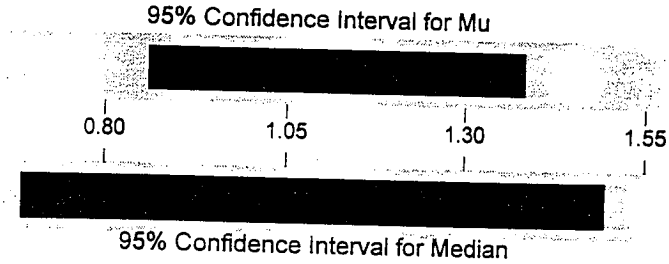
4.8589	31.3288

Descriptive Statistics









Variable: L-STLC-A4

Anderson-Darling Normality Test

A-Squared:	0.662
P-Value:	0.061

Mean	1.12262 13
StDev	0.38938
Variance	0.151615
Skewness	-2.1E-01
Kurtosis	-1.99130
N	11

Minimum	0.61278
1st Quartile	0.69020
Median	1.20412
3rd Quartile	1.49136
Maximum	1.55630

90% Confidence Interval for Mu

0.90983	1.33540 22

90% Confidence Interval for Sigma

0.28778	0.62031

90% Confidence Interval for Median

0.73029	1.47273

Anderson-Darling Normality Test

A-Squared:	0.662
P-Value:	0.061

Mean	1.12262
StDev	0.38938
Variance	0.151615
Skewness	-2.1E-01
Kurtosis	-1.99130
N	11

Minimum	0.61278
1st Quartile	0.69020
Median	1.20412
3rd Quartile	1.49136
Maximum	1.55630

95% Confidence Interval for Mu

0.86103	1.38420 24

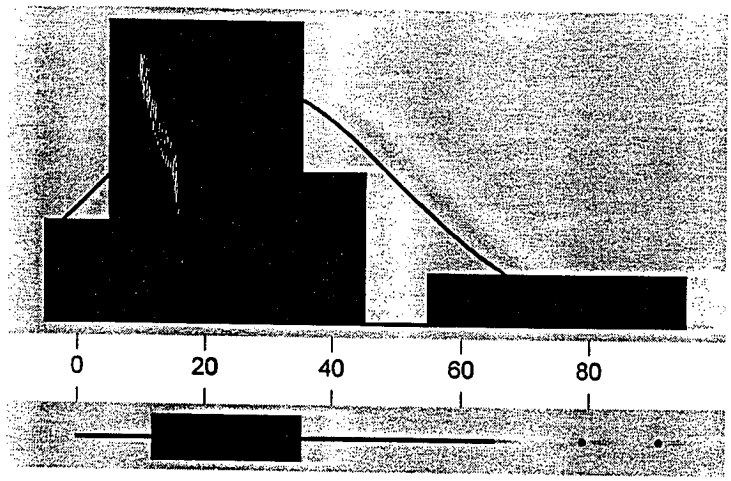
95% Confidence Interval for Sigma

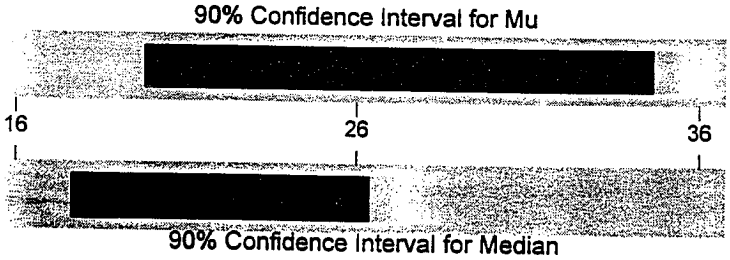
0.27207	0.68333

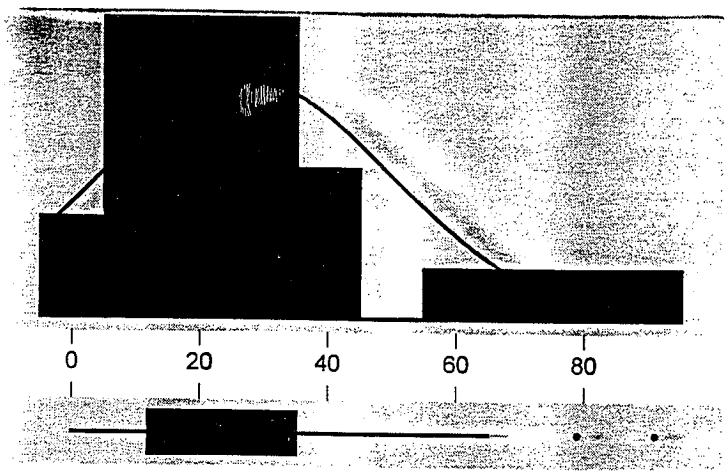
95% Confidence Interval for Median

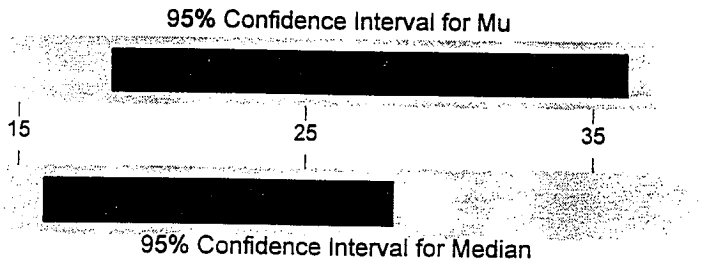
0.68635	1.49569

Descriptive Statistics









Variable: STLC-S

Anderson-Darling Normality Test

A-Squared:	1.301
P-Value:	0.002
Mean	27.2000
StDev	22.6442
Variance	512.761
Skewness	1.44254
Kurtosis	1.86706
N	27
Minimum	0.0000
1st Quartile	12.0000
Median	22.0000
3rd Quartile	35.0000
Maximum	91.0000

90% Confidence Interval for Mu

19.7671	34.6329

90% Confidence Interval for Sigma

18.5162	29.4427

90% Confidence Interval for Median

17.6245	26.3755

Anderson-Darling Normality Test

A-Squared:	1.301
P-Value:	0.002
Mean	27.2000
StDev	22.6442
Variance	512.761
Skewness	1.44254
Kurtosis	1.86706
N	27
Minimum	0.0000
1st Quartile	12.0000
Median	22.0000
3rd Quartile	35.0000
Maximum	91.0000

95% Confidence Interval for Mu

18.2422	36.1578

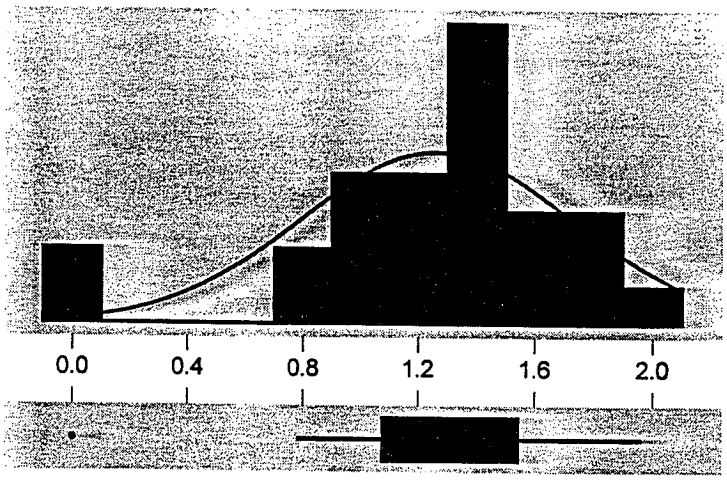
95% Confidence Interval for Sigma

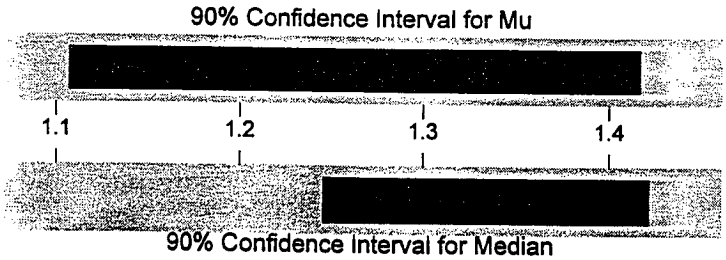
17.8327	31.0324

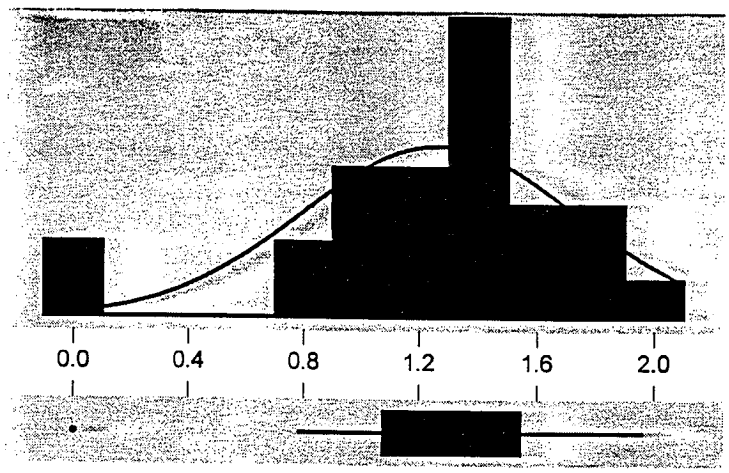
95% Confidence Interval for Median

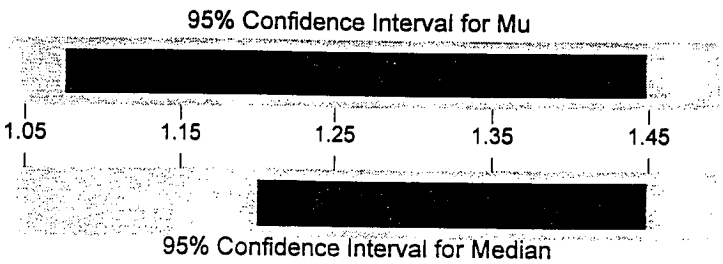
15.8814	28.0890

Descriptive Statistics









Variable: L-STLC-S

Anderson-Darling Normality Test

A-Squared:	0.936
P-Value:	0.015

Mean	1.26160	18
StDev	0.47053	
Variance	0.221402	
Skewness	-1.30243	
Kurtosis	2.32314	
N	27	

Minimum	0.00000
1st Quartile	1.07918
Median	1.34242
3rd Quartile	1.54407
Maximum	1.95904

90% Confidence Interval for Mu

1.10715	1.41606	26

90% Confidence Interval for Sigma

0.38476	0.61180

90% Confidence Interval for Median

1.24567	1.42102

Anderson-Darling Normality Test

A-Squared:	0.936
P-Value:	0.015

Mean	1.26160
StDev	0.47053
Variance	0.221402
Skewness	-1.30243
Kurtosis	2.32314
N	27

Minimum	0.00000
1st Quartile	1.07918
Median	1.34242
3rd Quartile	1.54407
Maximum	1.95904

95% Confidence Interval for Mu

1.07547	1.44774	28

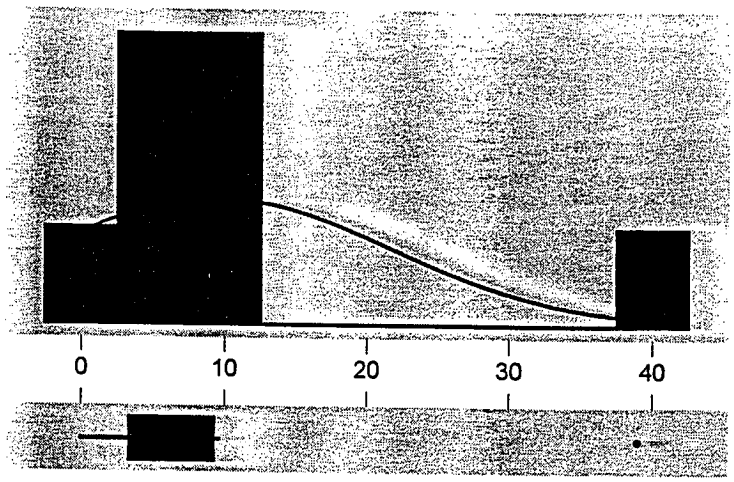
95% Confidence Interval for Sigma

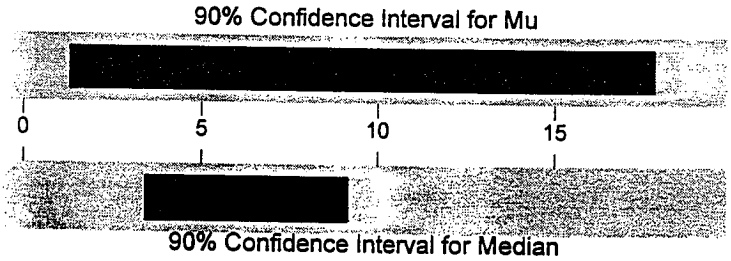
0.37055	0.64483

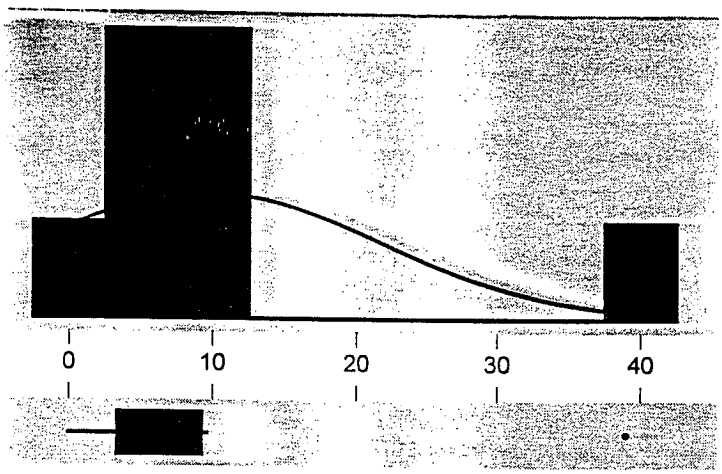
95% Confidence Interval for Median

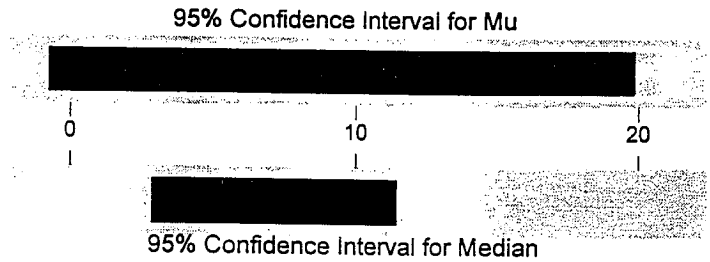
1.20041	1.44847

Descriptive Statistics









Variable: STLC-1FT

Anderson-Darling Normality Test

A-Squared:	1.218
P-Value:	0.001
Mean	9.5500
StDev	12.3089
Variance	151.509
Skewness	2.46132
Kurtosis	6.50909
N	8
Minimum	0.0000
1st Quartile	3.3500
Median	6.2000
3rd Quartile	9.2500
Maximum	39.0000

90% Confidence Interval for Mu

1.3051	17.7949

90% Confidence Interval for Sigma

8.6829	22.1209

90% Confidence Interval for Median

3.4202	9.1517

Anderson-Darling Normality Test

A-Squared:	1.218
P-Value:	0.001
Mean	9.5500
StDev	12.3089
Variance	151.509
Skewness	2.46132
Kurtosis	6.50909
N	8
Minimum	0.0000
1st Quartile	3.3500
Median	6.2000
3rd Quartile	9.2500
Maximum	39.0000

95% Confidence Interval for Mu

-0.7405	19.8405

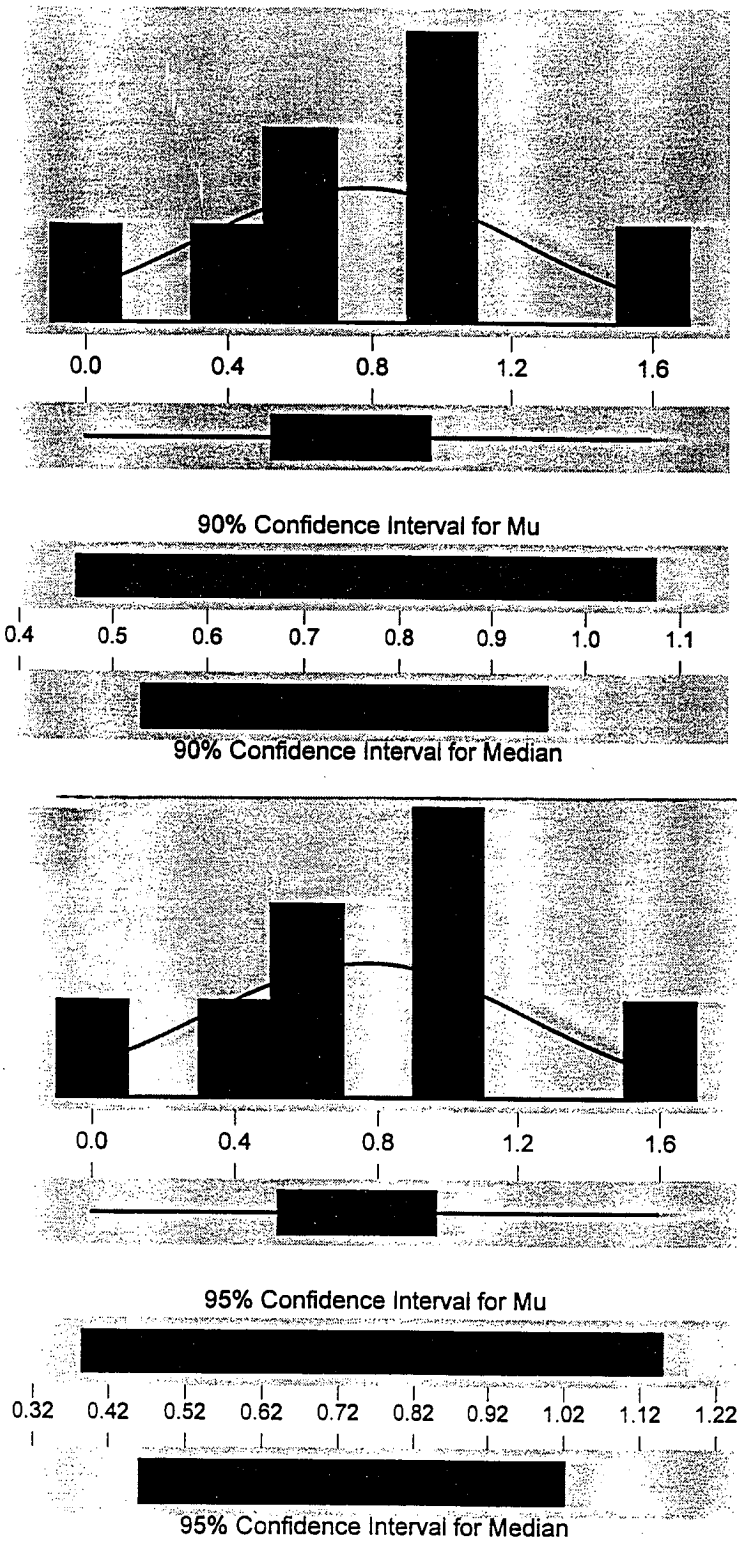
95% Confidence Interval for Sigma

8.1383	25.0519

95% Confidence Interval for Median

2.9005	11.4921

Descriptive Statistics



Variable: L-STLC-1FT

Anderson-Darling Normality Test

A-Squared:	0.292
P-Value:	0.516
Mean	0.767230 6
StDev	0.458072
Variance	0.209830
Skewness	0.191320
Kurtosis	1.45955
N	8
Minimum	0.00000
1st Quartile	0.52172
Median	0.77327
3rd Quartile	0.96516
Maximum	1.59106

90% Confidence Interval for Mu

0.46040	1.07406 12

90% Confidence Interval for Sigma

0.32313	0.82322

90% Confidence Interval for Median

0.53024	0.96035

Anderson-Darling Normality Test

A-Squared:	0.292
P-Value:	0.516
Mean	0.767230
StDev	0.458072
Variance	0.209830
Skewness	0.191320
Kurtosis	1.45955
N	8
Minimum	0.00000
1st Quartile	0.52172
Median	0.77327
3rd Quartile	0.96516
Maximum	1.59106

95% Confidence Interval for Mu

0.38427	1.15019 14

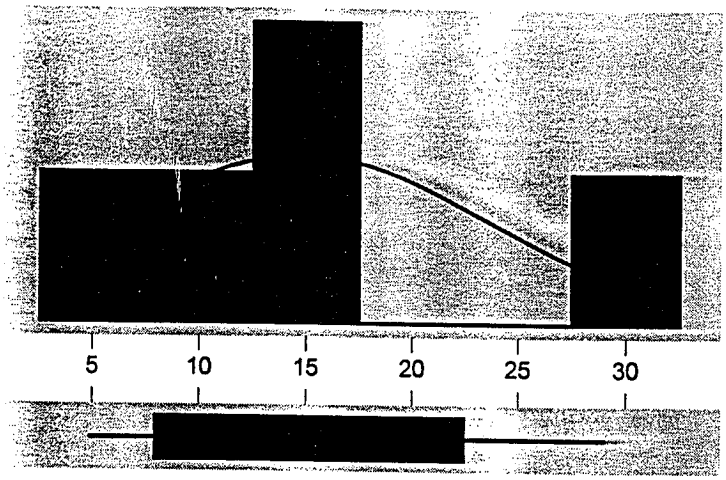
95% Confidence Interval for Sigma

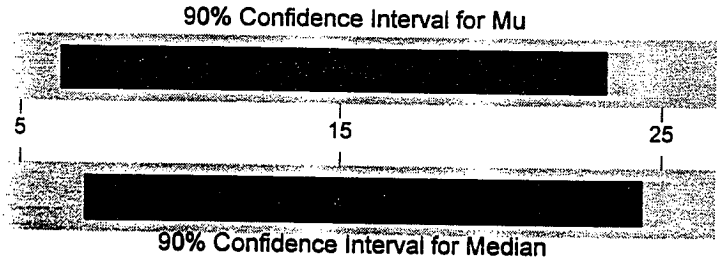
0.30287	0.93230

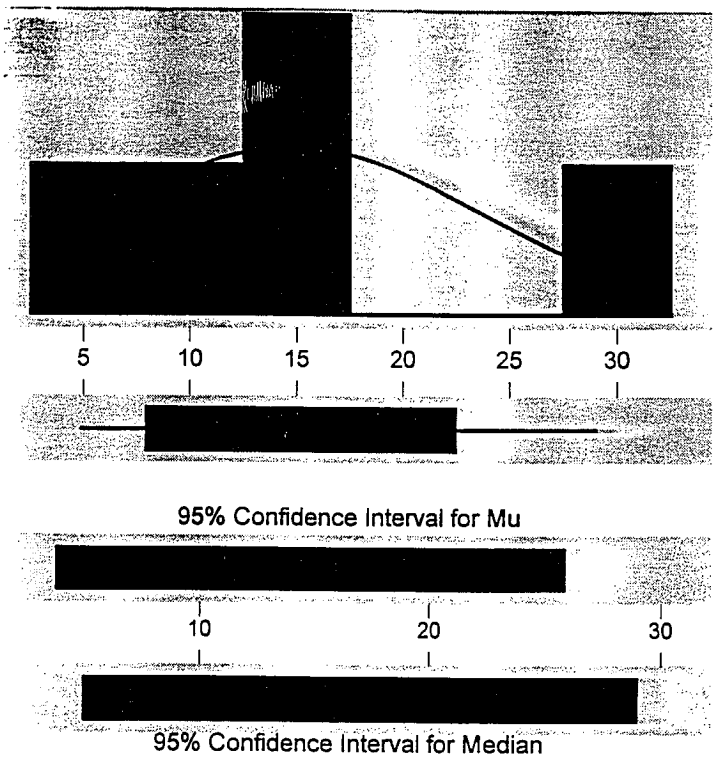
95% Confidence Interval for Median

0.45974	1.02145

Descriptive Statistics







Variable: STLC-2FT

Anderson-Darling Normality Test

A-Squared:	0.292
P-Value:	0.443
Mean	14.7800
StDev	8.9270
Variance	79.692
Skewness	1.08536
Kurtosis	1.96589
N	5
Minimum	4.9000
1st Quartile	7.9500
Median	13.0000
3rd Quartile	22.5000
Maximum	29.0000

90% Confidence Interval for Mu

6.2690	23.2910

90% Confidence Interval for Sigma

5.7964	21.1781

90% Confidence Interval for Median

7.0529	24.4118

Anderson-Darling Normality Test

A-Squared:	0.292
P-Value:	0.443
Mean	14.7800
StDev	8.9270
Variance	79.692
Skewness	1.08536
Kurtosis	1.96589
N	5
Minimum	4.9000
1st Quartile	7.9500
Median	13.0000
3rd Quartile	22.5000
Maximum	29.0000

95% Confidence Interval for Mu

3.6956	25.8644

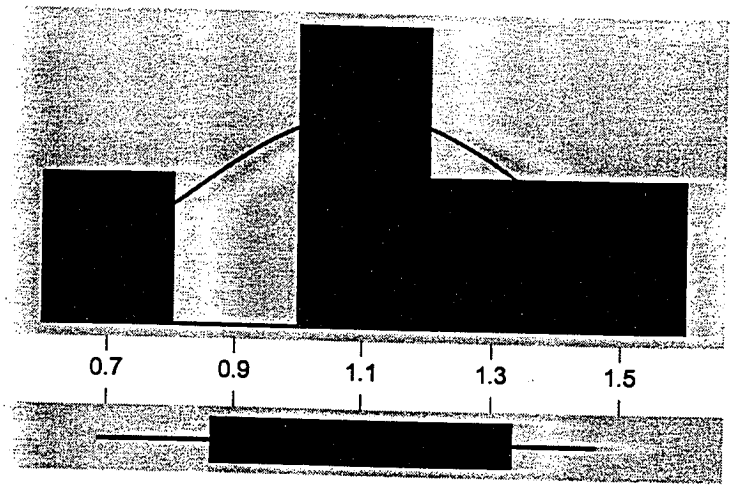
95% Confidence Interval for Sigma

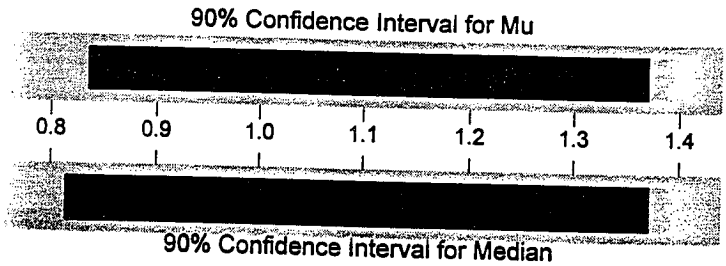
5.3485	25.6523

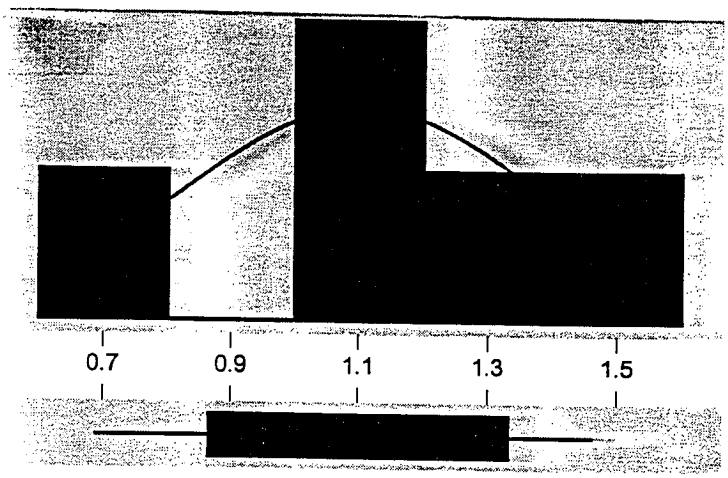
95% Confidence Interval for Median

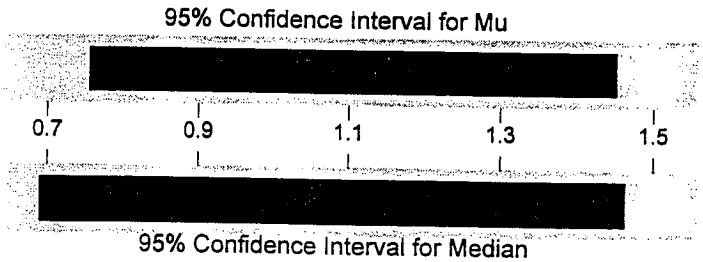
4.9000	29.0000

Descriptive Statistics









Variable: L-STLC-2FT

Anderson-Darling Normality Test

A-Squared:	0.214
P-Value:	0.695

Mean	1.10241
StDev	0.28005
Variance	7.84E-02
Skewness	-4.3E-01
Kurtosis	1.30497
N	5

13

Minimum	0.69020
1st Quartile	0.86579
Median	1.11394
3rd Quartile	1.33326
Maximum	1.46240

90% Confidence Interval for Mu

0.83541	1.36941

23

90% Confidence Interval for Sigma

0.18184	0.66438

90% Confidence Interval for Median

0.81415	1.37124

Anderson-Darling Normality Test

A-Squared:	0.214
P-Value:	0.695

Mean	1.10241
StDev	0.28005
Variance	7.84E-02
Skewness	-4.3E-01
Kurtosis	1.30497
N	5

Minimum	0.69020
1st Quartile	0.86579
Median	1.11394
3rd Quartile	1.33326
Maximum	1.46240

95% Confidence Interval for Mu

0.75468	1.45014

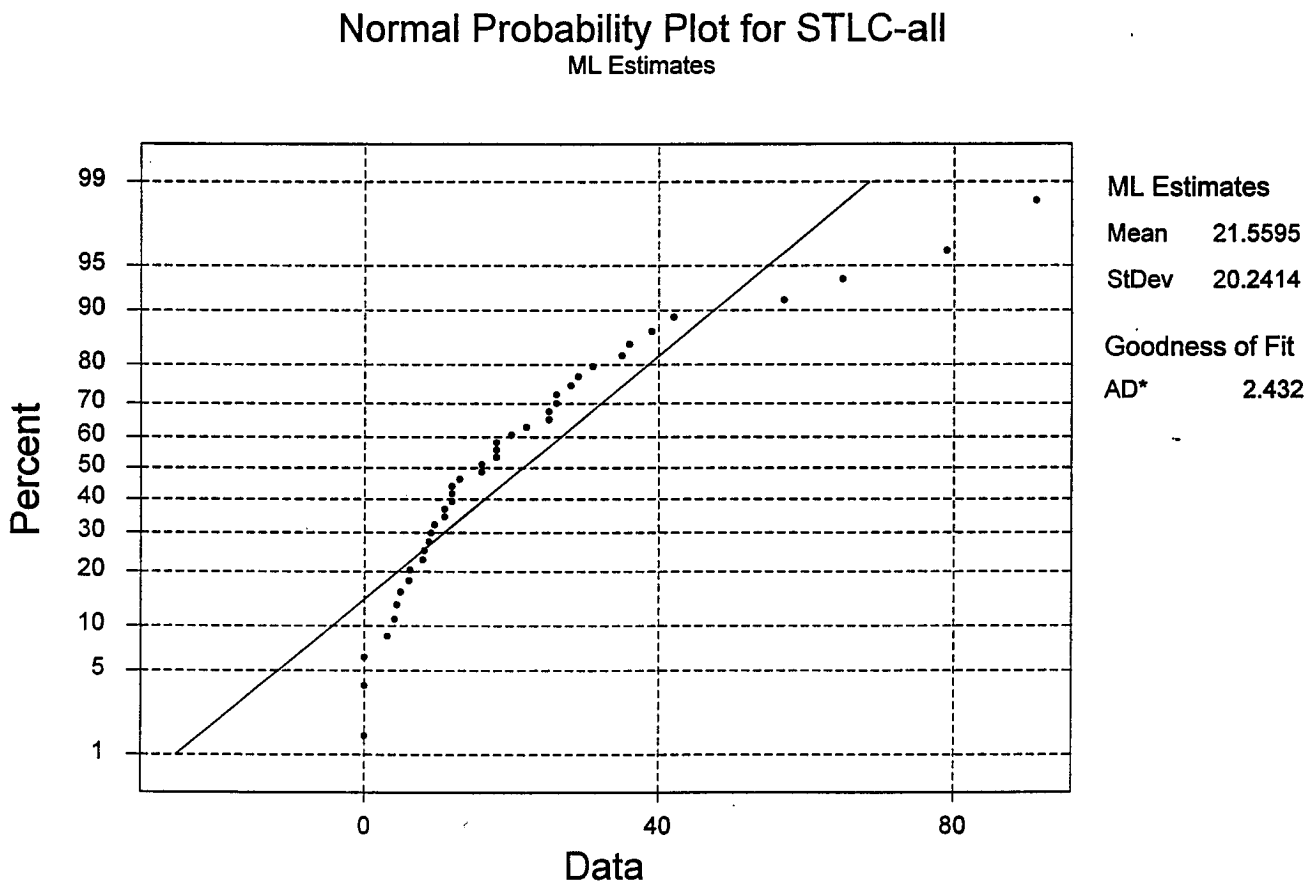
28

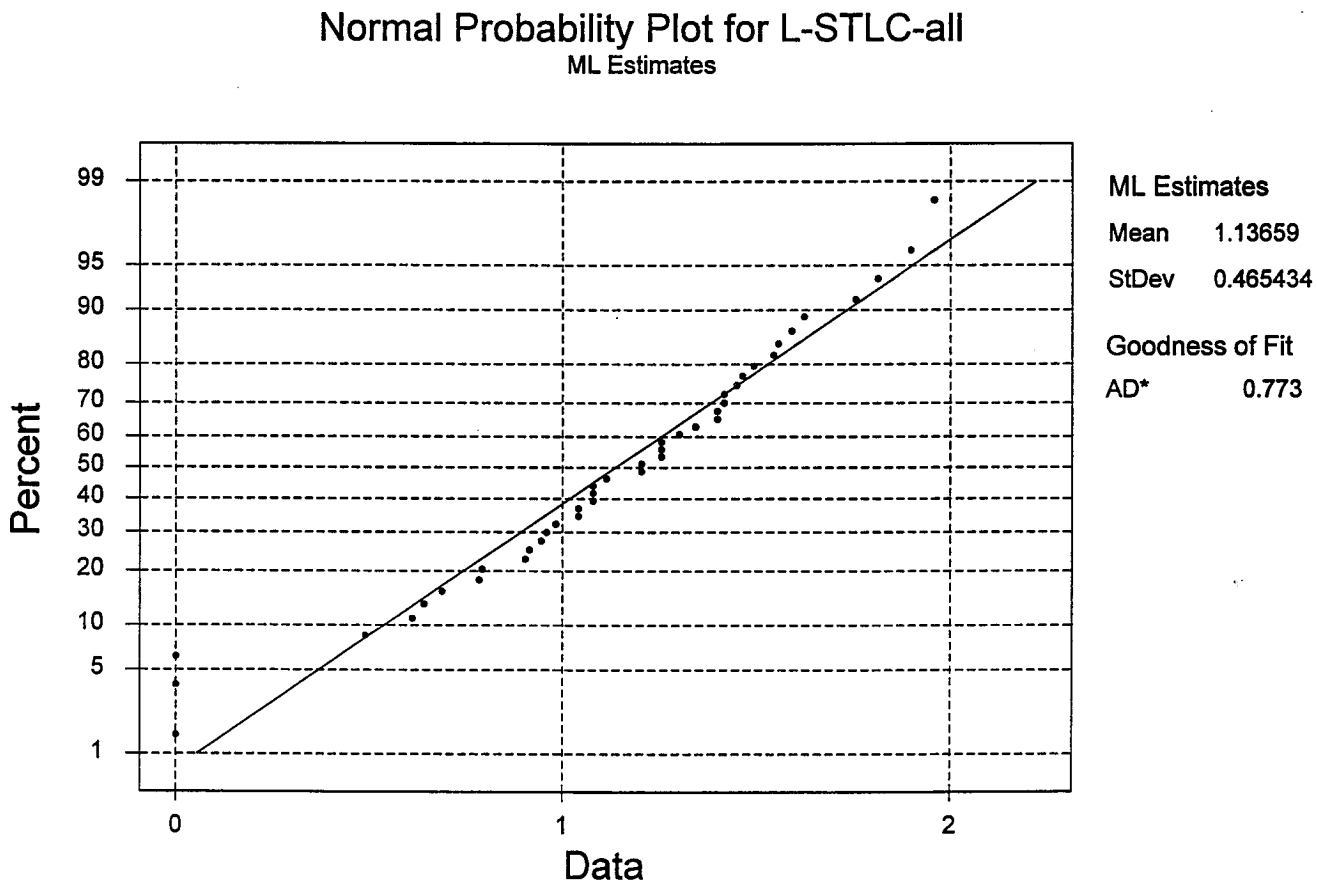
95% Confidence Interval for Sigma

0.16779	0.80474

95% Confidence Interval for Median

0.69020	1.46240


Normal Probability Plot for STLC-all
ML Estimates
Percent
99
95
90
80
70
60
50
40
30
20
10
5
1
0
40
80
Data
ML Estimates
Mean 21.5595
StDev 20.2414
Goodness of Fit
AD* 2.432


Normal Probability Plot for L-STLC-all
ML Estimates
Percent
99
95
90
80
70
60
50
40
30
20
10
5
1
0
1
2
Data
ML Estimates
Mean 1.13659
StDev 0.465434
Goodness of Fit
AD* 0.773