SEDIMENT-INTERSTITIAL STUDY

FINAL REPORT

JOHN TREVINO
AND
JAMES PATEK

LOWER COLORADO RIVER AUTHORITY

NOVEMBER 30, 1994

TEXAS WATER DEVELOPMENT BOARD GRANT # 92-483-334

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ABSTRACT

Previous studies on the Colorado River below Austin have indicated that rooted aquatic plant uptake of nutrients occurs primarily in the sediment. Some studies note that nutrients fueling macrophyte growth come from naturally occurring sources in the sediment instead of surface water nutrients from wastewater effluent. Also, most water quality modeling efforts integrating nutrient uptake have made assumptions pertaining to mixing dynamics and sediment interstitial water movement. In an effort to clarify questions pertaining to nutrient dynamics, mixing characteristics, and the potential role of nutrient uptake, data on surface and sediment-interstitial water quality, sediment-surface mixing and tributary/discharge mixing were collected.

Analysis of water quality data collected imply organic matter uptake from the surface water in the macrophyte root zone. Significant depletion of total organic carbon, total organic nitrogen, total kjeldahl nitrogen, orthophosphate, and total phosphorus occurred within the upper streambed. More importantly, nitrate-nitrogen and ammonia-nitrogen results provide evidence of considerable surface-interstitial water intermixing. Although uptake of nutrients can occur through a variety of surface and interstitial biota, the evidence of water intermixing suggests that the nutrient sources cannot be separated. Uptake of surface water nutrients by macrophytes cannot be ruled out.

Previous estimates of the longitudinal transverse mixing distance of wastewater effluent discharges in the Colorado River have been as high as fifteen miles. Results indicate that the transverse mixing distance is actually much shorter, between one half to one mile. Considerable artificial dispersion is introduced in one dimensional modeling due to shorter transverse mixing distances.

The movement and direction of the interstitial water in the upper streambed has been mostly ignored in modeling efforts. The presumption that interstitial water moves in the same direction as the river at all locations is false. Results suggest that movement of interstitial water at some locations do not follow a south to southeast direction; however, these results may be a localized phenomena.

INTRODUCTION

Eutrophication in the lower Colorado River has been of considerable concern over the past few years. The eutrophic effects have expressed themselves principally as excessive growths of rooted aquatic macrophytes and attached algae.

The components contributing to potential eutrophication in the Colorado River are both many and complex. The principle components governing nuisance plant growth or eutrophication are the availability of habitat, nutrients, and light. These components are, in turn, influenced by many factors such as flow regime, point and nonpoint source loadings, sediment loadings, etc.

Both rooted aquatic macrophytes and, to some extent, attached algae are dependent upon the sediment as a principle nutrient source. While nutrient dynamics in the sediment are fairly well understood on a theoretical level, site specific data describing the phenomena are extremely scarce for the Colorado River and other Texas rivers. Little information exists regarding either the sediment nutrient load or sediment quality. Even less information exists regarding the exchange kinetics among the sediment interstitial water, the overlying river water, and shallow alluvial groundwater. The sediment and resultant interstitial loads are of pivotal importance in the nutrient dynamics and, concomitantly, eutrophic effects in the Colorado River and other Texas rivers. For this reason, the Lower Colorado River Authority (LCRA) environmental staff obtained a grant to conduct a study to address and better understand this issue.

The LCRA proposed to:

- develop the monitoring methodology for and monitor the sediment/interstitial water quality and nutrient load in the bed sediments of the Colorado River below Austin (Task 1 and 2);
- determine the mixing characteristics, plume dynamics, and transverse mixing length for both a tributary inflow and a wastewater discharge in the lower Colorado River at both typical low flow and high flow regimes (Task 3);
- implement a sediment interstitial hydraulic study that would characterize both the advective and dispersive components of solute transport in the flowing sediment interstitial waters in the lower Colorado River (Task 4);
- implement a shallow alluvial aquifer hydraulic study that would characterize the influence of groundwater inflow upon the sediment interstitial flow and the overlying river flow (Task 5).

STUDY AREA

Aquatic macrophytes are fairly abundant in the Colorado River below Austin, Texas. Several studies on nutrient dynamics and the effect of nutrients on macrophyte growth have been conducted on the upper half of the river, since nutrient input is greatest in this area (Armstrong, 1989).

The study sites selected for monitoring are shown in Fiqure 1 and include the:

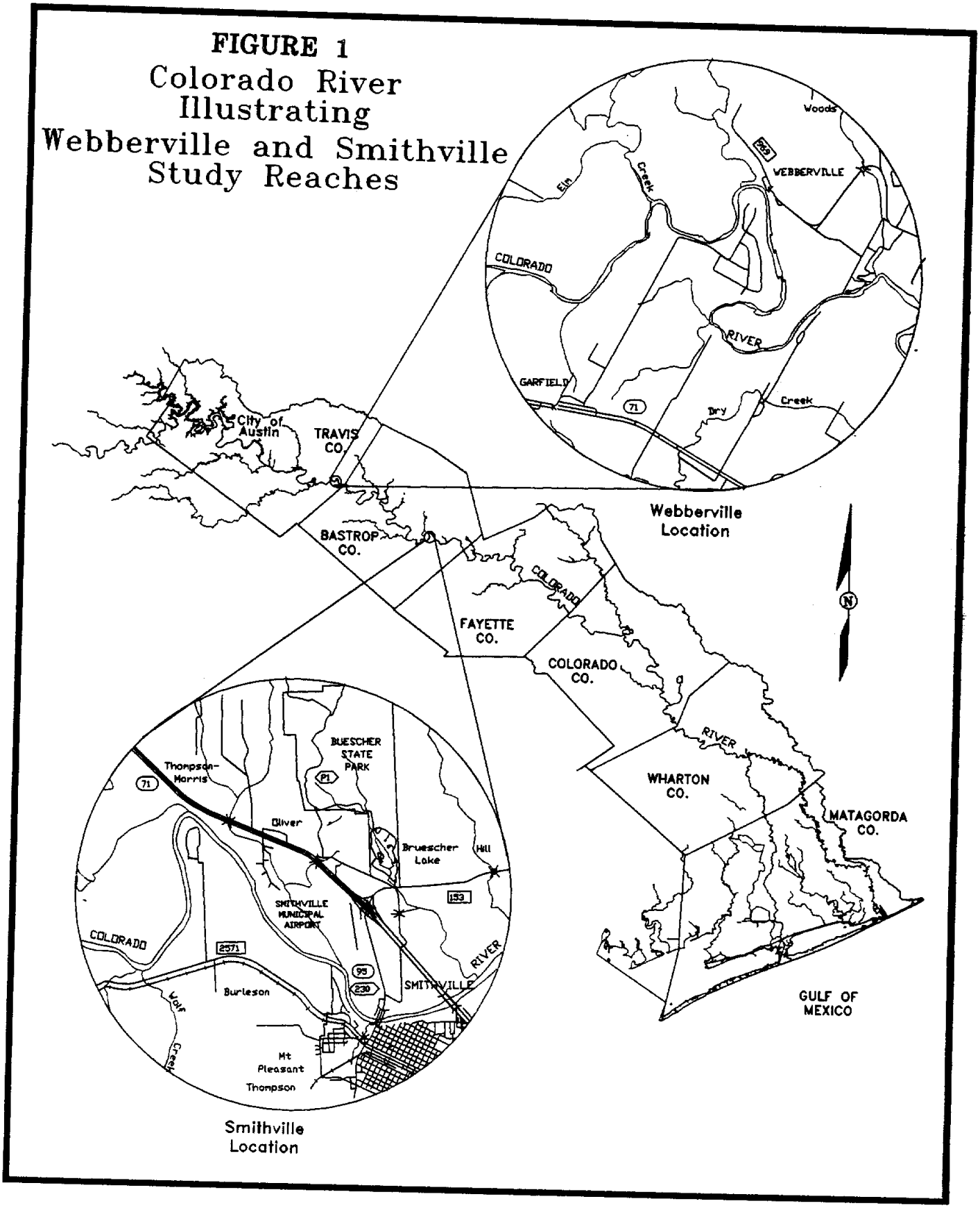
- Colorado River below Austin, Segment 1428, near Webberville Farms
- Colorado River below Austin, Segment 1428, near Hidden Shores Park upstream of Smithville

The Webberville and Smithville study reach areas have been previously described by Mosier and Ray (1992) and Looney and Baker (1977). These reaches contain transportable bed material composed of considerable gravel to cobble sized fluviatile terrace deposits of a granitic assemblage (gneiss, granite, aplite, pegmatite, graphic granite), quartz and quartzite, chert, limestone, sandstone, siltstone, hornblende schist and silicified wood.

The LCRA regulates the river flow below Austin to meet downstream demands for agricultural irrigation. The water releases vary slightly from year to year, but usually start around mid-March and end near mid-October (spring and summer months). These months are loosely referred to as high flow period. Once crop demands are met, water is curtailed for the winter months, primarily for conservation purposes (low flow period). Historical winter base flow near Austin averages around 50 cfs. In 1992, the LCRA recommended instream flow requirements for the Colorado River below Austin to maintain a healthy, diverse native fish community (Mosier and Ray, 1992). Some of the recommendations affecting the study areas include maintaining a flow of at least 46 cfs immediately below Austin at all times, maintaining a minimum mean flow of 120 cfs at Bastrop except for March, April and May (critical flow months), and maintaining a minimum flow of 500 cfs at Bastrop in March, April and May for fish spawning requirements. Target flows which provide an optimal range of habitat complexity to support a healthy fish community were also recommended.

City of Austin wastewater treatment plants (WWTP) contribute another 90 cfs of effluent to dam releases before reaching the Webberville study area. Spring and summer base flow averages around 2000 cfs (including wastewater return flows). The nearest wastewater plant is located approximately 2.5 miles upstream of the Webberville reach. The distance between the two study reaches is approximately 55 miles.

FIGURE 1
Colorado River Illustrating Webberville and Smithville Study Reaches



METHODS

The methodology consisted of periodic sampling and special sampling of a series of permanently placed interstitial water samplers. The interstitial sampler, shown in Figure 2, consisted of a heavy walled steel casing with a hardened drive point on one end. This sampler is a smaller variation of the traditional drive point

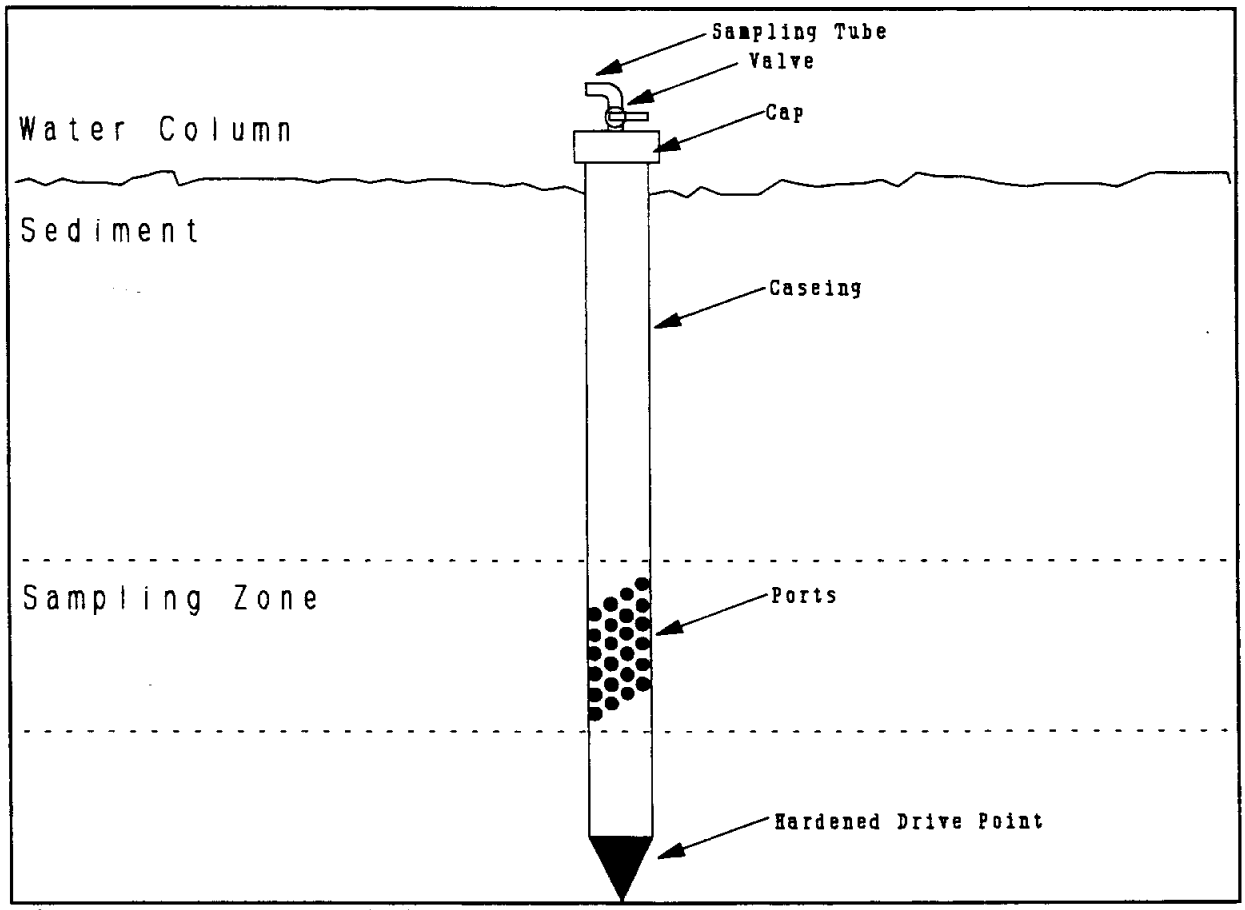


Figure 2 - Interstitial Sampler

sampler used in hydrogeological investigations.

The overall length of the sampler was approximately 18 inches. It was designed to be driven into the cobble bottom of Segment 1428 of the Colorado River in a shallow control area where macrophytes are known to occur. Macrophytes frequently occur around riffle areas. The casing was perforated to allow the infiltration of interstitial water from the sampling zone into the sampler. The depth of the sampling zone was determined by the placement of the perforations. Two sampling zones were sampled; the macrophyte root zone, which extends approximately six inches into the sediment, and a zone below the root zone, extending approximately one foot into the

sediment. Both zones often correspond to the hyporheic zone which varies with substrate size, permeability, and channel morphology but usually occurs between the first 20 to 30 centimeters beneath the streambed. Triska (1989) proposes that the hyporheic zone is made up of a surface hyporheos zone (upper zone in contact with the surface water) and a deeper interactive hyporheic zone. It is well known that most metabolic processes occur in the surface hyporheos zone and the deeper interactive hyporheic zone (Hynes, 1983 and Rutherford, 1987). Samplers were subsequently capped to prevent the overlying river water from entering the casing directly. The caps support the sampling tube which extends into the casing to the level of the sampling ports and protrudes through the cap, providing a point of attachment to the onshore sampling pump line. The sampling tubes were provided with a shutoff valve to prevent river water entry between sampling events.

The interstitial water was drawn from the sampler by means of a small peristaltic pump on the shore. A very slow pump rate was utilized to minimize the drawdown around the sampler and the potential for drawing overlying river water down into the sampling zone. The maximum pumping rate was determined after the installation of the samplers by placing a bottomless bucket over and around the mouth the sampler. The bucket was placed one to two inches down into the streambed to isolate the surface water as much as possible. The river water in the bucket was spiked with Rhodamine-WT, a commonly used fluorescent tracer dye. Various combinations of pumping rates and sampling times were investigated to find a combination that resulted in sufficient sample volume without drawing the dyed river water into the sampler.

There were several phases or sub-studies in which the permanently installed interstitial samplers figure prominently. Accordingly, the study was divided into four tasks, described below:

1. Construction and Installation of Samplers

The interstitial samplers were constructed as previously described. Two sites, Webberville and Smithville, were selected for installation. Both sampling sites were shallow control areas where macrophytes and attached algae have historically occurred. Three pairs of interstitial samplers were installed in the river sediment. Each pair consisted of samplers placed at depths of six and twelve inches below the surface. Figures 3 and 4 illustrate sampler arrangement at Webberville and Smithville.

Originally, several samplers were to be placed in the area downstream of Longhorn Dam and above the City of Austin wastewater discharges to serve as unimpacted control sites. Samplers were not placed due to incompatible substrate at these sites. Few riffle areas existed in this area that were not composed of primarily cobble stone with immediate bedrock underlayering.

FIGURE 3
WEBBERVILLE SITE

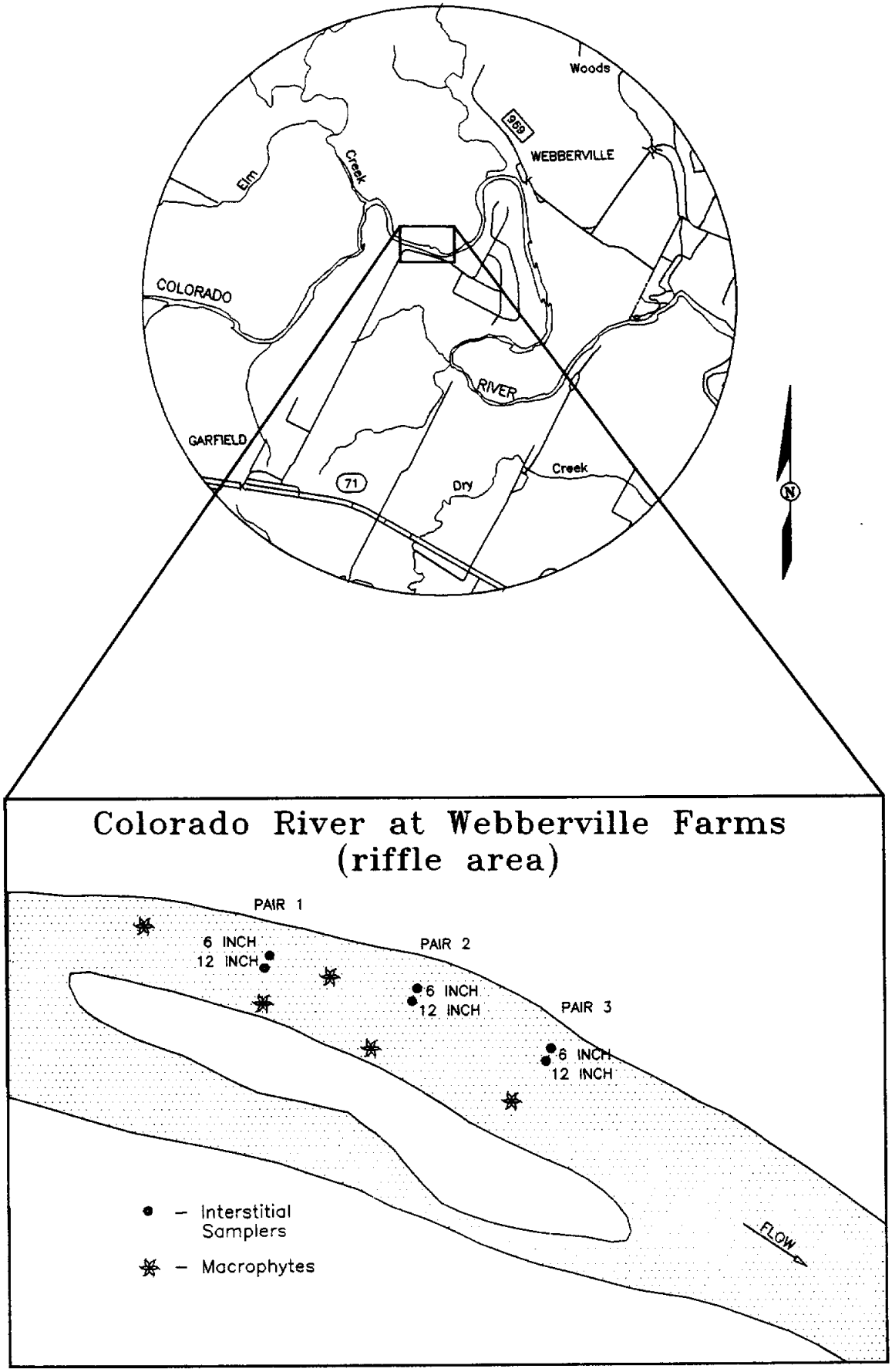
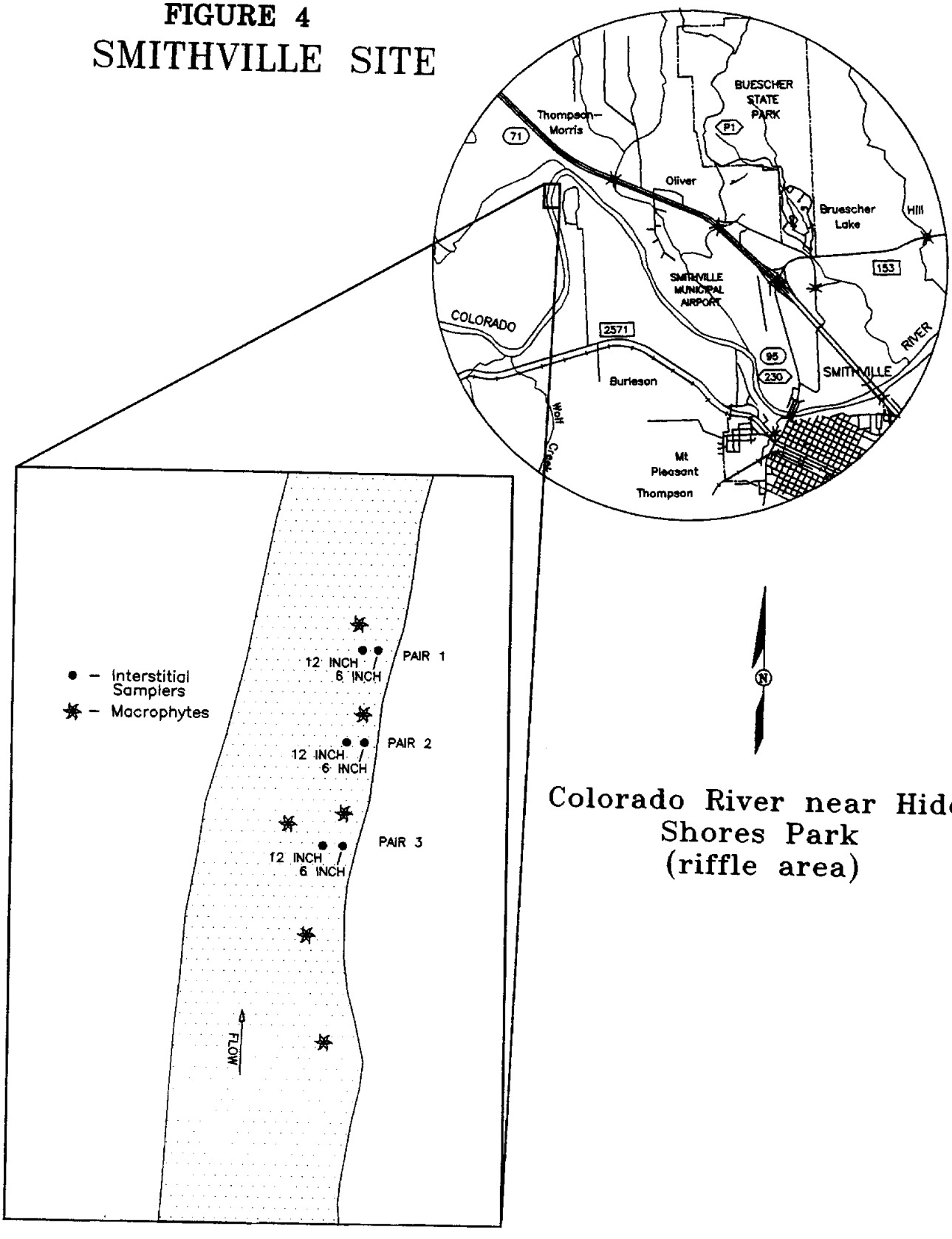


FIGURE 4
SMITHVILLE SITE



Colorado River near Hidden Shores Park (riffle area)

2. Interstitial Water Quality Sampling

Samplers were sampled routinely for interstitial water quality analysis. Approximately six samplers (3 pairs) at each site were sampled monthly for about a year.

The parameters analyzed included:

Total Organic Carbon, mg/l as Carbon (TOC)
Ammonia Nitrogen, mg/l as Nitrogen (NH_3)
Nitrite Nitrogen, mg/l as Nitrogen (NO_2)
Nitrate Nitrogen, mg/l as Nitrogen (NO_3)
Total Kjeldahl Nitrogen, mg/l as Nitrogen (TKN)
Ortho Phosphate, mg/l as Phosphorus (OP)
Total Phosphorous, mg/l as Phosphorus (TP)
Specific Conductivity, umhos/cm (COND)
pH, s.u.

The original plan was to collect 12 sets of data instead of 11. The 12th and last set of sampling was not accomplished at both locations due to vandalism of most samplers at Smithville and inoperable samplers (clogging) at Webberville. The 12th set would have been mostly incomplete if the few remaining samplers were sampled.

3. Tributary/Discharge Hydraulic Study

The purpose of the tributary/discharge hydraulic study task was to help define the hydraulic characteristics and transverse mixing distances in the river associated with both tributary and wastewater discharge plumes.

Rhodamine-WT, a nontoxic fluorescent hydraulic tracer dye, was injected into Walnut Creek, a flowing tributary of the Colorado River. The dye can be detected with a field fluorometer well into the parts per trillion range. This study attempted to map the progress of a tributary plume in the river to determine the transverse mixing distance. The transverse mixing distance is the distance downriver required for a plume entering the river from a tributary or other source to mix completely across the cross section of the river. The distance has been estimated to be as much as 15 miles in the Colorado River at moderately high flow rates (Barber, 1991). However, very little empirical data exist with which to calibrate this estimate.

From the standpoint of water quality modeling, the transverse mixing distance is a very important consideration. Most water quality models utilize some form of segmentation and an implicit assumption that instantaneous complete mixing takes place in an individual segment. Should the segmentation of the model be much smaller than the transverse mixing distance, considerable

"artificial dispersion" can be introduced by the assumption of complete mixing within an individual segment. This factor is considerably more important when modeling certain parameters such as biological factors with a patchy distribution, macrophytes for instance, than for the more traditional parameters such as biological oxygen demand. While the model may predict a concentration of some constituent entering the river with a tributary flow as a mass balance between the tributary inflow and the volume of river water contained in the river segment into which the tributary enters, the actual situation may well be much different. Depending upon the flow rates, the plume from the tributary takes some time and distance to mix with the river. The existence of a plume along one bank of the river may generate a substantial gradient in constituent concentrations across the cross section of the river, where the model predicts a lower uniformly distributed concentration.

In addition to hydraulically mapping a tributary inflow plume, an inflow plume from the South Austin Regional (SAR) wastewater discharge was also mapped using the same methodology. The mixing dynamics of a plume in the river and, presumably, the exchange kinetics between the river water and the interstitial water are flow dependent. Because of this, the studies involving the tributary inflow and the discharge inflow were attempted for both a high flow and a low flow condition. The Colorado River below Austin has a basically two phased flow regime. The high flow season typically occurs during the spring and summer months coincident with irrigation flow releases from the upstream Highland Lakes system. In contrast, the low flow season typically occurs during the winter months as impoundment and storage for subsequent irrigation demands occur. As a result, both the tributary and discharge studies were attempted during a typical winter low flow condition and a typical summer irrigation flow condition.

Three out of four dye surveys were accomplished in the tributary/discharge hydraulic study. High and low flow dye surveys were conducted on the South Austin Regional wastewater treatment plant discharge and one tributary survey of Walnut Creek was performed during high flow. A low flow survey was attempted on Walnut Creek but failed due to unnavigable waters.

Plume Mapping by Fluorometric Techniques

The physical measurement of the path and hydraulic characteristics of an incoming plume, either from a discharge or from a tributary, requires tracing the movement of the incoming water into the receiving water body. The description of the mixing of plume as it enters the receiving water body involves labeling the plume and mapping its subsequent movement. The detailed mapping of a plume involves the measurement of the concentration of a non-degradable hydraulic tracer at accurately located sampling points. The sampling points must be accurately located along the X, Y, and Z

axes (east/west, north/south, and depth). The most dependable, rapid, and environmentally sound method of labeling the effluent plume is to use a fluorescent dye.

The LCRA used Rhodamine WT, a fluorescent dye that has been used as a hydraulic tracer in streams, rivers, lakes, and coastal waters for many years. This dye has many favorable properties that make it ideal for this type of application. It has a low susceptibility to chemical decomposition and photodecay, and it is easily detectable to very low concentrations. Its low toxicity, coupled with the very low concentrations at which it may be used, provide for minimal environmental effect. In addition, the wavelengths at which it exhibits maximum fluorescence occur in a region of the spectrum where little naturally occurring background fluorescence exists.

Principles of Operation

Rhodamine WT exhibits fluorescence when excited by light of the proper wavelength. The excitation spectrum for Rhodamine WT exhibits a relatively narrow bandwidth centered at approximately 550 nanometers (nm). The bandwidth for the emission spectrum is relatively broad ranging from 560 to 600 nm.

Fluorescence detection was accomplished using a filter fluorometer (Turner Designs Model 10R). The excitation energy in this instrument is derived from a mercury vapor lamp. The mercury vapor lamp has an emission line at 546 nm which is quite close to the maximum excitation wavelength for Rhodamine WT. The light from the mercury vapor lamp passes through a primary filter which passes only the 546 nm emission line. The light is directed through the sample causing the dye to fluoresce at its characteristic wavelength. The emission spectrum from the sample passes through a secondary filter that passes light only in the 560 to 600 nm band. The intensity of the emission is directly proportional to the concentration of the Rhodamine dye at the concentrations encountered in a typical study. The emissions are picked up by a photomultiplier and converted to a voltage signal which is recorded.

Background Fluorescence

The fluorometer reading obtained from the receiving water without the presence of dye is termed "background fluorescence". These background fluorescence readings result from two major phenomena. The first phenomenon results from naturally occurring substances which exhibit fluorescence spectra overlapping that of Rhodamine WT. Certain algal species contain phycoerythrin as a secondary pigment. Both the excitation and emission spectra for phycoerythrin overlap Rhodamine WT. Fortunately, the substances that overlap the Rhodamine WT spectrum are normally at low concentrations.

The second phenomenon results from backscattering of light by suspended solids. If the secondary filter is not completely opaque to the wavelengths passed by the primary filter, the light backscattered by the suspended solids can register on the photomultiplier. In a well-maintained fluorometer, this effect is minimal.

Before the start of dye injection and during the sampling events, the background fluorescence was measured and recorded for later use in data reduction.

Dye Integrity

Rhodamine WT is quite stable and does not tend to adsorb onto suspended material in any great amount. However, certain substances, most notably chlorine, can oxidize or quench Rhodamine WT under some circumstances and at certain concentrations. To prevent the potential loss of the dye, these substances must be kept to a minimum. In circumstances where these substances are uncontrollable, the potential loss of dye must be compensated for by a dye loss test. The focus of this study was to determine the point downriver where the entering plume is evenly dispersed across the river. Since absolute concentrations of the tracer dye are unimportant to this type of study, no compensation for potential dye loss was necessary. In addition, chlorine levels in the river are generally low, except perhaps in the immediate vicinity of an WWTP effluent outfall, and the time span of the test is relatively short so that dye loss compensation would not likely have been a problem even if it were important to the study design. Fortunately, most dye surveys were performed after the SAR WWTP started dechlorinating their effluent. Effluent dechlorination for SAR started September 1, 1993.

The fluorescence of Rhodamine WT is also influenced by temperature. The particular field fluorometer utilized in this study has the capacity to internally compensate for this effect. However, since the temperature of the Colorado River over the length of the study area and the timespan of the study is relatively constant, the temperature effect is not particularly important.

Fluorometric Sampling

The fluorometer is equipped with a flow-through cell through which the sample is continuously pumped. The flow-through cell is also equipped with a thermistor probe to allow for continuous temperature recording for the fluorescence temperature compensation described previously. Samples were pumped from the selected depth by a submersible pump and passed through the fluorometer. The fluorometer and temperature readings were recorded with the fluorometers internal data acquisition system as the boat moved around the river.

Navigation

The most difficult parts of obtaining accurate continuous measurements are navigating and locating the boat and, concomitantly, determining the location at which an individual data point was obtained. Location data was generated with an onboard global positioning system (GPS). The GPS locations were continuously recorded on a laptop computer and later matched with fluorometer readings by time. The availability of GPS location data is influenced by several factors, including the amount of open sky visible from the water surface. Many places on the Colorado River are sheltered by high banks and heavy riparian vegetation. At times, depending upon satellite locations, GPS data was unavailable in some locations. While this prevented us from continuously mapping the plume in some situations, it did not affect the study overall. Where the point of complete transverse mixing occurred in a location for which GPS data was not obtainable, the bank was marked and the coordinates obtained later under more favorable conditions.

Data Reduction

The transverse mixing distances were determined using the distance downstream from the point of the plume origin of the first transect across the axis of the river that displayed a constant dye concentration.

In addition to determining the transverse mixing distance, the plume was mapped, where possible, as described above. For plume mapping, the fluorometer data, temperature data, and the location data were compiled and gridded into a Cartesian coordinate system (State Plane). The gridding methodology employed a Kriging algorithm to construct a regular grid of concentrations in the X/Y plane from the non-uniformly spaced data points. From the data grid, lines of equal dilution were drawn, resulting in the two dimensional contour maps of the plume. These two dimensional contour plots help visualize the location, extent, and magnitude of the plume.

4. Interstitial Hydraulic Study

The interstitial water in the cobble sediments of the lower Colorado River are not static (Hibbs, 1993). They presumably flow downriver in the same manner as the overlying river water, albeit much slower. As a result, the interstitial environment influencing the primary production in the river is in a state of flux. In an effort to quantify both the advective and dispersive elements of interstitial constituent transport, an interstitial hydraulic study was conducted.

Several interstitial samplers were reserved for this portion of the study. A shallow location was chosen at the Webberville site and

the samplers were installed in a circle surrounding a sampler in the center. The initial diameter of the circle was approximately 2 feet. Rhodamine-WT was injected into an interstitial sampler in the center of the circle. For each of the other samplers, the distance and bearing from the center sampler was recorded. Following injection of the dye, small samples were taken from the other samplers every few minutes and analyzed for Rhodamine. The progression of the interstitial dye plume as it intersected the rows of samplers arranged downstream would provide a measure of the average velocity of the interstitial water. The resultant concentrations of any dye in the overlying river water would serve as a measure of the exchange between the interstitial water and the overlying water column. The lateral spread of the plume is a response to both dispersion in the interstitial water and to mechanical mixing induced by the flow path.

The alluvial aquifer hydraulic study was not accomplished due to accessibility problems. LCRA wells were inaccessible during the study period due to conflicting simultaneous monitoring by other studies.

RESULTS

Water Quality

Interstitial and surface water quality data were collected at Webberville and Smithville between May 1993 and April 1994. Approximately six samplers (3 pairs) at each site were sampled monthly for about a year. Eleven datasets were collected.

The datasets were divided and analyzed by flow since the concentration of nutrients in the river were extremely different between flow regimes. The water quality data collected are summarized in Table 1. Some datasets were incomplete due to occasional vandalism, clogging, or malfunctioning of the samplers. Other samplers (Webberville pair 3 at 6 and 12 inch depths and Smithville pair 3 at the 6 inch depth) consistently experienced these problems and were rarely sampled.

Student's t tests were employed to determine whether water quality parameters were different between interstitial depths as well as between interstitial depths and the surface water. More precisely, parameter means for each sampler depth and the surface were tested for significant differences (95% confidence level used) by flow. Last year's non-irrigation cycle began on October 10, 1993 and ended on March 21, 1994. Since the ground water and surface water exhibit a state of instability during transitional flows (Hibbs, 1993; Hynes, 1983; Stanford, 1988) the March 1994 dataset was excluded from the t test analysis. Sampling in March occurred two days after the transition from low to high flow. Less than detection values for NH_3 and NO_2 concentrations were converted to

TABLE 1. SURFACE AND INTERSTITIAL WATER QUALITY DATA FOR WEBBERVILLE (W) AND SMITHVILLE (S): A = 6 INCH DEPTH, B = 12 INCH DEPTH, R = RIVER (OR SURFACE WATER).

SAMPLE DATE	LOCATION	TOC	COND	TKN	TON	NH3	NO3	NO2	TP	OP	PH
5/20/93	WIS1A	2	522	0.681	0.44	0.24	0.757	<0.005	0.365	0.327	7.82
5/2093	WIS1B	3	547	0.327	0.05	0.28	0.211	<0.005	0.222	0.211	7.92
5/20/93	WIS2A	2	553	0.441	0.15	0.29	0.169	0.036	0.225	0.205	7.92
5/20/93	WIS3A	4	547	0.961	0.59	0.37	0.876	0.006	0.19	0.193	8.02
5/20/93	WIS3B	2	542	0.456	0.17	0.29	0.783	<0.005	0.184	0.182	7.96
5/20/93	WISR	3	542	0.487	0.22	0.27	0.722	<0.005	0.114	0.104	8.28
5/27/93	SIS1A	2	555	0.317	0.32	<0.01	1.74	<0.005	0.153	0.145	7.8
5/27/93	SIS1B	2	559	0.224	0.22	<0.01	1.729	<0.01	0.168	0.165	7.89
5/27/93	SIS2A	3	563	0.163	0.16	<0.01	1.514	0.026	0.155	0.154	7.9
5/27/93	SIS2B	4	561	0.242	0.24	<0.01	1.724	0.021	0.179	0.173	7.86
5/27/93	SIS3B	3	594	0.23	0.23	<0.01	1.536	0.038	0.198	0.2	7.8
5/27/93	SISR	4	533	0.404	0.22	<0.01	1.336	0.01	0.223	0.18	8.31
7/13/93	WIS1A	3	545	0.201	0.19	<0.01	1.086	<0.01	0.258	0.246	7.99
7/13/93	WIS1B	2	539	0.175	0.17	<0.01	1.026	<0.01	0.336	0.327	7.92
7/13/93	WIS2A	2	549	0.233	0.23	<0.01	1.122	<0.01	0.261	0.277	7.97
7/13/93	WIS3A	2	554	0.219	0.21	<0.01	0.638	0.107	0.208	0.239	7.99
7/13/93	WIS3B	2	517	0.182	0.18	<0.01	1.156	<0.01	0.218	0.227	8.13
7/13/93	WISR	3	557	0.362	0.34	0.02	1.006	<0.01	0.19	0.118	8.24
7/22/93	SIS1A	2	554	0.203	0.203	<0.01	0.696	0.038	0.159	0.162	8.16
7/22/93	SIS1B	2	555	0.157	0.157	<0.01	0.987	<0.01	0.166	0.174	8.05
7/22/93	SIS2A	2	557	0.186	0.186	<0.01	0.885	<0.01	0.177	0.189	8.1
7/22/93	SIS2B	2	554	0.178	0.178	<0.01	0.976	0.012	0.18	0.19	8.14
7/22/93	SIS3B	2	538	0.222	0.222	<0.01	1.021	<0.01	0.176	0.182	8.13
7/22/93	SISR	3	520	0.315	0.315	<0.01	0.949	<0.01	0.17	0.146	8.41
9/15/93	WIS1A	1	598	0.114	0.114	<0.01	1.427	<0.01	0.336	0.305	7.78
9/15/93	WIS1B	1	580	0.064	0.064	<0.01	1.62	<0.01	0.365	0.349	7.77
9/15/93	WIS2A	2	589	0.089	0.089	<0.01	1.355	<0.01	0.299	0.278	8
9/15/93	WIS2B	2	589	0.084	0.082	0.02	1.326	<0.01	0.309	0.277	8.05
9/15/93	WIS3B	2	596	0.089	0.089	<0.01	1.742	<0.01	0.286	0.256	8.2
9/15/93	WISR	3	598	0.273	0.273	<0.01	1.228	0.01	0.259	0.221	8.23
9/15/93	SIS1A	2	604	0.011	0.011	<0.01	1.312	<0.01	0.219	0.183	7.94
9/15/93	SIS1B	2	591	0.011	0.011	<0.01	1.255	<0.01	0.235	0.207	7.95
9/15/93	SIS2A	2	597	0.056	0.056	<0.01	1.301	<0.01	0.222	0.187	8.03
9/15/93	SIS2B	2	599	0.046	0.046	<0.01	1.292	<0.01	0.262	0.241	8.02
9/15/93	SIS3B	2	605	0.096	0.096	<0.01	1.372	<0.01	0.261	0.228	7.93
9/15/93	SISR	3	613	0.181	0.181	<0.01	1.339	<0.01	0.275	0.238	8.38

TABLE 1 (CONTINUED). SURFACE AND INTERSTITIAL WATER QUALITY DATA FOR WEBBERVILLE (W) AND SMITHVILLE (S): A = 6 INCH DEPTH, B = 12 INCH DEPTH, R = RIVER (OR SURFACE WATER).

SAMPLE DATE	LOCATION	TOC	COND	TKN	TON	NH3	NO3	NO2	TP	OP	PH
10/7/93	WIS1A	2	603	0.296	0.278	0.018	2.762	<0.01	0.347	0.341	7.64
10/7/93	WIS1B	1	585	0.236	0.236	<0.01	1.852	<0.01	0.353	0.347	7.54
10/7/93	WIS2A	2	615	0.323	0.323	<0.01	3.138	0.023	0.357	0.325	7.67
10/7/93	WIS2B	2	600	0.281	0.259	0.022	2.748	<0.01	0.333	0.316	7.63
10/7/93	WISR	3	601	0.364	0.308	0.056	2.7	0.019	0.512	0.477	8.11
10/7/93	SIS1A	2	586	0.222	0.208	0.014	1.425	<0.01	0.263	0.192	7.86
10/7/93	SIS1B	2	583	0.224	0.211	0.013	1.414	<0.01	0.287	0.21	7.91
10/7/93	SIS2A	2	579	0.222	0.203	0.019	1.322	<0.01	0.267	0.197	7.94
10/7/93	SIS2B	2	589	0.236	0.214	0.022	1.464	<0.01	0.286	0.216	7.3
10/7/93	SIS3B	2	593	0.209	0.192	0.017	1.369	<0.01	0.283	0.242	8.12
10/7/93	SISR	3	582	0.287	0.258	0.029	1.474	<0.01	0.303	0.256	8.48
10/21/93	WIS1A	2	504	0.23	0.23	<0.01	1.164	<0.01	0.51	0.351	7.94
10/21/93	WIS1B	2	490	0.215	0.215	<0.01	2.156	<0.01	0.486	0.366	7.86
10/21/93	WIS2A	2	455	0.308	0.308	<0.01	1.449	<0.01	0.438	0.344	7.89
10/21/93	WIS2B	1	472	0.071	0.071	<0.01	1.556	<0.01	0.44	0.347	7.99
10/21/93	WISR	4	452	0.768	0.67	0.098	1.819	0.023	0.474	0.424	8.02
10/21/93	SIS1A	3	506	0.544	0.544	<0.01	1.613	<0.01	0.34	0.28	8.05
10/21/93	SIS1B	3	491	0.229	0.229	<0.01	1.531	<0.01	0.345	0.289	8.03
10/21/93	SIS2A	3	508	0.305	0.305	<0.01	1.588	<0.01	0.383	0.308	8.12
10/21/93	SIS2B	2	524	0.071	0.071	<0.01	1.72	<0.01	0.384	0.302	8.04
10/21/93	SISR	4	531	0.882	0.822	0.06	1.904	0.039	0.526	0.343	8.17
11/22/93	WIS1A	6	655	0.42	0.408	0.012	4.416	<0.01	0.398	0.327	7.58
11/22/93	WIS1B	3	634	0.037	0.037	<0.01	3.636	0.137	0.395	0.368	7.51
11/22/93	WIS2A	1	656	0.218	0.218	<0.01	2.744	0.028	0.3	0.261	7.56
11/22/93	WIS2B	1	641	0.164	0.164	<0.01	2.478	0.13	0.306	0.256	7.52
11/22/93	WISR	<1	661	0.568	0.522	0.046	4.975	0.019	0.813	0.787	7.98
11/22/93	SIS1A	4	695	0.594	0.561	0.033	4.168	0.037	0.233	0.197	7.89
11/22/93	SIS1B	3	705	0.426	0.426	<0.01	4.752	<0.01	0.238	0.344	7.75
11/22/93	SIS2A	2	682	0.355	0.355	<0.01	3.776	<0.01	0.297	0.246	7.94
11/22/93	SIS2B	2	685	0.325	0.325	<0.01	4.068	<0.01	0.338	0.284	7.91
11/22/93	SISR	3	660	0.553	0.531	0.022	3.478	0.013	0.526	0.472	8.53
12/14/93	WIS1A	1	714	0.173	0.078	0.095	3.781	0.121	0.442	0.282	7.59
12/14/93	WIS1B	1	710	0.229	0.197	0.032	3.798	0.099	0.435	0.299	7.54
12/14/93	WIS2A	1	744	0.123	0.097	0.026	3.953	0.068	0.42	0.269	7.49
12/14/93	WIS2B	1	745	0.193	0.163	0.03	3.886	0.085	0.399	0.278	7.57
12/14/93	WIS3B	1	750	0.168	0.143	0.025	1.727	0.026	0.462	0.379	7.75
12/14/93	WISR	4	720	0.345	0.146	0.199	4.895	0.02	0.689	0.697	8.2

TABLE 1 (CONTINUED). SURFACE AND INTERSTITIAL WATER QUALITY DATA FOR WEBBERVILLE (W) AND SMITHVILLE (S): A = 6 INCH DEPTH, B = 12 INCH DEPTH, R = RIVER (OR SURFACE WATER).

SAMPLE DATE	LOCATION	TOC	COND	TKN	TON	NH3	NO3	NO2	TP	OP	PH
12/14/93	SIS1A	2	720	<0.01	<0.01	0.022	2.221	0.095	0.308	0.236	7.96
12/14/93	SIS1B	2	734	0.225	0.194	0.031	2.186	0.101	0.331	0.225	7.88
12/14/93	SIS2A	2	720	0.322	0.3	0.022	1.122	0.098	0.403	0.294	8.07
12/14/93	SIS2B	2	722	0.202	0.158	0.044	1.759	0.071	0.382	0.335	7.89
12/14/93	SIS3B	2	710	0.214	0.196	0.018	1.51	0.12	0.433	0.369	7.63
12/14/93	SISR	3	714	0.286	0.21	0.076	3.234	0.032	0.588	0.6	8.55
1/11/94	WIS1A	2	565	0.301	0.301	<0.01	3.873	0.107	0.396	0.38	7.41
1/11/94	WIS1B	2	567	0.321	0.321	<0.01	3.882	0.116	0.407	0.415	7.36
1/11/94	WIS2A	2	591	0.367	0.367	<0.01	5.962	<0.01	0.384	0.372	7.42
1/11/94	WIS2B	2	596	0.445	0.445	<0.01	5.65	<0.01	0.362	0.275	7.56
1/11/94	WISR	4	582	0.526	0.469	0.033	3.184	0.025	0.595	0.649	8.57
1/11/94	SIS1A	2	575	0.389	0.363	0.026	3.066	<0.01	0.283	0.314	7.75
1/11/94	SIS1B	2	556	0.282	0.282	<0.01	2.431	<0.01	0.313	0.235	7.6
1/11/94	SIS2A	2	568	0.321	0.307	0.014	3.072	<0.01	0.419	0.383	7.74
1/11/94	SIS2B	2	547	0.337	0.313	0.024	2.564	<0.01	0.392	0.367	7.77
1/11/94	SIS3B	2	564	0.348	0.319	0.029	2.05	<0.01	0.444	0.413	7.54
1/11/94	SISR	4	572	0.523	0.464	0.059	2.563	0.026	0.47	0.45	8.74
2/15/94	WIS1A	2	689	0.138	0.138	<0.01	4.105	<0.01	0.295	0.308	7.79
2/15/94	WIS1B	1	6.92	0.329	0.329	<0.01	4.053	<0.01	0.319	0.318	7.74
2/15/94	WIS2A	1	686	0.101	0.101	<0.01	3.486	0.075	0.339	0.305	7.73
2/15/94	WIS2B	1	689	0.372	0.372	<0.01	3.879	0.064	0.393	0.256	7.74
2/15/94	WISR	4	667	0.379	0.379	<0.01	3.725	0.02	1.182	0.72	8.27
2/15/94	SIS1A	2	654	0.292	0.292	<0.01	1.146	0.055	0.462	0.391	8.01
2/15/94	SIS1B	2	681	0.475	0.475	<0.01	2.897	<0.01	0.454	0.267	7.89
2/15/94	SIS2A	2	664	0.272	0.272	<0.01	1.823	0.055	0.483	0.693	8.14
2/15/94	SIS2B	2	668	0.261	0.261	<0.01	2.082	0.037	0.485	0.398	7.9
2/15/94	SIS3B	2	681	0.218	0.218	<0.01	2.421	0.057	0.525	0.44	7.83
2/15/94	SISR	3	622	0.443	0.443	<0.01	1.134	0.018	0.349	0.24	8.86
3/24/94	WIS1A	<1	744	0.29	0.29	<0.01	3.952	0.112	0.396	0.364	7.74
3/24/94	WIS1B	2	696	0.207	0.171	0.036	2.616	0.087	0.466	0.414	7.68
3/24/94	WIS2A	3	766	0.324	0.324	<0.01	2.864	0.189	0.446	0.385	7.67
3/24/94	WIS2B	2	781	0.313	0.313	<0.01	4.402	0.134	0.441	0.399	7.7
3/24/94	WISR	4	665	0.771	0.646	0.125	2.979	0.022	0.889	0.778	7.85
3/24/94	SIS1A	3	664	0.325	0.325	<0.01	1.048	0.101	0.532	0.484	7.81
3/24/94	SIS1B	3	681	0.258	0.258	<0.01	0.725	0.091	0.522	0.457	7.73
3/24/94	SIS2A	3	682	0.301	0.301	<0.01	1.095	0.096	0.524	0.5	7.87
3/24/94	SIS2B	3	669	0.319	0.319	<0.01	0.925	0.078	0.554	0.484	7.77

TABLE 1 (CONTINUED). SURFACE AND INTERSTITIAL WATER QUALITY DATA FOR WEBBERVILLE (W) AND SMITHVILLE (S): A = 6 INCH DEPTH, B = 12 INCH DEPTH, R = RIVER (OR SURFACE WATER).

SAMPLE DATE	LOCATION	TOC	COND	TKN	TON	NH3	NO3	NO2	TP	OP	PH
3/24/94	SIS3B	3	664	0.283	0.283	<0.01	0.256	0.077	0.567	0.509	7.71
3/24/94	SISR	4	683	0.619	0.53	0.089	2.027	0.032	0.573	0.569	8.3
4/13/94	WIS1A	2	626	0.24	0.24	<0.01	1.023	<0.01	0.359	0.335	7.89
4/13/94	WIS1B	2	627	0.236	0.236	<0.01	1.231	<0.01	0.474	0.482	7.95
4/13/94	WIS2A	2	609	0.214	0.214	<0.01	1.001	<0.01	0.456	0.418	7.92
4/13/94	WIS2B	2	641	0.264	0.264	<0.01	1.604	<0.01	0.414	0.414	7.82
4/13/94	WISR	3	637	0.341	0.309	0.032	1.077	<0.01	0.306	0.275	8.17
4/13/94	SIS1A	2	623	0.173	0.173	<0.01	0.881	0.042	0.431	0.412	8.09
4/13/94	SIS1B	2	636	0.254	0.254	<0.01	0.858	0.013	0.443	0.442	8.05
4/13/94	SIS2A	2	642	0.426	0.426	<0.01	0.534	0.104	0.435	0.453	8.11
4/13/94	SIS2B	2	632	0.198	0.198	<0.01	0.675	0.062	0.478	0.481	7.98
4/13/94	SIS3B	2	629	0.258	0.258	<0.01	0.54	0.082	0.496	0.523	8
4/13/94	SISR	3	609	0.356	0.341	0.015	0.965	<0.01	0.398	0.368	8.57

half the detection values and were included in the analysis. However, t-test caparisons for these parameters should be considered invalid since over fifty percent of data values were arbitrarily set to half values.

Normal probability plots revealed normal or semi-normal data distributions for COND, NO_3, OP, pH, TKN, TON, and TP. NH_3, $N0_2$, and TOC datasets were not normally distributed. The non-normal distributions for NH_3 and NO_2 were expected due to artificial replacement of less than values with the same half values. The TOC dataset exhibited a non-normal pattern because the values were either 1, 2, 3, or 4 with nothing in between. TOC data were assumed to be normal over a longer period of monitoring. pH values were converted to the hydrogen ion concentration (H+) since pH is on a log scale. Table 2 contains the results of the t test comparisons.

Datasets were grouped by sampler location (ie., all 6 inch data, all 12 inch data, and all surface water data) to increase sample size only after showing no significant difference between each set. T-tests were performed on grouped data to verify existing differences between interstitial and surface water. Tables 3 and 4 contain the grouped results. For statistical details refer to the statistics section, Appendix B.

Steady State Low Flow

Interstitial vs Interstitial

The interstitial water at 6 inches and/or 12 inches was not significantly different [($p > 0.05$ for specific conductance (COND), ammonia (NH_3), nitrite (NO_2), nitrate (NO_3), ortho phosphate (OP), pH (H+), total kjeldahl nitrogen (TKN), total organic carbon (TOC), total organic nitrogen (TON), and total phosphorus (TP)] from water at other 6 inch or 12 inch depth samplers. In general, the interstitial water was very similar regardless of depth both at Webberville and Smithville.

Interstitial vs Surface

Some differences were detected between the interstitial water and the surface water. At Webberville, OP, H+, TKN, TOC, TON and TP levels were significantly different ($p < 0.05$) between the surface water and interstitial water both at 6 inches and 12 inches. The rest of the parameters (COND, NH_3, NO_2, and NO_3) were not significantly different. At Smithville, H+, TOC, and TP concentrations were different ($p < 0.05$) between both depths and the surface water. Interstitial TKN and TON were different ($p < 0.05$) only between the 12 inch depth and the surface water. In addition to TKN and TON at 6 inches, COND, NH_3, NO_2, and NO_3 levels remained nonsignificant between the interstitial water and the surface water.

TABLE 2. LOW FLOW AT WEBBERVILLE: T-TEST FOR DIFFERENCES IN MEANS BETWEEN INDIVIDUAL SAMPLER DEPTHS AND SURFACE: 1A = 6 INCH DEPTH FOR PAIR 1, 1B = 12 INCH DEPTH FOR PAIR 1, SF = SURFACE, ETC.

1A VS.	COND	NH3	NO2	NO3	OP	H+	TKN	TOC	TON	TP
1B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
3A	--	--	--	--	--	--	--	--	--	--
3B	--	--	--	--	--	--	--	--	--	--
SF	NS	NS	NS	NS	S	S	S	NS	NS	S
1B VS.										
2A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2B	NS	NS	NS	NS	S	NS	NS	NS	NS	NS
3A	--	--	--	--	--	--	--	--	--	--
3B	--	--	--	--	--	--	--	--	--	--
SF	NS	NS	NS	NS	S	S	S	S	NS	S
2A VS.										
2B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
3A	--	--	--	--	--	--	--	--	--	--
3B	--	--	--	--	--	--	--	--	--	--
SF	NS	NS	NS	NS	S	S	S	S	NS	S
2B VS.										
3A	--	--	--	--	--	--	--	--	--	--
3B	--	--	--	--	--	--	--	--	--	--
SF	NS	NS	NS	NS	S	S	S	S	NS	S
3A VS.										
3B	--	--	--	--	--	--	--	--	--	--
SF	--	--	--	--	--	--	--	--	--	--

S = SIGNIFICANT DIFFERENCE AT THE 0.05 LEVEL
NS = NO SIGNIFICANT DIFFERENCE AT THE 0.05 LEVEL
S* = SIGNIFICANT DIFFERENCE AT THE 0.05 LEVEL, HOWEVER, THE NUMBER OF CASES ON ONE OR BOTH SIDES ARE SMALL
-- = NOT ENOUGH CASES ON ONE OR BOTH SIDES TO PERFORM T-TEST

TABLE 2 (CONT.). LOW FLOW AT SMITHVILLE: T-TEST FOR DIFFERENCES IN MEANS BETWEEN INDIVIDUAL SAMPLER DEPTHS AND SURFACE: 1A = 6 INCH DEPTH FOR PAIR 1, 1B = 12 INCH DEPTH FOR PAIR 1, SF = SURFACE, ETC.

1A VS.	COND	NH3	NO2	NO3	OP	H+	TKN	TOC	TON	TP
1B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2B	NS	NS	NS	NS	NS	NS	S	NS	S	NS
3A	--	--	--	--	--	--	--	--	--	--
3B	NS	NS	NS	NS	S*	S*	NS	NS	NS	S*
SF	NS	NS	NS	NS	S	S	NS	NS	NS	S*
1B VS.										
2A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
3A	--	--	--	--	--	--	--	--	--	--
3B	NS	NS	NS	NS	S*	NS	NS	NS	NS	S*
SF	NS	NS	NS	NS	S	S	NS	S	NS	S
2A VS.										
2B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
3A	--	--	--	--	--	--	--	--	--	--
3B	NS	NS	NS	NS	NS	S*	NS	NS	NS	NS
SF	NS	NS	NS	NS	NS	S	NS	S	NS	NS
2B VS.										
3A	--	--	--	--	--	--	--	--	--	--
3B	NS	NS	NS	NS	NS	S*	NS	NS	NS	NS
SF	NS	NS	NS	NS	NS	S	S	S	S	NS
3A VS.										
3B	--	--	--	--	--	--	--	--	--	--
SF	--	--	--	--	--	--	--	--	--	--
3B VS.										
SF	NS	NS	NS	NS	NS	S*	NS	S*	NS	NS

S = SIGNIFICANT DIFFERENCE AT THE 0.05 LEVEL
NS = NO SIGNIFICANT DIFFERENCE AT THE 0.05 LEVEL
S* = SIGNIFICANT DIFFERENCE AT THE 0.05 LEVEL, HOWEVER, THE NUMBER OF CASES ON ONE OR BOTH SIDES ARE SMALL
-- = NOT ENOUGH CASES ON ONE OR BOTH SIDES TO PERFORM T-TEST

TABLE 2(CONT.). HIGH FLOW AT WEBBERVILLE: T-TEST FOR DIFFERENCES IN MEANS BETWEEN INDIVIDUAL SAMPLER DEPTHS AND SURFACE: 1A = 6 INCH DEPTH FOR PAIR 1, 1B = 12 INCH DEPTH FOR PAIR 1, SF = SURFACE, ETC.

1A VS.	COND	NH3	NO2	NO3	OP	H+	TKN	TOC	TON	TP
1B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
3A	NS	NS	NS	NS	S*	NS	NS	NS	NS	S*
3B	NS	NS	NS	NS	S*	NS	NS	NS	NS	S*
SF	NS	NS	NS	NS	NS	S	NS	S	NS	NS
1B VS.										
2A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
3A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
3B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SF	NS	NS	NS	NS	NS	S	S	S	S	NS
2A VS.										
2B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
3A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
3B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SF	NS	NS	NS	NS	NS	S	NS	NS	NS	NS
2B VS.										
3A	NS	NS	NS	NS	NS	NS	NS	NS	NS	S*
3B	NS	NS	NS	NS	NS	NS	NS	NS	NS	S*
SF	NS	NS	NS	NS	NS	S*	S*	NS	NS	NS
3A VS.										
3B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SF	NS	NS	NS	NS	NS	S*	NS	NS	NS	NS
3B VS.										
SF	NS	NS	NS	NS	NS	NS	NS	S*	NS	NS

S = SIGNIFICANT DIFFERENCE AT THE 0.05 LEVEL
NS = NO SIGNIFICANT DIFFERENCE AT THE 0.05 LEVEL
S* = SIGNIFICANT DIFFERENCE AT THE 0.05 LEVEL, HOWEVER, THE NUMBER OF CASES ON ONE OR BOTH SIDES ARE SMALL
-- = NOT ENOUGH CASES ON ONE OR BOTH SIDES TO PERFORM T-TEST

TABLE 2(CONT.). HIGH FLOW AT SMITHVILLE: T-TEST FOR DIFFERENCES IN MEANS BETWEEN INDIVIDUAL SAMPLER DEPTHS AND SURFACE: 1A = 6 INCH DEPTH FOR PAIR 1, 1B = 12 INCH DEPTH FOR PAIR 1, SF = SURFACE, ETC.

1A VS.	COND	NH3	NO2	NO3	OP	H+	TKN	TOC	TON	TP
1B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
3A	--	--	--	--	--	--	--	--	--	--
3B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SF	NS	NS	NS	NS	NS	S	NS	S	NS	NS
1B VS.										
2A	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
3A	--	--	--	--	--	--	--	--	--	--
3B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SF	NS	NS	NS	NS	NS	S	S	S	NS	NS
2A VS.										
2B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
3A	--	--	--	--	--	--	--	--	--	--
3B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SF	NS	NS	NS	NS	NS	S	NS	S	NS	NS
2B VS.										
3A	--	--	--	--	--	--	--	--	--	--
3B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SF	NS	NS	NS	NS	NS	NS	S	NS	NS	NS
3A VS.										
3B	--	--	--	--	--	--	--	--	--	--
SF	--	--	--	--	--	--	--	--	--	--
3B VS.										
SF	NS	NS	NS	NS	NS	S	NS	S	NS	NS

S = SIGNIFICANT DIFFERENCE AT THE 0.05 LEVEL
NS = NO SIGNIFICANT DIFFERENCE AT THE 0.05 LEVEL
S* = SIGNIFICANT DIFFERENCE AT THE 0.05 LEVEL, HOWEVER, THE NUMBER OF CASES ON ONE OR BOTH SIDES ARE SMALL
-- = NOT ENOUGH CASES ON ONE OR BOTH SIDES TO PERFORM T-TEST

TABLE 3. LOW FLOW AT WEBBERVILLE AND SMITHVILLE: T-TEST FOR DIFFERENCES IN MEANS BETWEEN COMBINED SAMPLER DEPTHS: A = 6 INCH DEPTHS, B = 12 INCH DEPTHS, SF = SURFACE, W = WEBBERVILLE, AND SM = SMITHVILLE

WA VS.	NO2	OP	H+	TKN	TOC	TON	TP
WSF	NS	S	S	S	S	S	S
WB VS.							
WSF	S	S	S	S	S	S	S
SMA VS.							
SMB	NS	NS	S	S	NS	S	NS
SMSF	NS	NS	S	NS	S	NS	S
SMB VS.							
SMSF	NS	NS	S	S	S	S	S

TABLE 4. HIGH FLOW AT WEBBERVILLE AND SMITHVILLE: T-TEST FOR DIFFERENCES IN MEANS BETWEEN COMBINED SAMPLER DEPTHS: A = 6 INCH DEPTHS, B = 12 INCH DEPTHS, SF = SURFACE, W = WEBBERVILLE, AND SM = SMITHVILLE

WA VS.	H+	TKN	TOC	TON
WSF	S	NS	S	NS
WB VS.				
WSF	S	S	S	S
SMA VS.				
SMSF	S	NS	S	NS
SMB VS.				
SMSF	NS	S	S	S

S = SIGNIFICANT DIFFERENCE AT THE 0.05 LEVEL
NS = NO SIGNIFICANT DIFFERENCE AT THE 0.05 LEVEL

Figures 1 through 10 in Appendix A display differences between 6 inch depth, 12 inch depth, and surface water for data collected during low flow.

Steady State High Flow

Interstitial vs Interstitial

As in low flow, the interstitial vs. interstitial comparisons were not significant ($p > 0.05$). Again, the interstitial water was very similar for all parameters regardless of depth both at Webberville and Smithville.

Interstitial vs. Surface

Significant differences ($p < 0.05$) for H+ and TOC concentrations occurred between the interstitial water at both depths (except for H+ at 12 inches in Smithville vs. surface) and the surface water at Webberville and Smithville. COND, NH_3, NO_2, NO_3, OP, and TP were not significantly different between the interstitial depths and the surface. As in Smithville during low flow, TKN and TON levels were significantly different only between the 12 inch depth and the surface water.

Figures 11 through 20 in Appendix A display differences between 6 inch depth, 12 inch depth, and surface water for data collected during low flow.

Tributary/Discharge Hydraulic Study

The focus for this section of the study was to determine the transverse mixing distance at typical low and high flows. The two inflow plumes chosen for study were Walnut Creek and the City of Austin South Austin Regional wasterwater treatment plant (SAR WWTP).

Three dye releases were tracked, two releases from the SAR WWTP and one from Walnut Creek. Table 5 illustrates the times of the releases, the flow in the Colorado during the release and the resulting transverse mixing distance.

Date	Release Point	Daily Average Flow	Transverse Mixing Distance
2/17/93	SAR WWTP	974 cfs	3128 feet
10/4/93	Walnut Creek	1121 cfs	3329 feet
3/11/94	SAR WWTP	363 cfs	3408 feet

Table 5. Tributary/Discharge Dye Releases

All three releases were batch dye releases. At the SAR WWTP, the dye was released directly into the outfall and the plume was tracked downstream. At Walnut Creek, the dye was released into the creek several miles upstream of the confluence with the Colorado River. The tracking boat was anchored in Walnut Creek immediately upstream of the confluence and dye concentrations were continuously monitored to determine the time when the plume arrived and the start of the dye tracking survey.

In the Colorado River, immediately downstream of the confluence with Walnut Creek, there is a very shallow riffle area. This area was barely navigable at the 1121 cfs flow rate at which the study was conducted. At flow rates less than approximately 1000 cfs this riffle area was not sufficiently navigable to allow the tracking boat to keep up with the dye plume. As a result, a low flow tracking study was not possible for the Walnut Creek confluence.

Some navigation and GPS location difficulties were also encountered for the SAR WWTP dye release during low flow (3/11/94). The plume was tracked and mapped. However, at the point at which transverse mixing occurred continuous GPS measurements were not available. The location was marked and the GPS measurements obtained later under more favorable conditions. It was not possible to generate a map of the plume at the time of complete transverse mixing.

Continuous GPS data were available during the South Austin Regional high flow release (2/17/93). Figure 5 is the map of the dye plume at the point of complete transverse mixing. The units in the dye plume map are in micrograms per liter (ug/l).

Interstitial Hydraulic Study

After several preliminary trials to work out the details of this methodology, the test was repeated twice at the Webberville site. Figure 6 illustrates the arrangement of the samplers for both tests.

Table 6 contains the results from the first test. The dye showed up only in port B and none of the other ports. This indicates that the interstitial flow in the test area was traveling at a compass heading of 210 degrees. The leading edge of the dye plume traveled 1.17 feet in 168 minutes which translates to a leading edge velocity of 0.418 feet per hour. Since this is the velocity of the leading edge of the plume, it comprises both advective and dispersive movement.

Table 7 contains the results from the second test. As indicated in Figure 6, this test was performed near the other bank of the river. After determining that the first dye plume was traveling across the axis of the river, the second test was located across the river to determine whether the interstitial flow was consistently traveling south-southwest or was moving toward the center of the river

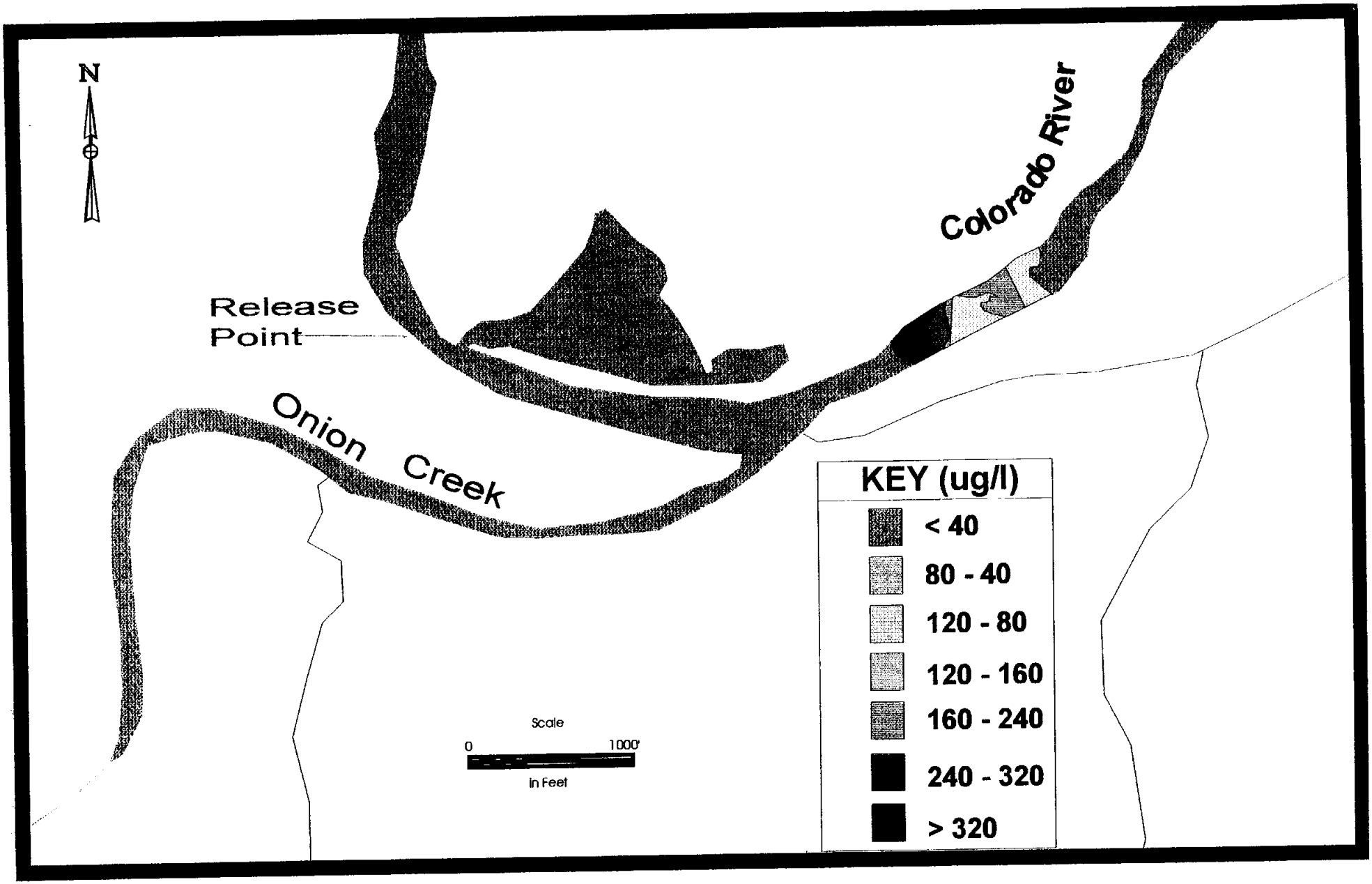


Figure 5

Dye Plume at Complete Mixing

FIGURE 6

INTERSTITIAL DYE STUDY SITE

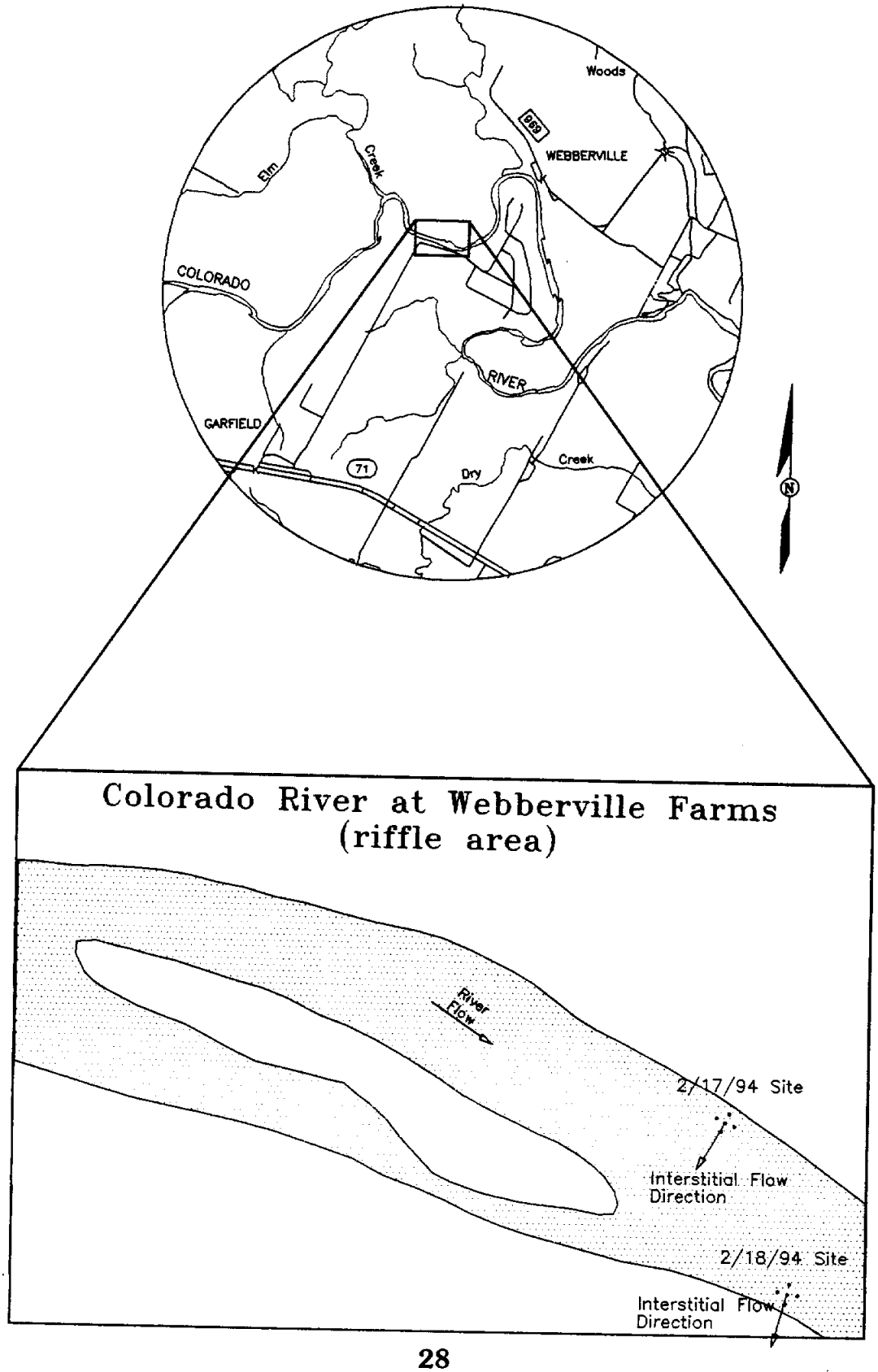


Table 6
Interstitial Dye Survey
2/17/94

Distance	Direction	Time	Injection Time	Time Offset	Fluorometer Reading	Comment
Port A						
1.00	120.0	11:22	11:04	00:18	3.18	slightly turbid
1.00	120.0	11:36	11:04	00:32	1.56	clear
1.00	120.0	11:48	11:04	00:44	-6.70	clear
1.00	120.0	11:59	11:04	00:55	-7.10	clear
1.00	120.0	12:30	11:04	01:26	-7.50	clear
1.00	120.0	13:44	11:04	02:40	-7.70	clear
1.00	120.0	14:00	11:04	02:56	-8.10	clear
1.00	120.0	14:14	11:04	03:10	-8.00	clear
Port B						
1.17	210	11:38	11:04	00:34	-6.50	clear
1.17	210	11:50	11:04	00:46	-7.80	clear
1.17	210	12:20	11:04	01:16	-6.90	clear
1.17	210	13:36	11:04	02:32	2.77	clear
1.17	210	13:52	11:04	02:48	27.00	clear
1.17	210	14:04	11:04	03:00	62.20	clear
1.17	210	14:21	11:04	03:17	163.00	clear
1.17	210	14:39	11:04	03:35	567.00	clear/pink
1.17	210	14:57	11:04	03:53	1340.00	clear/pink
1.17	210	15:13	11:04	04:09	2900.00	pink/red
1.17	210	15:27	11:04	04:23	5292.00	pink/red
1.17	210	15:56	11:04	04:52	9720.00	pink/red
1.17	210	16:22	11:04	05:18	16856.00	rose/red
1.17	210	16:40	11:04	05:36	23392.00	red
1.17	210	16:51	11:04	05:47	30616.00	red
1.17	210	17:06	11:04	06:02	41925.00	red
1.17	210	17:23	11:04	06:19	51600.00	red/slightly yellow
1.17	210	17:38	11:04	06:34	62952.00	red/slightly yellow
1.17	210	17:50	11:04	06:46	80840.00	red/slightly yellow
1.17	210	18:00	11:04	06:56	98556.00	red/slightly yellow
1.17	210	18:10	11:04	07:06	101308.00	red/slightly yellow
1.17	210	18:18	11:04	07:14	120400.00	red/slightly yellow
Port C						
1.17	295	11:42	11:04	00:38	-6.40	clear
1.17	295	11:53	11:04	00:49	-7.10	clear
1.17	295	12:24	11:04	01:20	-7.00	clear
1.17	295	13:38	11:04	02:34	-7.10	clear
1.17	295	13:54	11:04	02:50	-7.20	clear

1.17	295	14.08	11:04	14:51	-7.10	clear
Port D						
1.25	27	11:45	11:04	00:41	-6.60	clear
1.25	27	11:56	11:04	00:52	-7.30	clear
1.25	27	12:27	11:04	01:23	-7.80	clear
1.25	27	13:41	11:04	02:37	-7.80	clear
1.25	27	13:57	11:04	02:53	-8.00	clear
1.25	27	14:11	11:04	03:07	-7.70	clear
Port E						
2.17	210	14:18	11:04	03:14	-6.40	clear
2.17	210	14:26	11:04	03:22	-6.60	clear
2.17	210	14:43	11:04	03:39	-6.70	clear
2.17	210	14:58	11:04	03:54	-6.00	clear
2.17	210	15:16	11:04	04:12	-5.60	clear
2.17	210	15:33	11:04	04:29	-5.10	clear
2.17	210	16:04	11:04	05:00	-5.00	clear
2.17	210	16:26	11:04	05:22	-6.40	clear
2.17	210	16:42	11:04	05:38	-2.80	clear
2.17	210	16:55	11:04	05:51	-4.00	clear
2.17	210	17:09	11:04	06:05	-1.40	clear
2.17	210	17:26	11:04	06:22	-5.40	clear
2.17	210	17:41	11:04	06:37	-2.20	clear
2.17	210	17:55	11:04	06:51	0.36	clear
2.17	210	18:05	11:04	07:01	-1.80	clear
2.17	210	18:13	11:04	07:09	-4.00	clear
Port F						
1.75	242	14:30	11:04	03:26	-7.10	clear
1.75	242	14:46	11:04	03:42	-7.30	clear
1.75	242	15:00	11:04	03:56	-6.7	clear
1.75	242	15:18	11:04	04:14	-6	clear
1.75	242	15:37	11:04	04:33	-6.1	clear
1.75	242	16:10	11:04	05:06	-6.1	clear
1.75	242	16:31	11:04	05:27	-7.2	clear
1.75	242	16:46	11:04	05:42	-7.1	clear
1.75	242	16:59	11:04	05:55	-5.7	clear
1.75	242	17:14	11:04	06:10	-6.4	clear
1.75	242	17:31	11:04	06:27	-5.5	clear
1.75	242	18:25	11:04	07:21	-4.7	clear
Port G						
1.83	180	14:35	11:04	03:31	-6.8	clear
1.83	180	14:49	11:04	03:45	-7.2	clear
1.83	180	15:04	11:04	04:00	-6.9	clear
1.83	180	15:22	11:04	04:18	-5.5	clear

1.83	180	15:43	11:04	04:39	-7	clear
1.83	180	16:13	11:04	05:09	-7	clear
1.83	180	16:33	11:04	05:29	-6.3	clear
1.83	180	16:48	11:04	05:44	-7.5	clear
1.83	180	17:02	11:04	05:58	-7.2	clear
1.83	180	17:18	11:04	06:14	-8.1	clear
1.83	180	17:32	11:04	06:28	-7.4	clear
1.83	180	18:20	11:04	07:16	-2.9	clear

Table 7
Interstitial Dye Survey
2/18/94

Distance	Direction	Time	Injection Time	Time Offset	Fluorometer Reading	Comment
Port A						
1.17	120.0	11:09			3.05	semi clear
1.17	120.0	11:29	11:11	00:18	3.30	clear
1.17	120.0	11:47	11:11	00:36	4.40	clear
1.17	120.0	12:10	11:11	00:59	2.08	clear
1.17	120.0	12:31	11:11	01:20	2.66	clear
1.17	120.0	13:02	11:11	01:51	2.65	clear
1.17	120.0	14:36	11:11	03:25	1.08	clear
Port B						
1.00	195	10:50			5.52	semi turbid
1.00	195	11:32	11:11	00:21	2.88	clear
1.00	195	11:50	11:11	00:39	2.82	clear
1.00	195	12:14	11:11	01:03	1.81	clear
1.00	195	12:35	11:11	01:24	3.67	clear
1.00	195	13:05	11:11	01:54	7.89	clear
1.00	195	13:14	11:11	02:03	29.10	clear
1.00	195	14:40	11:11	03:29	68.80	clear
1.00	195	15:02	11:11	03:51	342.00	slightly pink
1.00	195	15:24	11:11	04:13	1204.00	pink
1.00	195	15:50	11:11	04:39	5290.00	pink
1.00	195	16:00	11:11	04:49	12685.00	pink
1.00	195	16:18	11:11	05:07	19221.00	clear
Port C						
1.00	300	10:58			3.71	clear
1.00	300	11:36	11:04	00:32	5.32	clear
1.00	300	11:53	11:04	00:49	3.42	clear
1.00	300	12:16	11:04	01:12	4.30	clear
1.00	300	12:37	11:04	01:33	4.18	clear
1.00	300	13:08	11:04	02:04	3.79	clear
1.00	300	14:43	11:04	03:39	4.08	clear
Port D						
1.00	40	11:03			2.44	clear
1.00	40	11:40	11:04	00:36	3.25	clear
1.00	40	11:56	11:04	00:52	1.92	clear
1.00	40	12:19	11:04	01:15	1.49	clear

1.00	40	12:40	11:04	01:36	1.56	clear
1.00	40	13:10	11:04	02:06	3.13	clear
1.00	40	14:45	11:04	03:41	1.08	clear
Port E						
1.25	240	14:54	11:04	03:50	2.99	clear
1.25	240	15:13	11:04	04:09	1.31	clear
1.25	240	15:31	11:04	04:27	1.92	clear
1.25	240	16:07	11:04	05:03	2.90	clear
Port F						
1.17	210	15:00	11:04	03:56	1.78	clear
1.17	210	15:15	11:04	04:11	2.23	clear
1.17	210	15:29	11:04	04:25	1.62	clear
1.17	210	15:56	11:04	04:52	6.8	clear
1.17	210	16:10	11:04	05:06	8.92	clear
Port G						
1.08	150	15:09	11:04	04:05	1.72	clear
1.08	150	15:18	11:04	04:14	2.58	clear
1.08	150	15:26	11:04	04:22	1.74	clear
1.08	150	16:04	11:04	05:00	3.26	clear

channel. The dye showed up only in port B. This indicates that the interstitial flow in the test area was traveling at a compass heading of 195 degrees. The leading edge of the dye plume traveled 1.00 feet in 123 minutes which translates to a leading edge velocity of 0.488 feet per hour. Since this is the velocity of the leading edge of the plume, it also comprises both advective and dispersive movement.

DISCUSSION

Water Quality

The 1993-1994 non-irrigation cycle began on October 10, 1993 and ended on March 21, 1994. Since the concentration of nutrients in the river were extremely different between flow regimes, the datasets collected were divided and analyzed by flow.

Interstitial water at 6 inch depths were similar to that of 12 inch depths. No differences occurred between these depths for any of the parameters during steady state low or high flow periods. One can assume from these results that the interstitial water between these depths during steady state flows may be relatively homogeneous. Perhaps both sampler depths are in the surface hyporheos layer of the hyporheic zone. Triska (1989) notes in his conceptual model that the surface hyporheos of a stream bed should be relatively identical to the surface water but different from the deeper interactive zone where physical and chemical gradients can occur.

Interstitial water compared to surface water results varied at Webberville and Smithville. At both locations, two core parameters (H+ and TOC) were identified as being significantly different ($p < 0.05$) between interstitial and surface waters regardless of flow regimes. H+ ion concentrations were significantly higher in the interstitial water (Figure 6 and 16, Appendix A). Metabolic activities are usually higher in the hyporheic zone and may have some bearing on the higher H+ ion concentrations. Hynes (1983) states that there is a general understanding that pH as well as oxygen decreases with depth.

TOC levels were also significantly lower ($p < 0.05$) in the interstitial water compared to the surface water (Figure 8 and 18, Appendix A). Since TOC is a measure of dissolved organic carbon (DOC) plus particulate organic carbon, DOC concentrations were even smaller than TOC levels. These results would tend to support the idea of organic matter uptake in the upper and lower hyporheic regions. Retention of most dissolved organic matter frequently occurs in the surface hyporheos and interactive hyporheic zone by slime, periphyton, macrophytes, etc. (Hynes, 1983; Mickelburgh, 1984). Hynes (1983), Grimm (1984) and others believe that hyporheic zones in general are organic matter sinks. Even Vervier

(1992) in his alternate concept of ecotones as opposed to hyporheic zones agrees that depending on permeability, some ecotones serve as permanent or temporary sinks. Other studies indicate increasing DOC levels with depth but support the theory of hyporheic sinks. Rutherford (1987) reports dissolved organic carbon levels higher at some deeper depths than intermediate depths on some southern Ontario streams. It seems logical to expect retention of organic matter in the hyporheic zone when the Colorado River gains and contributes water depending on flow regime (Hibbs, 1993). Hynes (1983) postulates that the first few inches of substratum may remove organic matter from inflowing groundwater as well as from surface water downwelling.

TON paralleled TKN levels by flow regime (Figure 7, 9, 17, and 19, Appendix A). Since TON is a measure of TKN minus ammonia and ammonia levels were mostly undetectable, TON concentration consistently resembled that of TKN. In general, TON levels were significantly lower ($p < 0.05$) between the interstitial water at 12 inches and the surface water but not between the 6 inch depth and the surface. As with TOC, these results would tend to support the idea of increased organic uptake in the hyporheic zone with a pattern of higher uptake occurring in the interactive region (Hynes, 1983).

Of the nutrients that were normally higher in the water column during low flow, only TP and OP concentrations were significantly ($p < 0.05$) higher in the surface water compared to the interstitial water (Figure 5 and 10 in Appendix A). These differences were observed at Webberville and partially at Smithville (only TP). The results for OP were similar to that of TP since most of TP concentrations were primarily in the form of OP. These results suggest that uptake of phosphorus occurs more actively between the hyporheic zone at Webberville during low flow than at Smithville. Interestingly enough but not unexpected, OP levels decreased in the surface water between Webberville and Smithville. The decrease was enough to make OP interstitial vs surface comparisons nonsignificant. This type of surface water reduction is often associated with longitudinal biological uptake. Patek's (1994) analysis of the LCRA's surface water quality data indicated a consistent downstream reduction of concentrations of OP, TP, and nitrate-nitrite (NO_3-NO_2). Logically, as the surface water is stripped of OP and eventually TP, the water-sediment concentrations would become closer in value. During high flow, TP and OP concentrations in the surface water were not different from that in the interstitial water (Figure 15 and 20, Appendix A). This was puzzling since most macrophytic growth and associated uptake occurs through the spring and summer months. These results appear to be flow dependent.

Although NO_3 results were not significant between interstitial and surface waters, some general observations were relevant. Low flow concentrations of NO_3 within each location (Webberville and

Smithville) were fairly similar between interstitial and surface waters (Figure 4, Appendix A). These data suggest that during low flow, both locations may have excess NO_3 available for uptake since uniform levels were present in the surface and interstitial water. During high flow, there appeared to be a pattern of higher concentrations of NO_3 in the surface water and the 12 inch interstitial water but lower NO_3 levels in the shallower depth of 6 inches (Figure 14, Appendix A). This pattern may imply that during high flow the 6 inch depths were more involved in NO_3 uptake. If so, the NO_3 component of Triska's (1989) conceptual model for groundwater-surface water linkage would be reversed. NO_3 levels were greatest in the surface water, decreased (retention) within the surface hyporheos, and increased again within the deeper interactive zone. As with OP and TP, NO_3 also decreased downstream between Webberville and Smithville during low flow. But unlike OP and TP, NO_3 also decreased downstream at high flow suggesting uptake during the spring and summer months. The loss of NO_3 commonly occurs through biological uptake (in sediment and surface water), denitrification, and dilution (Swank, 1982 and Keeney, 1973).

NH_3 and NO_2 concentrations were low and mostly undetectable. However, some patterns were relevant in respect to NH_3. NH_3 levels in the surface water at Webberville were very similar regardless of flow regime and the levels decreased downstream towards Smithville (Figures 2 and 12 in Appendix A). NH_3 is a byproduct of urea which is frequently associated with treated wastewater. Patek (1994) noted this downstream depletion of NH_3 in the surface water of the Colorado River. More important were the NH_3 dissimilarities between interstitial and surface water. During low flow, NH_3 concentrations were much lower in the interstitial water than the surface water, suggesting vertical depletion of NH_3 with depth. However, NH_3 concentrations were consistently higher in both interstitial and surface water during high flow at Webberville. These results suggest that depletion of NH_3 in the interstitial layers were flow dependent. Depletion appeared to occur during low flow but not during high flow.

Perplexing were the similar concentrations of NH_3 in the interstitial and surface water during high flow. One would expect a dilution of NH_3 levels during these conditions. NO_2 levels varied in interstitial and surface waters and patterns were difficult to distinguish (Figures 3 and 13 in Appendix A). NO_2 concentrations are unstable in aerated surface water (USGS, 1992). High levels are frequently associated with untreated or improperly treated sewage.

Changes to the original water quality parameter list are recommended if further monitoring is to continue. DOC concentrations should be monitored instead of TOC. Measuring DOC would exclude interferences associated with particulate sloughing from interstitial biota. No literature on TOC monitoring in

interstitial waters were encountered. Most researchers investigate DOC levels in hyporheic dynamics (Mickleburgh, 1984; Rutherford, 1987; and Ford, 1989). Unless detection limits are lowered, NO_2 should also dropped, as it was mostly undetectable.

Tributary/Discharge Hydraulic Study

Previous estimates of the transverse mixing distance in the Colorado River at moderate flows have been as high as 15 miles (Barber, 1991). The results of this study indicate that the transverse mixing distance is actually much shorter, between one half to one mile.

The previous estimates of the transverse mixing distance were based upon theoretical channel hydraulics that rely principally upon hydraulic radius, friction slope, and a dimensionless mixing coefficient to estimate the potential turbulence and mixing within the flow. This method does not adequately account for channel sinuosity or the existence of larger channel structures such as pools, riffles, and bars. The turbulence and resulting mixing within the Colorado River is apparently much higher than these estimation methods would predict.

The Colorado River below Austin is quite sinuous and dominated by series of pools and riffles. As the river bends back and forth along the valley slope the thalweg moves from one side of the river to the other. This tends to increase turbulence in areas where the flow changes direction. Shear induced mixing is greatly enhanced in areas where the flow velocity slows in transition from a riffle area to a pool.

The transverse mixing distance has profound implications on riverine water quality models, particularly one dimensional models such as Qual-TX or the version of WASP used by Barber (1991) and others. A one dimensional model assumes complete mixing in each calculational element of the model. Each calculational element represents a stretch of the river. If the length of the calculational element is significantly shorter than the transverse mixing distance, considerable artificial dispersion is introduced into the model. Fortunately, most one dimensional modeling projects depicting this area of the Colorado River have utilized a calculational element length of approximately one half to one mile.

Interstitial Hydraulic Study

The purpose of the interstitial hydraulic study was to attempt to quantify the flow velocity and direction within the hyporheic zone. To some extent, this portion of the study was successful. However, some problems did develop. The results of the study indicate that the leading edge of the dye plume in the interstitial water travels at approximately 0.4 to 0.5 feet per hour. Movement of the leading edge of a plume is a combination of advective movement of the water

and the dispersive movement of the dye within the water. Since the peak of the dye plume was never encountered, the advective portion of the movement could not be separated from the dispersive. Even though the distance between the samplers was quite small, there was never enough time to capture the peak with the manual method utilized. In addition, there is some suspicion that the sampling method may have influenced the measurements. Even though the amount of sample withdrawn from the interstitial samplers was kept to a minimum (approximately 50 ml) this may have accelerated the movement of the interstitial water toward the sampler. If present, this effect was not sufficient to change the direction of flow, since the plume was detected in only one of the four samplers.

The other difficulty with the method revolves around the small distances necessary between samplers to obtain results within a reasonable timespan. Both sampling events indicated movement of the interstitial water toward the south-southwest. To ascertain more general flow directions, larger distances between samplers would be necessary. The manual method employed here would require an operator continuously on site for an extended period of time, a requirement that is clearly not practical. LCRA is continuing development on this methodology to address these problems. We are currently pursuing a passive sampling methodology that can be automated.

In general, it is assumed that most interstitial flow must be in the same direction as the river and these results probably reflect very localized flow patterns. Regardless, the presumption of interstitial water moving in the same direction as the river at all locations is false. However, the interstitial flow probably meanders as a whole in the south to southeast general direction.

CONCLUSION

The most noteworthy conclusions were derived from the water quality component of this study. Water quality results in the sediment-interstices and surface waters of the areas studied were fairly consistent. Results can be best illustrated with results overlaid on Triska's (1989) conceptual model of the hyporheic zone. Figure 7 illustrates the results.

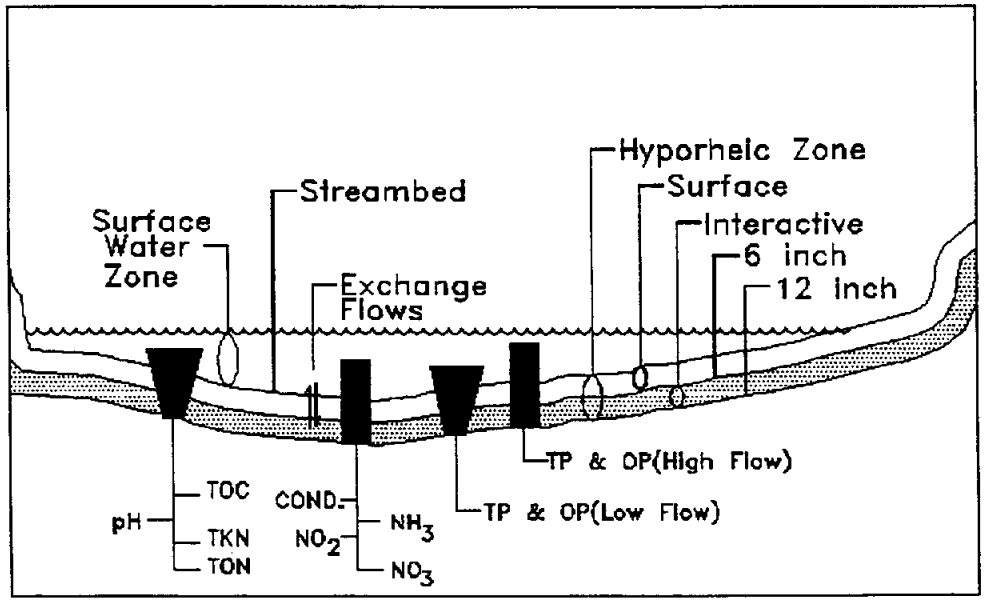


Figure 7. Interstitial and surface water parameter gradients for Webberville and Smithville.

A downward gradient of TOC, TON, TKN, and pH concentrations occurred from surface to interstitial waters. Similar levels of COND, NH_3, NO_3, and NO_2 were found throughout the measured areas. TP and OP concentrations fluctuated with flow regime: high to low gradient (surface to interstitial) during low flow and similar levels during high flow.

Previous studies on the Colorado River below Austin have indicated that rooted aquatic plant uptake of nutrients occurs primarily in the sediment (Armstrong, 1989). Armstrong also noted that nutrients fueling macrophyte growth come from naturally occurring sources in the sediment instead of surface water nutrients from wastewater effluent. Results imply organic matter uptake from the

surface water in the macrophyte root zone. Significant depletion of TON, TKN, OP, and TP occurred within the upper streambed. More importantly, NO_3 and NH_3 results provide evidence of considerable surface-interstitial water intermixing. Surface-interstitial exchange also varies with flow pattern and could further vary in areas of groundwater upwelling and surface water downwelling. Although uptake of nutrients can occur through a variety of surface and interstitial biota (macrophytes, slime, algae, etc.), the evidence of water intermixing suggests that the nutrient sources cannot be separated. Uptake of surface water nutrients by macrophytes cannot be ruled out.

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APPENDIX A

WATER QUALITY GRAPHS

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FIGURE 1. CONDUCTIVITY AT WEBBERVILLE AND SMITHVILLE AT LOW FLOW

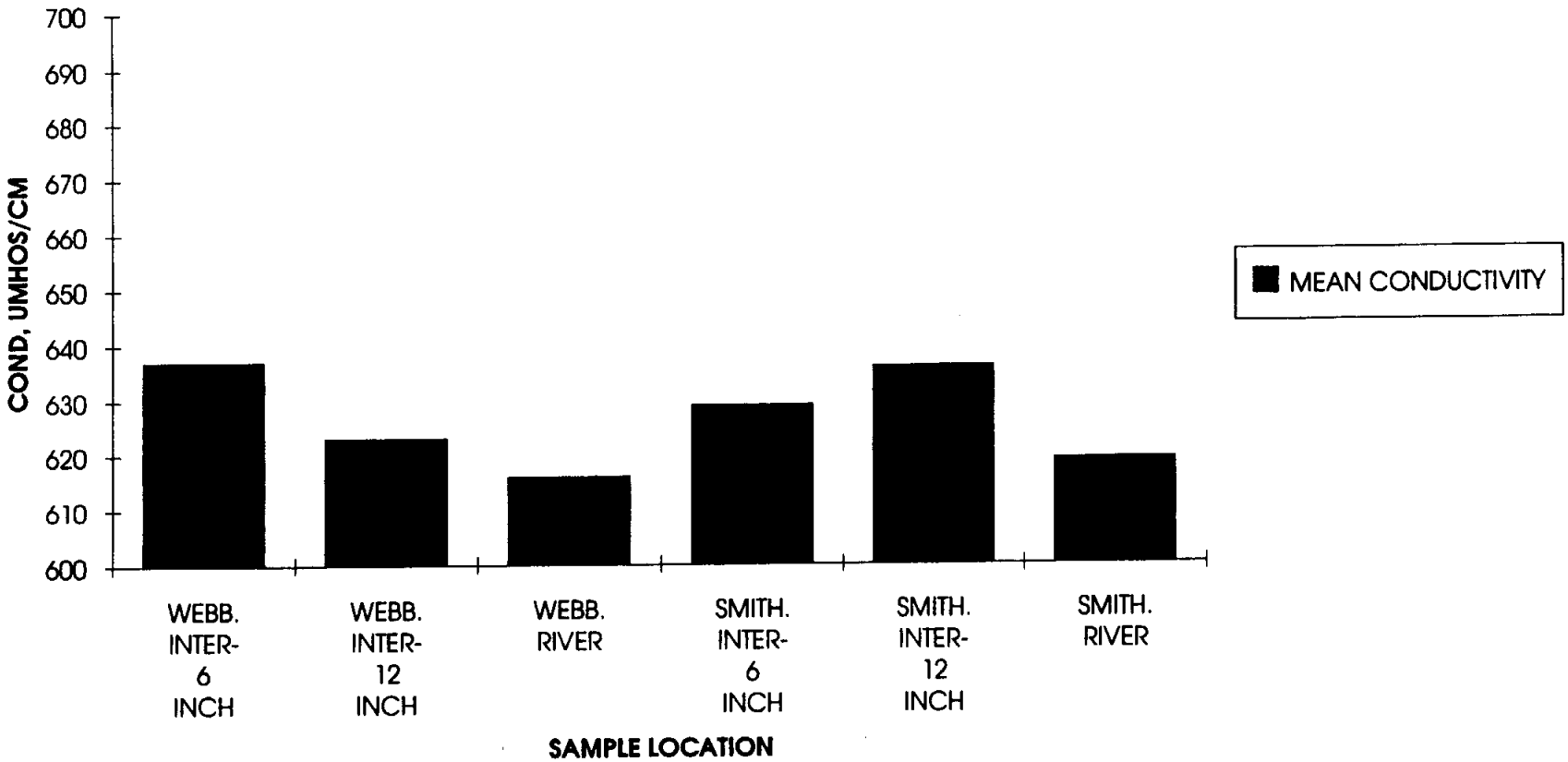


FIGURE 2. NH3 AT WEBBERVILLE AND SMITHVILLE AT LOW FLOW

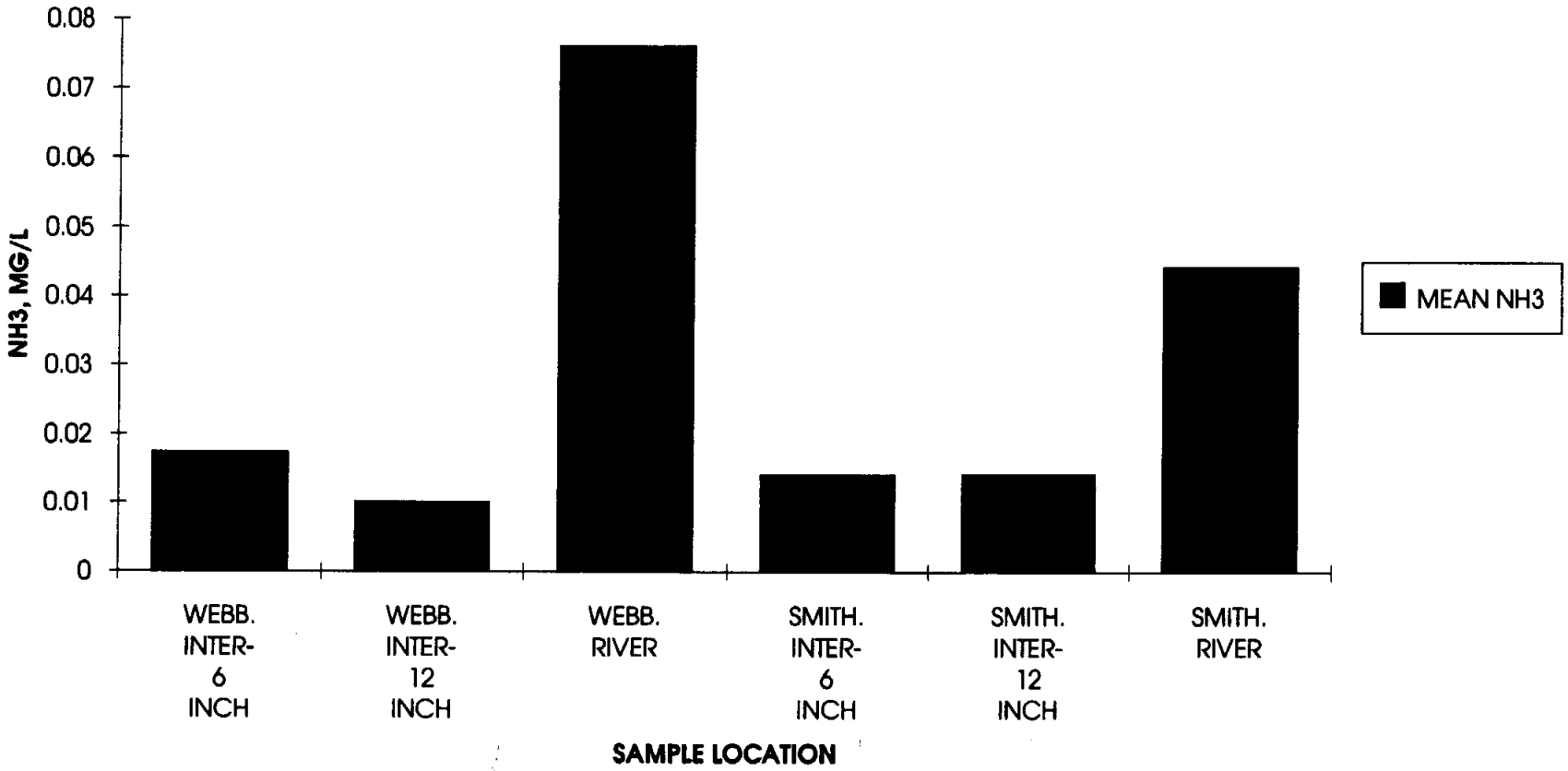


FIGURE 3. NO2 AT WEBBERVILLE AND SMITHVILLE AT LOW FLOW

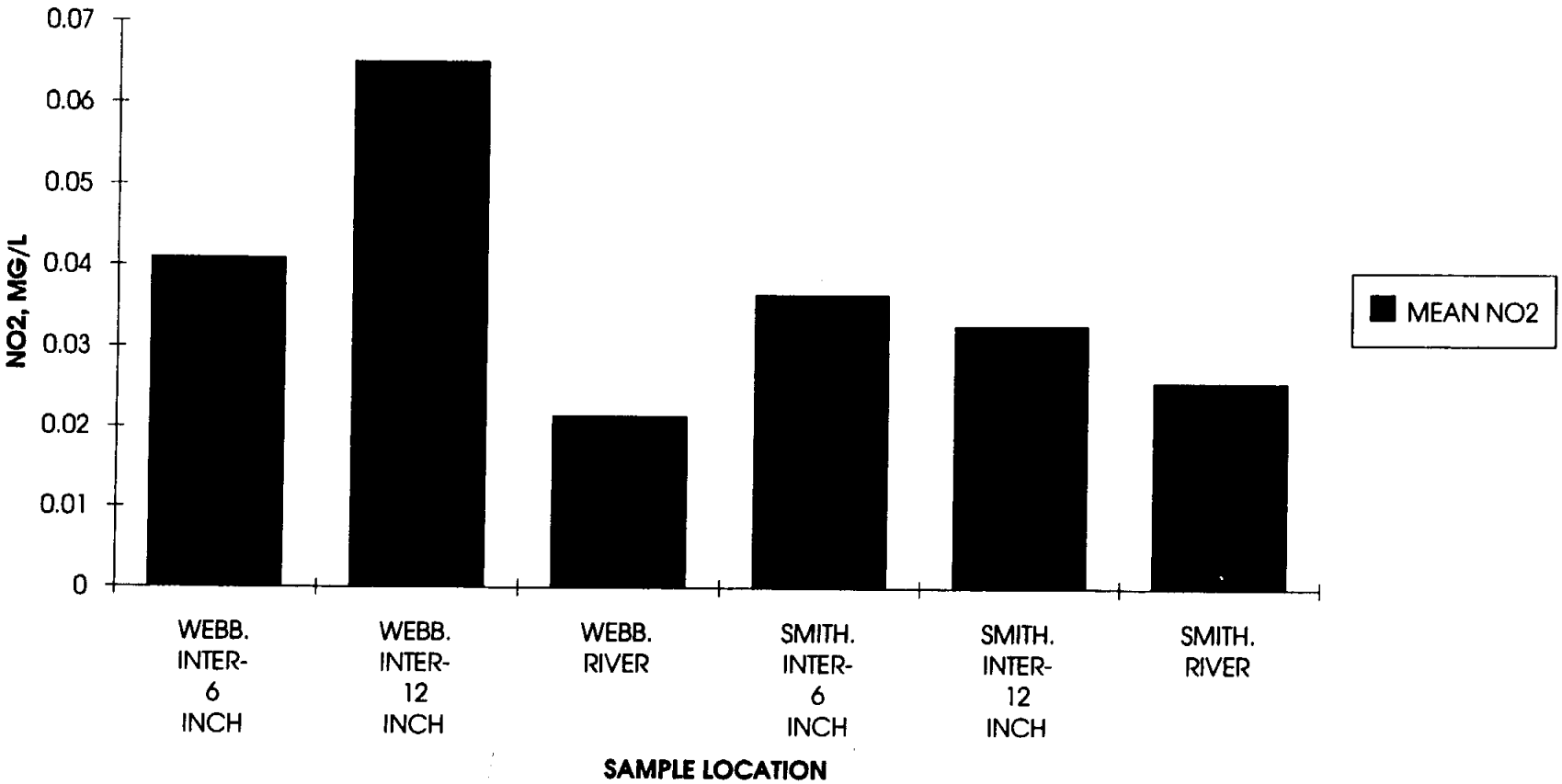


FIGURE 4. NO3 AT WEBBERVILLE AND SMITHVILLE AT LOW FLOW

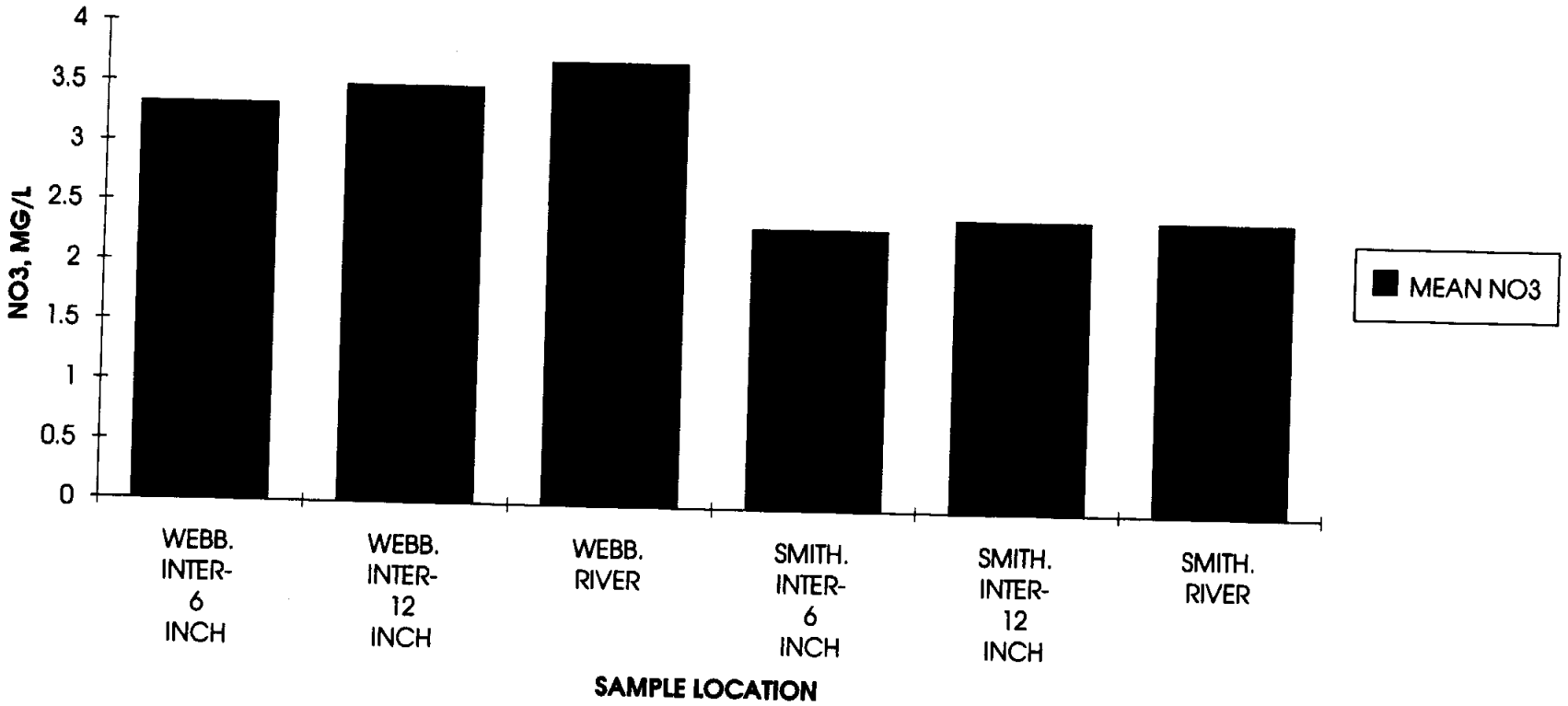


FIGURE 5. OP AT WEBBERVILLE AND SMITHVILLE AT LOW FLOW

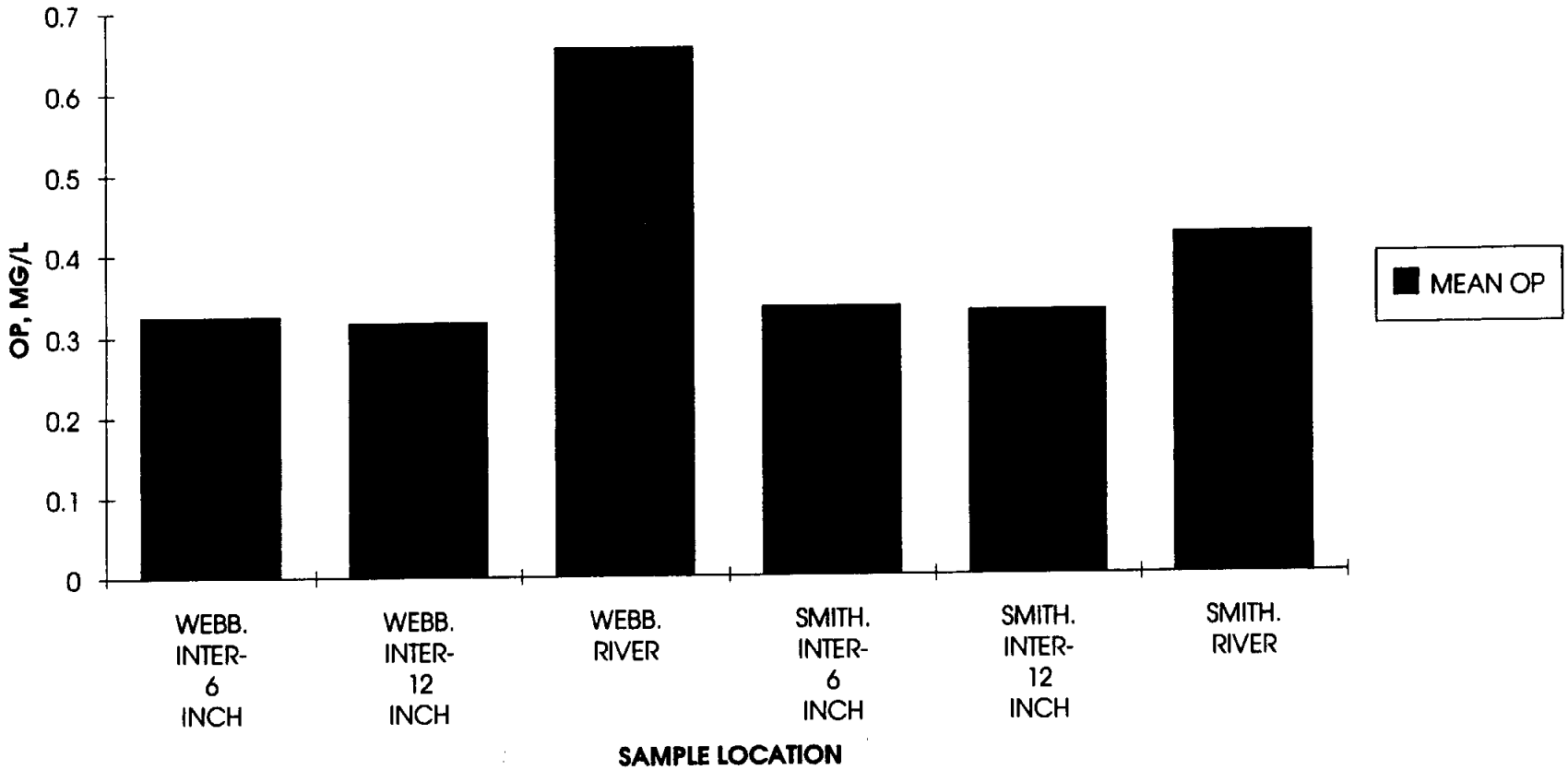


FIGURE 6. H+ ION CONCENTRATION AT WEBBERVILLE AND SMITHVILLE AT LOW FLOW

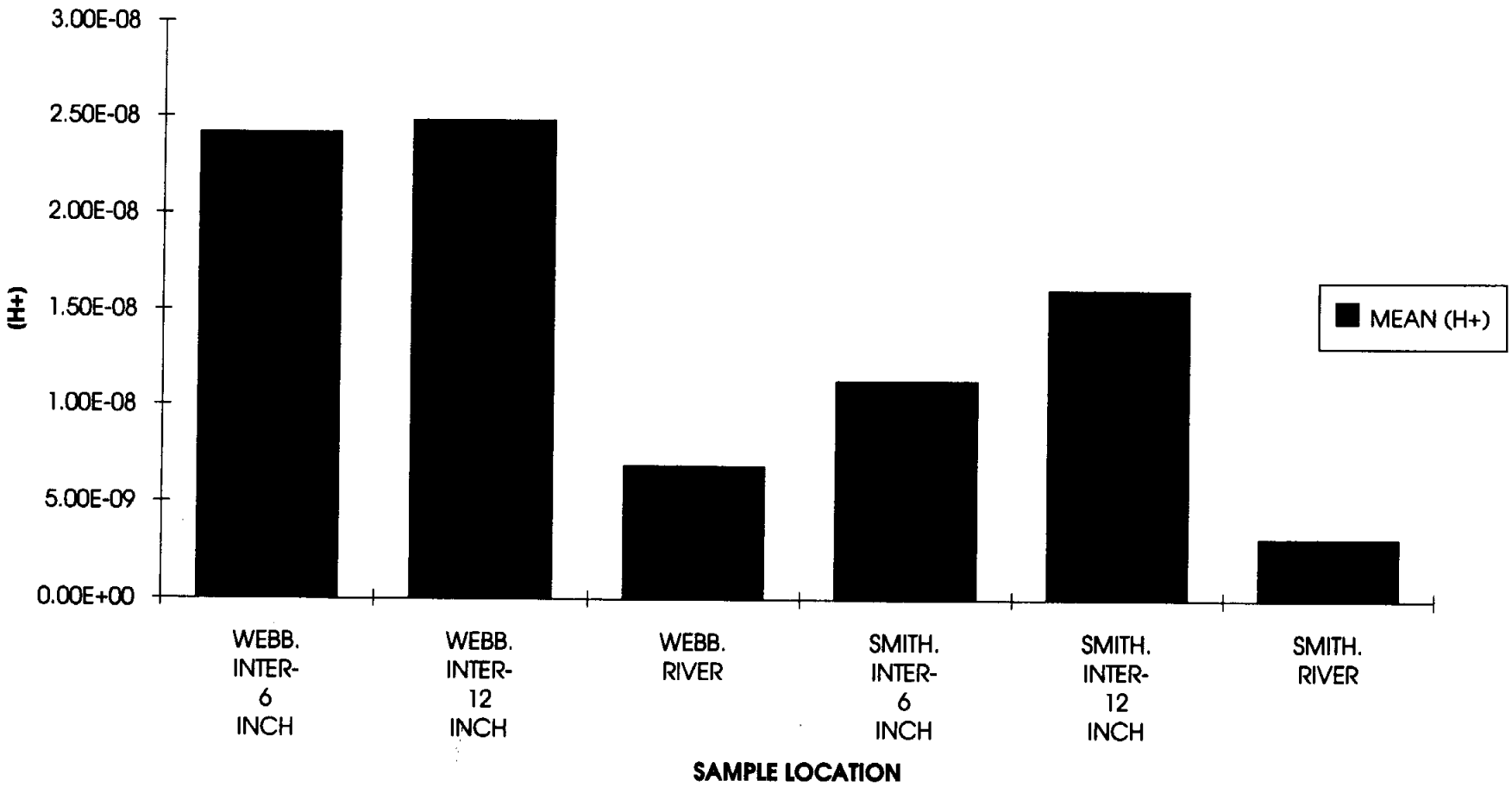


FIGURE 7. TKN AT WEBBERVILLE AND SMITHVILLE AT LOW FLOW

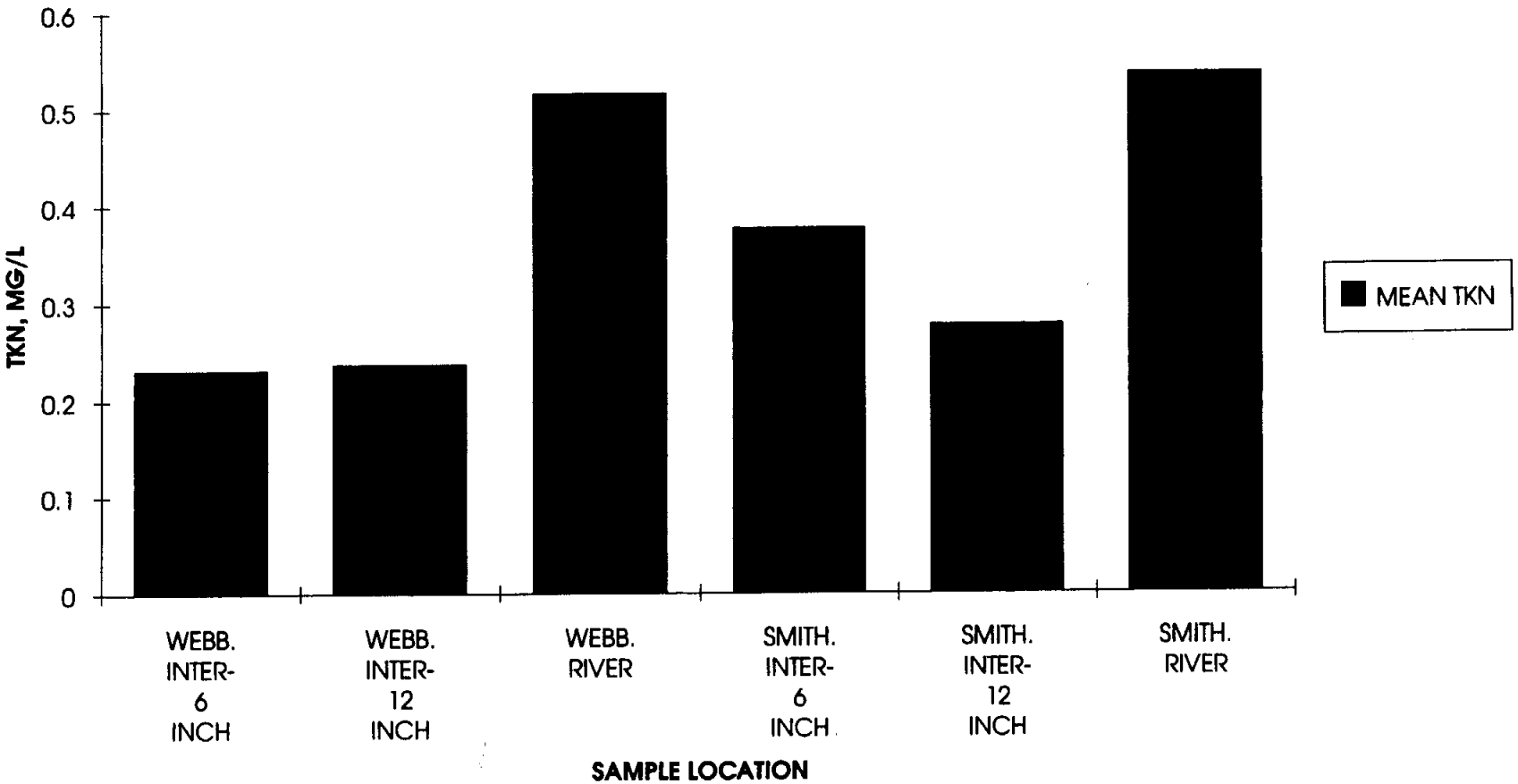


FIGURE 8. TOC AT WEBBERVILLE AND SMITHVILLE AT LOW FLOW

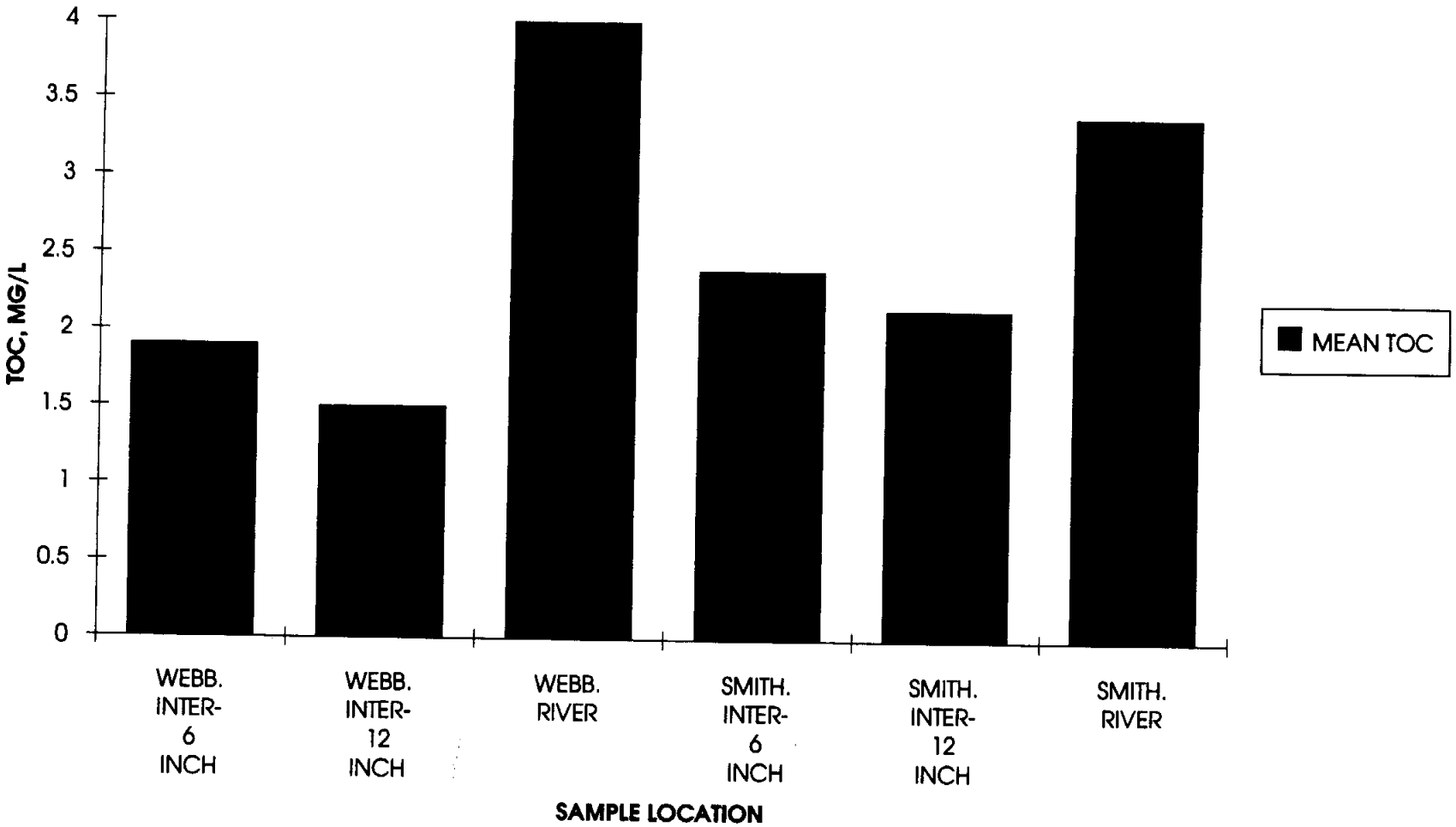


FIGURE 9. TON AT WEBBERVILLE AND SMITHVILLE AT LOW FLOW

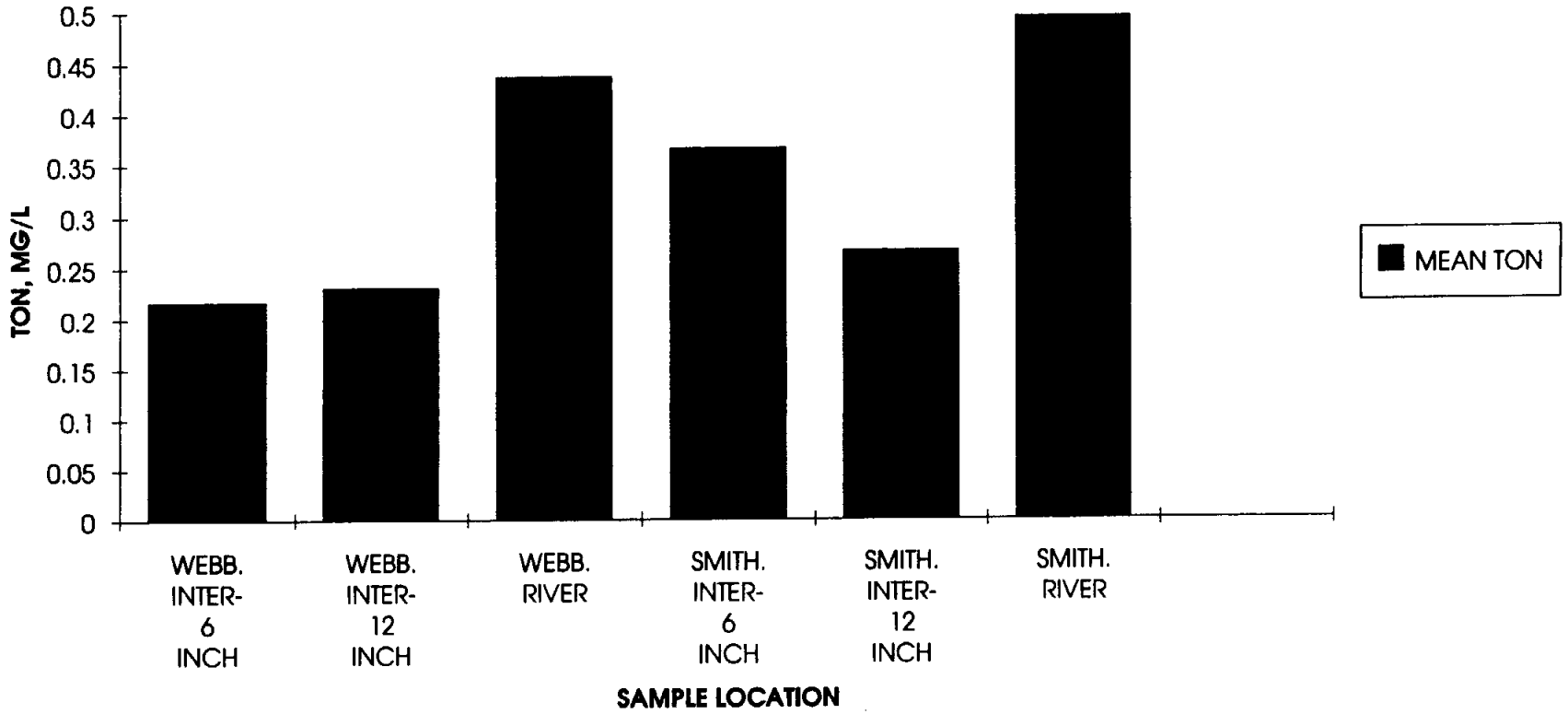


FIGURE 10. TP AT WEBBERVILLE AND SMITHVILLE AT LOW FLOW

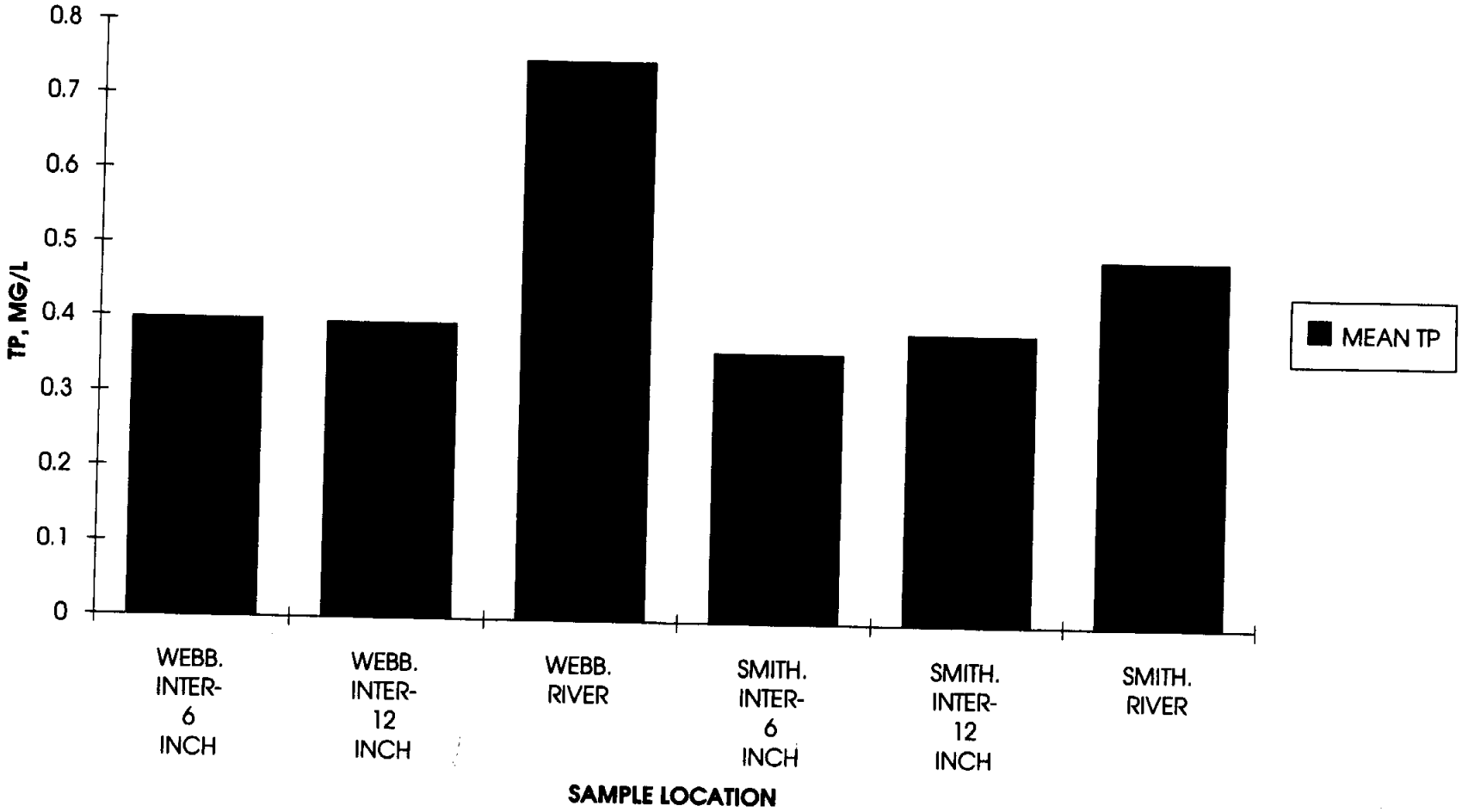


FIGURE 11. CONDUCTIVITY AT WEBBERVILLE AND SMITHVILLE AT HIGH FLOW

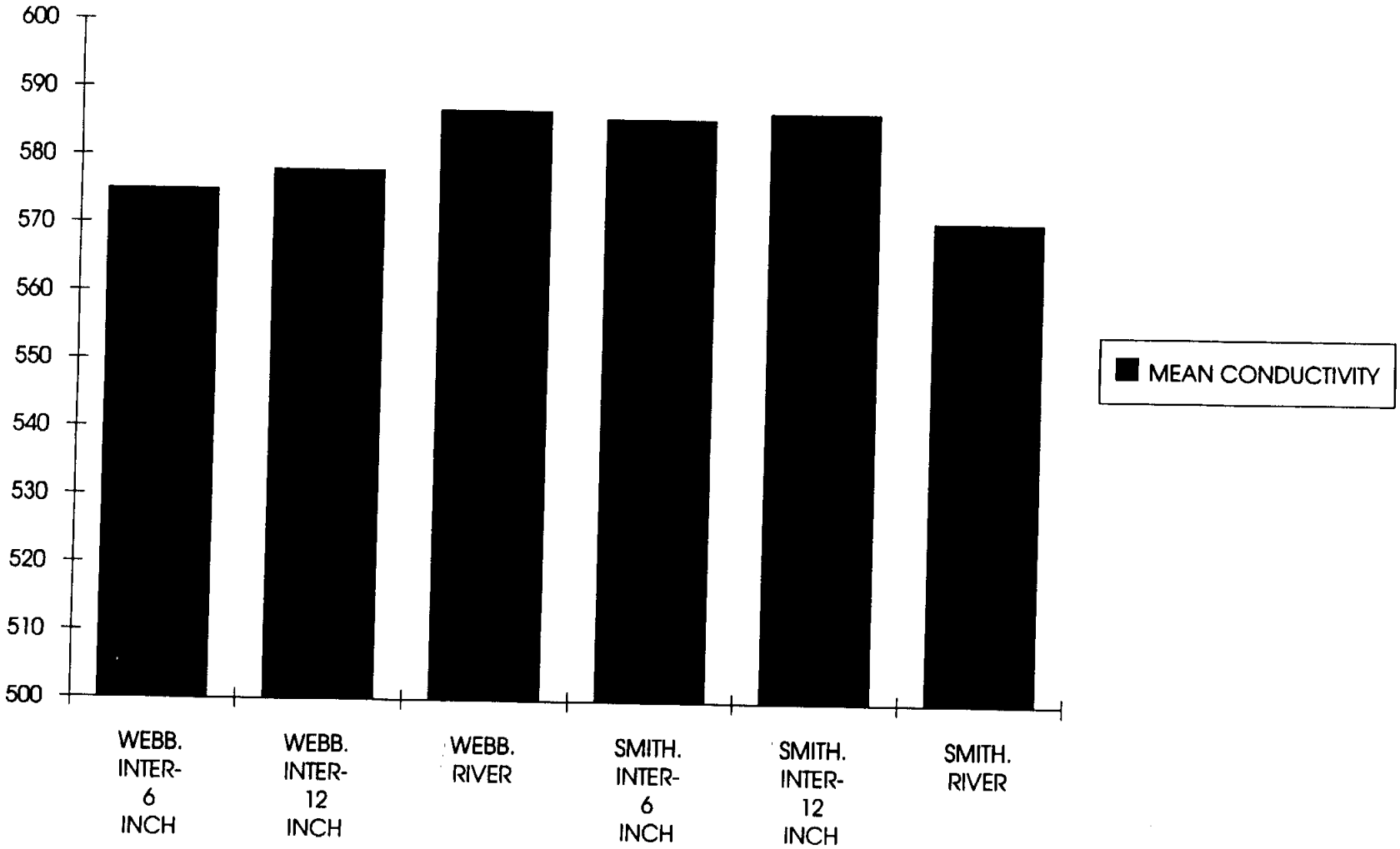


FIGURE 12. NH3 AT WEBBERVILLE AND SMITHVILLE AT HIGH FLOW

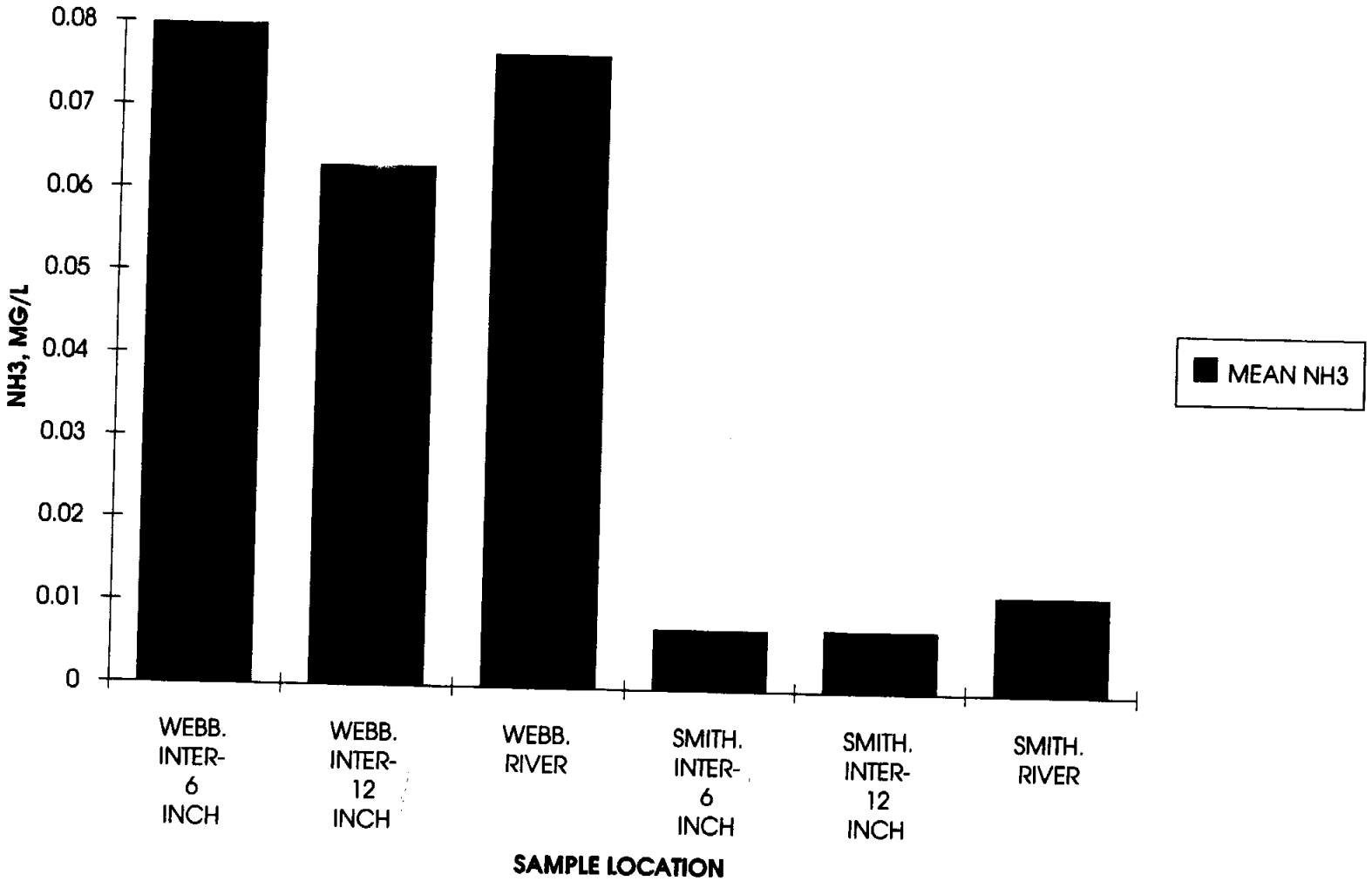


FIGURE 13. NO2 AT WEBBERVILLE AND SMITHVILLE AT HIGH FLOW

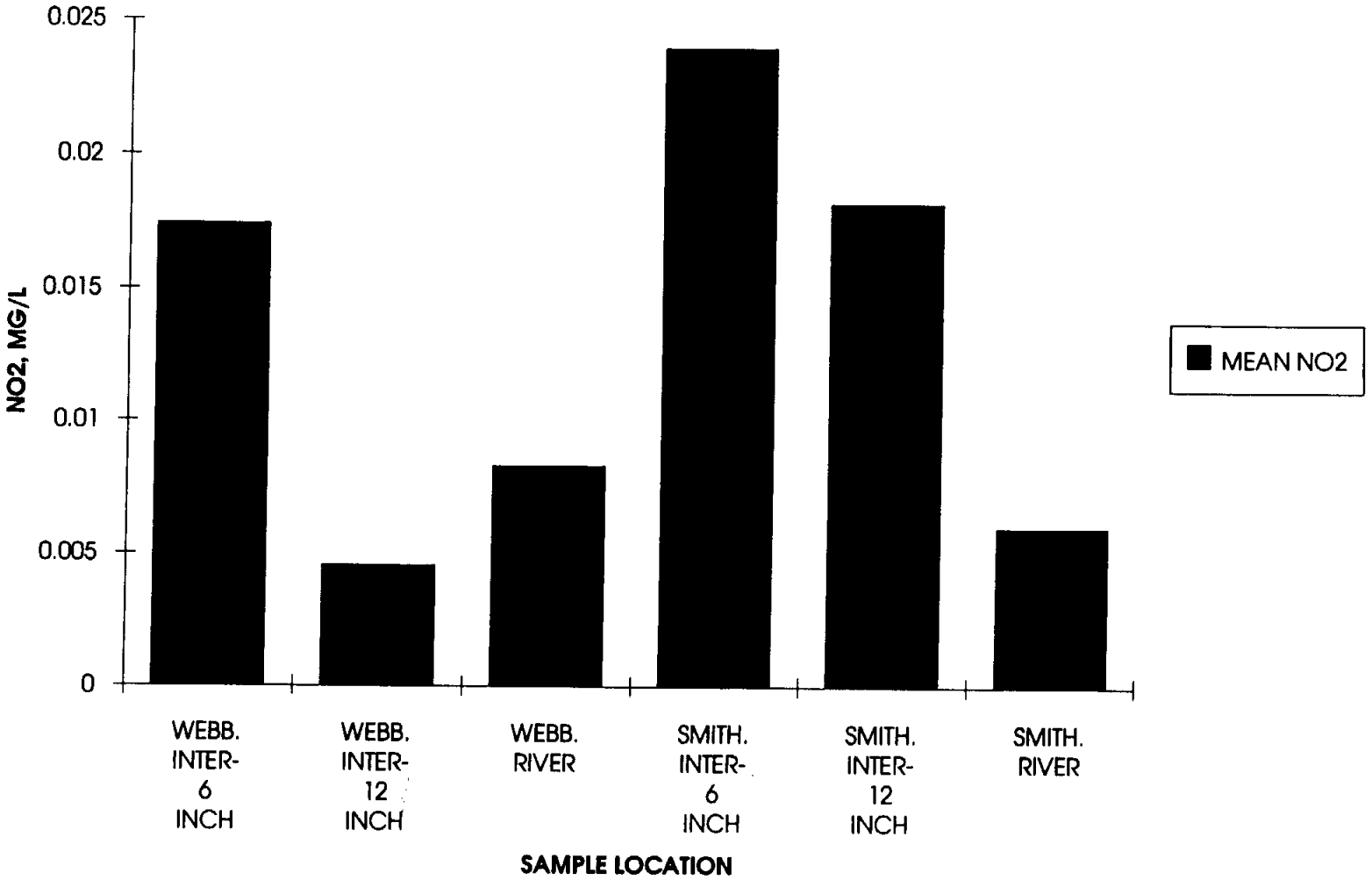


FIGURE 14. NO3 AT WEBBERVILLE AND SMITHVILLE AT HIGH FLOW

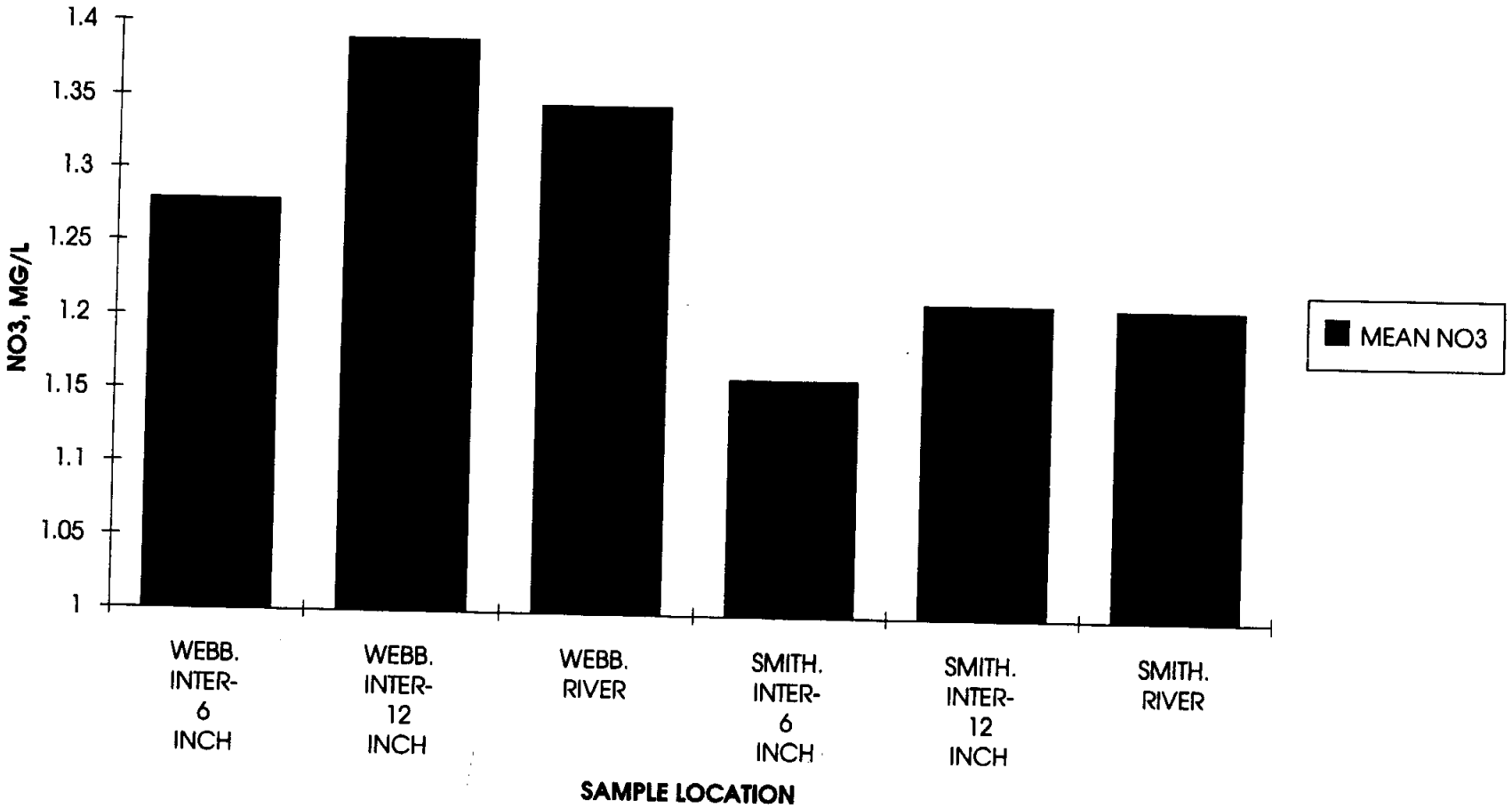


FIGURE 15. OP AT WEBBERVILLE AND SMITHVILLE AT HIGH FLOW

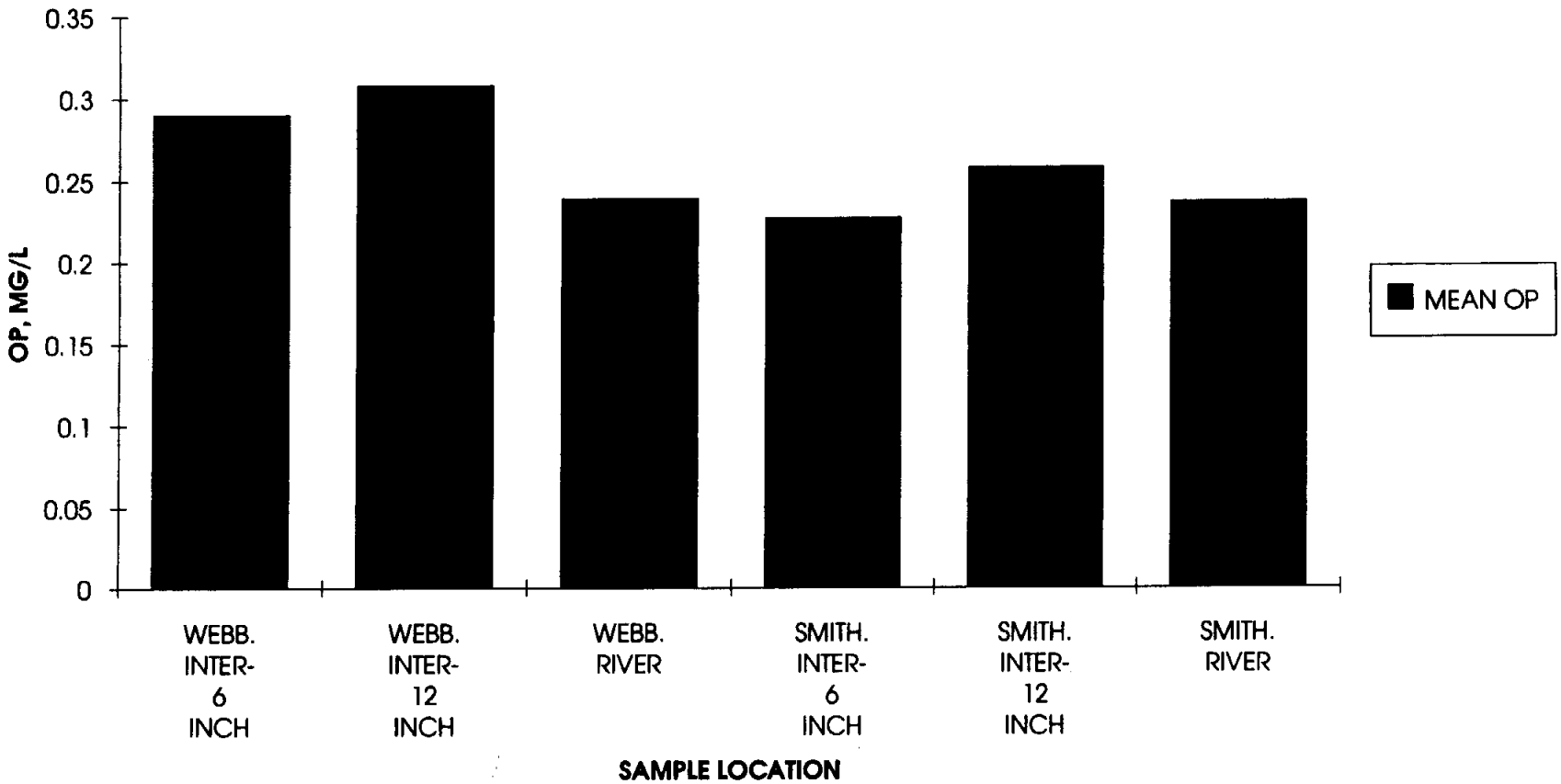


FIGURE 16. H+ ION CONCENTRATION AT WEBBERVILLE AND SMITHVILLE AT HIGH FLOW

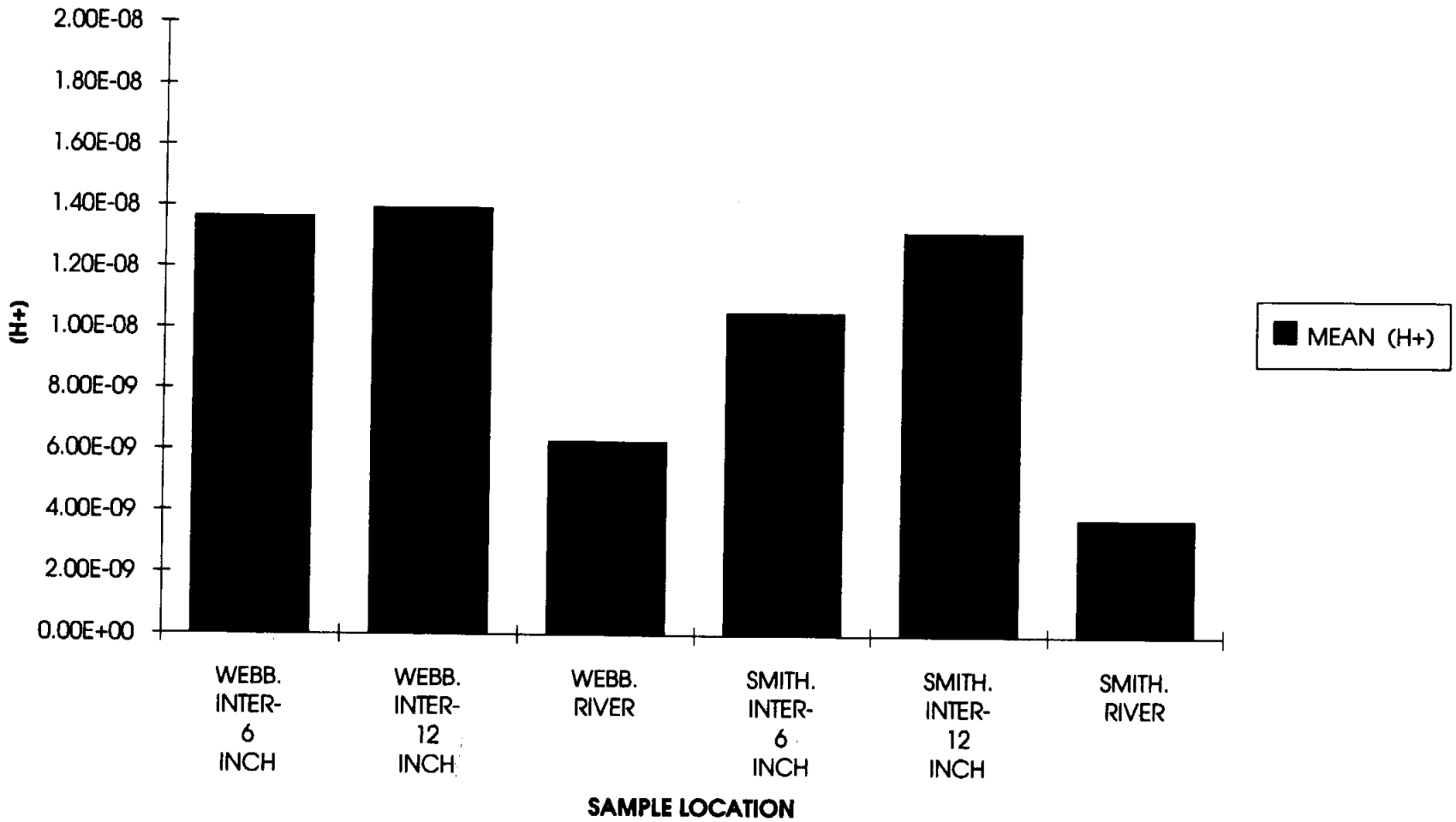


FIGURE 17. TKN AT WEBBERVILLE AND SMITHVILLE AT HIGH FLOW

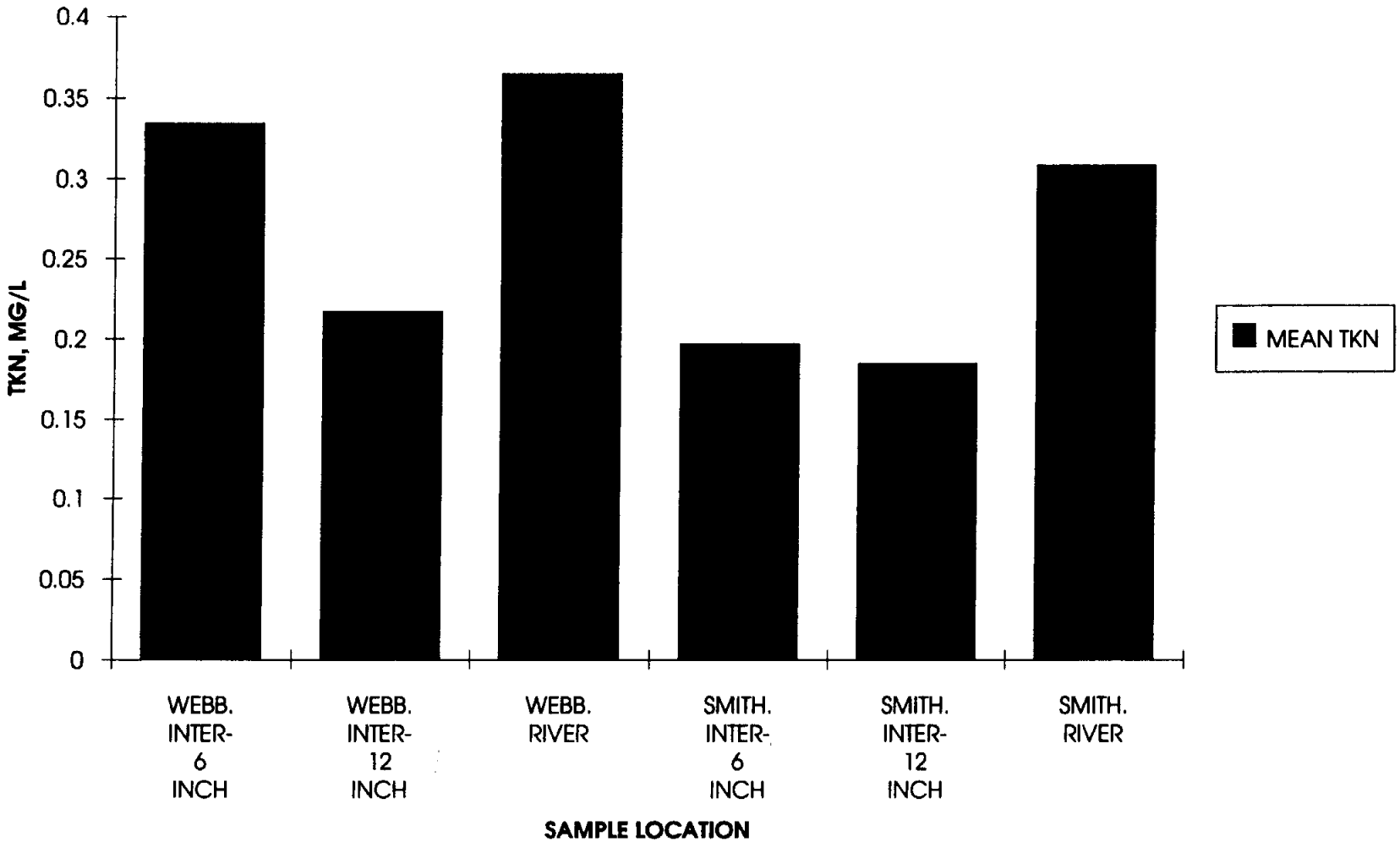


FIGURE 18. TOC AT WEBBERVILLE AND SMITHVILLE AT HIGH FLOW

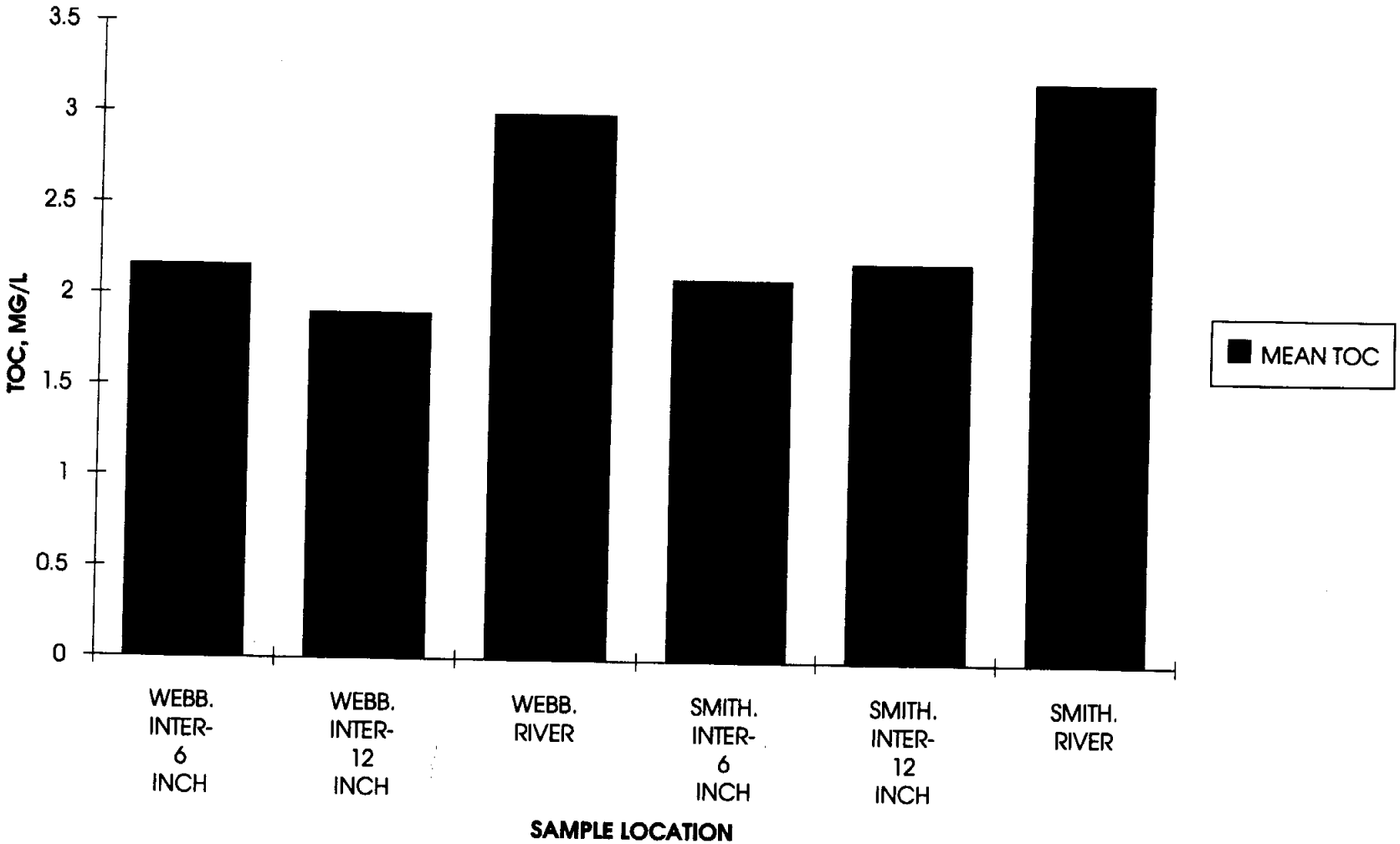


FIGURE 19. TON AT WEBBERVILLE AND SMITHVILLE AT HIGH FLOW

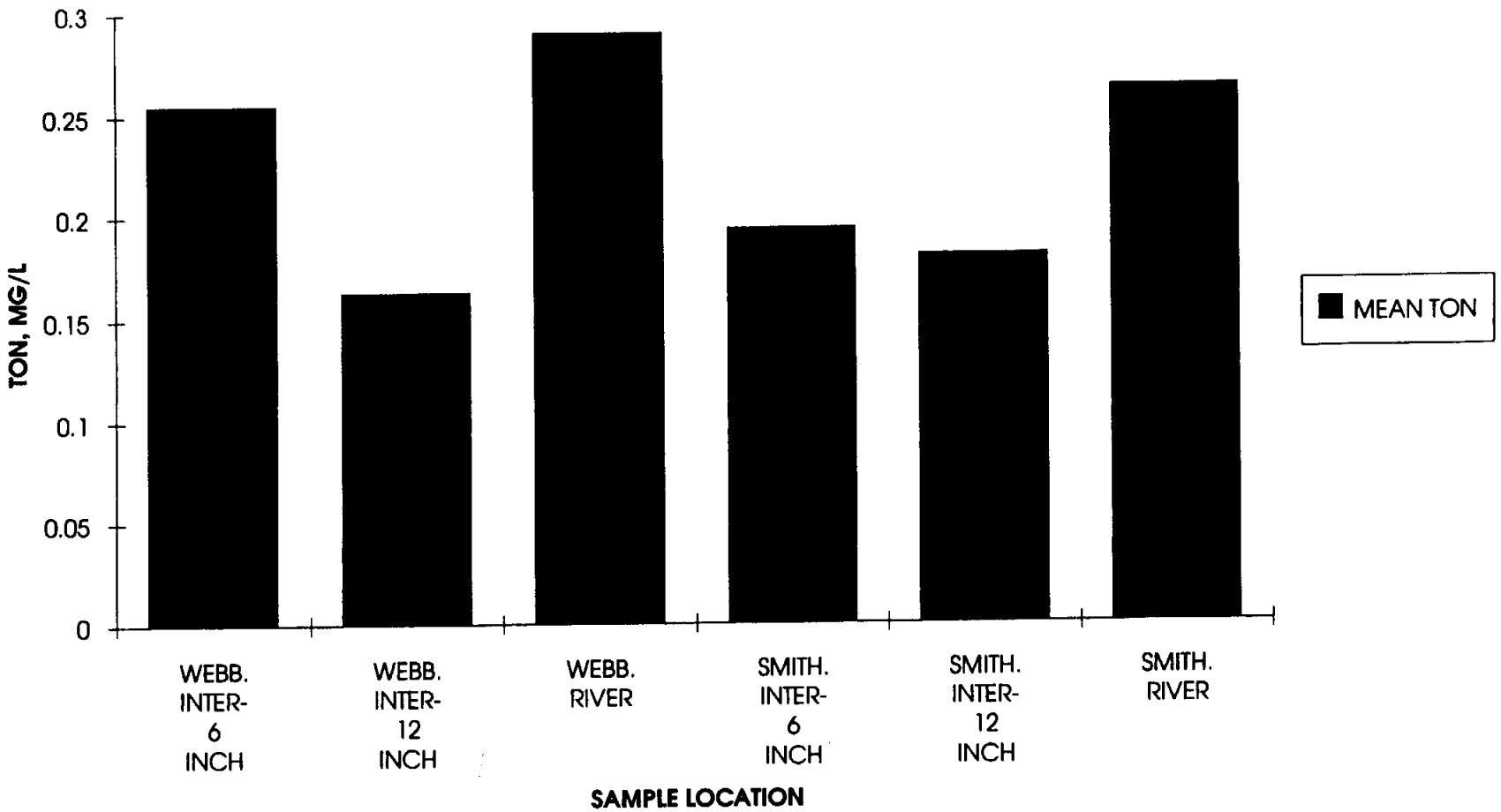
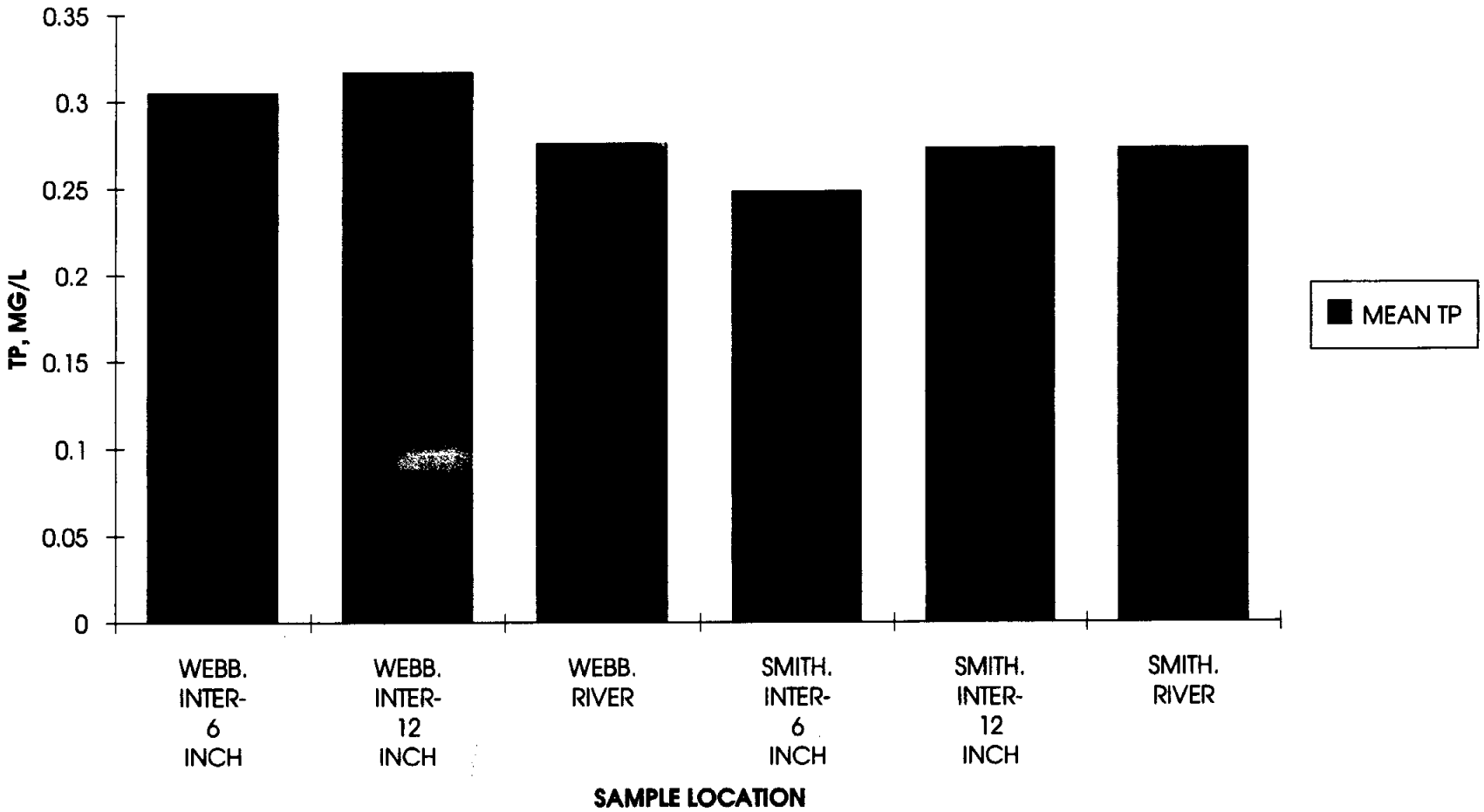


FIGURE 20. TP AT WEBBERVILLE AND SMITHVILLE AT HIGH FLOW



APPENDIX B

STATISTICAL DETAILS

LOW FLOW: T-TEST RESULTS FOR INDIVIDUAL SAMPLER COMBINATIONS

LEGEND:
LOCATION 1 = 6 INCH DEPTH SAMPLER FOR PAIR 1 AT WEBBERVILLE

LOCATION 2 = 12 INCH DEPTH SAMPLER FOR PAIR 1 AT WEBBERVILLE

LOCATION 3 = 6 INCH DEPTH SAMPLER FOR PAIR 2 AT WEBBERVILLE

LOCATION 4 = 12 INCH DEPTH SAMPLER FOR PAIR 2 AT WEBBERVILLE

LOCATION 5 = 6 INCH DEPTH SAMPLER FOR PAIR 3 AT WEBBERVILLE

LOCATION 6 = 12 INCH DEPTH SAMPLER FOR PAIR 3 AT WEBBERVILLE

LOCATION 7 = SURFACE WATER SAMPLE FOR WEBBERVILLE

LOCATION 8 = 6 INCH DEPTH SAMPLER FOR PAIR 1 AT SMITHVILLE

LOCATION 9 = 12 INCH DEPTH SAMPLER FOR PAIR 1 AT SMITHVILLE

LOCATION 10 = 6 INCH DEPTH SAMPLER FOR PAIR 2 AT SMITHVILLE

LOCATION 11 = 12 INCH DEPTH SAMPLER FOR PAIR 2 AT SMITHVILLE

LOCATION 12 = 6 INCH DEPTH SAMPLER FOR PAIR 3 AT SMITHVILLE

LOCATION 13 = 12 INCH DEPTH SAMPLER FOR PAIR 3 AT SMITHVILLE

LOCATION 14 = SURFACE WATER SAMPLE FOR SMITHVILLE

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 1	5	625.4000	88.257	39.470
LOCATION 2	5	618.6000	91.076	40.730

Mean Difference = 6.8000

Levene's Test for Equality of Variances: F= .001 P= .980

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.12	8	.908	56.717	(-124.026, 137.626)
Unequal	.12	7.99	.908	56.717	(-124.026, 137.626)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 1	5	.0244	.040	.018
LOCATION 2	5	.0104	.012	.005

Mean Difference = .0140

Levene's Test for Equality of Variances: F= 3.086 P= .117

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.76	8	.471	.019	(-.029, .057)
Unequal	.76	4.74	.485	.019	(-.034, .062)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 1	5	.0486	.060	.027
LOCATION 2	5	.0724	.063	.028

Mean Difference = -.0238

Levene's Test for Equality of Variances: F= .026 P= .877

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.61	8	.557	.039	(-.113, .066)
Unequal	-.61	7.98	.557	.039	(-.113, .066)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 1	5	3.4678	1.311	.586
LOCATION 2	5	3.5050	.769	.344

Mean Difference = -.0372

Levene's Test for Equality of Variances: F= .824 P= .390

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.05	8	.958	.680	(-1.605, 1.531)
Unequal	-.05	6.46	.958	.680	(-1.701, 1.626)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 1	5	.3296	.038	.017
LOCATION 2	5	.3532	.046	.020

Mean Difference = -.0236

Levene's Test for Equality of Variances: F= .276 P= .614

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.89	8	.400	.027	(-.085, .038)
Unequal	-.89	7.73	.401	.027	(-.085, .038)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 1	5	.0000	.000	.000
LOCATION 2	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .064 P= .806

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.48	8	.647	.000	(.000, .000)
Unequal	-.48	7.92	.647	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 1	5	.2524	.112	.050
LOCATION 2	5	.2262	.118	.053

Mean Difference = .0262

Levene's Test for Equality of Variances: F= .022 P= .886

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.36	8	.728	.073	(-.142, .194)
Unequal	.36	7.98	.728	.073	(-.142, .194)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 1	5	2.6000	1.949	.872
LOCATION 2	5	1.8000	.837	.374

Mean Difference = .8000

Levene's Test for Equality of Variances: F= 1.547 P= .249

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.84	8	.424	.949	(-1.388, 2.988)
Unequal	.84	5.43	.435	.949	(-1.639, 3.239)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 1	5	.2310	.131	.058
LOCATION 2	5	.2198	.118	.053

Mean Difference = .0112

Levene's Test for Equality of Variances: F= .107 P= .752

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.14	8	.891	.079	(-.171, .193)
Unequal	.14	7.92	.891	.079	(-.171, .193)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 1	5	.4082	.078	.035
LOCATION 2	5	.4084	.061	.027

Mean Difference = -.0002

Levene's Test for Equality of Variances: F= .196 P= .670

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.00	8	.997	.044	(-.103, .102)
Unequal	.00	7.55	.997	.044	(-.103, .102)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 1	5	625.4000	88.257	39.470
LOCATION 3	5	626.4000	110.555	49.441

Mean Difference = -1.0000

Levene's Test for Equality of Variances: F= .103 P= .756

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.02	8	.988	63.264	(-146.928, 144.928)
Unequal	-.02	7.63	.988	63.264	(-146.928, 144.928)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 1	5	.0244	.040	.018
LOCATION 3	5	.0092	.009	.004

Mean Difference = .0152

Levene's Test for Equality of Variances: F= 3.848 P= .085

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.84	8	.428	.018	(-.027, .057)
Unequal	.84	4.45	.446	.018	(-.035, .066)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 1	5	.0486	.060	.027
LOCATION 3	5	.0362	.034	.015

Mean Difference = .0124

Levene's Test for Equality of Variances: F= 9.572 P= .015

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.40	8	.697	.031	(-.058, .083)
Unequal	.40	6.30	.700	.031	(-.063, .088)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 1	5	3.4678	1.311	.586
LOCATION 3	5	3.5188	1.662	.743

Mean Difference = -.0510

Levene's Test for Equality of Variances: F= .149 P= .709

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.05	8	.958	.947	(-2.234, 2.132)
Unequal	-.05	7.59	.958	.947	(-2.234, 2.132)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 1	5	.3296	.038	.017
LOCATION 3	5	.3102	.048	.021

Mean Difference = .0194

Levene's Test for Equality of Variances: F= .532 P= .487

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.71	8	.497	.027	(-.043, .082)
Unequal	.71	7.61	.498	.027	(-.043, .082)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 1	5	.0000	.000	.000
LOCATION 3	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .004 P= .951

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.33	8	.750	.000	(.000, .000)
Unequal	-.33	7.99	.750	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 1	5	.2524	.112	.050
LOCATION 3	5	.2234	.115	.051

Mean Difference = .0290

Levene's Test for Equality of Variances: F= .019 P= .894

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.40	8	.697	.072	(-.137, .195)
Unequal	.40	8.00	.697	.072	(-.137, .195)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 1	5	2.6000	1.949	.872
LOCATION 3	5	1.4000	.548	.245

Mean Difference = 1.2000

Levene's Test for Equality of Variances: F= 2.581 P= .147

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.33	8	.222	.906	(-.889, 3.289)
Unequal	1.33	4.63	.247	.906	(-1.129, 3.529)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 1	5	.2310	.131	.058
LOCATION 3	5	.2182	.121	.054

Mean Difference = .0128

Levene's Test for Equality of Variances: F= .007 P= .936

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.16	8	.876	.080	(-.171, .197)
Unequal	.16	7.95	.876	.080	(-.171, .197)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 1	5	.4082	.078	.035
LOCATION 3	5	.3762	.057	.025

Mean Difference = .0320

Levene's Test for Equality of Variances: F= .126 P= .732

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.74	8	.481	.043	(-.068, .132)
Unequal	.74	7.31	.483	.043	(-.071, .135)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 1	5	625.4000	88.257	39.470
LOCATION 4	5	628.6000	103.606	46.334

Mean Difference = -3.2000

Levene's Test for Equality of Variances: F= .009 P= .926

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.05	8	.959	60.866	(-143.597, 137.197)
Unequal	-.05	7.80	.959	60.866	(-143.597, 137.197)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 1	5	.0244	.040	.018
LOCATION 4	5	.0100	.011	.005

Mean Difference = .0144

Levene's Test for Equality of Variances: F= 3.331 P= .105

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.78	8	.456	.018	(-.028, .057)
Unequal	.78	4.63	.472	.018	(-.033, .062)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 1	5	.0486	.060	.027
LOCATION 4	5	.0578	.054	.024

Mean Difference = -.0092

Levene's Test for Equality of Variances: F= .613 P= .456

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.26	8	.805	.036	(-.092, .074)
Unequal	-.26	7.91	.805	.036	(-.092, .074)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 1	5	3.4678	1.311	.586
LOCATION 4	5	3.4898	1.560	.698

Mean Difference = -.0220

Levene's Test for Equality of Variances: F= .243 P= .635

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.02	8	.981	.911	(-2.124, 2.080)
Unequal	-.02	7.77	.981	.911	(-2.124, 2.080)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 1	5	.3296	.038	.017
LOCATION 4	5	.2824	.038	.017

Mean Difference = .0472

Levene's Test for Equality of Variances: F= .042 P= .842

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.98	8	.083	.024	(-.008, .102)
Unequal	1.98	8.00	.083	.024	(-.008, .102)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 1	5	.0000	.000	.000
LOCATION 4	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .151 P= .707

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.18	8	.859	.000	(.000, .000)
Unequal	.18	7.56	.859	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 1	5	.2524	.112	.050
LOCATION 4	5	.2490	.155	.069

Mean Difference = .0034

Levene's Test for Equality of Variances: F= 1.246 P= .297

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.04	8	.969	.085	(-.194, .200)
Unequal	.04	7.30	.969	.085	(-.199, .205)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 1	5	2.6000	1.949	.872
LOCATION 4	5	1.2000	.447	.200

Mean Difference = 1.4000

Levene's Test for Equality of Variances: F= 3.467 P= .100

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.57	8	.156	.894	(-.663, 3.463)
Unequal	1.57	4.42	.186	.894	(-1.084, 3.884)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 1	5	.2310	.131	.058
LOCATION 4	5	.2430	.158	.071

Mean Difference = -.0120

Levene's Test for Equality of Variances: F= .717 P= .422

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.13	8	.899	.092	(-.223, .199)
Unequal	-.13	7.73	.899	.092	(-.223, .199)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 1	5	.4082	.078	.035
LOCATION 4	5	.3800	.050	.022

Mean Difference = .0282

Levene's Test for Equality of Variances: F= .467 P= .514

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.68	8	.516	.042	(-.068, .124)
Unequal	.68	6.78	.520	.042	(-.070, .126)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 1	5	625.4000	88.257	39.470
LOCATION 5	1	750.0000	.	.

Mean Difference = -124.6000

Levene's Test for Equality of Variances: F= . P= .

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	-1.29	4	.267	96.681	(-393.124, 143.924)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 1	5	.0244	.040	.018
LOCATION 5	1	.0250	.	.

Mean Difference = -.0006

Levene's Test for Equality of Variances: F= . P= .

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	-.01	4	.990	.043	(-.121, .120)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 1	5	.0486	.060	.027
LOCATION 5	1	.0260	.	.

Mean Difference = .0226

Levene's Test for Equality of Variances: F= . P= .

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.34	4	.748	.066	(-.160, .205)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 1	5	3.4678	1.311	.586
LOCATION 5	1	1.7270	.	.

Mean Difference = 1.7408

Levene's Test for Equality of Variances: F= . P= .

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.21	4	.292	1.436	(-2.248, 5.730)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 1	5	.3296	.038	.017
LOCATION 5	1	.3790	.	.

Mean Difference = -.0494

Levene's Test for Equality of Variances: F= . P= .

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	-1.19	4	.300	.041	(-.165, .066)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 1	5	.0000	.000	.000
LOCATION 5	1	.0000	.	.

Mean Difference = .0000

Levene's Test for Equality of Variances: F= . P= .

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	.51	4	.635	.000	(.000, .000)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 1	5	.2524	.112	.050
LOCATION 5	1	.1680	.	.

Mean Difference = .0844

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.69	4	.530	.123	(-.257, .426)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 1	5	2.6000	1.949	.872
LOCATION 5	1	1.0000	.	.

Mean Difference = 1.6000

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.75	4	.495	2.135	(-4.331, 7.531)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 1	5	.2310	.131	.058
LOCATION 5	1	.1430	.	.

Mean Difference = .0880

Levene's Test for Equality of Variances: F= . P= .

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.61	4	.572	.143	(-.310, .486)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 1	5	.4082	.078	.035
LOCATION 5	1	.4620	.	.

Mean Difference = -.0538

Levene's Test for Equality of Variances: F= . P= .

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.63	4	.565	.086	(-.292, .185)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 1	5	625.4000	88.257	39.470
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 1	5	.0244	.040	.018
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 1	5	.0486	.060	.027
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 1	5	3.4678	1.311	.586
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 1	5	.3296	.038	.017
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 1	5	.0000	.000	.000
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 1	5	.2524	.112	.050
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 1	5	2.6000	1.949	.872
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 1	5	.2310	.131	.058
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 1	5	.4082	.078	.035
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 1	5	625.4000	88.257	39.470
LOCATION 7	5	616.4000	104.275	46.633

Mean Difference = 9.0000

Levene's Test for Equality of Variances: F= .056 P= .819

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.15	8	.887	61.094	(-131.923, 149.923)
Unequal	.15	7.79	.887	61.094	(-131.923, 149.923)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 1	5	.0244	.040	.018
LOCATION 7	5	.0762	.076	.034

Mean Difference = -.0518

Levene's Test for Equality of Variances: F= 1.957 P= .199

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.34	8	.216	.039	(-.141, .037)
Unequal	-1.34	6.00	.227	.039	(-.146, .042)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 1	5	.0486	.060	.027
LOCATION 7	5	.0214	.003	.001

Mean Difference = .0272

Levene's Test for Equality of Variances: F= 75.137 P= .000

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.01	8	.340	.027	(-.035, .089)
Unequal	1.01	4.01	.368	.027	(-.047, .102)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 1	5	3.4678	1.311	.586
LOCATION 7	5	3.7196	1.309	.586

Mean Difference = -.2518

Levene's Test for Equality of Variances: F= .012 P= .916

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.30	8	.769	.829	(-2.163, 1.659)
Unequal	-.30	8.00	.769	.829	(-2.163, 1.659)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 1	5	.3296	.038	.017
LOCATION 7	5	.6554	.139	.062

Mean Difference = -.3258

Levene's Test for Equality of Variances: F= 2.657 P= .142

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-5.07	8	.001	.064	(-.474, -.178)
Unequal	-5.07	4.59	.005	.064	(-.491, -.161)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 1	5	.0000	.000	.000
LOCATION 7	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 4.035 P= .079

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.41	8	.009	.000	(.000, .000)
Unequal	3.41	4.71	.021	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 1	5	.2524	.112	.050
LOCATION 7	5	.5172	.169	.076

Mean Difference = -.2648

Levene's Test for Equality of Variances: F= .566 P= .473

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.92	8	.019	.091	(-.474, -.056)
Unequal	-2.92	6.95	.023	.091	(-.479, -.050)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 1	5	2.6000	1.949	.872
LOCATION 7	4	4.0000	.000	.000

Mean Difference = -1.4000

Levene's Test for Equality of Variances: F= 4.834 P= .064

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.42	7	.200	.989	(-3.738, .938)
Unequal	-1.61	4.00	.184	.872	(-3.821, 1.021)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 1	5	.2310	.131	.058
LOCATION 7	5	.4372	.194	.087

Mean Difference = -.2062

Levene's Test for Equality of Variances: F= .463 P= .515

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.97	8	.084	.105	(-.448, .035)
Unequal	-1.97	7.01	.089	.105	(-.454, .041)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 1	5	.4082	.078	.035
LOCATION 7	5	.7506	.271	.121

Mean Difference = -.3424

Levene's Test for Equality of Variances: F= 3.756 P= .089

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.71	8	.027	.126	(-.634, -.051)
Unequal	-2.71	4.66	.045	.126	(-.667, -.018)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 2	5	618.6000	91.076	40.730
LOCATION 3	5	626.4000	110.555	49.441

Mean Difference = -7.8000

Levene's Test for Equality of Variances: F= .103 P= .756

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.12	8	.906	64.058	(-155.559, 139.959)
Unequal	-.12	7.72	.906	64.058	(-155.559, 139.959)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 2	5	.0104	.012	.005
LOCATION 3	5	.0092	.009	.004

Mean Difference = .0012

Levene's Test for Equality of Variances: F= .219 P= .652

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.18	8	.865	.007	(-.015, .017)
Unequal	.18	7.54	.865	.007	(-.015, .017)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 2	5	.0724	.063	.028
LOCATION 3	5	.0362	.034	.015

Mean Difference = .0362

Levene's Test for Equality of Variances: F= 7.039 P= .029

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.13	8	.290	.032	(-.037, .110)
Unequal	1.13	6.11	.299	.032	(-.042, .114)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 2	5	3.5050	.769	.344
LOCATION 3	5	3.5188	1.662	.743

Mean Difference = -.0138

Levene's Test for Equality of Variances: F= 1.403 P= .270

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.02	8	.987	.819	(-1.902, 1.875)
Unequal	-.02	5.64	.987	.819	(-2.018, 1.990)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 2	5	.3532	.046	.020
LOCATION 3	5	.3102	.048	.021

Mean Difference = .0430

Levene's Test for Equality of Variances: F= .033 P= .861

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.45	8	.184	.030	(-.025, .111)
Unequal	1.45	7.99	.184	.030	(-.025, .111)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 2	5	.0000	.000	.000
LOCATION 3	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .048 P= .833

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.17	8	.867	.000	(.000, .000)
Unequal	.17	7.85	.868	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 2	5	.2262	.118	.053
LOCATION 3	5	.2234	.115	.051

Mean Difference = .0028

Levene's Test for Equality of Variances: F= .072 P= .796

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.04	8	.971	.074	(-.167, .173)
Unequal	.04	8.00	.971	.074	(-.167, .173)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 2	5	1.8000	.837	.374
LOCATION 3	5	1.4000	.548	.245

Mean Difference = .4000

Levene's Test for Equality of Variances: F= .640 P= .447

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.89	8	.397	.447	(-.632, 1.432)
Unequal	.89	6.90	.401	.447	(-.658, 1.458)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 2	5	.2198	.118	.053
LOCATION 3	5	.2182	.121	.054

Mean Difference = .0016

Levene's Test for Equality of Variances: F= .075 P= .791

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.02	8	.984	.076	(-.173, .176)
Unequal	.02	8.00	.984	.076	(-.173, .176)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 2	5	.4084	.061	.027
LOCATION 3	5	.3762	.057	.025

Mean Difference = .0322

Levene's Test for Equality of Variances: F= .030 P= .866

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.86	8	.414	.037	(-.054, .118)
Unequal	.86	7.96	.414	.037	(-.054, .118)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 2	5	618.6000	91.076	40.730
LOCATION 4	5	628.6000	103.606	46.334

Mean Difference = -10.0000

Levene's Test for Equality of Variances: F= .012 P= .915

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.16	8	.875	61.691	(-152.300, 132.300)
Unequal	-.16	7.87	.875	61.691	(-152.300, 132.300)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 2	5	.0104	.012	.005
LOCATION 4	5	.0100	.011	.005

Mean Difference = .0004

Levene's Test for Equality of Variances: F= .021 P= .888

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.05	8	.958	.007	(-.017, .017)
Unequal	.05	7.95	.958	.007	(-.017, .017)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 2	5	.0724	.063	.028
LOCATION 4	5	.0578	.054	.024

Mean Difference = .0146

Levene's Test for Equality of Variances: F= .686 P= .431

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.39	8	.704	.037	(-.071, .100)
Unequal	.39	7.81	.704	.037	(-.071, .100)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 2	5	3.5050	.769	.344
LOCATION 4	5	3.4898	1.560	.698

Mean Difference = .0152

Levene's Test for Equality of Variances: F= 2.201 P= .176

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.02	8	.985	.778	(-1.779, 1.810)
Unequal	.02	5.83	.985	.778	(-1.889, 1.919)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 2	5	.3532	.046	.020
LOCATION 4	5	.2824	.038	.017

Mean Difference = .0708

Levene's Test for Equality of Variances: F= .459 P= .517

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.67	8	.028	.026	(.010, .132)
Unequal	2.67	7.71	.029	.026	(.010, .132)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 2	5	.0000	.000	.000
LOCATION 4	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .454 P= .519

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.70	8	.506	.000	(.000, .000)
Unequal	.70	7.20	.508	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 2	5	.2262	.118	.053
LOCATION 4	5	.2490	.155	.069

Mean Difference = -.0228

Levene's Test for Equality of Variances: F= 1.199 P= .305

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.26	8	.800	.087	(-.223, .178)
Unequal	-.26	7.47	.800	.087	(-.228, .183)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 2	5	1.8000	.837	.374
LOCATION 4	5	1.2000	.447	.200

Mean Difference = .6000

Levene's Test for Equality of Variances: F= 1.969 P= .198

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.41	8	.195	.424	(-.379, 1.579)
Unequal	1.41	6.11	.206	.424	(-.438, 1.638)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 2	5	.2198	.118	.053
LOCATION 4	5	.2430	.158	.071

Mean Difference = -.0232

Levene's Test for Equality of Variances: F= 1.422 P= .267

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	-.26	8	.799	.088	(-.227, .180)
Unequal	-.26	7.42	.800	.088	(-.232, .186)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 2	5	.4084	.061	.027
LOCATION 4	5	.3800	.050	.022

Mean Difference = .0284

Levene's Test for Equality of Variances: F= .051 P= .827

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	.81	8	.444	.035	(-.053, .110)
Unequal	.81	7.69	.444	.035	(-.053, .110)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 2	5	618.6000	91.076	40.730
LOCATION 5	1	750.0000	.	.

Mean Difference = -131.4000

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.32	4	.258	99.769	(-408.500, 145.700)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 2	5	.0104	.012	.005
LOCATION 5	1	.0250	.	.

Mean Difference = -.0146

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.10	4	.332	.013	(-.051, .022)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 2	5	.0724	.063	.028
LOCATION 5	1	.0260	.	.

Mean Difference = .0464

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.67	4	.538	.069	(-.145, .238)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 2	5	3.5050	.769	.344
LOCATION 5	1	1.7270	.	.

Mean Difference = 1.7780

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.11	4	.102	.842	(-.562, 4.118)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 2	5	.3532	.046	.020
LOCATION 5	1	.3790	.	.

Mean Difference = -.0258

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.51	4	.634	.050	(-.165, .113)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 2	5	.0000	.000	.000
LOCATION 5	1	.0000	.	.

Mean Difference = .0000

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.73	4	.508	.000	(.000, .000)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 2	5	.2262	.118	.053
LOCATION 5	1	.1680	.	.

Mean Difference = .0582

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.45	4	.675	.129	(-.300, .417)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 2	5	1.8000	.837	.374
LOCATION 5	1	1.0000	.	.

Mean Difference = .8000

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.87	4	.432	.917	(-1.746, 3.346)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 2	5	.2198	.118	.053
LOCATION 5	1	.1430	.	.

Mean Difference = .0768

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.59	4	.586	.130	(-.284, .437)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 2	5	.4084	.061	.027
LOCATION 5	1	.4620	.	.

Mean Difference = -.0536

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.80	4	.468	.067	(-.239, .132)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 2	5	618.6000	91.076	40.730
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 2	5	.0104	.012	.005
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 2	5	.0724	.063	.028
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 2	5	3.5050	.769	.344
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 2	5	.3532	.046	.020
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 2	5	.0000	.000	.000
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 2	5	.2262	.118	.053
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 2	5	1.8000	.837	.374
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 2	5	.2198	.118	.053
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 2	5	.4084	.061	.027
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 2	5	618.6000	91.076	40.730
LOCATION 7	5	616.4000	104.275	46.633

Mean Difference = 2.2000

Levene's Test for Equality of Variances: F= .058 P= .816

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.04	8	.973	61.916	(-140.619, 145.019)
Unequal	.04	7.86	.973	61.916	(-140.619, 145.019)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 2	5	.0104	.012	.005
LOCATION 7	5	.0762	.076	.034

Mean Difference = -.0658

Levene's Test for Equality of Variances: F= 7.031 P= .029

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.90	8	.094	.035	(-.146, .014)
Unequal	-1.90	4.20	.127	.035	(-.162, .030)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 2	5	.0724	.063	.028
LOCATION 7	5	.0214	.003	.001

Mean Difference = .0510

Levene's Test for Equality of Variances: F= 40.293 P= .000

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	1.81	8	.108	.028	(-.014, .116)
Unequal	1.81	4.01	.144	.028	(-.027, .129)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 2	5	3.5050	.769	.344
LOCATION 7	5	3.7196	1.309	.586

Mean Difference = -.2146

Levene's Test for Equality of Variances: F= 1.253 P= .295

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.32	8	.760	.679	(-1.781, 1.352)
Unequal	-.32	6.47	.762	.679	(-1.877, 1.447)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 2	5	.3532	.046	.020
LOCATION 7	5	.6554	.139	.062

Mean Difference = -.3022

Levene's Test for Equality of Variances: F= 2.100 P= .185

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-4.63	8	.002	.065	(-.453, -.152)
Unequal	-4.63	4.86	.006	.065	(-.470, -.134)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 2	5	.0000	.000	.000
LOCATION 7	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 4.943 P= .057

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.73	8	.006	.000	(.000, .000)
Unequal	3.73	4.58	.016	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 2	5	.2262	.118	.053
LOCATION 7	5	.5172	.169	.076

Mean Difference = -.2910

Levene's Test for Equality of Variances: F= .639 P= .447

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-3.16	8	.013	.092	(-.504, -.078)
Unequal	-3.16	7.14	.016	.092	(-.509, -.073)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 2	5	1.8000	.837	.374
LOCATION 7	4	4.0000	.000	.000

Mean Difference = -2.2000

Levene's Test for Equality of Variances: F= 8.473 P= .023

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-5.19	7	.001	.424	(-3.204, -1.196)
Unequal	-5.88	4.00	.004	.374	(-3.239, -1.161)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 2	5	.2198	.118	.053
LOCATION 7	5	.4372	.194	.087

Mean Difference = -.2174

Levene's Test for Equality of Variances: F= .840 P= .386

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.14	8	.065	.102	(-.452, .017)
Unequal	-2.14	6.62	.072	.102	(-.458, .023)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 2	5	.4084	.061	.027
LOCATION 7	5	.7506	.271	.121

Mean Difference = -.3422

Levene's Test for Equality of Variances: F= 4.597 P= .064

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.75	8	.025	.124	(-.629, -.055)
Unequal	-2.75	4.40	.046	.124	(-.688, .003)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 3	5	626.4000	110.555	49.441
LOCATION 4	5	628.6000	103.606	46.334

Mean Difference = -2.2000

Levene's Test for Equality of Variances: F= .034 P= .858

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.03	8	.975	67.759	(-158.497, 154.097)
Unequal	-.03	7.97	.975	67.759	(-158.497, 154.097)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 3	5	.0092	.009	.004
LOCATION 4	5	.0100	.011	.005

Mean Difference = -.0008

Levene's Test for Equality of Variances: F= .107 P= .752

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.12	8	.906	.007	(-.016, .014)
Unequal	-.12	7.77	.906	.007	(-.016, .014)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 3	5	.0362	.034	.015
LOCATION 4	5	.0578	.054	.024

Mean Difference = -.0216

Levene's Test for Equality of Variances: F= 1.229 P= .300

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.76	8	.468	.028	(-.087, .044)
Unequal	-.76	6.72	.472	.028	(-.089, .046)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 3	5	3.5188	1.662	.743
LOCATION 4	5	3.4898	1.560	.698

Mean Difference = .0290

Levene's Test for Equality of Variances: F= .002 P= .965

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.03	8	.978	1.019	(-2.322, 2.380)
Unequal	.03	7.97	.978	1.019	(-2.322, 2.380)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 3	5	.3102	.048	.021
LOCATION 4	5	.2824	.038	.017

Mean Difference = .0278

Levene's Test for Equality of Variances: F= .750 P= .412

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.02	8	.336	.027	(-.035, .090)
Unequal	1.02	7.58	.338	.027	(-.035, .090)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 3	5	.0000	.000	.000
LOCATION 4	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .290 P= .605

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.56	8	.592	.000	(.000, .000)
Unequal	.56	7.68	.593	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 3	5	.2234	.115	.051
LOCATION 4	5	.2490	.155	.069

Mean Difference = -.0256

Levene's Test for Equality of Variances: F= 1.039 P= .338

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.30	8	.774	.086	(-.224, .173)
Unequal	-.30	7.39	.775	.086	(-.229, .178)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 3	5	1.4000	.548	.245
LOCATION 4	5	1.2000	.447	.200

Mean Difference = .2000

Levene's Test for Equality of Variances: F= 1.524 P= .252

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.63	8	.545	.316	(-.529, .929)
Unequal	.63	7.69	.545	.316	(-.529, .929)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 3	5	.2182	.121	.054
LOCATION 4	5	.2430	.158	.071

Mean Difference = -.0248

Levene's Test for Equality of Variances: F= 1.088 P= .327

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.28	8	.788	.089	(-.230, .180)
Unequal	-.28	7.50	.788	.089	(-.235, .186)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 3	5	.3762	.057	.025
LOCATION 4	5	.3800	.050	.022

Mean Difference = -.0038

Levene's Test for Equality of Variances: F= .250 P= .630

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.11	8	.913	.034	(-.082, .074)
Unequal	-.11	7.86	.913	.034	(-.082, .074)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 3	5	626.4000	110.555	49.441
LOCATION 5	1	750.0000	.	.

Mean Difference = -123.6000

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.02	4	.365	121.106	(-459.965, 212.765)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 3	5	.0092	.009	.004
LOCATION 5	1	.0250	.	.

Mean Difference = -.0158

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.54	4	.199	.010	(-.044, .013)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 3	5	.0362	.034	.015
LOCATION 5	1	.0260	.	.

Mean Difference = .0102

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.28	4	.796	.037	(-.092, .113)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 3	5	3.5188	1.662	.743
LOCATION 5	1	1.7270	.	.

Mean Difference = 1.7918

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.98	4	.381	1.820	(-3.264, 6.847)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 3	5	.3102	.048	.021
LOCATION 5	1	.3790	.	.

Mean Difference = -.0688

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.32	4	.258	.052	(-.214, .076)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 3	5	.0000	.000	.000
LOCATION 5	1	.0000	.	.

Mean Difference = .0000

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.73	4	.507	.000	(.000, .000)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 3	5	.2234	.115	.051
LOCATION 5	1	.1680	.	.

Mean Difference = .0554

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.44	4	.683	.126	(-.294, .405)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 3	5	1.4000	.548	.245
LOCATION 5	1	1.0000	.	.

Mean Difference = .4000

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.67	4	.541	.600	(-1.266, 2.066)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 3	5	.2182	.121	.054
LOCATION 5	1	.1430	.	.

Mean Difference = .0752

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.57	4	.601	.133	(-.293, .444)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 3	5	.3762	.057	.025
LOCATION 5	1	.4620	.	.

Mean Difference = -.0858

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.37	4	.241	.062	(-.259, .088)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 3	5	626.4000	110.555	49.441
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 3	5	.0092	.009	.004
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 3	5	.0362	.034	.015
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 3	5	3.5188	1.662	.743
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 3	5	.3102	.048	.021
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 3	5	.0000	.000	.000
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 3	5	.2234	.115	.051
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 3	5	1.4000	.548	.245
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 3	5	.2182	.121	.054
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 3	5	.3762	.057	.025
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 3	5	626.4000	110.555	49.441
LOCATION 7	5	616.4000	104.275	46.633

Mean Difference = 10.0000

Levene's Test for Equality of Variances: F= .008 P= .932

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.15	8	.887	67.964	(-146.769, 166.769)
Unequal	.15	7.97	.887	67.964	(-146.769, 166.769)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 3	5	.0092	.009	.004
LOCATION 7	5	.0762	.076	.034

Mean Difference = -.0670

Levene's Test for Equality of Variances: F= 7.683 P= .024

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.94	8	.088	.034	(-.146, .012)
Unequal	-1.94	4.12	.122	.034	(-.163, .029)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 3	5	.0362	.034	.015
LOCATION 7	5	.0214	.003	.001

Mean Difference = .0148

Levene's Test for Equality of Variances: F= 25.027 P= .001

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.98	8	.356	.015	(-.020, .050)
Unequal	.98	4.04	.382	.015	(-.027, .057)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 3	5	3.5188	1.662	.743
LOCATION 7	5	3.7196	1.309	.586

Mean Difference = -.2008

Levene's Test for Equality of Variances: F= .095 P= .765

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.21	8	.837	.946	(-2.383, 1.981)
Unequal	-.21	7.59	.838	.946	(-2.383, 1.981)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 3	5	.3102	.048	.021
LOCATION 7	5	.6554	.139	.062

Mean Difference = -.3452

Levene's Test for Equality of Variances: F= 1.939 P= .201

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-5.27	8	.001	.066	(-.496, -.194)
Unequal	-5.27	4.94	.003	.066	(-.514, -.177)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 3	5	.0000	.000	.000
LOCATION 7	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 6.679 P= .032

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.99	8	.004	.000	(.000, .000)
Unequal	3.99	4.77	.011	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 3	5	.2234	.115	.051
LOCATION 7	5	.5172	.169	.076

Mean Difference = -.2938

Levene's Test for Equality of Variances: F= .446 P= .523

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-3.21	8	.012	.091	(-.505, -.083)
Unequal	-3.21	7.05	.015	.091	(-.510, -.078)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 3	5	1.4000	.548	.245
LOCATION 7	4	4.0000	.000	.000

Mean Difference = -2.6000

Levene's Test for Equality of Variances: F= 74.667 P= .000

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-9.36	7	.000	.278	(-3.257, -1.943)
Unequal	-10.61	4.00	.000	.245	(-3.280, -1.920)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 3	5	.2182	.121	.054
LOCATION 7	5	.4372	.194	.087

Mean Difference = -.2190

Levene's Test for Equality of Variances: F= .595 P= .463

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	-2.14	8	.065	.102	(-.455, .017)
Unequal	-2.14	6.70	.071	.102	(-.461, .023)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 3	5	.3762	.057	.025
LOCATION 7	5	.7506	.271	.121

Mean Difference = -.3744

Levene's Test for Equality of Variances: F= 4.533 P= .066

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	-3.02	8	.017	.124	(-.660, -.088)
Unequal	-3.02	4.35	.035	.124	(-.719, -.030)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 4	5	628.6000	103.606	46.334
LOCATION 5	1	750.0000	.	.

Mean Difference = -121.4000

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.07	4	.345	113.495	(-436.625, 193.825)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 4	5	.0100	.011	.005
LOCATION 5	1	.0250	.	.

Mean Difference = -.0150

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.22	4	.288	.012	(-.049, .019)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 4	5	.0578	.054	.024
LOCATION 5	1	.0260	.	.

Mean Difference = .0318

Levene's Test for Equality of Variances: F= . P= .

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.54	4	.618	.059	(-.132, .195)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 4	5	3.4898	1.560	.698
LOCATION 5	1	1.7270	.	.

Mean Difference = 1.7628

Levene's Test for Equality of Variances: F= . P= .

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.03	4	.361	1.709	(-2.984, 6.510)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 4	5	.2824	.038	.017
LOCATION 5	1	.3790	.	.

Mean Difference = -.0966

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.35	4	.079	.041	(-.211, .018)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 4	5	.0000	.000	.000
LOCATION 5	1	.0000	.	.

Mean Difference = .0000

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.53	4	.622	.000	(.000, .000)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 4	5	.2490	.155	.069
LOCATION 5	1	.1680	.	.

Mean Difference = .0810

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.48	4	.657	.169	(-.389, .551)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 4	5	1.2000	.447	.200
LOCATION 5	1	1.0000	.	.

Mean Difference = .2000

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.41	4	.704	.490	(-1.161, 1.561)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 4	5	.2430	.158	.071
LOCATION 5	1	.1430	.	.

Mean Difference = .1000

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.58	4	.594	.173	(-.380, .580)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 4	5	.3800	.050	.022
LOCATION 5	1	.4620	.	.

Mean Difference = -.0820

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.50	4	.207	.055	(-.234, .070)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 4	5	628.6000	103.606	46.334
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 4	5	.0100	.011	.005
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 4	5	.0578	.054	.024
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 4	5	3.4898	1.560	.698
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 4	5	.2824	.038	.017
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 4	5	.0000	.000	.000
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 4	5	.2490	.155	.069
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 4	5	1.2000	.447	.200
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 4	5	.2430	.158	.071
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 4	5	.3800	.050	.022
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 4	5	628.6000	103.606	46.334
LOCATION 7	5	616.4000	104.275	46.633

Mean Difference = 12.2000

Levene's Test for Equality of Variances: F= .011 P= .918

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.19	8	.857	65.738	(-139.435, 163.835)
Unequal	.19	8.00	.857	65.738	(-139.435, 163.835)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 4	5	.0100	.011	.005
LOCATION 7	5	.0762	.076	.034

Mean Difference = -.0662

Levene's Test for Equality of Variances: F= 7.247 P= .027

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.91	8	.092	.035	(-.146, .014)
Unequal	-1.91	4.17	.125	.035	(-.162, .030)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 4	5	.0578	.054	.024
LOCATION 7	5	.0214	.003	.001

Mean Difference = .0364

Levene's Test for Equality of Variances: F= 12.176 P= .008

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.51	8	.169	.024	(-.019, .092)
Unequal	1.51	4.02	.205	.024	(-.030, .103)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 4	5	3.4898	1.560	.698
LOCATION 7	5	3.7196	1.309	.586

Mean Difference = -.2298

Levene's Test for Equality of Variances: F= .169 P= .692

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.25	8	.807	.911	(-2.331, 1.871)
Unequal	-.25	7.77	.807	.911	(-2.331, 1.871)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 4	5	.2824	.038	.017
LOCATION 7	5	.6554	.139	.062

Mean Difference = -.3730

Levene's Test for Equality of Variances: F= 2.834 P= .131

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-5.81	8	.000	.064	(-.521, -.225)
Unequal	-5.81	4.58	.003	.064	(-.538, -.208)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 4	5	.0000	.000	.000
LOCATION 7	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 6.350 P= .036

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.98	8	.004	.000	(.000, .000)
Unequal	3.98	5.15	.010	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 4	5	.2490	.155	.069
LOCATION 7	5	.5172	.169	.076

Mean Difference = -.2682

Levene's Test for Equality of Variances: F= .005 P= .948

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.62	8	.031	.102	(-.505, -.032)
Unequal	-2.62	7.94	.031	.102	(-.505, -.032)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 4	5	1.2000	.447	.200
LOCATION 7	4	4.0000	.000	.000

Mean Difference = -2.8000

Levene's Test for Equality of Variances: F= 5.531 P= .051

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-12.35	7	.000	.227	(-3.336, -2.264)
Unequal	-14.00	4.00	.000	.200	(-3.355, -2.245)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 4	5	.2430	.158	.071
LOCATION 7	5	.4372	.194	.087

Mean Difference = -.1942

Levene's Test for Equality of Variances: F= .017 P= .900

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.74	8	.121	.112	(-.452, .064)
Unequal	-1.74	7.68	.122	.112	(-.452, .064)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 4	5	.3800	.050	.022
LOCATION 7	5	.7506	.271	.121

Mean Difference = -.3706

Levene's Test for Equality of Variances: F= 5.035 P= .055

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-3.00	8	.017	.123	(-.655, -.086)
Unequal	-3.00	4.27	.037	.123	(-.713, -.028)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 5	1	750.0000	.	.
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 5	1	.0250	.	.
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 5	1	.0260	.	.
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 5	1	1.7270	.	.
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 5	1	.3790	.	.
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 5	1	.0000	.	.
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 5	1	.1680	.	.
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 5	1	1.0000	.	.
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 5	1	.1430	.	.
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 5	1	.4620	.	.
LOCATION 6	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 5	1	750.0000	.	.
LOCATION 7	5	616.4000	104.275	46.633

Mean Difference = 133.6000

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.17	4	.307	114.228	(-183.659, 450.859)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 5	1	.0250	.	.
LOCATION 7	5	.0762	.076	.034

Mean Difference = -.0512

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.61	4	.574	.084	(-.284, .182)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 5	1	.0260	.	.
LOCATION 7	5	.0214	.003	.001

Mean Difference = .0046

Levene's Test for Equality of Variances: F= . P= .

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.67	4	.170	.003	(-.003, .012)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 5	1	1.7270	.	.
LOCATION 7	5	3.7196	1.309	.586

Mean Difference = -1.9926

Levene's Test for Equality of Variances: F= . P= .

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.39	4	.237	1.434	(-5.976, 1.991)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 5	1	.3790	.	.
LOCATION 7	5	.6554	.139	.062

Mean Difference = -.2764

Levene's Test for Equality of Variances: F= . P= .

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.82	4	.143	.152	(-.698, .145)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 5	1	.0000	.	.
LOCATION 7	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= . P= .

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.14	4	.035	.000	(.000, .000)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 5	1	.1680	.	.
LOCATION 7	5	.5172	.169	.076

Mean Difference = -.3492

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.89	4	.132	.185	(-.864, .165)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 5	1	1.0000	.	.
LOCATION 7	4	4.0000	.000	.000

Mean Difference = -3.0000

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.	3	.	.000	(-3.000, -3.000)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 5	1	.1430	.	.
LOCATION 7	5	.4372	.194	.087

Mean Difference = -.2942

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.38	4	.239	.213	(-.885, .296)
Unequal	.	.	.	.	(. , .)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 5	1	.4620	.	.
LOCATION 7	5	.7506	.271	.121

Mean Difference = -.2886

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.97	4	.387	.297	(-1.114, .537)
Unequal	.	.	.	.	(. , .)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 6	0	.	.	.
LOCATION 7	5	616.4000	104.275	46.633

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 6	0	.	.	.
LOCATION 7	5	.0762	.076	.034

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 6	0	.	.	.
LOCATION 7	5	.0214	.003	.001

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 6	0	.	.	.
LOCATION 7	5	3.7196	1.309	.586

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 6	0	.	.	.
LOCATION 7	5	.6554	.139	.062

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 6	0	.	.	.
LOCATION 7	5	.0000	.000	.000

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 6	0	.	.	.
LOCATION 7	5	.5172	.169	.076

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 6	0	.	.	.
LOCATION 7	4	4.0000	.000	.000

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 6	0	.	.	.
LOCATION 7	5	.4372	.194	.087

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 6	0	.	.	.
LOCATION 7	5	.7506	.271	.121

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 8	5	630.0000	88.462	39.561
LOCATION 9	5	633.4000	104.620	46.787

Mean Difference = -3.4000

Levene's Test for Equality of Variances: F= .493 P= .502

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.06	8	.957	61.271	(-144.731, 137.931)
Unequal	-.06	7.78	.957	61.271	(-144.731, 137.931)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 8	5	.0182	.013	.006
LOCATION 9	5	.0102	.012	.005

Mean Difference = .0080

Levene's Test for Equality of Variances: F= .359 P= .566

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.04	8	.329	.008	(-.010, .026)
Unequal	1.04	7.94	.329	.008	(-.010, .026)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 8	5	.0394	.038	.017
LOCATION 9	5	.0242	.043	.019

Mean Difference = .0152

Levene's Test for Equality of Variances: F= .023 P= .882

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.59	8	.569	.026	(-.044, .074)
Unequal	.59	7.87	.569	.026	(-.044, .074)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 8	5	2.4428	1.203	.538
LOCATION 9	5	2.7594	1.218	.545

Mean Difference = -.3166

Levene's Test for Equality of Variances: F= .041 P= .844

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.41	8	.690	.765	(-2.082, 1.449)
Unequal	-.41	8.00	.690	.765	(-2.082, 1.449)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 8	5	.2836	.075	.033
LOCATION 9	5	.2720	.048	.021

Mean Difference = .0116

Levene's Test for Equality of Variances: F= .779 P= .403

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.29	8	.777	.040	(-.080, .103)
Unequal	.29	6.80	.778	.040	(-.082, .105)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 8	5	.0000	.000	.000
LOCATION 9	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 1.450 P= .263

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.14	8	.286	.000	(.000, .000)
Unequal	-1.14	6.42	.293	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 8	4	.4548	.139	.070
LOCATION 9	5	.3274	.116	.052

Mean Difference = .1273

Levene's Test for Equality of Variances: F= .345 P= .575

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.50	7	.177	.085	(-.073, .328)
Unequal	1.47	5.89	.194	.087	(-.085, .340)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 8	5	2.6000	.894	.400
LOCATION 9	5	2.4000	.548	.245

Mean Difference = .2000

Levene's Test for Equality of Variances: F= 1.756 P= .222

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.43	8	.681	.469	(-.882, 1.282)
Unequal	.43	6.63	.683	.469	(-.909, 1.309)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 8	4	.4400	.133	.067
LOCATION 9	5	.3212	.123	.055

Mean Difference = .1188

Levene's Test for Equality of Variances: F= .127 P= .732

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.39	7	.208	.086	(-.084, .321)
Unequal	1.37	6.30	.217	.087	(-.093, .331)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 8	5	.3252	.086	.038
LOCATION 9	5	.3362	.078	.035

Mean Difference = -.0110

Levene's Test for Equality of Variances: F= .089 P= .773

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.21	8	.837	.052	(-.130, .108)
Unequal	-.21	7.92	.837	.052	(-.130, .108)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 8	5	630.0000	88.462	39.561
LOCATION 10	5	628.4000	87.572	39.163

Mean Difference = 1.6000

Levene's Test for Equality of Variances: F= .001 P= .975

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.03	8	.978	55.667	(-126.805, 130.005)
Unequal	.03	8.00	.978	55.667	(-126.805, 130.005)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 8	5	.0182	.013	.006
LOCATION 10	5	.0102	.008	.003

Mean Difference = .0080

Levene's Test for Equality of Variances: F= 2.978 P= .123

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	1.21	8	.262	.007	(-.007, .023)
Unequal	1.21	6.58	.269	.007	(-.008, .024)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 8	5	.0394	.038	.017
LOCATION 10	5	.0336	.042	.019

Mean Difference = .0058

Levene's Test for Equality of Variances: F= .242 P= .636

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.23	8	.824	.025	(-.052, .064)
Unequal	.23	7.91	.824	.025	(-.052, .064)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 8	5	2.4428	1.203	.538
LOCATION 10	5	2.2762	1.106	.495

Mean Difference = .1666

Levene's Test for Equality of Variances: F= .004 P= .949

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.23	8	.825	.731	(-1.519, 1.852)
Unequal	.23	7.94	.825	.731	(-1.519, 1.852)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 8	5	.2836	.075	.033
LOCATION 10	5	.3848	.179	.080

Mean Difference = -.1012

Levene's Test for Equality of Variances: F= 1.563 P= .247

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.17	8	.277	.087	(-.301, .099)
Unequal	-1.17	5.35	.293	.087	(-.324, .122)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 8	5	.0000	.000	.000
LOCATION 10	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .289 P= .606

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.57	8	.587	.000	(.000, .000)
Unequal	.57	7.52	.588	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 8	4	.4548	.139	.070
LOCATION 10	5	.3150	.030	.013

Mean Difference = .1397

Levene's Test for Equality of Variances: F= 18.346 P= .004

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.22	7	.062	.063	(-.009, .289)
Unequal	1.97	3.23	.137	.071	(-.086, .365)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 8	5	2.6000	.894	.400
LOCATION 10	5	2.2000	.447	.200

Mean Difference = .4000

Levene's Test for Equality of Variances: F= 3.571 P= .095

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.89	8	.397	.447	(-.632, 1.432)
Unequal	.89	5.88	.406	.447	(-.695, 1.495)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 8	4	.4400	.133	.067
LOCATION 10	5	.3078	.030	.013

Mean Difference = .1322

Levene's Test for Equality of Variances: F= 30.559 P= .001

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.19	7	.065	.060	(-.011, .275)
Unequal	1.95	3.24	.140	.068	(-.084, .349)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 8	5	.3252	.086	.038
LOCATION 10	5	.3970	.067	.030

Mean Difference = -.0718

Levene's Test for Equality of Variances: F= .240 P= .637

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.47	8	.179	.049	(-.184, .041)
Unequal	-1.47	7.57	.182	.049	(-.184, .041)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 8	5	630.0000	88.462	39.561
LOCATION 11	5	629.2000	88.112	39.405

Mean Difference = .8000

Levene's Test for Equality of Variances: F= .026 P= .876

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.01	8	.989	55.838	(-127.998, 129.598)
Unequal	.01	8.00	.989	55.838	(-127.998, 129.598)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 8	5	.0182	.013	.006
LOCATION 11	5	.0166	.017	.008

Mean Difference = .0016

Levene's Test for Equality of Variances: F= .693 P= .429

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.17	8	.872	.010	(-.021, .024)
Unequal	.17	7.32	.872	.010	(-.021, .024)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 8	5	.0394	.038	.017
LOCATION 11	5	.0246	.029	.013

Mean Difference = .0148

Levene's Test for Equality of Variances: F= .210 P= .659

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.69	8	.509	.021	(-.035, .064)
Unequal	.69	7.55	.510	.021	(-.035, .064)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 8	5	2.4428	1.203	.538
LOCATION 11	5	2.4386	.972	.435

Mean Difference = .0042

Levene's Test for Equality of Variances: F= .420 P= .535

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.01	8	.995	.691	(-1.591, 1.599)
Unequal	.01	7.66	.995	.691	(-1.591, 1.599)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 8	5	.2836	.075	.033
LOCATION 11	5	.3372	.047	.021

Mean Difference = -.0536

Levene's Test for Equality of Variances: F= .780 P= .403

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.36	8	.210	.039	(-.144, .037)
Unequal	-1.36	6.70	.217	.039	(-.147, .039)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 8	5	.0000	.000	.000
LOCATION 11	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .495 P= .502

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.35	8	.733	.000	(.000, .000)
Unequal	-.35	7.61	.733	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 8	4	.4548	.139	.070
LOCATION 11	5	.2392	.108	.049

Mean Difference = .2155

Levene's Test for Equality of Variances: F= .831 P= .392

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.62	7	.034	.082	(.021, .410)
Unequal	2.54	5.63	.047	.085	(.008, .423)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 8	5	2.6000	.894	.400
LOCATION 11	5	2.0000	.000	.000

Mean Difference = .6000

Levene's Test for Equality of Variances: F= 17.053 P= .003

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.50	8	.172	.400	(-.323, 1.523)
Unequal	1.50	4.00	.208	.400	(-.511, 1.711)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 8	4	.4400	.133	.067
LOCATION 11	5	.2256	.109	.049

Mean Difference = .2144

Levene's Test for Equality of Variances: F= .834 P= .392

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.67	7	.032	.080	(.024, .405)
Unequal	2.60	5.81	.042	.082	(.013, .416)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 8	5	.3252	.086	.038
LOCATION 11	5	.3962	.054	.024

Mean Difference = -.0710

Levene's Test for Equality of Variances: F= .767 P= .407

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.57	8	.156	.045	(-.176, .034)
Unequal	-1.57	6.73	.163	.045	(-.178, .036)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 8	5	630.0000	88.462	39.561
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 8	5	.0182	.013	.006
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 8	5	.0394	.038	.017
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 8	5	2.4428	1.203	.538
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 8	5	.2836	.075	.033
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 8	5	.0000	.000	.000
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 8	4	.4548	.139	.070
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 8	5	2.6000	.894	.400
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 8	4	.4400	.133	.067
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 8	5	.3252	.086	.038
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 8	5	630.0000	88.462	39.561
LOCATION 13	3	651.6667	77.294	44.626

Mean Difference = -21.6667

Levene's Test for Equality of Variances: F= .264 P= .626

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.35	6	.739	62.004	(-173.431, 130.098)
Unequal	-.36	4.87	.732	59.637	(-175.017, 131.684)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 8	5	.0182	.013	.006
LOCATION 13	3	.0173	.012	.007

Mean Difference = .0009

Levene's Test for Equality of Variances: F= .359 P= .571

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.10	6	.927	.009	(-.021, .023)
Unequal	.10	4.55	.927	.009	(-.022, .024)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 8	5	.0394	.038	.017
LOCATION 13	3	.0607	.058	.033

Mean Difference = -.0213

Levene's Test for Equality of Variances: F= .384 P= .558

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.64	6	.545	.033	(-.102, .060)
Unequal	-.57	3.06	.608	.037	(-.140, .097)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 8	5	2.4428	1.203	.538
LOCATION 13	3	1.9937	.458	.264

Mean Difference = .4491

Levene's Test for Equality of Variances: F= 2.893 P= .140

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.60	6	.567	.743	(-1.368, 2.267)
Unequal	.75	5.52	.484	.599	(-1.018, 1.916)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 8	5	.2836	.075	.033
LOCATION 13	3	.4073	.036	.021

Mean Difference = -.1237

Levene's Test for Equality of Variances: F= 1.284 P= .300

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.64	6	.039	.047	(-.239, -.009)
Unequal	-3.15	5.92	.020	.039	(-.220, -.028)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 8	5	.0000	.000	.000
LOCATION 13	3	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 1.673 P= .243

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.82	6	.030	.000	(.000, .000)
Unequal	-2.35	2.61	.114	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 8	4	.4548	.139	.070
LOCATION 13	3	.2600	.076	.044

Mean Difference = .1948

Levene's Test for Equality of Variances: F= 3.651 P= .114

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.16	5	.083	.090	(-.037, .427)
Unequal	2.36	4.74	.067	.082	(-.017, .407)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 8	5	2.6000	.894	.400
LOCATION 13	3	2.0000	.000	.000

Mean Difference = .6000

Levene's Test for Equality of Variances: F= 9.592 P= .021

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.13	6	.304	.533	(-.705, 1.905)
Unequal	1.50	4.00	.208	.400	(-.511, 1.711)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 8	4	.4400	.133	.067
LOCATION 13	3	.2443	.066	.038

Mean Difference = .1957

Levene's Test for Equality of Variances: F= 8.790 P= .031

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.30	5	.070	.085	(-.023, .414)
Unequal	2.55	4.54	.056	.077	(-.001, .393)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 8	5	.3252	.086	.038
LOCATION 13	3	.4673	.050	.029

Mean Difference = -.1421

Levene's Test for Equality of Variances: F= .472 P= .518

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.56	6	.043	.055	(-.278, -.006)
Unequal	-2.95	5.98	.026	.048	(-.260, -.024)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 8	5	630.0000	88.462	39.561
LOCATION 14	5	619.8000	71.876	32.144

Mean Difference = 10.2000

Levene's Test for Equality of Variances: F= .504 P= .498

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.20	8	.846	50.974	(-107.379, 127.779)
Unequal	.20	7.68	.847	50.974	(-107.379, 127.779)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 8	5	.0182	.013	.006
LOCATION 14	5	.0444	.030	.013

Mean Difference = -.0262

Levene's Test for Equality of Variances: F= 7.439 P= .026

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.82	8	.107	.014	(-.059, .007)
Unequal	-1.82	5.42	.124	.014	(-.063, .011)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 8	5	.0394	.038	.017
LOCATION 14	5	.0256	.010	.005

Mean Difference = .0138

Levene's Test for Equality of Variances: F= 4.723 P= .062

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.79	8	.454	.018	(-.027, .054)
Unequal	.79	4.61	.470	.018	(-.031, .059)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 8	5	2.4428	1.203	.538
LOCATION 14	5	2.4626	.964	.431

Mean Difference = -.0198

Levene's Test for Equality of Variances: F= .304 P= .596

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.03	8	.978	.689	(-1.609, 1.570)
Unequal	-.03	7.64	.978	.689	(-1.609, 1.570)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 8	5	.2836	.075	.033
LOCATION 14	5	.4210	.136	.061

Mean Difference = -.1374

Levene's Test for Equality of Variances: F= 1.696 P= .229

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.98	8	.083	.069	(-.298, .023)
Unequal	-1.98	6.20	.094	.069	(-.307, .033)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 8	5	.0000	.000	.000
LOCATION 14	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 1.180 P= .309

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	4.84	8	.001	.000	(.000, .000)
Unequal	4.84	6.57	.002	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 8	4	.4548	.139	.070
LOCATION 14	5	.5374	.219	.098

Mean Difference = -.0827

Levene's Test for Equality of Variances: F= .148 P= .712

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.65	7	.535	.127	(-.382, .217)
Unequal	-.69	6.76	.514	.120	(-.367, .201)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 8	5	2.6000	.894	.400
LOCATION 14	5	3.4000	.548	.245

Mean Difference = -.8000

Levene's Test for Equality of Variances: F= 1.756 P= .222

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.71	8	.126	.469	(-1.882, .282)
Unequal	-1.71	6.63	.134	.469	(-1.909, .309)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 8	4	.4400	.133	.067
LOCATION 14	5	.4940	.220	.098

Mean Difference = -.0540

Levene's Test for Equality of Variances: F= .196 P= .672

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.43	7	.681	.126	(-.352, .244)
Unequal	-.45	6.65	.664	.119	(-.335, .227)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 8	5	.3252	.086	.038
LOCATION 14	5	.4918	.090	.040

Mean Difference = -.1666

Levene's Test for Equality of Variances: F= .025 P= .879

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.99	8	.017	.056	(-.295, -.038)
Unequal	-2.99	7.98	.017	.056	(-.295, -.038)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 9	5	633.4000	104.620	46.787
LOCATION 10	5	628.4000	87.572	39.163

Mean Difference = 5.0000

Levene's Test for Equality of Variances: F= .504 P= .498

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.08	8	.937	61.015	(-135.740, 145.740)
Unequal	.08	7.76	.937	61.015	(-135.740, 145.740)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 9	5	.0102	.012	.005
LOCATION 10	5	.0102	.008	.003

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .369 P= .561

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.00	8	1.000	.006	(-.014, .014)
Unequal	.00	6.92	1.000	.006	(-.015, .015)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 9	5	.0242	.043	.019
LOCATION 10	5	.0336	.042	.019

Mean Difference = -.0094

Levene's Test for Equality of Variances: F= .068 P= .801

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.35	8	.735	.027	(-.071, .053)
Unequal	-.35	8.00	.735	.027	(-.071, .053)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 9	5	2.7594	1.218	.545
LOCATION 10	5	2.2762	1.106	.495

Mean Difference = .4832

Levene's Test for Equality of Variances: F= .029 P= .868

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.66	8	.530	.736	(-1.214, 2.180)
Unequal	.66	7.93	.530	.736	(-1.214, 2.180)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 9	5	.2720	.048	.021
LOCATION 10	5	.3848	.179	.080

Mean Difference = -.1128

Levene's Test for Equality of Variances: F= 2.788 P= .134

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.36	8	.211	.083	(-.304, .078)
Unequal	-1.36	4.56	.237	.083	(-.326, .100)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 9	5	.0000	.000	.000
LOCATION 10	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .467 P= .514

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.49	8	.175	.000	(.000, .000)
Unequal	1.49	7.42	.178	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 9	5	.3274	.116	.052
LOCATION 10	5	.3150	.030	.013

Mean Difference = .0124

Levene's Test for Equality of Variances: F= 18.009 P= .003

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.23	8	.823	.054	(-.111, .136)
Unequal	.23	4.54	.827	.054	(-.125, .150)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 9	5	2.4000	.548	.245
LOCATION 10	5	2.2000	.447	.200

Mean Difference = .2000

Levene's Test for Equality of Variances: F= 1.524 P= .252

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.63	8	.545	.316	(-.529, .929)
Unequal	.63	7.69	.545	.316	(-.529, .929)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 9	5	.3212	.123	.055
LOCATION 10	5	.3078	.030	.013

Mean Difference = .0134

Levene's Test for Equality of Variances: F= 15.626 P= .004

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.24	8	.819	.057	(-.118, .144)
Unequal	.24	4.47	.824	.057	(-.144, .171)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 9	5	.3362	.078	.035
LOCATION 10	5	.3970	.067	.030

Mean Difference = -.0608

Levene's Test for Equality of Variances: F= .027 P= .874

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.32	8	.223	.046	(-.167, .045)
Unequal	-1.32	7.84	.223	.046	(-.167, .045)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 9	5	633.4000	104.620	46.787
LOCATION 11	5	629.2000	88.112	39.405

Mean Difference = 4.2000

Levene's Test for Equality of Variances: F= .415 P= .537

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.07	8	.947	61.170	(-136.898, 145.298)
Unequal	.07	7.78	.947	61.170	(-136.898, 145.298)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 9	5	.0102	.012	.005
LOCATION 11	5	.0166	.017	.008

Mean Difference = -.0064

Levene's Test for Equality of Variances: F= 1.442 P= .264

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.68	8	.513	.009	(-.028, .015)
Unequal	-.68	6.98	.516	.009	(-.029, .016)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 9	5	.0242	.043	.019
LOCATION 11	5	.0246	.029	.013

Mean Difference = -.0004

Levene's Test for Equality of Variances: F= .310 P= .593

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.02	8	.987	.023	(-.054, .053)
Unequal	-.02	7.08	.987	.023	(-.055, .055)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 9	5	2.7594	1.218	.545
LOCATION 11	5	2.4386	.972	.435

Mean Difference = .3208

Levene's Test for Equality of Variances: F= .125 P= .733

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.46	8	.657	.697	(-1.287, 1.928)
Unequal	.46	7.62	.658	.697	(-1.287, 1.928)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 9	5	.2720	.048	.021
LOCATION 11	5	.3372	.047	.021

Mean Difference = -.0652

Levene's Test for Equality of Variances: F= .002 P= .968

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.19	8	.060	.030	(-.134, .003)
Unequal	-2.19	8.00	.060	.030	(-.134, .003)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 9	5	.0000	.000	.000
LOCATION 11	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 2.966 P= .123

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.96	8	.363	.000	(.000, .000)
Unequal	.96	5.62	.375	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 9	5	.3274	.116	.052
LOCATION 11	5	.2392	.108	.049

Mean Difference = .0882

Levene's Test for Equality of Variances: F= .287 P= .607

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.24	8	.249	.071	(-.076, .252)
Unequal	1.24	7.97	.249	.071	(-.076, .252)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 9	5	2.4000	.548	.245
LOCATION 11	5	2.0000	.000	.000

Mean Difference = .4000

Levene's Test for Equality of Variances: F= 96.000 P= .000

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.63	8	.141	.245	(-.165, .965)
Unequal	1.63	4.00	.178	.245	(-.280, 1.080)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 9	5	.3212	.123	.055
LOCATION 11	5	.2256	.109	.049

Mean Difference = .0956

Levene's Test for Equality of Variances: F= .281 P= .611

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.30	8	.230	.074	(-.074, .265)
Unequal	1.30	7.88	.230	.074	(-.074, .265)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 9	5	.3362	.078	.035
LOCATION 11	5	.3962	.054	.024

Mean Difference = -.0600

Levene's Test for Equality of Variances: F= .274 P= .615

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.42	8	.194	.042	(-.158, .038)
Unequal	-1.42	7.13	.198	.042	(-.160, .040)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 9	5	633.4000	104.620	46.787
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 9	5	.0102	.012	.005
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 9	5	.0242	.043	.019
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 9	5	2.7594	1.218	.545
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 9	5	.2720	.048	.021
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 9	5	.0000	.000	.000
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 9	5	.3274	.116	.052
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 9	5	2.4000	.548	.245
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 9	5	.3212	.123	.055
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 9	5	.3362	.078	.035
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 9	5	633.4000	104.620	46.787
LOCATION 13	3	651.6667	77.294	44.626

Mean Difference = -18.2667

Levene's Test for Equality of Variances: F= 1.430 P= .277

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.26	6	.804	70.383	(-190.540, 154.007)
Unequal	-.28	5.49	.788	64.657	(-184.526, 147.993)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 9	5	.0102	.012	.005
LOCATION 13	3	.0173	.012	.007

Mean Difference = -.0071

Levene's Test for Equality of Variances: F= .000 P= .985

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.83	6	.438	.009	(-.028, .014)
Unequal	-.82	4.21	.455	.009	(-.031, .017)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 9	5	.0242	.043	.019
LOCATION 13	3	.0607	.058	.033

Mean Difference = -.0365

Levene's Test for Equality of Variances: F= .191 P= .677

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.03	6	.341	.035	(-.123, .050)
Unequal	-.95	3.37	.405	.038	(-.159, .086)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 9	5	2.7594	1.218	.545
LOCATION 13	3	1.9937	.458	.264

Mean Difference = .7657

Levene's Test for Equality of Variances: F= 1.308 P= .296

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.02	6	.348	.752	(-1.074, 2.605)
Unequal	1.26	5.50	.257	.606	(-.791, 2.323)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 9	5	.2720	.048	.021
LOCATION 13	3	.4073	.036	.021

Mean Difference = -.1353

Levene's Test for Equality of Variances: F= .339 P= .582

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-4.21	6	.006	.032	(-.214, -.057)
Unequal	-4.56	5.43	.005	.030	(-.212, -.059)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 9	5	.0000	.000	.000
LOCATION 13	3	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .029 P= .869

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.43	6	.204	.000	(.000, .000)
Unequal	-1.36	3.79	.248	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 9	5	.3274	.116	.052
LOCATION 13	3	.2600	.076	.044

Mean Difference = .0674

Levene's Test for Equality of Variances: F= 2.725 P= .150

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.88	6	.411	.076	(-.119, .254)
Unequal	.99	5.81	.361	.068	(-.099, .234)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 9	5	2.4000	.548	.245
LOCATION 13	3	2.0000	.000	.000

Mean Difference = .4000

Levene's Test for Equality of Variances: F= 54.000 P= .000

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.22	6	.267	.327	(-.399, 1.199)
Unequal	1.63	4.00	.178	.245	(-.280, 1.080)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 9	5	.3212	.123	.055
LOCATION 13	3	.2443	.066	.038

Mean Difference = .0769

Levene's Test for Equality of Variances: F= 3.799 P= .099

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.98	6	.366	.079	(-.115, .269)
Unequal	1.15	6.00	.294	.067	(-.087, .241)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 9	5	.3362	.078	.035
LOCATION 13	3	.4673	.050	.029

Mean Difference = -.1311

Levene's Test for Equality of Variances: F= .140 P= .721

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.57	6	.042	.051	(-.256, -.006)
Unequal	-2.90	5.84	.028	.045	(-.242, -.020)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 9	5	633.4000	104.620	46.787
LOCATION 14	5	619.8000	71.876	32.144

Mean Difference = 13.6000

Levene's Test for Equality of Variances: F= 2.038 P= .191

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.24	8	.817	56.765	(-117.338, 144.538)
Unequal	.24	7.09	.817	56.765	(-120.668, 147.868)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 9	5	.0102	.012	.005
LOCATION 14	5	.0444	.030	.013

Mean Difference = -.0342

Levene's Test for Equality of Variances: F= 8.295 P= .021

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.40	8	.043	.014	(-.067, -.001)
Unequal	-2.40	5.20	.059	.014	(-.071, .002)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 9	5	.0242	.043	.019
LOCATION 14	5	.0256	.010	.005

Mean Difference = -.0014

Levene's Test for Equality of Variances: F= 3.708 P= .090

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.07	8	.945	.020	(-.047, .044)
Unequal	-.07	4.47	.947	.020	(-.056, .053)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 9	5	2.7594	1.218	.545
LOCATION 14	5	2.4626	.964	.431

Mean Difference = .2968

Levene's Test for Equality of Variances: F= .060 P= .813

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.43	8	.680	.695	(-1.305, 1.899)
Unequal	.43	7.60	.681	.695	(-1.305, 1.899)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 9	5	.2720	.048	.021
LOCATION 14	5	.4210	.136	.061

Mean Difference = -.1490

Levene's Test for Equality of Variances: F= 3.952 P= .082

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.31	8	.050	.065	(-.298, .000)
Unequal	-2.31	4.96	.070	.065	(-.315, .017)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 9	5	.0000	.000	.000
LOCATION 14	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 4.215 P= .074

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	4.34	8	.002	.000	(.000, .000)
Unequal	4.34	4.96	.008	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 9	5	.3274	.116	.052
LOCATION 14	5	.5374	.219	.098

Mean Difference = -.2100

Levene's Test for Equality of Variances: F= .448 P= .522

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.90	8	.094	.111	(-.465, .045)
Unequal	-1.90	6.08	.106	.111	(-.481, .061)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 9	5	2.4000	.548	.245
LOCATION 14	5	3.4000	.548	.245

Mean Difference = -1.0000

Levene's Test for Equality of Variances: F= .000 P= 1.000

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.89	8	.020	.346	(-1.799, -.201)
Unequal	-2.89	8.00	.020	.346	(-1.799, -.201)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 9	5	.3212	.123	.055
LOCATION 14	5	.4940	.220	.098

Mean Difference = -.1728

Levene's Test for Equality of Variances: F= .386 P= .552

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.53	8	.164	.113	(-.433, .087)
Unequal	-1.53	6.29	.174	.113	(-.449, .103)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 9	5	.3362	.078	.035
LOCATION 14	5	.4918	.090	.040

Mean Difference = -.1556

Levene's Test for Equality of Variances: F= .209 P= .660

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.92	8	.019	.053	(-.278, -.033)
Unequal	-2.92	7.83	.020	.053	(-.278, -.033)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 10	5	628.4000	87.572	39.163
LOCATION 11	5	629.2000	88.112	39.405

Mean Difference = -.8000

Levene's Test for Equality of Variances: F= .019 P= .895

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.01	8	.989	55.556	(-128.949, 127.349)
Unequal	-.01	8.00	.989	55.556	(-128.949, 127.349)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 10	5	.0102	.008	.003
LOCATION 11	5	.0166	.017	.008

Mean Difference = -.0064

Levene's Test for Equality of Variances: F= 4.206 P= .074

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.75	8	.473	.008	(-.026, .013)
Unequal	-.75	5.50	.482	.008	(-.028, .015)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 10	5	.0336	.042	.019
LOCATION 11	5	.0246	.029	.013

Mean Difference = .0090

Levene's Test for Equality of Variances: F= 1.252 P= .296

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.39	8	.705	.023	(-.044, .062)
Unequal	.39	7.16	.706	.023	(-.045, .063)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 10	5	2.2762	1.106	.495
LOCATION 11	5	2.4386	.972	.435

Mean Difference = -.1624

Levene's Test for Equality of Variances: F= .470 P= .512

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.25	8	.811	.658	(-1.681, 1.356)
Unequal	-.25	7.87	.811	.658	(-1.681, 1.356)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 10	5	.3848	.179	.080
LOCATION 11	5	.3372	.047	.021

Mean Difference = .0476

Levene's Test for Equality of Variances: F= 2.780 P= .134

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.58	8	.581	.083	(-.143, .239)
Unequal	.58	4.54	.593	.083	(-.165, .260)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 10	5	.0000	.000	.000
LOCATION 11	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 1.309 P= .286

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.91	8	.391	.000	(.000, .000)
Unequal	-.91	6.64	.396	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 10	5	.3150	.030	.013
LOCATION 11	5	.2392	.108	.049

Mean Difference = .0758

Levene's Test for Equality of Variances: F= 5.052 P= .055

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.51	8	.171	.050	(-.040, .192)
Unequal	1.51	4.61	.197	.050	(-.054, .205)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 10	5	2.2000	.447	.200
LOCATION 11	5	2.0000	.000	.000

Mean Difference = .2000

Levene's Test for Equality of Variances: F= 7.111 P= .029

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.00	8	.347	.200	(-.261, .661)
Unequal	1.00	4.00	.374	.200	(-.355, .755)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 10	5	.3078	.030	.013
LOCATION 11	5	.2256	.109	.049

Mean Difference = .0822

Levene's Test for Equality of Variances: F= 10.271 P= .013

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.63	8	.142	.050	(-.034, .198)
Unequal	1.63	4.60	.169	.050	(-.047, .212)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 10	5	.3970	.067	.030
LOCATION 11	5	.3962	.054	.024

Mean Difference = .0008

Levene's Test for Equality of Variances: F= .156 P= .703

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.02	8	.984	.039	(-.088, .090)
Unequal	.02	7.64	.984	.039	(-.088, .090)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 10	5	.3150	.030	.013
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 10	5	2.2000	.447	.200
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 10	5	.3078	.030	.013
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 10	5	628.4000	87.572	39.163
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 10	5	.0102	.008	.003
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 10	5	.0336	.042	.019
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 10	5	2.2762	1.106	.495
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 10	5	.3848	.179	.080
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 10	5	.0000	.000	.000
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 10	5	.3970	.067	.030
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 10	5	628.4000	87.572	39.163
LOCATION 13	3	651.6667	77.294	44.626

Mean Difference = -23.2667

Levene's Test for Equality of Variances: F= .348 P= .577

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.38	6	.718	61.553	(-173.927, 127.394)
Unequal	-.39	4.83	.712	59.373	(-175.940, 129.407)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 10	5	.0102	.008	.003
LOCATION 13	3	.0173	.012	.007

Mean Difference = -.0071

Levene's Test for Equality of Variances: F= .351 P= .575

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.05	6	.336	.007	(-.024, .010)
Unequal	-.92	3.01	.424	.008	(-.032, .017)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 10	5	.0336	.042	.019
LOCATION 13	3	.0607	.058	.033

Mean Difference = -.0271

Levene's Test for Equality of Variances: F= .099 P= .763

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.78	6	.467	.035	(-.112, .058)
Unequal	-.71	3.31	.525	.038	(-.149, .094)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 10	5	2.2762	1.106	.495
LOCATION 13	3	1.9937	.458	.264

Mean Difference = .2825

Levene's Test for Equality of Variances: F= 5.082 P= .065

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.41	6	.695	.687	(-1.400, 1.965)
Unequal	.50	5.68	.633	.561	(-1.090, 1.656)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 10	5	.3848	.179	.080
LOCATION 13	3	.4073	.036	.021

Mean Difference = -.0225

Levene's Test for Equality of Variances: F= 2.026 P= .204

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	-.21	6	.841	.108	(-.287, .242)
Unequal	-.27	4.51	.797	.083	(-.235, .190)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 10	5	.0000	.000	.000
LOCATION 13	3	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .618 P= .462

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	-2.91	6	.027	.000	(.000, .000)
Unequal	-2.57	3.02	.082	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 10	5	.3150	.030	.013
LOCATION 13	3	.2600	.076	.044

Mean Difference = .0550

Levene's Test for Equality of Variances: F= 5.881 P= .052

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.49	6	.186	.037	(-.035, .145)
Unequal	1.19	2.38	.338	.046	(-.143, .253)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 10	5	2.2000	.447	.200
LOCATION 13	3	2.0000	.000	.000

Mean Difference = .2000

Levene's Test for Equality of Variances: F= 4.000 P= .092

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.75	6	.482	.267	(-.453, .853)
Unequal	1.00	4.00	.374	.200	(-.355, .755)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 10	5	.3078	.030	.013
LOCATION 13	3	.2443	.066	.038

Mean Difference = .0635

Levene's Test for Equality of Variances: F= 3.619 P= .106

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.93	6	.102	.033	(-.017, .144)
Unequal	1.58	2.51	.229	.040	(-.064, .191)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 10	5	.3970	.067	.030
LOCATION 13	3	.4673	.050	.029

Mean Difference = -.0703

Levene's Test for Equality of Variances: F= .069 P= .801

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.55	6	.172	.045	(-.181, .041)
Unequal	-1.68	5.46	.148	.042	(-.178, .037)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 10	5	628.4000	87.572	39.163
LOCATION 14	5	619.8000	71.876	32.144

Mean Difference = 8.6000

Levene's Test for Equality of Variances: F= .609 P= .458

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.17	8	.869	50.666	(-108.268, 125.468)
Unequal	.17	7.71	.870	50.666	(-108.268, 125.468)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 10	5	.0102	.008	.003
LOCATION 14	5	.0444	.030	.013

Mean Difference = -.0342

Levene's Test for Equality of Variances: F= 13.829 P= .006

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.50	8	.037	.014	(-.066, -.003)
Unequal	-2.50	4.53	.060	.014	(-.069, .001)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 10	5	.0336	.042	.019
LOCATION 14	5	.0256	.010	.005

Mean Difference = .0080

Levene's Test for Equality of Variances: F= 10.753 P= .011

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.41	8	.690	.019	(-.037, .053)
Unequal	.41	4.49	.698	.019	(-.046, .062)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 10	5	2.2762	1.106	.495
LOCATION 14	5	2.4626	.964	.431

Mean Difference = -.1864

Levene's Test for Equality of Variances: F= .346 P= .573

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.28	8	.784	.656	(-1.700, 1.327)
Unequal	-.28	7.85	.784	.656	(-1.700, 1.327)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 10	5	.3848	.179	.080
LOCATION 14	5	.4210	.136	.061

Mean Difference = -.0362

Levene's Test for Equality of Variances: F= .106 P= .753

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.36	8	.728	.101	(-.268, .196)
Unequal	-.36	7.47	.729	.101	(-.274, .202)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 10	5	.0000	.000	.000
LOCATION 14	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 2.257 P= .171

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.31	8	.011	.000	(.000, .000)
Unequal	3.31	5.66	.018	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 10	5	.3150	.030	.013
LOCATION 14	5	.5374	.219	.098

Mean Difference = -.2224

Levene's Test for Equality of Variances: F= 3.397 P= .103

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.25	8	.054	.099	(-.450, .005)
Unequal	-2.25	4.15	.085	.099	(-.497, .052)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 10	5	2.2000	.447	.200
LOCATION 14	5	3.4000	.548	.245

Mean Difference = -1.2000

Levene's Test for Equality of Variances: F= 1.524 P= .252

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-3.79	8	.005	.316	(-1.929, -.471)
Unequal	-3.79	7.69	.006	.316	(-1.929, -.471)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 10	5	.3078	.030	.013
LOCATION 14	5	.4940	.220	.098

Mean Difference = -.1862

Levene's Test for Equality of Variances: F= 3.659 P= .092

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.88	8	.097	.099	(-.415, .043)
Unequal	-1.88	4.15	.131	.099	(-.462, .089)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 10	5	.3970	.067	.030
LOCATION 14	5	.4918	.090	.040

Mean Difference = -.0948

Levene's Test for Equality of Variances: F= .443 P= .524

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.89	8	.096	.050	(-.211, .021)
Unequal	-1.89	7.40	.099	.050	(-.214, .024)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 11	5	629.2000	88.112	39.405
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 11	5	.0166	.017	.008
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 11	5	.0246	.029	.013
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 11	5	2.4386	.972	.435
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 11	5	.3372	.047	.021
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 11	5	.0000	.000	.000
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 11	5	.2392	.108	.049
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 11	5	2.0000	.000	.000
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 11	5	.2256	.109	.049
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 11	5	.3962	.054	.024
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 11	5	629.2000	88.112	39.405
LOCATION 13	3	651.6667	77.294	44.626

Mean Difference = -22.4667

Levene's Test for Equality of Variances: F= .658 P= .448

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.36	6	.729	61.827	(-173.797, 128.863)
Unequal	-.38	4.86	.722	59.533	(-175.551, 130.617)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 11	5	.0166	.017	.008
LOCATION 13	3	.0173	.012	.007

Mean Difference = -.0007

Levene's Test for Equality of Variances: F= 1.120 P= .331

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.06	6	.951	.012	(-.029, .028)
Unequal	-.07	5.69	.946	.010	(-.026, .025)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 11	5	.0246	.029	.013
LOCATION 13	3	.0607	.058	.033

Mean Difference = -.0361

Levene's Test for Equality of Variances: F= 1.099 P= .335

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.20	6	.274	.030	(-.109, .037)
Unequal	-1.01	2.64	.396	.036	(-.150, .078)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 11	5	2.4386	.972	.435
LOCATION 13	3	1.9937	.458	.264

Mean Difference = .4449

Levene's Test for Equality of Variances: F= 1.141 P= .327

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.73	6	.494	.611	(-1.050, 1.940)
Unequal	.87	5.89	.416	.509	(-.800, 1.690)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 11	5	.3372	.047	.021
LOCATION 13	3	.4073	.036	.021

Mean Difference = -.0701

Levene's Test for Equality of Variances: F= .475 P= .516

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.22	6	.068	.032	(-.147, .007)
Unequal	-2.39	5.35	.059	.029	(-.146, .005)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 11	5	.0000	.000	.000
LOCATION 13	3	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 3.056 P= .131

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.80	6	.031	.000	(.000, .000)
Unequal	-2.24	2.38	.134	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 11	5	.2392	.108	.049
LOCATION 13	3	.2600	.076	.044

Mean Difference = -.0208

Levene's Test for Equality of Variances: F= .425 P= .539

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.29	6	.783	.072	(-.198, .156)
Unequal	-.32	5.65	.762	.066	(-.181, .140)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 11	5	2.0000	.000	.000
LOCATION 13	3	2.0000	.000	.000

>Warning # 11833. Command name: T-TEST
>The standard deviations of both groups are 0. This analysis cannot be
>performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 11	5	.2256	.109	.049
LOCATION 13	3	.2443	.066	.038

Mean Difference = -.0187

Levene's Test for Equality of Variances: F= 1.929 P= .214

t-tests for independent samples of LOCATION

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	-.27	6	.799	.070	(-.191, .154)
Unequal	-.30	5.95	.771	.062	(-.170, .132)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 11	5	.3962	.054	.024
LOCATION 13	3	.4673	.050	.029

Mean Difference = -.0711

Levene's Test for Equality of Variances: F= .016 P= .903

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	-1.85	6	.114	.039	(-.165, .023)
Unequal	-1.89	4.62	.123	.038	(-.168, .026)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 11	5	629.2000	88.112	39.405
LOCATION 14	5	619.8000	71.876	32.144

Mean Difference = 9.4000

Levene's Test for Equality of Variances: F= .950 P= .358

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.18	8	.858	50.853	(-107.899, 126.699)
Unequal	.18	7.69	.858	50.853	(-107.899, 126.699)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 11	5	.0166	.017	.008
LOCATION 14	5	.0444	.030	.013

Mean Difference = -.0278

Levene's Test for Equality of Variances: F= 3.361 P= .104

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.81	8	.108	.015	(-.063, .008)
Unequal	-1.81	6.46	.117	.015	(-.065, .010)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 11	5	.0246	.029	.013
LOCATION 14	5	.0256	.010	.005

Mean Difference = -.0010

Levene's Test for Equality of Variances: F= 5.930 P= .041

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.07	8	.945	.014	(-.033, .031)
Unequal	-.07	5.00	.946	.014	(-.037, .035)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 11	5	2.4386	.972	.435
LOCATION 14	5	2.4626	.964	.431

Mean Difference = -.0240

Levene's Test for Equality of Variances: F= .026 P= .876

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.04	8	.970	.612	(-1.436, 1.388)
Unequal	-.04	8.00	.970	.612	(-1.436, 1.388)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 11	5	.3372	.047	.021
LOCATION 14	5	.4210	.136	.061

Mean Difference = -.0838

Levene's Test for Equality of Variances: F= 3.988 P= .081

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.30	8	.229	.064	(-.232, .065)
Unequal	-1.30	4.92	.251	.064	(-.249, .082)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 11	5	.0000	.000	.000
LOCATION 14	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .065 P= .805

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	6.13	8	.000	.000	(.000, .000)
Unequal	6.13	7.46	.000	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 11	5	.2392	.108	.049
LOCATION 14	5	.5374	.219	.098

Mean Difference = -.2982

Levene's Test for Equality of Variances: F= .760 P= .409

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.73	8	.026	.109	(-.550, -.046)
Unequal	-2.73	5.86	.035	.109	(-.565, -.031)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 11	5	2.0000	.000	.000
LOCATION 14	5	3.4000	.548	.245

Mean Difference = -1.4000

Levene's Test for Equality of Variances: F= 96.000 P= .000

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-5.72	8	.000	.245	(-1.965, -.835)
Unequal	-5.72	4.00	.005	.245	(-2.080, -.720)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 11	5	.2256	.109	.049
LOCATION 14	5	.4940	.220	.098

Mean Difference = -.2684

Levene's Test for Equality of Variances: F= .692 P= .430

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.45	8	.040	.110	(-.521, -.016)
Unequal	-2.45	5.85	.051	.110	(-.537, .000)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 11	5	.3962	.054	.024
LOCATION 14	5	.4918	.090	.040

Mean Difference = -.0956

Levene's Test for Equality of Variances: F= 1.141 P= .317

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.04	8	.076	.047	(-.204, .013)
Unequal	-2.04	6.54	.084	.047	(-.207, .015)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 12	0	.	.	.
LOCATION 13	3	1.9937	.458	.264

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 12	0	.	.	.
LOCATION 13	3	.4073	.036	.021

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 12	0	.	.	.
LOCATION 13	3	.0000	.000	.000

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 12	0	.	.	.
LOCATION 13	3	.4673	.050	.029

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 12	0	.	.	.
LOCATION 14	5	2.4626	.964	.431

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 12	0	.	.	.
LOCATION 14	5	.4210	.136	.061

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 12	0	.	.	.
LOCATION 14	5	.0000	.000	.000

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 12	0	.	.	.
LOCATION 14	5	.4918	.090	.040

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 13	3	.0607	.058	.033
LOCATION 14	5	.0256	.010	.005

Mean Difference = .0351

Levene's Test for Equality of Variances: F= 5.438 P= .058

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.40	6	.211	.025	(-.026, .096)
Unequal	1.04	2.08	.402	.034	(-.109, .180)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 13	3	1.9937	.458	.264
LOCATION 14	5	2.4626	.964	.431

Mean Difference = -.4689

Levene's Test for Equality of Variances: F= 2.164 P= .192

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.77	6	.469	.606	(-1.953, 1.015)
Unequal	-.93	5.91	.390	.506	(-1.706, .769)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 13	3	.2600	.076	.044
LOCATION 14	5	.5374	.219	.098

Mean Difference = -.2774

Levene's Test for Equality of Variances: F= .924 P= .374

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.07	6	.084	.134	(-.606, .051)
Unequal	-2.59	5.35	.046	.107	(-.553, -.002)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 13	3	2.0000	.000	.000
LOCATION 14	5	3.4000	.548	.245

Mean Difference = -1.4000

Levene's Test for Equality of Variances: F= 54.000 P= .000

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-4.29	6	.005	.327	(-2.199, -.601)
Unequal	-5.72	4.00	.005	.245	(-2.080, -.720)

HIGH FLOW: T-TEST RESULTS FOR INDIVIDUAL SAMPLER COMBINATIONS

LEGEND:
LOCATION 1 = 6 INCH DEPTH SAMPLER FOR PAIR 1 AT WEBBERVILLE

LOCATION 2 = 12 INCH DEPTH SAMPLER FOR PAIR 1 AT WEBBERVILLE

LOCATION 3 = 6 INCH DEPTH SAMPLER FOR PAIR 2 AT WEBBERVILLE

LOCATION 4 = 12 INCH DEPTH SAMPLER FOR PAIR 2 AT WEBBERVILLE

LOCATION 5 = 6 INCH DEPTH SAMPLER FOR PAIR 3 AT WEBBERVILLE

LOCATION 6 = 12 INCH DEPTH SAMPLER FOR PAIR 3 AT WEBBERVILLE

LOCATION 7 = SURFACE WATER SAMPLE FOR WEBBERVILLE

LOCATION 8 = 6 INCH DEPTH SAMPLER FOR PAIR 1 AT SMITHVILLE

LOCATION 9 = 12 INCH DEPTH SAMPLER FOR PAIR 1 AT SMITHVILLE

LOCATION 10 = 6 INCH DEPTH SAMPLER FOR PAIR 2 AT SMITHVILLE

LOCATION 11 = 12 INCH DEPTH SAMPLER FOR PAIR 2 AT SMITHVILLE

LOCATION 12 = 6 INCH DEPTH SAMPLER FOR PAIR 3 AT SMITHVILLE

LOCATION 13 = 12 INCH DEPTH SAMPLER FOR PAIR 3 AT SMITHVILLE

LOCATION 14 = SURFACE WATER SAMPLE FOR SMITHVILLE

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 1	5	578.8000	43.448	19.430
LOCATION 2	5	575.6000	35.026	15.664

Mean Difference = 3.2000

Levene's Test for Equality of Variances: F= .829 P= .389

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.13	8	.901	24.958	(-54.369, 60.769)
Unequal	.13	7.66	.901	24.958	(-54.369, 60.769)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 1	5	.0546	.104	.046
LOCATION 2	5	.0690	.120	.053

Mean Difference = -.0144

Levene's Test for Equality of Variances: F= .056 P= .818

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.20	8	.844	.071	(-.178, .149)
Unequal	-.20	7.85	.844	.071	(-.178, .149)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 1	5	.0045	.001	.001
LOCATION 2	5	.0045	.001	.001

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .000 P= 1.000

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.00	8	1.000	.001	(-.002, .002)
Unequal	.00	8.00	1.000	.001	(-.002, .002)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 1	5	1.4110	.792	.354
LOCATION 2	5	1.1880	.634	.284

Mean Difference = .2230

Levene's Test for Equality of Variances: F= .105 P= .754

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.49	8	.636	.454	(-.824, 1.270)
Unequal	.49	7.64	.637	.454	(-.824, 1.270)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 1	5	.3108	.039	.017
LOCATION 2	5	.3432	.096	.043

Mean Difference = -.0324

Levene's Test for Equality of Variances: F= .903 P= .370

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.70	8	.505	.046	(-.139, .075)
Unequal	-.70	5.26	.515	.046	(-.152, .087)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 1	5	.0000	.000	.000
LOCATION 2	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .716 P= .422

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.17	8	.870	.000	(.000, .000)
Unequal	-.17	6.82	.871	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 1	5	.3064	.220	.098
LOCATION 2	5	.2076	.097	.043

Mean Difference = .0988

Levene's Test for Equality of Variances: F= 1.348 P= .279

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.92	8	.384	.107	(-.149, .346)
Unequal	.92	5.50	.396	.107	(-.164, .362)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 1	5	2.0000	.707	.316
LOCATION 2	5	1.8000	.837	.374

Mean Difference = .2000

Levene's Test for Equality of Variances: F= .590 P= .464

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.41	8	.694	.490	(-.930, 1.330)
Unequal	.41	7.78	.694	.490	(-.930, 1.330)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 1	5	.2524	.122	.054
LOCATION 2	5	.1512	.090	.040

Mean Difference = .1012

Levene's Test for Equality of Variances: F= .073 P= .794

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.50	8	.173	.068	(-.055, .257)
Unequal	1.50	7.38	.176	.068	(-.059, .261)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 1	5	.3330	.043	.019
LOCATION 2	5	.3500	.090	.040

Mean Difference = -.0170

Levene's Test for Equality of Variances: F= .753 P= .411

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.38	8	.713	.045	(-.120, .086)
Unequal	-.38	5.77	.716	.045	(-.126, .092)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 1	5	578.8000	43.448	19.430
LOCATION 3	5	583.0000	30.790	13.770

Mean Difference = -4.2000

Levene's Test for Equality of Variances: F= 1.510 P= .254

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.18	8	.864	23.815	(-59.132, 50.732)
Unequal	-.18	7.21	.865	23.815	(-60.529, 52.129)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 1	5	.0546	.104	.046
LOCATION 3	5	.0620	.127	.057

Mean Difference = -.0074

Levene's Test for Equality of Variances: F= .149 P= .710

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.10	8	.922	.074	(-.177, .162)
Unequal	-.10	7.68	.922	.074	(-.177, .162)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 1	5	.0045	.001	.001
LOCATION 3	5	.0148	.014	.006

Mean Difference = -.0103

Levene's Test for Equality of Variances: F= 20.870 P= .002

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.62	8	.144	.006	(-.025, .004)
Unequal	-1.62	4.05	.180	.006	(-.028, .007)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 1	5	1.4110	.792	.354
LOCATION 3	5	1.3570	1.091	.488

Mean Difference = .0540

Levene's Test for Equality of Variances: F= .169 P= .692

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.09	8	.931	.603	(-1.337, 1.445)
Unequal	.09	7.30	.931	.603	(-1.373, 1.481)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 1	5	.3108	.039	.017
LOCATION 3	5	.3006	.078	.035

Mean Difference = .0102

Levene's Test for Equality of Variances: F= 1.544 P= .249

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.26	8	.801	.039	(-.080, .100)
Unequal	.26	5.84	.803	.039	(-.086, .106)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 1	5	.0000	.000	.000
LOCATION 3	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .003 P= .958

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.78	8	.457	.000	(.000, .000)
Unequal	.78	7.99	.457	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 1	5	.3064	.220	.098
LOCATION 3	5	.2600	.131	.059

Mean Difference = .0464

Levene's Test for Equality of Variances: F= .536 P= .485

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.41	8	.696	.114	(-.217, .310)
Unequal	.41	6.53	.698	.114	(-.224, .317)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 1	5	2.0000	.707	.316
LOCATION 3	5	2.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 2.667 P= .141

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.00	8	1.000	.316	(-.729, .729)
Unequal	.00	4.00	1.000	.316	(-.878, .878)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 1	5	.2524	.122	.054
LOCATION 3	5	.2012	.088	.039

Mean Difference = .0512

Levene's Test for Equality of Variances: F= .245 P= .634

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.76	8	.467	.067	(-.104, .206)
Unequal	.76	7.29	.469	.067	(-.108, .210)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 1	5	.3330	.043	.019
LOCATION 3	5	.3196	.091	.041

Mean Difference = .0134

Levene's Test for Equality of Variances: F= 2.675 P= .141

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.30	8	.773	.045	(-.090, .117)
Unequal	.30	5.74	.776	.045	(-.097, .123)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 1	5	578.8000	43.448	19.430
LOCATION 4	3	610.0000	27.404	15.822

Mean Difference = -31.2000

Levene's Test for Equality of Variances: F= 2.265 P= .183

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.10	6	.314	28.367	(-100.633, 38.233)
Unequal	-1.25	5.89	.260	25.057	(-92.532, 30.132)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 1	5	.0546	.104	.046
LOCATION 4	3	.0157	.009	.005

Mean Difference = .0389

Levene's Test for Equality of Variances: F= 3.239 P= .122

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.63	6	.553	.062	(-.113, .191)
Unequal	.83	4.11	.450	.047	(-.091, .169)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 1	5	.0045	.001	.001
LOCATION 4	3	.0050	.000	.000

Mean Difference = -.0005

Levene's Test for Equality of Variances: F= 4.000 P= .092

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.75	6	.482	.001	(-.002, .001)
Unequal	-1.00	4.00	.374	.001	(-.002, .001)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 1	5	1.4110	.792	.354
LOCATION 4	3	1.8927	.754	.435

Mean Difference = -.4817

Levene's Test for Equality of Variances: F= .005 P= .945

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.85	6	.430	.569	(-1.875, .912)
Unequal	-.86	4.53	.434	.561	(-1.924, .961)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 1	5	.3108	.039	.017
LOCATION 4	3	.3357	.071	.041

Mean Difference = -.0249

Levene's Test for Equality of Variances: F= 1.708 P= .239

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.66	6	.534	.038	(-.117, .067)
Unequal	-.56	2.74	.617	.044	(-.166, .116)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 1	5	.0000	.000	.000
LOCATION 4	3	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .522 P= .497

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.07	6	.949	.000	(.000, .000)
Unequal	-.06	3.06	.956	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 1	5	.3064	.220	.098
LOCATION 4	3	.2097	.109	.063

Mean Difference = .0967

Levene's Test for Equality of Variances: F= .588 P= .472

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.70	6	.512	.139	(-.243, .437)
Unequal	.83	5.95	.439	.117	(-.189, .382)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 1	5	2.0000	.707	.316
LOCATION 4	3	2.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 1.500 P= .267

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.00	6	1.000	.422	(-1.032, 1.032)
Unequal	.00	4.00	1.000	.316	(-.878, .878)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 1	5	.2524	.122	.054
LOCATION 4	3	.2017	.104	.060

Mean Difference = .0507

Levene's Test for Equality of Variances: F= .014 P= .911

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.60	6	.571	.085	(-.156, .258)
Unequal	.63	4.97	.558	.081	(-.157, .259)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 1	5	.3330	.043	.019
LOCATION 4	3	.3520	.055	.032

Mean Difference = -.0190

Levene's Test for Equality of Variances: F= .365 P= .568

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.55	6	.604	.035	(-.104, .066)
Unequal	-.51	3.53	.640	.037	(-.122, .084)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 1	5	578.8000	43.448	19.430
LOCATION 5	2	550.5000	4.950	3.500

Mean Difference = 28.3000

Levene's Test for Equality of Variances: F= 7.780 P= .038

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.87	5	.425	32.566	(-55.441, 112.041)
Unequal	1.43	4.25	.221	19.743	(-26.535, 83.135)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 1	5	.0546	.104	.046
LOCATION 5	2	.1875	.258	.183

Mean Difference = -.1329

Levene's Test for Equality of Variances: F= 5.376 P= .068

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.07	5	.333	.124	(-.452, .186)
Unequal	-.71	1.13	.597	.188	(-2.526, 2.260)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 1	5	.0045	.001	.001
LOCATION 5	2	.0565	.071	.050

Mean Difference = -.0520

Levene's Test for Equality of Variances: F=9801.94 P= .000

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.95	5	.109	.027	(-.121, .017)
Unequal	-1.03	1.00	.491	.051	(-.694, .590)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 1	5	1.4110	.792	.354
LOCATION 5	2	.7570	.168	.119

Mean Difference = .6540

Levene's Test for Equality of Variances: F= 1.289 P= .308

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.10	5	.323	.596	(-.879, 2.187)
Unequal	1.75	4.71	.144	.374	(-.307, 1.615)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 1	5	.3108	.039	.017
LOCATION 5	2	.2160	.033	.023

Mean Difference = .0948

Levene's Test for Equality of Variances: F= .098 P= .767

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	3.02	5	.030	.031	(.014, .176)
Unequal	3.29	2.27	.068	.029	(-.029, .219)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 1	5	.0000	.000	.000
LOCATION 5	2	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 1.897 P= .227

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	1.59	5	.174	.000	(.000, .000)
Unequal	2.62	4.20	.056	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 1	5	.3064	.220	.098
LOCATION 5	2	.5900	.525	.371

Mean Difference = -.2836

Levene's Test for Equality of Variances: F= 4.329 P= .092

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.11	5	.318	.256	(-.942, .375)
Unequal	-.74	1.14	.582	.384	(-5.160, 4.593)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 1	5	2.0000	.707	.316
LOCATION 5	2	3.0000	1.414	1.000

Mean Difference = -1.0000

Levene's Test for Equality of Variances: F= 2.143 P= .203

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.34	5	.239	.748	(-2.924, .924)
Unequal	-.95	1.21	.492	1.049	(-14.326, 12.326)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 1	5	.2524	.122	.054
LOCATION 5	2	.4000	.269	.190

Mean Difference = -.1476

Levene's Test for Equality of Variances: F= 3.453 P= .122

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.09	5	.326	.136	(-.496, .201)
Unequal	-.75	1.17	.576	.198	(-2.659, 2.363)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 1	5	.3330	.043	.019
LOCATION 5	2	.1990	.013	.009

Mean Difference = .1340

Levene's Test for Equality of Variances: F= 1.040 P= .355

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	4.08	5	.010	.033	(.050, .218)
Unequal	6.26	4.98	.002	.021	(.079, .189)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 1	5	578.8000	43.448	19.430
LOCATION 6	3	551.6667	40.377	23.312

Mean Difference = 27.1333

Levene's Test for Equality of Variances: F= .309 P= .598

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.88	6	.415	31.000	(-48.745, 103.011)
Unequal	.89	4.63	.415	30.348	(-50.903, 105.170)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 1	5	.0546	.104	.046
LOCATION 6	3	.1000	.165	.095

Mean Difference = -.0454

Levene's Test for Equality of Variances: F= 1.435 P= .276

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.49	6	.643	.093	(-.273, .182)
Unequal	-.43	2.98	.697	.106	(-.382, .291)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 1	5	.0045	.001	.001
LOCATION 6	3	.0042	.001	.001

Mean Difference = .0003

Levene's Test for Equality of Variances: F= .481 P= .514

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	.37	6	.725	.001	(-.002, .003)
Unequal	.34	3.47	.751	.001	(-.003, .003)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 1	5	1.4110	.792	.354
LOCATION 6	3	1.2270	.483	.279

Mean Difference = .1840

Levene's Test for Equality of Variances: F= .413 P= .544

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	.36	6	.733	.514	(-1.075, 1.443)
Unequal	.41	5.93	.698	.451	(-.920, 1.288)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 1	5	.3108	.039	.017
LOCATION 6	3	.2217	.037	.022

Mean Difference = .0891

Levene's Test for Equality of Variances: F= .013 P= .911

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	3.19	6	.019	.028	(.021, .157)
Unequal	3.23	4.48	.027	.028	(.012, .166)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 1	5	.0000	.000	.000
LOCATION 6	3	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .735 P= .424

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	2.42	6	.052	.000	(.000, .000)
Unequal	2.87	5.98	.029	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 1	5	.3064	.220	.098
LOCATION 6	3	.2423	.191	.110

Mean Difference = .0641

Levene's Test for Equality of Variances: F= .007 P= .938

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.42	6	.691	.154	(-.312, .440)
Unequal	.43	4.90	.683	.148	(-.315, .444)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 1	5	2.0000	.707	.316
LOCATION 6	3	2.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 1.500 P= .267

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.00	6	1.000	.422	(-1.032, 1.032)
Unequal	.00	4.00	1.000	.316	(-.878, .878)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 1	5	.2524	.122	.054
LOCATION 6	3	.1463	.050	.029

Mean Difference = .1061

Levene's Test for Equality of Variances: F= 1.070 P= .341

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.41	6	.209	.075	(-.079, .291)
Unequal	1.72	5.67	.138	.062	(-.044, .257)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 1	5	.3330	.043	.019
LOCATION 6	3	.2293	.052	.030

Mean Difference = .1037

Levene's Test for Equality of Variances: F= .164 P= .699

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.06	6	.022	.034	(.021, .187)
Unequal	2.90	3.70	.048	.036	(.004, .203)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 1	5	578.8000	43.448	19.430
LOCATION 7	5	587.0000	37.888	16.944

Mean Difference = -8.2000

Levene's Test for Equality of Variances: F= .350 P= .571

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.32	8	.759	25.781	(-67.667, 51.267)
Unequal	-.32	7.85	.759	25.781	(-67.667, 51.267)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 1	5	.0546	.104	.046
LOCATION 7	5	.0766	.110	.049

Mean Difference = -.0220

Levene's Test for Equality of Variances: F= .006 P= .940

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.33	8	.753	.068	(-.178, .134)
Unequal	-.33	7.98	.753	.068	(-.178, .134)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 1	5	.0045	.001	.001
LOCATION 7	5	.0083	.007	.003

Mean Difference = -.0038

Levene's Test for Equality of Variances: F= 6.709 P= .032

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.27	8	.238	.003	(-.011, .003)
Unequal	-1.27	4.23	.268	.003	(-.012, .004)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 1	5	1.4110	.792	.354
LOCATION 7	5	1.3466	.779	.348

Mean Difference = .0644

Levene's Test for Equality of Variances: F= .000 P= .987

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.13	8	.900	.497	(-1.081, 1.210)
Unequal	.13	8.00	.900	.497	(-1.081, 1.210)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 1	5	.3108	.039	.017
LOCATION 7	5	.2390	.151	.068

Mean Difference = .0718

Levene's Test for Equality of Variances: F= 4.003 P= .080

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.03	8	.333	.070	(-.089, .233)
Unequal	1.03	4.52	.355	.070	(-.107, .251)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 1	5	.0000	.000	.000
LOCATION 7	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 3.778 P= .088

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	4.26	8	.003	.000	(.000, .000)
Unequal	4.26	4.35	.011	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 1	5	.3064	.220	.098
LOCATION 7	5	.3654	.077	.035

Mean Difference = -.0590

Levene's Test for Equality of Variances: F= 2.207 P= .176

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.57	8	.587	.104	(-.299, .181)
Unequal	-.57	4.98	.596	.104	(-.327, .209)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 1	5	2.0000	.707	.316
LOCATION 7	5	3.0000	.000	.000

Mean Difference = -1.0000

Levene's Test for Equality of Variances: F= 2.667 P= .141

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-3.16	8	.013	.316	(-1.729, -.271)
Unequal	-3.16	4.00	.034	.316	(-1.878, -.122)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 1	5	.2524	.122	.054
LOCATION 7	5	.2900	.046	.020

Mean Difference = -.0376

Levene's Test for Equality of Variances: F= 2.038 P= .191

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.65	8	.535	.058	(-.172, .096)
Unequal	-.65	5.11	.545	.058	(-.187, .112)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 1	5	.3330	.043	.019
LOCATION 7	5	.2762	.150	.067

Mean Difference = .0568

Levene's Test for Equality of Variances: F= 3.132 P= .115

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.81	8	.441	.070	(-.105, .218)
Unequal	.81	4.66	.457	.070	(-.123, .237)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 2	5	575.6000	35.026	15.664
LOCATION 3	5	583.0000	30.790	13.770

Mean Difference = -7.4000

Levene's Test for Equality of Variances: F= .002 P= .963

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.35	8	.732	20.856	(-55.507, 40.707)
Unequal	-.35	7.87	.732	20.856	(-55.507, 40.707)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 2	5	.0690	.120	.053
LOCATION 3	5	.0620	.127	.057

Mean Difference = .0070

Levene's Test for Equality of Variances: F= .021 P= .889

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.09	8	.931	.078	(-.173, .187)
Unequal	.09	7.97	.931	.078	(-.173, .187)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 2	5	.0045	.001	.001
LOCATION 3	5	.0148	.014	.006

Mean Difference = -.0103

Levene's Test for Equality of Variances: F= 20.870 P= .002

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.62	8	.144	.006	(-.025, .004)
Unequal	-1.62	4.05	.180	.006	(-.028, .007)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 2	5	1.1880	.634	.284
LOCATION 3	5	1.3570	1.091	.488

Mean Difference = -.1690

Levene's Test for Equality of Variances: F= .471 P= .512

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.30	8	.772	.565	(-1.471, 1.133)
Unequal	-.30	6.43	.774	.565	(-1.551, 1.213)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 2	5	.3432	.096	.043
LOCATION 3	5	.3006	.078	.035

Mean Difference = .0426

Levene's Test for Equality of Variances: F= .005 P= .945

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.77	8	.465	.056	(-.085, .171)
Unequal	.77	7.69	.466	.056	(-.085, .171)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 2	5	.0000	.000	.000
LOCATION 3	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .800 P= .397

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.76	8	.467	.000	(.000, .000)
Unequal	.76	6.71	.471	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 2	5	.2076	.097	.043
LOCATION 3	5	.2600	.131	.059

Mean Difference = -.0524

Levene's Test for Equality of Variances: F= .434 P= .529

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.72	8	.493	.073	(-.221, .116)
Unequal	-.72	7.36	.495	.073	(-.225, .120)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 2	5	1.8000	.837	.374
LOCATION 3	5	2.0000	.000	.000

Mean Difference = -.2000

Levene's Test for Equality of Variances: F= 10.894 P= .011

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.53	8	.608	.374	(-1.063, .663)
Unequal	-.53	4.00	.621	.374	(-1.239, .839)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 2	5	.1512	.090	.040
LOCATION 3	5	.2012	.088	.039

Mean Difference = -.0500

Levene's Test for Equality of Variances: F= .144 P= .714

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.89	8	.401	.056	(-.180, .080)
Unequal	-.89	8.00	.401	.056	(-.180, .080)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 2	5	.3500	.090	.040
LOCATION 3	5	.3196	.091	.041

Mean Difference = .0304

Levene's Test for Equality of Variances: F= .131 P= .727

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.53	8	.608	.057	(-.101, .162)
Unequal	.53	8.00	.608	.057	(-.101, .162)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 2	5	575.6000	35.026	15.664
LOCATION 4	3	610.0000	27.404	15.822

Mean Difference = -34.4000

Levene's Test for Equality of Variances: F= .191 P= .677

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.44	6	.200	23.869	(-92.822, 24.022)
Unequal	-1.55	5.30	.180	22.264	(-91.650, 22.850)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 2	5	.0690	.120	.053
LOCATION 4	3	.0157	.009	.005

Mean Difference = .0533

Levene's Test for Equality of Variances: F= 3.115 P= .128

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.75	6	.483	.071	(-.121, .228)
Unequal	.99	4.08	.376	.054	(-.096, .203)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 2	5	.0045	.001	.001
LOCATION 4	3	.0050	.000	.000

Mean Difference = -.0005

Levene's Test for Equality of Variances: F= 4.000 P= .092

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.75	6	.482	.001	(-.002, .001)
Unequal	-1.00	4.00	.374	.001	(-.002, .001)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 2	5	1.1880	.634	.284
LOCATION 4	3	1.8927	.754	.435

Mean Difference = -.7047

Levene's Test for Equality of Variances: F= .202 P= .669

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.43	6	.204	.494	(-1.914, .505)
Unequal	-1.36	3.73	.251	.519	(-2.147, .738)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 2	5	.3432	.096	.043
LOCATION 4	3	.3357	.071	.041

Mean Difference = .0075

Levene's Test for Equality of Variances: F= .027 P= .875

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.12	6	.911	.065	(-.151, .166)
Unequal	.13	5.52	.903	.059	(-.138, .153)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 2	5	.0000	.000	.000
LOCATION 4	3	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .008 P= .930

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.07	6	.945	.000	(.000, .000)
Unequal	.07	4.41	.946	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 2	5	.2076	.097	.043
LOCATION 4	3	.2097	.109	.063

Mean Difference = -.0021

Levene's Test for Equality of Variances: F= .128 P= .732

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.03	6	.979	.074	(-.183, .179)
Unequal	-.03	3.90	.980	.076	(-.214, .210)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 2	5	1.8000	.837	.374
LOCATION 4	3	2.0000	.000	.000

Mean Difference = -.2000

Levene's Test for Equality of Variances: F= 6.128 P= .048

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.40	6	.702	.499	(-1.421, 1.021)
Unequal	-.53	4.00	.621	.374	(-1.239, .839)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 2	5	.1512	.090	.040
LOCATION 4	3	.2017	.104	.060

Mean Difference = -.0505

Levene's Test for Equality of Variances: F= .033 P= .861

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.73	6	.494	.069	(-.220, .119)
Unequal	-.70	3.84	.525	.072	(-.251, .150)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 2	5	.3500	.090	.040
LOCATION 4	3	.3520	.055	.032

Mean Difference = -.0020

Levene's Test for Equality of Variances: F= .158 P= .704

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.03	6	.974	.058	(-.145, .141)
Unequal	-.04	5.93	.970	.051	(-.127, .123)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 2	5	575.6000	35.026	15.664
LOCATION 5	2	550.5000	4.950	3.500

Mean Difference = 25.1000

Levene's Test for Equality of Variances: F= 2.418 P= .181

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.96	5	.383	26.276	(-42.467, 92.667)
Unequal	1.56	4.37	.187	16.050	(-19.478, 69.678)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 2	5	.0690	.120	.053
LOCATION 5	2	.1875	.258	.183

Mean Difference = -.1185

Levene's Test for Equality of Variances: F= 3.189 P= .134

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.90	5	.409	.132	(-.457, .220)
Unequal	-.62	1.18	.632	.190	(-2.535, 2.298)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 2	5	.0045	.001	.001
LOCATION 5	2	.0565	.071	.050

Mean Difference = -.0520

Levene's Test for Equality of Variances: F=9801.94 P= .000

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.95	5	.109	.027	(-.121, .017)
Unequal	-1.03	1.00	.491	.051	(-.694, .590)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 2	5	1.1880	.634	.284
LOCATION 5	2	.7570	.168	.119

Mean Difference = .4310

Levene's Test for Equality of Variances: F= 1.414 P= .288

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.90	5	.409	.479	(-.801, 1.663)
Unequal	1.40	4.92	.221	.308	(-.360, 1.222)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 2	5	.3432	.096	.043
LOCATION 5	2	.2160	.033	.023

Mean Difference = .1272

Levene's Test for Equality of Variances: F= .486 P= .517

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.74	5	.142	.073	(-.061, .315)
Unequal	2.61	4.98	.048	.049	(.002, .253)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 2	5	.0000	.000	.000
LOCATION 5	2	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 2.341 P= .187

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.14	5	.306	.000	(.000, .000)
Unequal	1.90	4.08	.129	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 2	5	.2076	.097	.043
LOCATION 5	2	.5900	.525	.371

Mean Difference = -.3824

Levene's Test for Equality of Variances: F= 50.730 P= .001

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.83	5	.127	.209	(-.921, .156)
Unequal	-1.02	1.03	.489	.374	(-5.128, 4.364)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 2	5	1.8000	.837	.374
LOCATION 5	2	3.0000	1.414	1.000

Mean Difference = -1.2000

Levene's Test for Equality of Variances: F= 1.231 P= .318

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.46	5	.203	.820	(-3.308, .908)
Unequal	-1.12	1.29	.428	1.068	(-14.767, 12.367)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 2	5	.1512	.090	.040
LOCATION 5	2	.4000	.269	.190

Mean Difference = -.2488

Levene's Test for Equality of Variances: F= 22.430 P= .005

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.05	5	.095	.121	(-.560, .063)
Unequal	-1.28	1.09	.408	.194	(-2.717, 2.219)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 2	5	.3500	.090	.040
LOCATION 5	2	.1990	.013	.009

Mean Difference = .1510

Levene's Test for Equality of Variances: F= 1.016 P= .360

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.24	5	.075	.067	(-.022, .324)
Unequal	3.67	4.37	.018	.041	(.037, .265)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 2	5	575.6000	35.026	15.664
LOCATION 6	3	551.6667	40.377	23.312

Mean Difference = 23.9333

Levene's Test for Equality of Variances: F= .063 P= .810

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.89	6	.409	26.945	(-42.019, 89.885)
Unequal	.85	3.82	.444	28.086	(-54.073, 101.939)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 2	5	.0690	.120	.053
LOCATION 6	3	.1000	.165	.095

Mean Difference = -.0310

Levene's Test for Equality of Variances: F= .729 P= .426

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.31	6	.766	.099	(-.274, .212)
Unequal	-.28	3.30	.793	.109	(-.378, .316)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 2	5	.0045	.001	.001
LOCATION 6	3	.0042	.001	.001

Mean Difference = .0003

Levene's Test for Equality of Variances: F= .481 P= .514

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.37	6	.725	.001	(-.002, .003)
Unequal	.34	3.47	.751	.001	(-.003, .003)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 2	5	1.1880	.634	.284
LOCATION 6	3	1.2270	.483	.279

Mean Difference = -.0390

Levene's Test for Equality of Variances: F= .207 P= .665

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.09	6	.931	.430	(-1.091, 1.013)
Unequal	-.10	5.39	.925	.398	(-1.062, .984)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 2	5	.3432	.096	.043
LOCATION 6	3	.2217	.037	.022

Mean Difference = .1215

Levene's Test for Equality of Variances: F= .606 P= .466

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.04	6	.087	.060	(-.024, .267)
Unequal	2.53	5.56	.048	.048	(.004, .239)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 2	5	.0000	.000	.000
LOCATION 6	3	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 1.786 P= .230

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.76	6	.129	.000	(.000, .000)
Unequal	2.22	5.23	.075	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 2	5	.2076	.097	.043
LOCATION 6	3	.2423	.191	.110

Mean Difference = -.0347

Levene's Test for Equality of Variances: F= 2.364 P= .175

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.35	6	.738	.099	(-.277, .208)
Unequal	-.29	2.64	.791	.118	(-.411, .342)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 2	5	1.8000	.837	.374
LOCATION 6	3	2.0000	.000	.000

Mean Difference = -.2000

Levene's Test for Equality of Variances: F= 6.128 P= .048

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.40	6	.702	.499	(-1.421, 1.021)
Unequal	-.53	4.00	.621	.374	(-1.239, .839)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 2	5	.1512	.090	.040
LOCATION 6	3	.1463	.050	.029

Mean Difference = .0049

Levene's Test for Equality of Variances: F= 3.244 P= .122

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.08	6	.936	.058	(-.137, .146)
Unequal	.10	6.00	.925	.050	(-.117, .126)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 2	5	.3500	.090	.040
LOCATION 6	3	.2293	.052	.030

Mean Difference = .1207

Levene's Test for Equality of Variances: F= .237 P= .644

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.09	6	.082	.058	(-.021, .262)
Unequal	2.41	5.98	.053	.050	(-.002, .243)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 2	5	575.6000	35.026	15.664
LOCATION 7	5	587.0000	37.888	16.944

Mean Difference = -11.4000

Levene's Test for Equality of Variances: F= .112 P= .747

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.49	8	.635	23.075	(-64.626, 41.826)
Unequal	-.49	7.95	.635	23.075	(-64.626, 41.826)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 2	5	.0690	.120	.053
LOCATION 7	5	.0766	.110	.049

Mean Difference = -.0076

Levene's Test for Equality of Variances: F= .025 P= .878

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.10	8	.919	.073	(-.175, .160)
Unequal	-.10	7.94	.919	.073	(-.175, .160)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 2	5	.0045	.001	.001
LOCATION 7	5	.0083	.007	.003

Mean Difference = -.0038

Levene's Test for Equality of Variances: F= 6.709 P= .032

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.27	8	.238	.003	(-.011, .003)
Unequal	-1.27	4.23	.268	.003	(-.012, .004)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 2	5	1.1880	.634	.284
LOCATION 7	5	1.3466	.779	.348

Mean Difference = -.1586

Levene's Test for Equality of Variances: F= .096 P= .765

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.35	8	.733	.449	(-1.195, .877)
Unequal	-.35	7.69	.733	.449	(-1.195, .877)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 2	5	.3432	.096	.043
LOCATION 7	5	.2390	.151	.068

Mean Difference = .1042

Levene's Test for Equality of Variances: F= 1.000 P= .347

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.30	8	.229	.080	(-.080, .289)
Unequal	1.30	6.79	.235	.080	(-.085, .294)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 2	5	.0000	.000	.000
LOCATION 7	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 5.390 P= .049

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.97	8	.018	.000	(.000, .000)
Unequal	2.97	4.14	.039	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 2	5	.2076	.097	.043
LOCATION 7	5	.3654	.077	.035

Mean Difference = -.1578

Levene's Test for Equality of Variances: F= .384 P= .553

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.85	8	.022	.055	(-.286, -.030)
Unequal	-2.85	7.63	.023	.055	(-.286, -.030)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 2	5	1.8000	.837	.374
LOCATION 7	5	3.0000	.000	.000

Mean Difference = -1.2000

Levene's Test for Equality of Variances: F= 10.894 P= .011

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-3.21	8	.012	.374	(-2.063, -.337)
Unequal	-3.21	4.00	.033	.374	(-2.239, -.161)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 2	5	.1512	.090	.040
LOCATION 7	5	.2900	.046	.020

Mean Difference = -.1388

Levene's Test for Equality of Variances: F= 5.059 P= .055

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-3.07	8	.015	.045	(-.243, -.034)
Unequal	-3.07	5.93	.022	.045	(-.250, -.028)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 2	5	.3500	.090	.040
LOCATION 7	5	.2762	.150	.067

Mean Difference = .0738

Levene's Test for Equality of Variances: F= .975 P= .352

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.94	8	.374	.078	(-.107, .254)
Unequal	.94	6.53	.380	.078	(-.111, .259)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 3	5	583.0000	30.790	13.770
LOCATION 4	3	610.0000	27.404	15.822

Mean Difference = -27.0000

Levene's Test for Equality of Variances: F= .372 P= .564

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.24	6	.260	21.693	(-80.096, 26.096)
Unequal	-1.29	4.80	.257	20.975	(-80.934, 26.934)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 3	5	.0620	.127	.057
LOCATION 4	3	.0157	.009	.005

Mean Difference = .0463

Levene's Test for Equality of Variances: F= 3.397 P= .115

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.61	6	.565	.076	(-.140, .233)
Unequal	.81	4.07	.463	.057	(-.113, .205)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 3	5	.0148	.014	.006
LOCATION 4	3	.0050	.000	.000

Mean Difference = .0098

Levene's Test for Equality of Variances: F= 13.731 P= .010

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.16	6	.291	.008	(-.011, .031)
Unequal	1.54	4.00	.197	.006	(-.008, .027)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 3	5	1.3570	1.091	.488
LOCATION 4	3	1.8927	.754	.435

Mean Difference = -.5357

Levene's Test for Equality of Variances: F= .095 P= .768

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.74	6	.487	.724	(-2.308, 1.237)
Unequal	-.82	5.69	.446	.654	(-2.136, 1.065)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 3	5	.3006	.078	.035
LOCATION 4	3	.3357	.071	.041

Mean Difference = -.0351

Levene's Test for Equality of Variances: F= .022 P= .887

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.63	6	.550	.055	(-.171, .101)
Unequal	-.65	4.75	.544	.054	(-.173, .103)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 3	5	.0000	.000	.000
LOCATION 4	3	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .598 P= .469

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.63	6	.552	.000	(.000, .000)
Unequal	-.55	3.00	.618	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 3	5	.2600	.131	.059
LOCATION 4	3	.2097	.109	.063

Mean Difference = .0503

Levene's Test for Equality of Variances: F= .090 P= .775

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.55	6	.599	.091	(-.172, .272)
Unequal	.58	5.07	.584	.086	(-.171, .272)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 3	5	2.0000	.000	.000
LOCATION 4	3	2.0000	.000	.000

>Warning # 11833. Command name: T-TEST
>The standard deviations of both groups are 0. This analysis cannot be
>performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 3	5	.2012	.088	.039
LOCATION 4	3	.2017	.104	.060

Mean Difference = -.0005

Levene's Test for Equality of Variances: F= .194 P= .675

t-tests for independent samples of LOCATION

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.01	6	.995	.068	(-.168, .167)
Unequal	-.01	3.76	.995	.072	(-.199, .199)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 3	5	.3196	.091	.041
LOCATION 4	3	.3520	.055	.032

Mean Difference = -.0324

Levene's Test for Equality of Variances: F= .933 P= .371

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.55	6	.601	.059	(-.176, .111)
Unequal	-.63	5.94	.552	.051	(-.158, .094)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 3	5	583.0000	30.790	13.770
LOCATION 5	2	550.5000	4.950	3.500

Mean Difference = 32.5000

Levene's Test for Equality of Variances: F= 6.771 P= .048

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.41	5	.219	23.115	(-26.939, 91.939)
Unequal	2.29	4.46	.077	14.207	(-6.960, 71.960)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 3	5	.0620	.127	.057
LOCATION 5	2	.1875	.258	.183

Mean Difference = -.1255

Levene's Test for Equality of Variances: F= 2.545 P= .172

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.92	5	.398	.136	(-.475, .224)
Unequal	-.66	1.20	.615	.191	(-2.555, 2.304)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 3	5	.0148	.014	.006
LOCATION 5	2	.0565	.071	.050

Mean Difference = -.0417

Levene's Test for Equality of Variances: F= 94.605 P= .000

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.45	5	.207	.029	(-.116, .032)
Unequal	-.82	1.03	.560	.051	(-.688, .605)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 3	5	1.3570	1.091	.488
LOCATION 5	2	.7570	.168	.119

Mean Difference = .6000

Levene's Test for Equality of Variances: F= 1.129 P= .337

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.73	5	.497	.819	(-1.507, 2.707)
Unequal	1.19	4.43	.292	.502	(-.795, 1.995)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 3	5	.3006	.078	.035
LOCATION 5	2	.2160	.033	.023

Mean Difference = .0846

Levene's Test for Equality of Variances: F= .956 P= .373

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	1.41	5	.217	.060	(-.069, .239)
Unequal	2.02	4.70	.103	.042	(-.023, .192)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 3	5	.0000	.000	.000
LOCATION 5	2	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 1.848 P= .232

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.96	5	.381	.000	(.000, .000)
Unequal	1.59	4.21	.184	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 3	5	.2600	.131	.059
LOCATION 5	2	.5900	.525	.371

Mean Difference = -.3300

Levene's Test for Equality of Variances: F= 25.200 P= .004

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.50	5	.193	.219	(-.894, .234)
Unequal	-.88	1.05	.535	.376	(-5.103, 4.443)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 3	5	2.0000	.000	.000
LOCATION 5	2	3.0000	1.414	1.000

Mean Difference = -1.0000

Levene's Test for Equality of Variances: F= . P= .

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.89	5	.117	.529	(-2.361, .361)
Unequal	-1.00	1.00	.500	1.000	(-13.706, 11.706)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 3	5	.2012	.088	.039
LOCATION 5	2	.4000	.269	.190

Mean Difference = -.1988

Levene's Test for Equality of Variances: F= 11.464 P= .020

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.65	5	.159	.120	(-.508, .110)
Unequal	-1.02	1.09	.481	.194	(-2.664, 2.267)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 3	5	.3196	.091	.041
LOCATION 5	2	.1990	.013	.009

Mean Difference = .1206

Levene's Test for Equality of Variances: F= 3.026 P= .142

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.78	5	.136	.068	(-.054, .295)
Unequal	2.91	4.36	.039	.041	(.005, .236)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 3	5	583.0000	30.790	13.770
LOCATION 6	3	551.6667	40.377	23.312

Mean Difference = 31.3333

Levene's Test for Equality of Variances: F= .152 P= .710

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.25	6	.257	25.038	(-29.951, 92.618)
Unequal	1.16	3.43	.321	27.075	(-54.831, 117.497)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 3	5	.0620	.127	.057
LOCATION 6	3	.1000	.165	.095

Mean Difference = -.0380

Levene's Test for Equality of Variances: F= .481 P= .514

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.37	6	.725	.103	(-.290, .214)
Unequal	-.34	3.47	.751	.111	(-.391, .315)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 3	5	.0148	.014	.006
LOCATION 6	3	.0042	.001	.001

Mean Difference = .0106

Levene's Test for Equality of Variances: F= 11.213 P= .015

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	1.25	6	.257	.008	(-.010, .031)
Unequal	1.66	4.14	.169	.006	(-.007, .028)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 3	5	1.3570	1.091	.488
LOCATION 6	3	1.2270	.483	.279

Mean Difference = .1300

Levene's Test for Equality of Variances: F= .654 P= .449

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.19	6	.855	.682	(-1.539, 1.799)
Unequal	.23	5.80	.825	.562	(-1.246, 1.506)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 3	5	.3006	.078	.035
LOCATION 6	3	.2217	.037	.022

Mean Difference = .0789

Levene's Test for Equality of Variances: F= 1.123 P= .330

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.60	6	.161	.049	(-.042, .200)
Unequal	1.92	5.91	.104	.041	(-.022, .180)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 3	5	.0000	.000	.000
LOCATION 6	3	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .668 P= .445

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.69	6	.141	.000	(.000, .000)
Unequal	2.00	5.99	.093	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 3	5	.2600	.131	.059
LOCATION 6	3	.2423	.191	.110

Mean Difference = .0177

Levene's Test for Equality of Variances: F= .683 P= .440

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.16	6	.880	.112	(-.257, .292)
Unequal	.14	3.17	.896	.125	(-.380, .415)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 3	5	2.0000	.000	.000
LOCATION 6	3	2.0000	.000	.000

>Warning # 11833. Command name: T-TEST
>The standard deviations of both groups are 0. This analysis cannot be
>performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 3	5	.2012	.088	.039
LOCATION 6	3	.1463	.050	.029

Mean Difference = .0549

Levene's Test for Equality of Variances: F= .806 P= .404

t-tests for independent samples of LOCATION

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.97	6	.370	.057	(-.084, .193)
Unequal	1.12	5.99	.304	.049	(-.065, .174)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 3	5	.3196	.091	.041
LOCATION 6	3	.2293	.052	.030

Mean Difference = .0903

Levene's Test for Equality of Variances: F= 1.161 P= .323

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.55	6	.172	.058	(-.052, .233)
Unequal	1.79	5.99	.124	.050	(-.033, .214)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 3	5	583.0000	30.790	13.770
LOCATION 7	5	587.0000	37.888	16.944

Mean Difference = -4.0000

Levene's Test for Equality of Variances: F= .220 P= .651

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.18	8	.859	21.833	(-54.362, 46.362)
Unequal	-.18	7.68	.859	21.833	(-54.362, 46.362)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 3	5	.0620	.127	.057
LOCATION 7	5	.0766	.110	.049

Mean Difference = -.0146

Levene's Test for Equality of Variances: F= .092 P= .769

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.19	8	.851	.075	(-.188, .159)
Unequal	-.19	7.83	.851	.075	(-.188, .159)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 3	5	.0148	.014	.006
LOCATION 7	5	.0083	.007	.003

Mean Difference = .0065

Levene's Test for Equality of Variances: F= 5.670 P= .044

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.93	8	.380	.007	(-.010, .023)
Unequal	.93	5.64	.391	.007	(-.011, .024)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 3	5	1.3570	1.091	.488
LOCATION 7	5	1.3466	.779	.348

Mean Difference = .0104

Levene's Test for Equality of Variances: F= .184 P= .680

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.02	8	.987	.600	(-1.373, 1.393)
Unequal	.02	7.23	.987	.600	(-1.408, 1.429)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 3	5	.3006	.078	.035
LOCATION 7	5	.2390	.151	.068

Mean Difference = .0616

Levene's Test for Equality of Variances: F= 1.413 P= .269

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.81	8	.441	.076	(-.114, .237)
Unequal	.81	6.01	.449	.076	(-.125, .248)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 3	5	.0000	.000	.000
LOCATION 7	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 3.634 P= .093

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.27	8	.011	.000	(.000, .000)
Unequal	3.27	4.36	.027	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 3	5	.2600	.131	.059
LOCATION 7	5	.3654	.077	.035

Mean Difference = -.1054

Levene's Test for Equality of Variances: F= 1.440 P= .264

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.55	8	.160	.068	(-.262, .052)
Unequal	-1.55	6.48	.169	.068	(-.272, .061)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 3	5	2.0000	.000	.000
LOCATION 7	5	3.0000	.000	.000

>Warning # 11833. Command name: T-TEST
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>performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 3	5	.2012	.088	.039
LOCATION 7	5	.2900	.046	.020

Mean Difference = -.0888

Levene's Test for Equality of Variances: F= 1.557 P= .247

t-tests for independent samples of LOCATION

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.00	8	.080	.044	(-.191, .014)
Unequal	-2.00	6.01	.092	.044	(-.197, .020)

t-test for Equality of Means

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 3	5	.3196	.091	.041
LOCATION 7	5	.2762	.150	.067

Mean Difference = .0434

Levene's Test for Equality of Variances: F= .631 P= .450

t-test for Equality of Means

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.55	8	.596	.079	(-.138, .225)
Unequal	.55	6.56	.599	.079	(-.142, .229)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 4	3	610.0000	27.404	15.822
LOCATION 5	2	550.5000	4.950	3.500

Mean Difference = 59.5000

Levene's Test for Equality of Variances: F= 4.808 P= .116

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.89	3	.063	20.592	(-6.033, 125.033)
Unequal	3.67	2.19	.058	16.204	(-10.222, 129.222)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 4	3	.0157	.009	.005
LOCATION 5	2	.1875	.258	.183

Mean Difference = -.1718

Levene's Test for Equality of Variances: F=5282.68 P= .000

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.26	3	.296	.136	(-.605, .262)
Unequal	-.94	1.00	.519	.183	(-2.492, 2.148)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 4	3	.0050	.000	.000
LOCATION 5	2	.0565	.071	.050

Mean Difference = -.0515

Levene's Test for Equality of Variances: F= . P= .

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	-1.37	3	.265	.038	(-.171, .068)
Unequal	-1.02	1.00	.494	.050	(-.693, .590)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 4	3	1.8927	.754	.435
LOCATION 5	2	.7570	.168	.119

Mean Difference = 1.1357

Levene's Test for Equality of Variances: F= 4.565 P= .122

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	2.00	3	.140	.569	(-.674, 2.946)
Unequal	2.52	2.28	.113	.451	(-.805, 3.077)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 4	3	.3357	.071	.041
LOCATION 5	2	.2160	.033	.023

Mean Difference = .1197

Levene's Test for Equality of Variances: F= 1.724 P= .281

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.16	3	.119	.055	(-.056, .296)
Unequal	2.56	2.89	.087	.047	(-.029, .269)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 4	3	.0000	.000	.000
LOCATION 5	2	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 2.779 P= .194

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.09	3	.355	.000	(.000, .000)
Unequal	1.41	2.03	.293	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 4	3	.2097	.109	.063
LOCATION 5	2	.5900	.525	.371

Mean Difference = -.3803

Levene's Test for Equality of Variances: F=106.964 P= .002

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.32	3	.279	.288	(-1.298, .537)
Unequal	-1.01	1.06	.489	.376	(-5.162, 4.401)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 4	3	2.0000	.000	.000
LOCATION 5	2	3.0000	1.414	1.000

Mean Difference = -1.0000

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.34	3	.272	.745	(-3.372, 1.372)
Unequal	-1.00	1.00	.500	1.000	(-13.706, 11.706)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 4	3	.2017	.104	.060
LOCATION 5	2	.4000	.269	.190

Mean Difference = -.1983

Levene's Test for Equality of Variances: F= 18.230 P= .024

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.23	3	.307	.161	(-.712, .315)
Unequal	-1.00	1.20	.478	.199	(-2.729, 2.333)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 4	3	.3520	.055	.032
LOCATION 5	2	.1990	.013	.009

Mean Difference = .1530

Levene's Test for Equality of Variances: F= 4.053 P= .138

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.68	3	.035	.042	(.021, .285)
Unequal	4.63	2.30	.033	.033	(.011, .295)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 4	3	610.0000	27.404	15.822
LOCATION 6	3	551.6667	40.377	23.312

Mean Difference = 58.3333

Levene's Test for Equality of Variances: F= .551 P= .499

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.07	4	.107	28.174	(-19.918, 136.585)
Unequal	2.07	3.52	.117	28.174	(-19.918, 136.585)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 4	3	.0157	.009	.005
LOCATION 6	3	.1000	.165	.095

Mean Difference = -.0843

Levene's Test for Equality of Variances: F= 14.204 P= .020

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.89	4	.426	.095	(-.349, .180)
Unequal	-.89	2.01	.468	.095	(-.494, .325)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 4	3	.0050	.000	.000
LOCATION 6	3	.0042	.001	.001

Mean Difference = .0008

Levene's Test for Equality of Variances: F= 16.000 P= .016

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.00	4	.374	.001	(-.001, .003)
Unequal	1.00	2.00	.423	.001	(-.003, .004)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 4	3	1.8927	.754	.435
LOCATION 6	3	1.2270	.483	.279

Mean Difference = .6657

Levene's Test for Equality of Variances: F= 1.126 P= .348

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.29	4	.267	.517	(-.770, 2.101)
Unequal	1.29	3.41	.278	.517	(-.980, 2.311)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 4	3	.3357	.071	.041
LOCATION 6	3	.2217	.037	.022

Mean Difference = .1140

Levene's Test for Equality of Variances: F= 1.617 P= .272

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.47	4	.069	.046	(-.014, .242)
Unequal	2.47	3.04	.089	.046	(-.033, .261)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 4	3	.0000	.000	.000
LOCATION 6	3	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 2.054 P= .225

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.71	4	.162	.000	(.000, .000)
Unequal	1.71	2.44	.206	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 4	3	.2097	.109	.063
LOCATION 6	3	.2423	.191	.110

Mean Difference = -.0327

Levene's Test for Equality of Variances: F= 1.404 P= .302

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.26	4	.810	.127	(-.385, .320)
Unequal	-.26	3.18	.813	.127	(-.437, .371)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 4	3	2.0000	.000	.000
LOCATION 6	3	2.0000	.000	.000

>Warning # 11833. Command name: T-TEST
>The standard deviations of both groups are 0. This analysis cannot be
>performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 4	3	.2017	.104	.060
LOCATION 6	3	.1463	.050	.029

Mean Difference = .0553

Levene's Test for Equality of Variances: F= 3.457 P= .137

t-tests for independent samples of LOCATION

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	.83	4	.452	.066	(-.129, .240)
Unequal	.83	2.88	.468	.066	(-.156, .267)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 4	3	.3520	.055	.032
LOCATION 6	3	.2293	.052	.030

Mean Difference = .1227

Levene's Test for Equality of Variances: F= .037 P= .857

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	2.81	4	.048	.044	(.001, .244)
Unequal	2.81	3.99	.049	.044	(.001, .244)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 4	3	610.0000	27.404	15.822
LOCATION 7	5	587.0000	37.888	16.944

Mean Difference = 23.0000

Levene's Test for Equality of Variances: F= .670 P= .444

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.91	6	.400	25.375	(-39.110, 85.110)
Unequal	.99	5.56	.362	23.183	(-33.743, 79.743)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 4	3	.0157	.009	.005
LOCATION 7	5	.0766	.110	.049

Mean Difference = -.0609

Levene's Test for Equality of Variances: F= 3.043 P= .132

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.93	6	.388	.066	(-.221, .099)
Unequal	-1.23	4.10	.283	.049	(-.198, .076)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 4	3	.0050	.000	.000
LOCATION 7	5	.0083	.007	.003

Mean Difference = -.0033

Levene's Test for Equality of Variances: F= 5.558 P= .056

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	-.84	6	.432	.004	(-.013, .006)
Unequal	-1.12	4.00	.324	.003	(-.011, .005)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 4	3	1.8927	.754	.435
LOCATION 7	5	1.3466	.779	.348

Mean Difference = .5461

Levene's Test for Equality of Variances: F= .008 P= .930

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	.97	6	.369	.563	(-.831, 1.923)
Unequal	.98	4.47	.377	.557	(-1.002, 2.094)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 4	3	.3357	.071	.041
LOCATION 7	5	.2390	.151	.068

Mean Difference = .0967

Levene's Test for Equality of Variances: F= 1.127 P= .329

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.02	6	.347	.095	(-.135, .329)
Unequal	1.23	5.88	.267	.079	(-.096, .290)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 4	3	.0000	.000	.000
LOCATION 7	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 6.935 P= .039

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.05	6	.023	.000	(.000, .000)
Unequal	2.26	2.04	.150	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 4	3	.2097	.109	.063
LOCATION 7	5	.3654	.077	.035

Mean Difference = -.1557

Levene's Test for Equality of Variances: F= .933 P= .371

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.39	6	.054	.065	(-.315, .004)
Unequal	-2.17	3.24	.112	.072	(-.385, .073)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 4	3	2.0000	.000	.000
LOCATION 7	5	3.0000	.000	.000

>Warning # 11833. Command name: T-TEST
>The standard deviations of both groups are 0. This analysis cannot be
>performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 4	3	.2017	.104	.060
LOCATION 7	5	.2900	.046	.020

Mean Difference = -.0883

Levene's Test for Equality of Variances: F= 4.824 P= .070

t-tests for independent samples of LOCATION

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	-1.71	6	.137	.052	(-.214, .038)
Unequal	-1.40	2.48	.275	.063	(-.360, .184)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 4	3	.3520	.055	.032
LOCATION 7	5	.2762	.150	.067

Mean Difference = .0758

Levene's Test for Equality of Variances: F= 1.353 P= .289

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	.82	6	.445	.093	(-.151, .303)
Unequal	1.02	5.44	.351	.074	(-.116, .267)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 5	2	550.5000	4.950	3.500
LOCATION 6	3	551.6667	40.377	23.312

Mean Difference = -1.1667

Levene's Test for Equality of Variances: F= 3.818 P= .146

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.04	3	.972	30.208	(-97.303, 94.970)
Unequal	-.05	2.09	.965	23.573	(-102.594, 100.261)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 5	2	.1875	.258	.183
LOCATION 6	3	.1000	.165	.095

Mean Difference = .0875

Levene's Test for Equality of Variances: F= 1.865 P= .265

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.48	3	.665	.183	(-.495, .670)
Unequal	.43	1.56	.722	.206	(-.798, .973)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 5	2	.0565	.071	.050
LOCATION 6	3	.0042	.001	.001

Mean Difference = .0523

Levene's Test for Equality of Variances: F=18967.7 P= .000

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	1.39	3	.259	.038	(-.068, .172)
Unequal	1.04	1.00	.489	.051	(-.589, .694)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 5	2	.7570	.168	.119
LOCATION 6	3	1.2270	.483	.279

Mean Difference = -.4700

Levene's Test for Equality of Variances: F= 1.592 P= .296

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.27	3	.295	.371	(-1.651, .711)
Unequal	-1.55	2.62	.232	.303	(-1.436, .496)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 5	2	.2160	.033	.023
LOCATION 6	3	.2217	.037	.022

Mean Difference = -.0057

Levene's Test for Equality of Variances: F= .063 P= .819

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.17	3	.873	.033	(-.110, .098)
Unequal	-.18	2.54	.871	.032	(-.106, .095)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 5	2	.0000	.000	.000
LOCATION 6	3	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 4.261 P= .131

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.91	3	.431	.000	(.000, .000)
Unequal	1.15	2.23	.359	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 5	2	.5900	.525	.371
LOCATION 6	3	.2423	.191	.110

Mean Difference = .3477

Levene's Test for Equality of Variances: F= 15.759 P= .029

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.12	3	.345	.311	(-.642, 1.337)
Unequal	.90	1.18	.515	.387	(-4.570, 5.265)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 5	2	3.0000	1.414	1.000
LOCATION 6	3	2.0000	.000	.000

Mean Difference = 1.0000

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.34	3	.272	.745	(-1.372, 3.372)
Unequal	1.00	1.00	.500	1.000	(-11.706, 13.706)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 5	2	.4000	.269	.190
LOCATION 6	3	.1463	.050	.029

Mean Difference = .2537

Levene's Test for Equality of Variances: F=138.716 P= .001

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.73	3	.182	.146	(-.212, .720)
Unequal	1.32	1.05	.405	.192	(-2.188, 2.695)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 5	2	.1990	.013	.009
LOCATION 6	3	.2293	.052	.030

Mean Difference = -.0303

Levene's Test for Equality of Variances: F= 2.678 P= .200

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.77	3	.496	.039	(-.155, .095)
Unequal	-.97	2.34	.422	.031	(-.165, .104)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 5	2	550.5000	4.950	3.500
LOCATION 7	5	587.0000	37.888	16.944

Mean Difference = -36.5000

Levene's Test for Equality of Variances: F= 4.039 P= .101

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.28	5	.255	28.413	(-109.562, 36.562)
Unequal	-2.11	4.32	.097	17.302	(-84.554, 11.554)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 5	2	.1875	.258	.183
LOCATION 7	5	.0766	.110	.049

Mean Difference = .1109

Levene's Test for Equality of Variances: F= 4.333 P= .092

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.87	5	.422	.127	(-.215, .437)
Unequal	.59	1.15	.652	.189	(-2.290, 2.512)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 5	2	.0565	.071	.050
LOCATION 7	5	.0083	.007	.003

Mean Difference = .0482

Levene's Test for Equality of Variances: F=297.508 P= .000

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.77	5	.136	.027	(-.022, .118)
Unequal	.95	1.01	.515	.051	(-.595, .691)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 5	2	.7570	.168	.119
LOCATION 7	5	1.3466	.779	.348

Mean Difference = -.5896

Levene's Test for Equality of Variances: F= 1.328 P= .301

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.01	5	.361	.586	(-2.096, .917)
Unequal	-1.60	4.73	.173	.368	(-1.536, .357)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 5	2	.2160	.033	.023
LOCATION 7	5	.2390	.151	.068

Mean Difference = -.0230

Levene's Test for Equality of Variances: F= 1.724 P= .246

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.20	5	.848	.114	(-.315, .269)
Unequal	-.32	4.73	.761	.071	(-.206, .160)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 5	2	.0000	.000	.000
LOCATION 7	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 1.624 P= .259

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	4.73	5	.005	.000	(.000, .000)
Unequal	6.45	4.21	.002	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 5	2	.5900	.525	.371
LOCATION 7	5	.3654	.077	.035

Mean Difference = .2246

Levene's Test for Equality of Variances: F= 61.324 P= .001

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.10	5	.322	.205	(-.302, .751)
Unequal	.60	1.02	.653	.373	(-4.510, 4.959)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 5	2	3.0000	1.414	1.000
LOCATION 7	5	3.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= . P= .

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.00	5	1.000	.529	(-1.361, 1.361)
Unequal	.00	1.00	1.000	1.000	(-12.706, 12.706)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 5	2	.4000	.269	.190
LOCATION 7	5	.2900	.046	.020

Mean Difference = .1100

Levene's Test for Equality of Variances: F= 74.198 P= .000

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.04	5	.348	.106	(-.163, .383)
Unequal	.58	1.02	.666	.191	(-2.318, 2.538)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 5	2	.1990	.013	.009
LOCATION 7	5	.2762	.150	.067

Mean Difference = -.0772

Levene's Test for Equality of Variances: F= 1.981 P= .218

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.69	5	.524	.113	(-.367, .213)
Unequal	-1.14	4.14	.317	.068	(-.266, .111)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 6	3	551.6667	40.377	23.312
LOCATION 7	5	587.0000	37.888	16.944

Mean Difference = -35.3333

Levene's Test for Equality of Variances: F= .001 P= .974

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.25	6	.258	28.288	(-104.574, 33.907)
Unequal	-1.23	4.10	.286	28.819	(-115.377, 44.710)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 6	3	.1000	.165	.095
LOCATION 7	5	.0766	.110	.049

Mean Difference = .0234

Levene's Test for Equality of Variances: F= 1.128 P= .329

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.25	6	.814	.095	(-.210, .257)
Unequal	.22	3.10	.840	.107	(-.317, .364)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 6	3	.0042	.001	.001
LOCATION 7	5	.0083	.007	.003

Mean Difference = -.0041

Levene's Test for Equality of Variances: F= 3.316 P= .118

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.04	6	.338	.004	(-.014, .006)
Unequal	-1.35	4.61	.239	.003	(-.012, .004)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 6	3	1.2270	.483	.279
LOCATION 7	5	1.3466	.779	.348

Mean Difference = -.1196

Levene's Test for Equality of Variances: F= .411 P= .545

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.24	6	.821	.507	(-1.361, 1.121)
Unequal	-.27	5.91	.798	.446	(-1.212, .973)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 6	3	.2217	.037	.022
LOCATION 7	5	.2390	.151	.068

Mean Difference = -.0173

Levene's Test for Equality of Variances: F= 2.450 P= .169

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.19	6	.856	.091	(-.241, .206)
Unequal	-.24	4.76	.817	.071	(-.200, .165)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 6	3	.0000	.000	.000
LOCATION 7	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 4.490 P= .078

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.64	6	.151	.000	(.000, .000)
Unequal	1.32	2.41	.298	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 6	3	.2423	.191	.110
LOCATION 7	5	.3654	.077	.035

Mean Difference = -.1231

Levene's Test for Equality of Variances: F= 4.118 P= .089

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.33	6	.233	.093	(-.350, .104)
Unequal	-1.07	2.40	.382	.115	(-.620, .374)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 6	3	2.0000	.000	.000
LOCATION 7	5	3.0000	.000	.000

>Warning # 11833. Command name: T-TEST
>The standard deviations of both groups are 0. This analysis cannot be
>performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 6	3	.1463	.050	.029
LOCATION 7	5	.2900	.046	.020

Mean Difference = -.1437

Levene's Test for Equality of Variances: F= .045 P= .839

t-tests for independent samples of LOCATION

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	-4.17	6	.006	.034	(-.228, -.059)
Unequal	-4.07	4.02	.015	.035	(-.242, -.046)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 6	3	.2293	.052	.030
LOCATION 7	5	.2762	.150	.067

Mean Difference = -.0469

Levene's Test for Equality of Variances: F= 1.498 P= .267

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	-.51	6	.630	.092	(-.273, .179)
Unequal	-.64	5.33	.551	.074	(-.236, .143)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 8	5	584.4000	30.270	13.537
LOCATION 9	5	584.8000	32.468	14.520

Mean Difference = -.4000

Levene's Test for Equality of Variances: F= .008 P= .932

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.02	8	.984	19.852	(-46.191, 45.391)
Unequal	-.02	7.96	.984	19.852	(-46.191, 45.391)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 8	5	.0068	.004	.002
LOCATION 9	5	.0066	.004	.002

Mean Difference = .0002

Levene's Test for Equality of Variances: F= .049 P= .830

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.08	8	.936	.002	(-.005, .006)
Unequal	.08	7.89	.936	.002	(-.005, .006)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 8	5	.0190	.019	.009
LOCATION 9	5	.0066	.004	.002

Mean Difference = .0124

Levene's Test for Equality of Variances: F= 47.583 P= .000

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.42	8	.194	.009	(-.008, .033)
Unequal	1.42	4.28	.225	.009	(-.012, .037)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 8	5	1.2108	.421	.188
LOCATION 9	5	1.2486	.346	.155

Mean Difference = -.0378

Levene's Test for Equality of Variances: F= .426 P= .532

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.16	8	.881	.244	(-.600, .525)
Unequal	-.16	7.71	.881	.244	(-.600, .525)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 8	5	.2188	.110	.049
LOCATION 9	5	.2396	.115	.051

Mean Difference = -.0208

Levene's Test for Equality of Variances: F= .007 P= .935

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.29	8	.777	.071	(-.185, .143)
Unequal	-.29	7.98	.777	.071	(-.185, .143)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 8	5	.0000	.000	.000
LOCATION 9	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 2.886 P= .128

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.21	8	.840	.000	(.000, .000)
Unequal	.21	5.86	.842	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 8	5	.1852	.111	.050
LOCATION 9	5	.1740	.098	.044

Mean Difference = .0112

Levene's Test for Equality of Variances: F= .004 P= .952

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.17	8	.870	.066	(-.142, .164)
Unequal	.17	7.87	.870	.066	(-.142, .164)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 8	5	2.0000	.000	.000
LOCATION 9	5	2.0000	.000	.000

>Warning # 11833. Command name: T-TEST
>The standard deviations of both groups are 0. This analysis cannot be
>performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 8	5	.1830	.111	.050
LOCATION 9	5	.1706	.096	.043

Mean Difference = .0124

Levene's Test for Equality of Variances: F= .007 P= .936

t-tests for independent samples of LOCATION

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.19	8	.855	.066	(-.139, .164)
Unequal	.19	7.83	.855	.066	(-.139, .164)

t-test for Equality of Means

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 8	5	.2450	.113	.051
LOCATION 9	5	.2598	.114	.051

Mean Difference = -.0148

Levene's Test for Equality of Variances: F= .004 P= .953

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.21	8	.842	.072	(-.181, .151)
Unequal	-.21	8.00	.842	.072	(-.181, .151)

t-test for Equality of Means

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 8	5	584.4000	30.270	13.537
LOCATION 10	5	587.6000	34.144	15.270

Mean Difference = -3.2000

Levene's Test for Equality of Variances: F= .023 P= .883

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.16	8	.879	20.406	(-50.270, 43.870)
Unequal	-.16	7.89	.879	20.406	(-50.270, 43.870)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 8	5	.0068	.004	.002
LOCATION 10	5	.0078	.006	.003

Mean Difference = -.0010

Levene's Test for Equality of Variances: F= .642 P= .446

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.30	8	.772	.003	(-.009, .007)
Unequal	-.30	6.82	.773	.003	(-.009, .007)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 8	5	.0190	.019	.009
LOCATION 10	5	.0290	.043	.019

Mean Difference = -.0100

Levene's Test for Equality of Variances: F= 1.190 P= .307

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.48	8	.647	.021	(-.058, .038)
Unequal	-.48	5.54	.652	.021	(-.061, .041)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 8	5	1.2108	.421	.188
LOCATION 10	5	1.1112	.396	.177

Mean Difference = .0996

Levene's Test for Equality of Variances: F= .022 P= .886

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.39	8	.710	.259	(-.497, .696)
Unequal	.39	7.97	.710	.259	(-.497, .696)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 8	5	.2188	.110	.049
LOCATION 10	5	.2360	.122	.055

Mean Difference = -.0172

Levene's Test for Equality of Variances: F= .045 P= .838

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.23	8	.821	.073	(-.187, .152)
Unequal	-.23	7.90	.821	.073	(-.187, .152)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 8	5	.0000	.000	.000
LOCATION 10	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 1.936 P= .202

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.73	8	.485	.000	(.000, .000)
Unequal	.73	6.37	.490	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 8	5	.1852	.111	.050
LOCATION 10	5	.2106	.135	.061

Mean Difference = -.0254

Levene's Test for Equality of Variances: F= .097 P= .764

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.32	8	.754	.078	(-.206, .155)
Unequal	-.32	7.71	.754	.078	(-.206, .155)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 8	5	2.0000	.000	.000
LOCATION 10	5	2.2000	.447	.200

Mean Difference = -.2000

Levene's Test for Equality of Variances: F= 7.111 P= .029

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.00	8	.347	.200	(-.661, .261)
Unequal	-1.00	4.00	.374	.200	(-.755, .355)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 8	5	.1830	.111	.050
LOCATION 10	5	.2062	.135	.061

Mean Difference = -.0232

Levene's Test for Equality of Variances: F= .079 P= .786

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.30	8	.775	.078	(-.204, .158)
Unequal	-.30	7.71	.775	.078	(-.204, .158)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 8	5	.2450	.113	.051
LOCATION 10	5	.2512	.111	.050

Mean Difference = -.0062

Levene's Test for Equality of Variances: F= .002 P= .968

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.09	8	.933	.071	(-.170, .158)
Unequal	-.09	8.00	.933	.071	(-.170, .158)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 8	5	584.4000	30.270	13.537
LOCATION 11	5	587.0000	31.377	14.032

Mean Difference = -2.6000

Levene's Test for Equality of Variances: F= .001 P= .975

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.13	8	.897	19.498	(-47.574, 42.374)
Unequal	-.13	7.99	.897	19.498	(-47.574, 42.374)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 8	5	.0068	.004	.002
LOCATION 11	5	.0084	.008	.003

Mean Difference = -.0016

Levene's Test for Equality of Variances: F= 1.230 P= .300

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.42	8	.688	.004	(-.010, .007)
Unequal	-.42	6.08	.692	.004	(-.011, .008)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 8	5	.0190	.019	.009
LOCATION 11	5	.0210	.024	.011

Mean Difference = -.0020

Levene's Test for Equality of Variances: F= .003 P= .956

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.15	8	.888	.014	(-.034, .030)
Unequal	-.15	7.66	.888	.014	(-.034, .030)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 8	5	1.2108	.421	.188
LOCATION 11	5	1.2262	.411	.184

Mean Difference = -.0154

Levene's Test for Equality of Variances: F= .020 P= .891

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.06	8	.955	.263	(-.622, .592)
Unequal	-.06	7.99	.955	.263	(-.622, .592)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 8	5	.2188	.110	.049
LOCATION 11	5	.2602	.126	.056

Mean Difference = -.0414

Levene's Test for Equality of Variances: F= .057 P= .817

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.55	8	.595	.075	(-.214, .131)
Unequal	-.55	7.85	.595	.075	(-.214, .131)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 8	5	.0000	.000	.000
LOCATION 11	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 3.892 P= .084

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.85	8	.419	.000	(.000, .000)
Unequal	-.85	4.35	.438	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 8	5	.1852	.111	.050
LOCATION 11	5	.1800	.079	.036

Mean Difference = .0052

Levene's Test for Equality of Variances: F= .252 P= .629

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.09	8	.934	.061	(-.136, .146)
Unequal	.09	7.24	.935	.061	(-.139, .150)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 8	5	2.0000	.000	.000
LOCATION 11	5	2.4000	.894	.400

Mean Difference = -.4000

Levene's Test for Equality of Variances: F= 7.111 P= .029

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.00	8	.347	.400	(-1.323, .523)
Unequal	-1.00	4.00	.374	.400	(-1.511, .711)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 8	5	.1830	.111	.050
LOCATION 11	5	.1752	.076	.034

Mean Difference = .0078

Levene's Test for Equality of Variances: F= .274 P= .615

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.13	8	.900	.060	(-.131, .147)
Unequal	.13	7.05	.900	.060	(-.135, .150)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 8	5	.2450	.113	.051
LOCATION 11	5	.2770	.122	.055

Mean Difference = -.0320

Levene's Test for Equality of Variances: F= .003 P= .960

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.43	8	.679	.075	(-.204, .140)
Unequal	-.43	7.96	.679	.075	(-.204, .140)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 8	5	584.4000	30.270	13.537
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 8	5	.0068	.004	.002
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 8	5	.0190	.019	.009
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 8	5	1.2108	.421	.188
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 8	5	.2188	.110	.049
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 8	5	.0000	.000	.000
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 8	5	.1852	.111	.050
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 8	5	2.0000	.000	.000
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 8	5	.1830	.111	.050
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 8	5	.2450	.113	.051
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 8	5	584.4000	30.270	13.537
LOCATION 13	5	591.8000	33.387	14.931

Mean Difference = -7.4000

Levene's Test for Equality of Variances: F= .039 P= .848

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.37	8	.723	20.154	(-53.889, 39.089)
Unequal	-.37	7.92	.723	20.154	(-53.889, 39.089)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 8	5	.0068	.004	.002
LOCATION 13	5	.0074	.005	.002

Mean Difference = -.0006

Levene's Test for Equality of Variances: F= .284 P= .608

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.20	8	.846	.003	(-.008, .006)
Unequal	-.20	7.42	.847	.003	(-.008, .006)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 8	5	.0190	.019	.009
LOCATION 13	5	.0270	.034	.015

Mean Difference = -.0080

Levene's Test for Equality of Variances: F= 1.562 P= .247

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.46	8	.658	.017	(-.048, .032)
Unequal	-.46	6.33	.662	.017	(-.051, .035)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 8	5	1.2108	.421	.188
LOCATION 13	5	1.1676	.398	.178

Mean Difference = .0432

Levene's Test for Equality of Variances: F= .054 P= .822

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.17	8	.872	.259	(-.555, .641)
Unequal	.17	7.97	.872	.259	(-.555, .641)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 8	5	.2188	.110	.049
LOCATION 13	5	.2750	.141	.063

Mean Difference = -.0562

Levene's Test for Equality of Variances: F= .200 P= .666

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.71	8	.501	.080	(-.240, .128)
Unequal	-.71	7.55	.502	.080	(-.240, .128)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 8	5	.0000	.000	.000
LOCATION 13	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .092 P= .769

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.31	8	.762	.000	(.000, .000)
Unequal	.31	7.96	.762	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 8	5	.1852	.111	.050
LOCATION 13	5	.2030	.062	.028

Mean Difference = -.0178

Levene's Test for Equality of Variances: F= .716 P= .422

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.31	8	.763	.057	(-.149, .114)
Unequal	-.31	6.29	.765	.057	(-.157, .122)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 8	5	2.0000	.000	.000
LOCATION 13	5	2.2000	.447	.200

Mean Difference = -.2000

Levene's Test for Equality of Variances: F= 7.111 P= .029

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.00	8	.347	.200	(-.661, .261)
Unequal	-1.00	4.00	.374	.200	(-.755, .355)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 8	5	.1830	.111	.050
LOCATION 13	5	.1996	.063	.028

Mean Difference = -.0166

Levene's Test for Equality of Variances: F= .559 P= .476

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.29	8	.778	.057	(-.148, .115)
Unequal	-.29	6.30	.780	.057	(-.156, .123)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 8	5	.2450	.113	.051
LOCATION 13	5	.2828	.127	.057

Mean Difference = -.0378

Levene's Test for Equality of Variances: F= .006 P= .940

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.50	8	.633	.076	(-.213, .138)
Unequal	-.50	7.90	.633	.076	(-.213, .138)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 8	5	584.4000	30.270	13.537
LOCATION 14	5	571.4000	42.934	19.201

Mean Difference = 13.0000

Levene's Test for Equality of Variances: F= 1.668 P= .233

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.55	8	.595	23.493	(-41.190, 67.190)
Unequal	.55	7.19	.597	23.493	(-42.568, 68.568)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 8	5	.0068	.004	.002
LOCATION 14	5	.0118	.011	.005

Mean Difference = -.0050

Levene's Test for Equality of Variances: F= 4.124 P= .077

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.99	8	.351	.005	(-.017, .007)
Unequal	-.99	5.14	.366	.005	(-.018, .008)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 8	5	.0190	.019	.009
LOCATION 14	5	.0060	.002	.001

Mean Difference = .0130

Levene's Test for Equality of Variances: F= 62.443 P= .000

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.50	8	.171	.009	(-.007, .033)
Unequal	1.50	4.11	.206	.009	(-.011, .037)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 8	5	1.2108	.421	.188
LOCATION 14	5	1.2126	.240	.107

Mean Difference = -.0018

Levene's Test for Equality of Variances: F= 2.216 P= .175

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.01	8	.994	.217	(-.502, .498)
Unequal	-.01	6.35	.994	.217	(-.533, .529)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 8	5	.2188	.110	.049
LOCATION 14	5	.2376	.085	.038

Mean Difference = -.0188

Levene's Test for Equality of Variances: F= .211 P= .658

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.30	8	.770	.062	(-.162, .124)
Unequal	-.30	7.54	.770	.062	(-.162, .124)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 8	5	.0000	.000	.000
LOCATION 14	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 8.450 P= .020

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	4.33	8	.003	.000	(.000, .000)
Unequal	4.33	4.40	.010	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 8	5	.1852	.111	.050
LOCATION 14	5	.3086	.084	.038

Mean Difference = -.1234

Levene's Test for Equality of Variances: F= .138 P= .720

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.98	8	.083	.062	(-.267, .020)
Unequal	-1.98	7.44	.086	.062	(-.271, .024)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 8	5	2.0000	.000	.000
LOCATION 14	5	3.2000	.447	.200

Mean Difference = -1.2000

Levene's Test for Equality of Variances: F= 7.111 P= .029

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-6.00	8	.000	.200	(-1.661, -.739)
Unequal	-6.00	4.00	.004	.200	(-1.755, -.645)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 8	5	.1830	.111	.050
LOCATION 14	5	.2630	.066	.029

Mean Difference = -.0800

Levene's Test for Equality of Variances: F= .322 P= .586

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.38	8	.204	.058	(-.213, .053)
Unequal	-1.38	6.50	.212	.058	(-.217, .057)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 8	5	.2450	.113	.051
LOCATION 14	5	.2738	.086	.038

Mean Difference = -.0288

Levene's Test for Equality of Variances: F= .272 P= .616

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.45	8	.663	.064	(-.176, .118)
Unequal	-.45	7.46	.664	.064	(-.179, .122)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 9	5	584.8000	32.468	14.520
LOCATION 10	5	587.6000	34.144	15.270

Mean Difference = -2.8000

Levene's Test for Equality of Variances: F= .044 P= .839

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.13	8	.898	21.071	(-51.404, 45.804)
Unequal	-.13	7.98	.898	21.071	(-51.404, 45.804)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 9	5	.0066	.004	.002
LOCATION 10	5	.0078	.006	.003

Mean Difference = -.0012

Levene's Test for Equality of Variances: F= .985 P= .350

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.37	8	.719	.003	(-.009, .006)
Unequal	-.37	6.36	.722	.003	(-.009, .007)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 9	5	.0066	.004	.002
LOCATION 10	5	.0290	.043	.019

Mean Difference = -.0224

Levene's Test for Equality of Variances: F= 5.228 P= .052

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.16	8	.278	.019	(-.067, .022)
Unequal	-1.16	4.06	.308	.019	(-.076, .031)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 9	5	1.2486	.346	.155
LOCATION 10	5	1.1112	.396	.177

Mean Difference = .1374

Levene's Test for Equality of Variances: F= .293 P= .603

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.58	8	.575	.235	(-.405, .680)
Unequal	.58	7.86	.575	.235	(-.405, .680)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 9	5	.2396	.115	.051
LOCATION 10	5	.2360	.122	.055

Mean Difference = .0036

Levene's Test for Equality of Variances: F= .016 P= .902

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.05	8	.963	.075	(-.170, .177)
Unequal	.05	7.97	.963	.075	(-.170, .177)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 9	5	.0000	.000	.000
LOCATION 10	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .215 P= .655

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.81	8	.444	.000	(.000, .000)
Unequal	.81	7.85	.444	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 9	5	.1740	.098	.044
LOCATION 10	5	.2106	.135	.061

Mean Difference = -.0366

Levene's Test for Equality of Variances: F= .158 P= .702

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.49	8	.637	.075	(-.209, .136)
Unequal	-.49	7.28	.639	.075	(-.213, .140)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 9	5	2.0000	.000	.000
LOCATION 10	5	2.2000	.447	.200

Mean Difference = -.2000

Levene's Test for Equality of Variances: F= 7.111 P= .029

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.00	8	.347	.200	(-.661, .261)
Unequal	-1.00	4.00	.374	.200	(-.755, .355)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 9	5	.1706	.096	.043
LOCATION 10	5	.2062	.135	.061

Mean Difference = -.0356

Levene's Test for Equality of Variances: F= .146 P= .712

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.48	8	.644	.074	(-.207, .136)
Unequal	-.48	7.20	.646	.074	(-.211, .140)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 9	5	.2598	.114	.051
LOCATION 10	5	.2512	.111	.050

Mean Difference = .0086

Levene's Test for Equality of Variances: F= .011 P= .920

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.12	8	.907	.071	(-.156, .173)
Unequal	.12	8.00	.907	.071	(-.156, .173)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 9	5	584.8000	32.468	14.520
LOCATION 11	5	587.0000	31.377	14.032

Mean Difference = -2.2000

Levene's Test for Equality of Variances: F= .003 P= .958

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.11	8	.916	20.193	(-48.777, 44.377)
Unequal	-.11	7.99	.916	20.193	(-48.777, 44.377)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 9	5	.0066	.004	.002
LOCATION 11	5	.0084	.008	.003

Mean Difference = -.0018

Levene's Test for Equality of Variances: F= 1.632 P= .237

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.48	8	.645	.004	(-.010, .007)
Unequal	-.48	5.69	.650	.004	(-.011, .007)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 9	5	.0066	.004	.002
LOCATION 11	5	.0210	.024	.011

Mean Difference = -.0144

Levene's Test for Equality of Variances: F= 4.043 P= .079

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.34	8	.218	.011	(-.039, .010)
Unequal	-1.34	4.18	.250	.011	(-.044, .016)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 9	5	1.2486	.346	.155
LOCATION 11	5	1.2262	.411	.184

Mean Difference = .0224

Levene's Test for Equality of Variances: F= .237 P= .639

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.09	8	.928	.240	(-.532, .577)
Unequal	.09	7.78	.928	.240	(-.532, .577)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 9	5	.2396	.115	.051
LOCATION 11	5	.2602	.126	.056

Mean Difference = -.0206

Levene's Test for Equality of Variances: F= .024 P= .880

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.27	8	.794	.076	(-.197, .155)
Unequal	-.27	7.93	.794	.076	(-.197, .155)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 9	5	.0000	.000	.000
LOCATION 11	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 5.216 P= .052

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.91	8	.387	.000	(.000, .000)
Unequal	-.91	4.09	.411	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 9	5	.1740	.098	.044
LOCATION 11	5	.1800	.079	.036

Mean Difference = -.0060

Levene's Test for Equality of Variances: F= .272 P= .616

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.11	8	.918	.056	(-.136, .124)
Unequal	-.11	7.68	.918	.056	(-.136, .124)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 9	5	2.0000	.000	.000
LOCATION 11	5	2.4000	.894	.400

Mean Difference = -.4000

Levene's Test for Equality of Variances: F= 7.111 P= .029

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.00	8	.347	.400	(-1.323, .523)
Unequal	-1.00	4.00	.374	.400	(-1.511, .711)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 9	5	.1706	.096	.043
LOCATION 11	5	.1752	.076	.034

Mean Difference = -.0046

Levene's Test for Equality of Variances: F= .278 P= .612

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	-.08	8	.935	.055	(-.131, .121)
Unequal	-.08	7.60	.935	.055	(-.131, .121)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 9	5	.2598	.114	.051
LOCATION 11	5	.2770	.122	.055

Mean Difference = -.0172

Levene's Test for Equality of Variances: F= .000 P= .997

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
	t-test for Equality of Means				
Equal	-.23	8	.824	.075	(-.190, .155)
Unequal	-.23	7.96	.824	.075	(-.190, .155)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 9	5	584.8000	32.468	14.520
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 9	5	.0066	.004	.002
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 9	5	.0066	.004	.002
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 9	5	1.2486	.346	.155
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 9	5	.2396	.115	.051
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 9	5	.0000	.000	.000
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 9	5	.1740	.098	.044
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 9	5	2.0000	.000	.000
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 9	5	.1706	.096	.043
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 9	5	.2598	.114	.051
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 9	5	584.8000	32.468	14.520
LOCATION 13	5	591.8000	33.387	14.931

Mean Difference = -7.0000

Levene's Test for Equality of Variances: F= .011 P= .919

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.34	8	.745	20.827	(-55.041, 41.041)
Unequal	-.34	7.99	.745	20.827	(-55.041, 41.041)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 9	5	.0066	.004	.002
LOCATION 13	5	.0074	.005	.002

Mean Difference = -.0008

Levene's Test for Equality of Variances: F= .547 P= .481

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.28	8	.789	.003	(-.007, .006)
Unequal	-.28	6.97	.790	.003	(-.008, .006)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 9	5	.0066	.004	.002
LOCATION 13	5	.0270	.034	.015

Mean Difference = -.0204

Levene's Test for Equality of Variances: F= 10.045 P= .013

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.34	8	.218	.015	(-.056, .015)
Unequal	-1.34	4.09	.250	.015	(-.063, .022)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 9	5	1.2486	.346	.155
LOCATION 13	5	1.1676	.398	.178

Mean Difference = .0810

Levene's Test for Equality of Variances: F= .163 P= .697

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.34	8	.740	.236	(-.463, .625)
Unequal	.34	7.85	.740	.236	(-.463, .625)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 9	5	.2396	.115	.051
LOCATION 13	5	.2750	.141	.063

Mean Difference = -.0354

Levene's Test for Equality of Variances: F= .133 P= .724

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.44	8	.674	.081	(-.223, .152)
Unequal	-.44	7.69	.675	.081	(-.223, .152)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 9	5	.0000	.000	.000
LOCATION 13	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 1.454 P= .262

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.19	8	.858	.000	(.000, .000)
Unequal	.19	6.12	.859	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 9	5	.1740	.098	.044
LOCATION 13	5	.2030	.062	.028

Mean Difference = -.0290

Levene's Test for Equality of Variances: F= .908 P= .369

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.56	8	.592	.052	(-.149, .091)
Unequal	-.56	6.80	.594	.052	(-.152, .094)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 9	5	2.0000	.000	.000
LOCATION 13	5	2.2000	.447	.200

Mean Difference = -.2000

Levene's Test for Equality of Variances: F= 7.111 P= .029

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.00	8	.347	.200	(-.661, .261)
Unequal	-1.00	4.00	.374	.200	(-.755, .355)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 9	5	.1706	.096	.043
LOCATION 13	5	.1996	.063	.028

Mean Difference = -.0290

Levene's Test for Equality of Variances: F= .668 P= .437

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.57	8	.586	.051	(-.147, .089)
Unequal	-.57	6.88	.589	.051	(-.150, .092)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 9	5	.2598	.114	.051
LOCATION 13	5	.2828	.127	.057

Mean Difference = -.0230

Levene's Test for Equality of Variances: F= .001 P= .980

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.30	8	.771	.076	(-.199, .153)
Unequal	-.30	7.91	.771	.076	(-.199, .153)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 9	5	584.8000	32.468	14.520
LOCATION 14	5	571.4000	42.934	19.201

Mean Difference = 13.4000

Levene's Test for Equality of Variances: F= 1.342 P= .280

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.56	8	.593	24.073	(-42.128, 68.928)
Unequal	.56	7.45	.594	24.073	(-43.540, 70.340)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 9	5	.0066	.004	.002
LOCATION 14	5	.0118	.011	.005

Mean Difference = -.0052

Levene's Test for Equality of Variances: F= 4.813 P= .060

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.04	8	.327	.005	(-.017, .006)
Unequal	-1.04	4.91	.345	.005	(-.018, .008)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 9	5	.0066	.004	.002
LOCATION 14	5	.0060	.002	.001

Mean Difference = .0006

Levene's Test for Equality of Variances: F= .719 P= .421

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.32	8	.759	.002	(-.004, .005)
Unequal	.32	6.71	.760	.002	(-.004, .005)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 9	5	1.2486	.346	.155
LOCATION 14	5	1.2126	.240	.107

Mean Difference = .0360

Levene's Test for Equality of Variances: F= .397 P= .546

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.19	8	.853	.188	(-.398, .470)
Unequal	.19	7.12	.854	.188	(-.410, .482)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 9	5	.2396	.115	.051
LOCATION 14	5	.2376	.085	.038

Mean Difference = .0020

Levene's Test for Equality of Variances: F= .290 P= .605

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.03	8	.976	.064	(-.146, .150)
Unequal	.03	7.38	.976	.064	(-.149, .153)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 9	5	.0000	.000	.000
LOCATION 14	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 6.106 P= .039

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	7.72	8	.000	.000	(.000, .000)
Unequal	7.72	5.56	.000	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 9	5	.1740	.098	.044
LOCATION 14	5	.3086	.084	.038

Mean Difference = -.1346

Levene's Test for Equality of Variances: F= .134 P= .724

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.34	8	.048	.058	(-.268, -.002)
Unequal	-2.34	7.82	.048	.058	(-.268, -.002)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 9	5	2.0000	.000	.000
LOCATION 14	5	3.2000	.447	.200

Mean Difference = -1.2000

Levene's Test for Equality of Variances: F= 7.111 P= .029

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-6.00	8	.000	.200	(-1.661, -.739)
Unequal	-6.00	4.00	.004	.200	(-1.755, -.645)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 9	5	.1706	.096	.043
LOCATION 14	5	.2630	.066	.029

Mean Difference = -.0924

Levene's Test for Equality of Variances: F= .361 P= .565

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.78	8	.113	.052	(-.212, .028)
Unequal	-1.78	7.10	.118	.052	(-.215, .031)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 9	5	.2598	.114	.051
LOCATION 14	5	.2738	.086	.038

Mean Difference = -.0140

Levene's Test for Equality of Variances: F= .366 P= .562

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.22	8	.832	.064	(-.161, .133)
Unequal	-.22	7.44	.833	.064	(-.165, .137)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 10	5	587.6000	34.144	15.270
LOCATION 11	5	587.0000	31.377	14.032

Mean Difference = .6000

Levene's Test for Equality of Variances: F= .029 P= .869

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.03	8	.978	20.738	(-47.235, 48.435)
Unequal	.03	7.94	.978	20.738	(-47.235, 48.435)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 10	5	.0078	.006	.003
LOCATION 11	5	.0084	.008	.003

Mean Difference = -.0006

Levene's Test for Equality of Variances: F= .132 P= .726

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.14	8	.895	.004	(-.011, .010)
Unequal	-.14	7.72	.895	.004	(-.011, .010)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 10	5	.0290	.043	.019
LOCATION 11	5	.0210	.024	.011

Mean Difference = .0080

Levene's Test for Equality of Variances: F= .976 P= .352

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.36	8	.725	.022	(-.043, .059)
Unequal	.36	6.26	.728	.022	(-.046, .062)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 10	5	1.1112	.396	.177
LOCATION 11	5	1.2262	.411	.184

Mean Difference = -.1150

Levene's Test for Equality of Variances: F= .000 P= .995

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.45	8	.664	.255	(-.704, .474)
Unequal	-.45	7.99	.664	.255	(-.704, .474)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 10	5	.2360	.122	.055
LOCATION 11	5	.2602	.126	.056

Mean Difference = -.0242

Levene's Test for Equality of Variances: F= .001 P= .976

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.31	8	.766	.079	(-.205, .157)
Unequal	-.31	7.99	.766	.079	(-.205, .157)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 10	5	.0000	.000	.000
LOCATION 11	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 5.001 P= .056

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.04	8	.329	.000	(.000, .000)
Unequal	-1.04	4.11	.356	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 10	5	.2106	.135	.061
LOCATION 11	5	.1800	.079	.036

Mean Difference = .0306

Levene's Test for Equality of Variances: F= .619 P= .454

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.44	8	.674	.070	(-.131, .193)
Unequal	.44	6.46	.677	.070	(-.141, .202)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 10	5	2.2000	.447	.200
LOCATION 11	5	2.4000	.894	.400

Mean Difference = -.2000

Levene's Test for Equality of Variances: F= 1.422 P= .267

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.45	8	.667	.447	(-1.232, .832)
Unequal	-.45	5.88	.671	.447	(-1.295, .895)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 10	5	.2062	.135	.061
LOCATION 11	5	.1752	.076	.034

Mean Difference = .0310

Levene's Test for Equality of Variances: F= .592 P= .464

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.45	8	.667	.069	(-.129, .191)
Unequal	.45	6.28	.670	.069	(-.139, .201)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 10	5	.2512	.111	.050
LOCATION 11	5	.2770	.122	.055

Mean Difference = -.0258

Levene's Test for Equality of Variances: F= .008 P= .930

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.35	8	.736	.074	(-.196, .145)
Unequal	-.35	7.93	.736	.074	(-.196, .145)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 10	5	587.6000	34.144	15.270
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 10	5	.0078	.006	.003
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 10	5	.0290	.043	.019
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 10	5	.2106	.135	.061
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 10	5	2.2000	.447	.200
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 10	5	.2062	.135	.061
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 10	5	.2512	.111	.050
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 10	5	1.1112	.396	.177
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 10	5	.2360	.122	.055
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 10	5	.0000	.000	.000
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 10	5	587.6000	34.144	15.270
LOCATION 13	5	591.8000	33.387	14.931

Mean Difference = -4.2000

Levene's Test for Equality of Variances: F= .090 P= .772

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.20	8	.849	21.356	(-53.462, 45.062)
Unequal	-.20	8.00	.849	21.356	(-53.462, 45.062)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 10	5	.0078	.006	.003
LOCATION 13	5	.0074	.005	.002

Mean Difference = .0004

Levene's Test for Equality of Variances: F= .084 P= .780

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.11	8	.916	.004	(-.008, .009)
Unequal	.11	7.82	.916	.004	(-.008, .009)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 10	5	.0290	.043	.019
LOCATION 13	5	.0270	.034	.015

Mean Difference = .0020

Levene's Test for Equality of Variances: F= .065 P= .805

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.08	8	.937	.024	(-.054, .058)
Unequal	.08	7.59	.937	.024	(-.054, .058)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 10	5	1.1112	.396	.177
LOCATION 13	5	1.1676	.398	.178

Mean Difference = -.0564

Levene's Test for Equality of Variances: F= .010 P= .922

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.22	8	.828	.251	(-.635, .523)
Unequal	-.22	8.00	.828	.251	(-.635, .523)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 10	5	.2360	.122	.055
LOCATION 13	5	.2750	.141	.063

Mean Difference = -.0390

Levene's Test for Equality of Variances: F= .059 P= .814

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.47	8	.652	.083	(-.231, .153)
Unequal	-.47	7.85	.653	.083	(-.231, .153)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 10	5	.0000	.000	.000
LOCATION 13	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .868 P= .379

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.38	8	.713	.000	(.000, .000)
Unequal	-.38	6.66	.715	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 10	5	.2106	.135	.061
LOCATION 13	5	.2030	.062	.028

Mean Difference = .0076

Levene's Test for Equality of Variances: F= 1.190 P= .307

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.11	8	.912	.067	(-.146, .161)
Unequal	.11	5.63	.913	.067	(-.156, .171)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 10	5	2.2000	.447	.200
LOCATION 13	5	2.2000	.447	.200

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .000 P= 1.000

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.00	8	1.000	.283	(-.652, .652)
Unequal	.00	8.00	1.000	.283	(-.652, .652)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 10	5	.2062	.135	.061
LOCATION 13	5	.1996	.063	.028

Mean Difference = .0066

Levene's Test for Equality of Variances: F= .932 P= .363

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.10	8	.924	.067	(-.147, .161)
Unequal	.10	5.63	.925	.067	(-.157, .170)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 10	5	.2512	.111	.050
LOCATION 13	5	.2828	.127	.057

Mean Difference = -.0316

Levene's Test for Equality of Variances: F= .013 P= .911

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.42	8	.687	.076	(-.206, .143)
Unequal	-.42	7.87	.687	.076	(-.206, .143)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 10	5	587.6000	34.144	15.270
LOCATION 14	5	571.4000	42.934	19.201

Mean Difference = 16.2000

Levene's Test for Equality of Variances: F= .929 P= .363

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.66	8	.528	24.532	(-40.387, 72.787)
Unequal	.66	7.61	.528	24.532	(-40.387, 72.787)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 10	5	.0078	.006	.003
LOCATION 14	5	.0118	.011	.005

Mean Difference = -.0040

Levene's Test for Equality of Variances: F= 1.609 P= .240

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.73	8	.487	.005	(-.017, .009)
Unequal	-.73	6.51	.491	.005	(-.017, .009)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 10	5	.0290	.043	.019
LOCATION 14	5	.0060	.002	.001

Mean Difference = .0230

Levene's Test for Equality of Variances: F= 5.622 P= .045

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.20	8	.266	.019	(-.021, .067)
Unequal	1.20	4.02	.297	.019	(-.030, .076)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 10	5	1.1112	.396	.177
LOCATION 14	5	1.2126	.240	.107

Mean Difference = -.1014

Levene's Test for Equality of Variances: F= 2.071 P= .188

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.49	8	.637	.207	(-.579, .376)
Unequal	-.49	6.59	.640	.207	(-.591, .388)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 10	5	.2360	.122	.055
LOCATION 14	5	.2376	.085	.038

Mean Difference = -.0016

Levene's Test for Equality of Variances: F= .439 P= .526

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.02	8	.981	.067	(-.155, .152)
Unequal	-.02	7.14	.982	.067	(-.159, .156)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 10	5	.0000	.000	.000
LOCATION 14	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 7.282 P= .027

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	5.85	8	.000	.000	(.000, .000)
Unequal	5.85	5.20	.002	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 10	5	.2106	.135	.061
LOCATION 14	5	.3086	.084	.038

Mean Difference = -.0980

Levene's Test for Equality of Variances: F= .454 P= .520

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.38	8	.206	.071	(-.262, .066)
Unequal	-1.38	6.68	.213	.071	(-.266, .070)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 10	5	2.2000	.447	.200
LOCATION 14	5	3.2000	.447	.200

Mean Difference = -1.0000

Levene's Test for Equality of Variances: F= .000 P= 1.000

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-3.54	8	.008	.283	(-1.652, -.348)
Unequal	-3.54	8.00	.008	.283	(-1.652, -.348)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 10	5	.2062	.135	.061
LOCATION 14	5	.2630	.066	.029

Mean Difference = -.0568

Levene's Test for Equality of Variances: F= .668 P= .437

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.84	8	.424	.067	(-.212, .099)
Unequal	-.84	5.79	.433	.067	(-.222, .108)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 10	5	.2512	.111	.050
LOCATION 14	5	.2738	.086	.038

Mean Difference = -.0226

Levene's Test for Equality of Variances: F= .229 P= .645

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.36	8	.729	.063	(-.168, .123)
Unequal	-.36	7.52	.729	.063	(-.168, .123)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 11	5	587.0000	31.377	14.032
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 11	5	.0084	.008	.003
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 11	5	.0210	.024	.011
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 11	5	1.2262	.411	.184
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 11	5	.2602	.126	.056
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 11	5	.0000	.000	.000
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 11	5	.1800	.079	.036
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 11	5	2.4000	.894	.400
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 11	5	.1752	.076	.034
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 11	5	.2770	.122	.055
LOCATION 12	0	.	.	.

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 11	5	587.0000	31.377	14.032
LOCATION 13	5	591.8000	33.387	14.931

Mean Difference = -4.8000

Levene's Test for Equality of Variances: F= .026 P= .875

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.23	8	.821	20.490	(-52.063, 42.463)
Unequal	-.23	7.97	.821	20.490	(-52.063, 42.463)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 11	5	.0084	.008	.003
LOCATION 13	5	.0074	.005	.002

Mean Difference = .0010

Levene's Test for Equality of Variances: F= .411 P= .540

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.24	8	.816	.004	(-.009, .011)
Unequal	.24	7.19	.817	.004	(-.009, .011)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 11	5	.0210	.024	.011
LOCATION 13	5	.0270	.034	.015

Mean Difference = -.0060

Levene's Test for Equality of Variances: F= .979 P= .351

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.32	8	.754	.019	(-.049, .037)
Unequal	-.32	7.18	.755	.019	(-.050, .038)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 11	5	1.2262	.411	.184
LOCATION 13	5	1.1676	.398	.178

Mean Difference = .0586

Levene's Test for Equality of Variances: F= .008 P= .933

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.23	8	.825	.256	(-.531, .649)
Unequal	.23	7.99	.825	.256	(-.531, .649)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 11	5	.2602	.126	.056
LOCATION 13	5	.2750	.141	.063

Mean Difference = -.0148

Levene's Test for Equality of Variances: F= .043 P= .840

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.18	8	.865	.084	(-.210, .180)
Unequal	-.18	7.91	.865	.084	(-.210, .180)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 11	5	.0000	.000	.000
LOCATION 13	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 4.157 P= .076

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.94	8	.374	.000	(.000, .000)
Unequal	.94	4.30	.396	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 11	5	.1800	.079	.036
LOCATION 13	5	.2030	.062	.028

Mean Difference = -.0230

Levene's Test for Equality of Variances: F= .159 P= .700

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.51	8	.625	.045	(-.127, .081)
Unequal	-.51	7.58	.625	.045	(-.127, .081)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 11	5	2.4000	.894	.400
LOCATION 13	5	2.2000	.447	.200

Mean Difference = .2000

Levene's Test for Equality of Variances: F= 1.422 P= .267

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.45	8	.667	.447	(-.832, 1.232)
Unequal	.45	5.88	.671	.447	(-.895, 1.295)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 11	5	.1752	.076	.034
LOCATION 13	5	.1996	.063	.028

Mean Difference = -.0244

Levene's Test for Equality of Variances: F= .068 P= .801

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.56	8	.594	.044	(-.126, .077)
Unequal	-.56	7.72	.594	.044	(-.126, .077)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 11	5	.2770	.122	.055
LOCATION 13	5	.2828	.127	.057

Mean Difference = -.0058

Levene's Test for Equality of Variances: F= .001 P= .979

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.07	8	.943	.079	(-.188, .176)
Unequal	-.07	7.99	.943	.079	(-.188, .176)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 11	5	587.0000	31.377	14.032
LOCATION 14	5	571.4000	42.934	19.201

Mean Difference = 15.6000

Levene's Test for Equality of Variances: F= 1.463 P= .261

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.66	8	.530	23.782	(-39.256, 70.456)
Unequal	.66	7.32	.532	23.782	(-40.651, 71.851)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 11	5	.0084	.008	.003
LOCATION 14	5	.0118	.011	.005

Mean Difference = -.0034

Levene's Test for Equality of Variances: F= .758 P= .409

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.58	8	.575	.006	(-.017, .010)
Unequal	-.58	7.27	.576	.006	(-.017, .010)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 11	5	.0210	.024	.011
LOCATION 14	5	.0060	.002	.001

Mean Difference = .0150

Levene's Test for Equality of Variances: F= 4.678 P= .063

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.40	8	.199	.011	(-.010, .040)
Unequal	1.40	4.07	.233	.011	(-.015, .045)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 11	5	1.2262	.411	.184
LOCATION 14	5	1.2126	.240	.107

Mean Difference = .0136

Levene's Test for Equality of Variances: F= 1.476 P= .259

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.06	8	.951	.213	(-.477, .504)
Unequal	.06	6.44	.951	.213	(-.507, .534)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 11	5	.2602	.126	.056
LOCATION 14	5	.2376	.085	.038

Mean Difference = .0226

Levene's Test for Equality of Variances: F= .458 P= .518

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.33	8	.748	.068	(-.134, .180)
Unequal	.33	7.02	.750	.068	(-.138, .184)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 11	5	.0000	.000	.000
LOCATION 14	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 6.116 P= .039

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	1.79	8	.110	.000	(.000, .000)
Unequal	1.79	4.02	.147	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 11	5	.1800	.079	.036
LOCATION 14	5	.3086	.084	.038

Mean Difference = -.1286

Levene's Test for Equality of Variances: F= .027 P= .874

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.49	8	.038	.052	(-.248, -.009)
Unequal	-2.49	7.98	.038	.052	(-.248, -.009)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 11	5	2.4000	.894	.400
LOCATION 14	5	3.2000	.447	.200

Mean Difference = -.8000

Levene's Test for Equality of Variances: F= 1.422 P= .267

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.79	8	.111	.447	(-1.832, .232)
Unequal	-1.79	5.88	.125	.447	(-1.895, .295)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 11	5	.1752	.076	.034
LOCATION 14	5	.2630	.066	.029

Mean Difference = -.0878

Levene's Test for Equality of Variances: F= .000 P= .990

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.96	8	.086	.045	(-.191, .016)
Unequal	-1.96	7.85	.087	.045	(-.191, .016)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 11	5	.2770	.122	.055
LOCATION 14	5	.2738	.086	.038

Mean Difference = .0032

Levene's Test for Equality of Variances: F= .281 P= .610

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.05	8	.963	.067	(-.151, .157)
Unequal	.05	7.19	.963	.067	(-.155, .161)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 12	0	.	.	.
LOCATION 13	5	591.8000	33.387	14.931

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 12	0	.	.	.
LOCATION 13	5	.0074	.005	.002

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 12	0	.	.	.
LOCATION 13	5	.0270	.034	.015

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 12	0	.	.	.
LOCATION 13	5	1.1676	.398	.178

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 12	0	.	.	.
LOCATION 13	5	.2750	.141	.063

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 12	0	.	.	.
LOCATION 13	5	.0000	.000	.000

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 12	0	.	.	.
LOCATION 13	5	.2030	.062	.028

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 12	0	.	.	.
LOCATION 13	5	2.2000	.447	.200

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 12	0	.	.	.
LOCATION 13	5	.1996	.063	.028

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 12	0	.	.	.
LOCATION 13	5	.2828	.127	.057

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 12	0	.	.	.
LOCATION 14	5	571.4000	42.934	19.201

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 12	0	.	.	.
LOCATION 14	5	.0118	.011	.005

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 12	0	.	.	.
LOCATION 14	5	.0060	.002	.001

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 12	0	.	.	.
LOCATION 14	5	1.2126	.240	.107

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 12	0	.	.	.
LOCATION 14	5	.2376	.085	.038

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 12	0	.	.	.
LOCATION 14	5	.0000	.000	.000

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 12	0	.	.	.
LOCATION 14	5	.3086	.084	.038

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 12	0	.	.	.
LOCATION 14	5	3.2000	.447	.200

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 12	0	.	.	.
LOCATION 14	5	.2630	.066	.029

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 12	0	.	.	.
LOCATION 14	5	.2738	.086	.038

>Warning # 11831. Command name: T-TEST
>At least one of the groups is empty. This analysis cannot be performed.

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 13	5	591.8000	33.387	14.931
LOCATION 14	5	571.4000	42.934	19.201

Mean Difference = 20.4000

Levene's Test for Equality of Variances: F= 1.353 P= .278

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.84	8	.426	24.323	(-35.704, 76.504)
Unequal	.84	7.54	.427	24.323	(-35.704, 76.504)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 13	5	.0074	.005	.002
LOCATION 14	5	.0118	.011	.005

Mean Difference = -.0044

Levene's Test for Equality of Variances: F= 2.434 P= .157

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.83	8	.430	.005	(-.017, .008)
Unequal	-.83	5.94	.438	.005	(-.017, .009)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 13	5	.0270	.034	.015
LOCATION 14	5	.0060	.002	.001

Mean Difference = .0210

Levene's Test for Equality of Variances: F= 10.979 P= .011

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.38	8	.204	.015	(-.014, .056)
Unequal	1.38	4.03	.239	.015	(-.021, .063)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 13	5	1.1676	.398	.178
LOCATION 14	5	1.2126	.240	.107

Mean Difference = -.0450

Levene's Test for Equality of Variances: F= 1.263 P= .294

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.22	8	.834	.208	(-.524, .434)
Unequal	-.22	6.57	.835	.208	(-.537, .447)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 13	5	.2750	.141	.063
LOCATION 14	5	.2376	.085	.038

Mean Difference = .0374

Levene's Test for Equality of Variances: F= .760 P= .409

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.51	8	.625	.074	(-.132, .207)
Unequal	.51	6.59	.628	.074	(-.137, .211)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 13	5	.0000	.000	.000
LOCATION 14	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 5.344 P= .050

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	4.20	8	.003	.000	(.000, .000)
Unequal	4.20	4.46	.011	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 13	5	.2030	.062	.028
LOCATION 14	5	.3086	.084	.038

Mean Difference = -.1056

Levene's Test for Equality of Variances: F= .340 P= .576

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.26	8	.054	.047	(-.213, .002)
Unequal	-2.26	7.39	.057	.047	(-.216, .005)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 13	5	2.2000	.447	.200
LOCATION 14	5	3.2000	.447	.200

Mean Difference = -1.0000

Levene's Test for Equality of Variances: F= .000 P= 1.000

Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-3.54	8	.008	.283	(-1.652, -.348)
Unequal	-3.54	8.00	.008	.283	(-1.652, -.348)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 13	5	.1996	.063	.028
LOCATION 14	5	.2630	.066	.029

Mean Difference = -.0634

Levene's Test for Equality of Variances: F= .118 P= .740

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.56	8	.157	.041	(-.157, .030)
Unequal	-1.56	7.98	.157	.041	(-.157, .030)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 13	5	.2828	.127	.057
LOCATION 14	5	.2738	.086	.038

Mean Difference = .0090

Levene's Test for Equality of Variances: F= .287 P= .607

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.13	8	.899	.069	(-.149, .167)
Unequal	.13	7.03	.899	.069	(-.153, .171)

LOW FLOW: T-TEST RESULTS FOR COMBINED SAMPLER DEPTHS

LEGEND:
LOCATION 1 = 6 INCH DEPTH SAMPLER FOR PAIR 1 AT WEBBERVILLE
+
6 INCH DEPTH SAMPLER FOR PAIR 2 AT WEBBERVILLE
+
6 INCH DEPTH SAMPLER FOR PAIR 3 AT WEBBERVILLE

LOCATION 2 = 12 INCH DEPTH SAMPLER FOR PAIR 1 AT WEBBERVILLE
+
12 INCH DEPTH SAMPLER FOR PAIR 2 AT WEBBERVILLE
+
12 INCH DEPTH SAMPLER FOR PAIR 3 AT WEBBERVILLE

LOCATION 3 = SURFACE WATER SAMPLES FOR WEBBERVILLE

LOCATION 4 = 6 INCH DEPTH SAMPLER FOR PAIR 1 AT SMITHVILLE
+
6 INCH DEPTH SAMPLER FOR PAIR 2 AT SMITHVILLE
+
6 INCH DEPTH SAMPLER FOR PAIR 3 AT SMITHVILLE

LOCATION 5 = 12 INCH DEPTH SAMPLER FOR PAIR 1 AT SMITHVILLE
+
12 INCH DEPTH SAMPLER FOR PAIR 2 AT SMITHVILLE
+
12 INCH DEPTH SAMPLER FOR PAIR 3 AT SMITHVILLE

LOCATION 6 = SURFACE WATER SAMPLES FOR SMITHVILLE

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 1	11	637.1818	96.979	29.240
LOCATION 2	10	623.6000	92.115	29.129

Mean Difference = 13.5818

Levene's Test for Equality of Variances: F= .052 P= .822

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.33	19	.746	41.380	(-73.049, 100.212)
Unequal	.33	18.95	.746	41.274	(-72.826, 99.990)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 1	11	.0175	.027	.008
LOCATION 2	10	.0102	.011	.003

Mean Difference = .0073

Levene's Test for Equality of Variances: F= 1.664 P= .213

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.80	19	.432	.009	(-.012, .027)
Unequal	.83	13.48	.420	.009	(-.012, .026)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 1	11	.0409	.044	.013
LOCATION 2	10	.0651	.056	.018

Mean Difference = -.0242

Levene's Test for Equality of Variances: F= 1.312 P= .266

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.11	19	.282	.022	(-.070, .022)
Unequal	-1.09	17.17	.289	.022	(-.071, .022)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 1	11	3.3327	1.441	.434
LOCATION 2	10	3.4974	1.160	.367

Mean Difference = -.1647

Levene's Test for Equality of Variances: F= .670 P= .423

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.29	19	.778	.575	(-1.368, 1.038)
Unequal	-.29	18.75	.775	.569	(-1.355, 1.026)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 1	11	.3253	.044	.013
LOCATION 2	10	.3178	.054	.017

Mean Difference = .0075

Levene's Test for Equality of Variances: F= .666 P= .425

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.35	19	.731	.021	(-.037, .052)
Unequal	.35	17.28	.734	.022	(-.038, .053)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 1	11	.0000	.000	.000
LOCATION 2	10	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .007 P= .936

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.16	19	.874	.000	(.000, .000)
Unequal	-.16	18.70	.874	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 1	11	.2315	.105	.032
LOCATION 2	10	.2376	.130	.041

Mean Difference = -.0061

Levene's Test for Equality of Variances: F= .424 P= .523

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.12	19	.907	.051	(-.113, .101)
Unequal	-.12	17.32	.908	.052	(-.116, .103)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 1	11	1.9091	1.446	.436
LOCATION 2	10	1.5000	.707	.224

Mean Difference = .4091

Levene's Test for Equality of Variances: F= .357 P= .557

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.81	19	.428	.505	(-.649, 1.467)
Unequal	.83	14.81	.417	.490	(-.636, 1.454)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 1	11	.2172	.115	.035
LOCATION 2	10	.2314	.132	.042

Mean Difference = -.0142

Levene's Test for Equality of Variances: F= .204 P= .657

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.26	19	.795	.054	(-.127, .099)
Unequal	-.26	18.02	.797	.054	(-.129, .100)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 1	11	.3985	.067	.020
LOCATION 2	10	.3942	.055	.017

Mean Difference = .0043

Levene's Test for Equality of Variances: F= .471 P= .501

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.16	19	.873	.027	(-.052, .060)
Unequal	.16	18.81	.872	.027	(-.051, .060)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 1	11	637.1818	96.979	29.240
LOCATION 3	5	616.4000	104.275	46.633

Mean Difference = 20.7818

Levene's Test for Equality of Variances: F= .001 P= .981

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.39	14	.703	53.461	(-93.909, 135.472)
Unequal	.38	7.31	.716	55.042	(-109.410, 150.974)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 1	11	.0175	.027	.008
LOCATION 3	5	.0762	.076	.034

Mean Difference = -.0587

Levene's Test for Equality of Variances: F= 7.466 P= .016

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.32	14	.036	.025	(-.113, -.005)
Unequal	-1.67	4.46	.163	.035	(-.156, .039)

-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 1	11	.0409	.044	.013
LOCATION 3	5	.0214	.003	.001

Mean Difference = .0195

Levene's Test for Equality of Variances: F= 15.730 P= .001

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.97	14	.349	.020	(-.024, .063)
Unequal	1.46	10.14	.175	.013	(-.010, .049)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 1	11	3.3327	1.441	.434
LOCATION 3	5	3.7196	1.309	.586

Mean Difference = -.3869

Levene's Test for Equality of Variances: F= .144 P= .710

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.51	14	.618	.758	(-2.012, 1.238)
Unequal	-.53	8.58	.609	.729	(-2.037, 1.263)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 1	11	.3253	.044	.013
LOCATION 3	5	.6554	.139	.062

Mean Difference = -.3301

Levene's Test for Equality of Variances: F= 4.604 P= .050

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-7.40	14	.000	.045	(-.426, -.234)
Unequal	-5.21	4.36	.005	.063	(-.506, -.154)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 1	11	.0000	.000	.000
LOCATION 3	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 6.323 P= .025

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.88	14	.002	.000	(.000, .000)
Unequal	5.37	13.45	.000	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 1	11	.2315	.105	.032
LOCATION 3	5	.5172	.169	.076

Mean Difference = -.2857

Levene's Test for Equality of Variances: F= 1.082 P= .316

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-4.19	14	.001	.068	(-.432, -.139)
Unequal	-3.49	5.45	.015	.082	(-.496, -.075)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 1	11	1.9091	1.446	.436
LOCATION 3	4	4.0000	.000	.000

Mean Difference = -2.0909

Levene's Test for Equality of Variances: F= 1.944 P= .187

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.82	13	.014	.740	(-3.691, -.491)
Unequal	-4.80	10.00	.001	.436	(-3.063, -1.119)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 2	10	623.6000	92.115	29.129
LOCATION 3	5	616.4000	104.275	46.633

Mean Difference = 7.2000

Levene's Test for Equality of Variances: F= .041 P= .843

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.14	13	.893	52.593	(-106.449, 120.849)
Unequal	.13	7.24	.899	54.983	(-122.853, 137.253)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 2	10	.0102	.011	.003
LOCATION 3	5	.0762	.076	.034

Mean Difference = -.0660

Levene's Test for Equality of Variances: F= 15.037 P= .002

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.78	13	.016	.024	(-.117, -.015)
Unequal	-1.92	4.08	.126	.034	(-.161, .029)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 2	10	.0651	.056	.018
LOCATION 3	5	.0214	.003	.001

Mean Difference = .0437

Levene's Test for Equality of Variances: F= 19.944 P= .001

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.72	13	.109	.025	(-.011, .099)
Unequal	2.47	9.07	.035	.018	(.004, .084)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 2	10	3.4974	1.160	.367
LOCATION 3	5	3.7196	1.309	.586

Mean Difference = -.2222

Levene's Test for Equality of Variances: F= .083 P= .778

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.34	13	.742	.661	(-1.652, 1.207)
Unequal	-.32	7.26	.757	.691	(-1.856, 1.412)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 2	10	.3178	.054	.017
LOCATION 3	5	.6554	.139	.062

Mean Difference = -.3376

Levene's Test for Equality of Variances: F= 2.874 P= .114

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-6.91	13	.000	.049	(-.443, -.232)
Unequal	-5.25	4.63	.004	.064	(-.503, -.172)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 2	10	.0000	.000	.000
LOCATION 3	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 4.454 P= .055

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.92	13	.002	.000	(.000, .000)
Unequal	5.26	11.97	.000	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 2	10	.2376	.130	.041
LOCATION 3	5	.5172	.169	.076

Mean Difference = -.2796

Levene's Test for Equality of Variances: F= .227 P= .642

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-3.56	13	.003	.078	(-.449, -.110)
Unequal	-3.25	6.47	.016	.086	(-.490, -.069)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 2	10	1.5000	.707	.224
LOCATION 3	4	4.0000	.000	.000

Mean Difference = -2.5000

Levene's Test for Equality of Variances: F= 13.714 P= .003

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-6.90	12	.000	.362	(-3.290, -1.710)
Unequal	-11.18	9.00	.000	.224	(-3.006, -1.994)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 2	10	.2314	.132	.042
LOCATION 3	5	.4372	.194	.087

Mean Difference = -.2058

Levene's Test for Equality of Variances: F= .463 P= .508

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.44	13	.030	.084	(-.388, -.024)
Unequal	-2.14	5.93	.077	.096	(-.442, .030)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 2	10	.3942	.055	.017
LOCATION 3	5	.7506	.271	.121

Mean Difference = -.3564

Levene's Test for Equality of Variances: F= 9.783 P= .008

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-4.14	13	.001	.086	(-.542, -.170)
Unequal	-2.91	4.16	.042	.123	(-.697, -.016)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 4	10	629.2000	82.988	26.243
LOCATION 5	13	636.0000	85.531	23.722

Mean Difference = -6.8000

Levene's Test for Equality of Variances: F= .119 P= .734

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.19	21	.850	35.522	(-80.689, 67.089)
Unequal	-.19	19.80	.850	35.376	(-80.610, 67.010)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 4	10	.0142	.011	.003
LOCATION 5	13	.0143	.013	.004

Mean Difference = -.0001

Levene's Test for Equality of Variances: F= .890 P= .356

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.02	21	.984	.005	(-.011, .011)
Unequal	-.02	20.95	.983	.005	(-.011, .010)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 4	10	.0365	.038	.012
LOCATION 5	13	.0328	.041	.011

Mean Difference = .0037

Levene's Test for Equality of Variances: F= .103 P= .751

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.22	21	.826	.017	(-.031, .039)
Unequal	.23	20.30	.824	.017	(-.031, .038)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 4	10	2.3595	1.093	.346
LOCATION 5	13	2.4593	.968	.268

Mean Difference = -.0998

Levene's Test for Equality of Variances: F= .980 P= .333

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.23	21	.819	.430	(-.995, .795)
Unequal	-.23	18.17	.822	.438	(-1.019, .820)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 4	10	.3342	.140	.044
LOCATION 5	13	.3283	.068	.019

Mean Difference = .0059

Levene's Test for Equality of Variances: F= 1.508 P= .233

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.13	21	.895	.044	(-.086, .098)
Unequal	.12	12.25	.904	.048	(-.099, .111)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 4	10	.0000	.000	.000
LOCATION 5	13	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 2.161 P= .156

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.13	21	.045	.000	(.000, .000)
Unequal	-2.26	20.43	.035	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 4	9	.3771	.115	.038
LOCATION 5	13	.2779	.105	.029

Mean Difference = .0992

Levene's Test for Equality of Variances: F= .064 P= .803

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.10	20	.049	.047	(.000, .198)
Unequal	2.06	16.36	.056	.048	(-.003, .201)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 4	10	2.4000	.699	.221
LOCATION 5	13	2.1538	.376	.104

Mean Difference = .2462

Levene's Test for Equality of Variances: F= 5.136 P= .034

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.09	21	.290	.227	(-.225, .717)
Unequal	1.01	12.96	.332	.244	(-.282, .774)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 4	9	.3666	.109	.036
LOCATION 5	13	.2667	.109	.030

Mean Difference = .0999

Levene's Test for Equality of Variances: F= .000 P= .989

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.11	20	.047	.047	(.001, .198)
Unequal	2.11	17.28	.050	.047	(.000, .200)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 4	10	.3611	.082	.026
LOCATION 5	13	.3895	.078	.022

Mean Difference = -.0284

Levene's Test for Equality of Variances: F= .199 P= .660

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.85	21	.407	.034	(-.098, .041)
Unequal	-.84	19.02	.411	.034	(-.099, .042)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 4	10	629.2000	82.988	26.243
LOCATION 6	5	619.8000	71.876	32.144

Mean Difference = 9.4000

Levene's Test for Equality of Variances: F= .816 P= .383

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.22	13	.833	43.672	(-84.972, 103.772)
Unequal	.23	9.28	.826	41.496	(-84.497, 103.297)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 4	10	.0142	.011	.003
LOCATION 6	5	.0444	.030	.013

Mean Difference = -.0302

Levene's Test for Equality of Variances: F= 16.285 P= .001

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.95	13	.011	.010	(-.052, -.008)
Unequal	-2.21	4.53	.084	.014	(-.065, .005)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 4	10	.0365	.038	.012
LOCATION 6	5	.0256	.010	.005

Mean Difference = .0109

Levene's Test for Equality of Variances: F= 7.822 P= .015

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.62	13	.544	.018	(-.027, .049)
Unequal	.85	11.37	.413	.013	(-.017, .039)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 4	10	2.3595	1.093	.346
LOCATION 6	5	2.4626	.964	.431

Mean Difference = -.1031

Levene's Test for Equality of Variances: F= .439 P= .519

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.18	13	.861	.578	(-1.351, 1.145)
Unequal	-.19	9.12	.856	.552	(-1.353, 1.147)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 4	10	.3342	.140	.044
LOCATION 6	5	.4210	.136	.061

Mean Difference = -.0868

Levene's Test for Equality of Variances: F= .045 P= .835

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.14	13	.274	.076	(-.251, .078)
Unequal	-1.15	8.30	.281	.075	(-.261, .087)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 4	10	.0000	.000	.000
LOCATION 6	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 1.880 P= .194

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	4.31	13	.001	.000	(.000, .000)
Unequal	5.24	12.76	.000	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 4	9	.3771	.115	.038
LOCATION 6	5	.5374	.219	.098

Mean Difference = -.1603

Levene's Test for Equality of Variances: F= .988 P= .340

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.83	12	.092	.088	(-.351, .031)
Unequal	-1.53	5.25	.185	.105	(-.430, .110)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 4	10	2.4000	.699	.221
LOCATION 6	5	3.4000	.548	.245

Mean Difference = -1.0000

Levene's Test for Equality of Variances: F= .211 P= .653

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.78	13	.016	.359	(-1.777, -.223)
Unequal	-3.03	10.17	.012	.330	(-1.735, -.265)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 4	9	.3666	.109	.036
LOCATION 6	5	.4940	.220	.098

Mean Difference = -.1274

Levene's Test for Equality of Variances: F= 1.282 P= .280

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.47	12	.167	.087	(-.316, .061)
Unequal	-1.22	5.13	.277	.105	(-.397, .142)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 4	10	.3611	.082	.026
LOCATION 6	5	.4918	.090	.040

Mean Difference = -.1307

Levene's Test for Equality of Variances: F= .017 P= .898

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.82	13	.014	.046	(-.231, -.031)
Unequal	-2.73	7.43	.028	.048	(-.244, -.017)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 5	13	636.0000	85.531	23.722
LOCATION 6	5	619.8000	71.876	32.144

Mean Difference = 16.2000

Levene's Test for Equality of Variances: F= 1.621 P= .221

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.37	16	.713	43.325	(-75.667, 108.067)
Unequal	.41	8.68	.695	39.950	(-74.197, 106.597)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 5	13	.0143	.013	.004
LOCATION 6	5	.0444	.030	.013

Mean Difference = -.0301

Levene's Test for Equality of Variances: F= 10.995 P= .004

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-3.03	16	.008	.010	(-.051, -.009)
Unequal	-2.19	4.65	.085	.014	(-.065, .005)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 5	13	.0328	.041	.011
LOCATION 6	5	.0256	.010	.005

Mean Difference = .0072

Levene's Test for Equality of Variances: F= 7.253 P= .016

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.38	16	.711	.019	(-.033, .048)
Unequal	.58	15.07	.571	.012	(-.019, .034)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 5	13	2.4593	.968	.268
LOCATION 6	5	2.4626	.964	.431

Mean Difference = -.0033

Levene's Test for Equality of Variances: F= .049 P= .828

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.01	16	.995	.509	(-1.082, 1.075)
Unequal	-.01	7.34	.995	.508	(-1.204, 1.197)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 5	13	.3283	.068	.019
LOCATION 6	5	.4210	.136	.061

Mean Difference = -.0927

Levene's Test for Equality of Variances: F= 3.721 P= .072

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.96	16	.068	.047	(-.193, .008)
Unequal	-1.45	4.78	.209	.064	(-.257, .071)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 5	13	.0000	.000	.000
LOCATION 6	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 4.467 P= .051

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	4.53	16	.000	.000	(.000, .000)
Unequal	6.63	15.99	.000	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 5	13	.2779	.105	.029
LOCATION 6	5	.5374	.219	.098

Mean Difference = -.2595

Levene's Test for Equality of Variances: F= 1.703 P= .210

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-3.46	16	.003	.075	(-.418, -.101)
Unequal	-2.54	4.73	.054	.102	(-.522, .003)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 5	13	2.1538	.376	.104
LOCATION 6	5	3.4000	.548	.245

Mean Difference = -1.2462

Levene's Test for Equality of Variances: F= 3.245 P= .091

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-5.57	16	.000	.224	(-1.721, -.772)
Unequal	-4.68	5.52	.004	.266	(-1.898, -.595)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 5	13	.2667	.109	.030
LOCATION 6	5	.4940	.220	.098

Mean Difference = -.2273

Levene's Test for Equality of Variances: F= 1.655 P= .217

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.99	16	.009	.076	(-.389, -.066)
Unequal	-2.21	4.77	.081	.103	(-.492, .037)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 5	13	.3895	.078	.022
LOCATION 6	5	.4918	.090	.040

Mean Difference = -.1023

Levene's Test for Equality of Variances: F= .039 P= .845

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.39	16	.030	.043	(-.193, -.011)
Unequal	-2.23	6.48	.064	.046	(-.214, .010)

HIGH FLOW: T-TEST RESULTS FOR COMBINED SAMPLER DEPTHS

LEGEND:

LOCATION 1 = 6 INCH DEPTH SAMPLER FOR PAIR 1 AT WEBBERVILLE
+
6 INCH DEPTH SAMPLER FOR PAIR 2 AT WEBBERVILLE
+
6 INCH DEPTH SAMPLER FOR PAIR 3 AT WEBBERVILLE

LOCATION 2 = 12 INCH DEPTH SAMPLER FOR PAIR 1 AT WEBBERVILLE
+
12 INCH DEPTH SAMPLER FOR PAIR 2 AT WEBBERVILLE
+
12 INCH DEPTH SAMPLER FOR PAIR 3 AT WEBBERVILLE

LOCATION 3 = SURFACE WATER SAMPLES FOR WEBBERVILLE

LOCATION 4 = 6 INCH DEPTH SAMPLER FOR PAIR 1 AT SMITHVILLE
+
6 INCH DEPTH SAMPLER FOR PAIR 2 AT SMITHVILLE
+
6 INCH DEPTH SAMPLER FOR PAIR 3 AT SMITHVILLE

LOCATION 5 = 12 INCH DEPTH SAMPLER FOR PAIR 1 AT SMITHVILLE
+
12 INCH DEPTH SAMPLER FOR PAIR 2 AT SMITHVILLE
+
12 INCH DEPTH SAMPLER FOR PAIR 3 AT SMITHVILLE

LOCATION 6 = SURFACE WATER SAMPLES FOR SMITHVILLE

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 1	12	575.8333	34.314	9.905
LOCATION 2	11	578.4545	38.534	11.618

Mean Difference = -2.6212

Levene's Test for Equality of Variances: F= .000 P= .984

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.17	21	.865	15.188	(-34.213, 28.971)
Unequal	-.17	20.14	.865	15.268	(-34.477, 29.235)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 1	12	.0798	.136	.039
LOCATION 2	11	.0629	.111	.033

Mean Difference = .0169

Levene's Test for Equality of Variances: F= .960 P= .338

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.33	21	.748	.052	(-.091, .125)
Unequal	.33	20.74	.746	.051	(-.090, .124)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 1	12	.0175	.030	.009
LOCATION 2	11	.0045	.001	.000

Mean Difference = .0129

Levene's Test for Equality of Variances: F= 7.208 P= .014

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.43	21	.168	.009	(-.006, .032)
Unequal	1.50	11.03	.163	.009	(-.006, .032)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 1	12	1.2795	.851	.246
LOCATION 2	11	1.3908	.652	.197

Mean Difference = -.1113

Levene's Test for Equality of Variances: F= .311 P= .583

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.35	21	.730	.318	(-.774, .551)
Unequal	-.35	20.40	.727	.315	(-.768, .545)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 1	12	.2908	.064	.019
LOCATION 2	11	.3080	.090	.027

Mean Difference = -.0172

Levene's Test for Equality of Variances: F= 1.115 P= .303

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.53	21	.599	.032	(-.084, .050)
Unequal	-.53	17.97	.605	.033	(-.086, .052)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 1	12	.0000	.000	.000
LOCATION 2	11	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 1.318 P= .264

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.12	21	.904	.000	(.000, .000)
Unequal	-.12	17.05	.906	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 1	12	.3343	.252	.073
LOCATION 2	11	.2176	.117	.035

Mean Difference = .1167

Levene's Test for Equality of Variances: F= 2.733 P= .113

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.40	21	.176	.083	(-.057, .290)
Unequal	1.44	15.81	.169	.081	(-.055, .288)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 1	12	2.1667	.718	.207
LOCATION 2	11	1.9091	.539	.163

Mean Difference = .2576

Levene's Test for Equality of Variances: F= .312 P= .582

Variances	t-test for Equality of Means t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.97	21	.345	.267	(-.297, .812)
Unequal	.98	20.27	.340	.263	(-.292, .807)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 1	12	.2557	.141	.041
LOCATION 2	11	.1636	.081	.024

Mean Difference = .0920

Levene's Test for Equality of Variances: F= 1.271 P= .272

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.90	21	.072	.049	(-.009, .193)
Unequal	1.94	17.76	.068	.047	(-.008, .192)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 1	12	.3051	.079	.023
LOCATION 2	11	.3176	.087	.026

Mean Difference = -.0126

Levene's Test for Equality of Variances: F= .013 P= .909

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.36	21	.720	.035	(-.084, .059)
Unequal	-.36	20.25	.721	.035	(-.085, .060)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 1	12	575.8333	34.314	9.905
LOCATION 3	5	587.0000	37.888	16.944

Mean Difference = -11.1667

Levene's Test for Equality of Variances: F= .013 P= .910

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.59	15	.561	18.791	(-51.229, 28.895)
Unequal	-.57	6.91	.587	19.627	(-57.591, 35.257)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 1	12	.0798	.136	.039
LOCATION 3	5	.0766	.110	.049

Mean Difference = .0032

Levene's Test for Equality of Variances: F= .751 P= .400

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.05	15	.963	.069	(-.144, .150)
Unequal	.05	9.35	.960	.063	(-.139, .145)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 1	12	.0175	.030	.009
LOCATION 3	5	.0083	.007	.003

Mean Difference = .0092

Levene's Test for Equality of Variances: F= 1.854 P= .193

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.67	15	.515	.014	(-.020, .038)
Unequal	1.00	13.21	.333	.009	(-.011, .029)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 1	12	1.2795	.851	.246
LOCATION 3	5	1.3466	.779	.348

Mean Difference = -.0671

Levene's Test for Equality of Variances: F= .031 P= .862

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.15	15	.882	.443	(-1.012, .877)
Unequal	-.16	8.23	.879	.426	(-1.050, .916)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 1	12	.2908	.064	.019
LOCATION 3	5	.2390	.151	.068

Mean Difference = .0518

Levene's Test for Equality of Variances: F= 4.023 P= .063

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.02	15	.324	.051	(-.056, .160)
Unequal	.74	4.62	.496	.070	(-.128, .232)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 1	12	.0000	.000	.000
LOCATION 3	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 5.764 P= .030

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.54	15	.003	.000	(.000, .000)
Unequal	5.34	13.20	.000	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 1	12	.3343	.252	.073
LOCATION 3	5	.3654	.077	.035

Mean Difference = -.0311

Levene's Test for Equality of Variances: F= 2.831 P= .113

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.27	15	.794	.117	(-.280, .218)
Unequal	-.39	14.50	.705	.081	(-.204, .142)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 1	12	2.1667	.718	.207
LOCATION 3	5	3.0000	.000	.000

Mean Difference = -.8333

Levene's Test for Equality of Variances: F= 3.173 P= .095

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.55	15	.022	.327	(-1.531, -.136)
Unequal	-4.02	11.00	.002	.207	(-1.289, -.377)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 1	12	.2557	.141	.041
LOCATION 3	5	.2900	.046	.020

Mean Difference = -.0343

Levene's Test for Equality of Variances: F= 2.400 P= .142

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.52	15	.608	.066	(-.174, .105)
Unequal	-.75	14.68	.463	.046	(-.131, .063)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 1	12	.3051	.079	.023
LOCATION 3	5	.2762	.150	.067

Mean Difference = .0289

Levene's Test for Equality of Variances: F= 1.756 P= .205

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.53	15	.605	.055	(-.088, .146)
Unequal	.41	4.94	.701	.071	(-.154, .211)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 2	11	578.4545	38.534	11.618
LOCATION 3	5	587.0000	37.888	16.944

Mean Difference = -8.5455

Levene's Test for Equality of Variances: F= .004 P= .950

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.41	14	.686	20.685	(-52.921, 35.830)
Unequal	-.42	7.94	.688	20.545	(-55.935, 38.844)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 2	11	.0629	.111	.033
LOCATION 3	5	.0766	.110	.049

Mean Difference = -.0137

Levene's Test for Equality of Variances: F= .008 P= .930

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.23	14	.821	.060	(-.141, .114)
Unequal	-.23	7.88	.823	.059	(-.151, .123)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 2	11	.0045	.001	.000
LOCATION 3	5	.0083	.007	.003

Mean Difference = -.0038

Levene's Test for Equality of Variances: F= 15.862 P= .001

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.93	14	.075	.002	(-.008, .000)
Unequal	-1.27	4.09	.271	.003	(-.012, .004)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 2	11	1.3908	.652	.197
LOCATION 3	5	1.3466	.779	.348

Mean Difference = .0442

Levene's Test for Equality of Variances: F= .078 P= .784

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.12	14	.907	.373	(-.755, .843)
Unequal	.11	6.69	.915	.400	(-.902, .990)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 2	11	.3080	.090	.027
LOCATION 3	5	.2390	.151	.068

Mean Difference = .0690

Levene's Test for Equality of Variances: F= 1.294 P= .274

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.15	14	.267	.060	(-.059, .197)
Unequal	.95	5.34	.384	.073	(-.118, .256)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 2	11	.0000	.000	.000
LOCATION 3	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 5.404 P= .036

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.43	14	.029	.000	(.000, .000)
Unequal	3.61	10.88	.004	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 2	11	.2176	.117	.035
LOCATION 3	5	.3654	.077	.035

Mean Difference = -.1478

Levene's Test for Equality of Variances: F= 1.362 P= .263

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.56	14	.023	.058	(-.272, -.024)
Unequal	-2.99	11.61	.012	.049	(-.255, -.040)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 2	11	1.9091	.539	.163
LOCATION 3	5	3.0000	.000	.000

Mean Difference = -1.0909

Levene's Test for Equality of Variances: F= 3.081 P= .101

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-4.44	14	.001	.246	(-1.618, -.563)
Unequal	-6.71	10.00	.000	.163	(-1.453, -.728)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 2	11	.1636	.081	.024
LOCATION 3	5	.2900	.046	.020

Mean Difference = -.1264

Levene's Test for Equality of Variances: F= 2.849 P= .114

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-3.23	14	.006	.039	(-.210, -.043)
Unequal	-3.98	12.95	.002	.032	(-.195, -.058)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 2	11	.3176	.087	.026
LOCATION 3	5	.2762	.150	.067

Mean Difference = .0414

Levene's Test for Equality of Variances: F= 1.220 P= .288

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.70	14	.492	.059	(-.085, .168)
Unequal	.57	5.26	.590	.072	(-.144, .227)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 4	10	586.0000	30.467	9.634
LOCATION 5	15	587.8667	30.168	7.789

Mean Difference = -1.8667

Levene's Test for Equality of Variances: F= .012 P= .913

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.15	23	.881	12.364	(-27.450, 23.716)
Unequal	-.15	19.31	.882	12.389	(-27.804, 24.071)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 4	10	.0073	.005	.002
LOCATION 5	15	.0075	.005	.001

Mean Difference = -.0002

Levene's Test for Equality of Variances: F= .038 P= .848

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.08	23	.938	.002	(-.005, .004)
Unequal	-.08	20.46	.938	.002	(-.005, .004)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 4	10	.0240	.032	.010
LOCATION 5	15	.0182	.024	.006

Mean Difference = .0058

Levene's Test for Equality of Variances: F= .552 P= .465

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.52	23	.607	.011	(-.017, .029)
Unequal	.49	15.66	.630	.012	(-.019, .031)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 4	10	1.1610	.389	.123
LOCATION 5	15	1.2141	.359	.093

Mean Difference = -.0531

Levene's Test for Equality of Variances: F= .193 P= .664

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.35	23	.729	.151	(-.367, .260)
Unequal	-.34	18.33	.734	.154	(-.377, .271)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 4	10	.2274	.110	.035
LOCATION 5	15	.2583	.119	.031

Mean Difference = -.0309

Levene's Test for Equality of Variances: F= .064 P= .803

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.65	23	.520	.047	(-.129, .067)
Unequal	-.67	20.52	.513	.046	(-.127, .066)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 4	10	.0000	.000	.000
LOCATION 5	15	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .986 P= .331

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.78	23	.444	.000	(.000, .000)
Unequal	-.93	17.18	.365	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 4	10	.1979	.118	.037
LOCATION 5	15	.1857	.076	.020

Mean Difference = .0122

Levene's Test for Equality of Variances: F= .701 P= .411

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.32	23	.754	.039	(-.068, .092)
Unequal	.29	14.05	.776	.042	(-.078, .103)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 4	10	2.1000	.316	.100
LOCATION 5	15	2.2000	.561	.145

Mean Difference = -.1000

Levene's Test for Equality of Variances: F= 1.208 P= .283

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.51	23	.615	.196	(-.505, .305)
Unequal	-.57	22.56	.575	.176	(-.464, .264)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 4	10	.1946	.117	.037
LOCATION 5	15	.1818	.074	.019

Mean Difference = .0128

Levene's Test for Equality of Variances: F= .659 P= .425

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.33	23	.741	.038	(-.066, .092)
Unequal	.31	13.83	.764	.042	(-.077, .103)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 4	10	.2481	.106	.034
LOCATION 5	15	.2732	.113	.029

Mean Difference = -.0251

Levene's Test for Equality of Variances: F= .019 P= .893

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.56	23	.582	.045	(-.118, .068)
Unequal	-.57	20.27	.578	.044	(-.118, .068)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 4	10	586.0000	30.467	9.634
LOCATION 6	5	571.4000	42.934	19.201

Mean Difference = 14.6000

Levene's Test for Equality of Variances: F= 1.731 P= .211

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.77	13	.457	19.051	(-26.567, 55.767)
Unequal	.68	6.10	.522	21.482	(-37.981, 67.181)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 4	10	.0073	.005	.002
LOCATION 6	5	.0118	.011	.005

Mean Difference = -.0045

Levene's Test for Equality of Variances: F= 4.337 P= .058

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.15	13	.273	.004	(-.013, .004)
Unequal	-.90	4.92	.408	.005	(-.017, .008)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 4	10	.0240	.032	.010
LOCATION 6	5	.0060	.002	.001

Mean Difference = .0180

Levene's Test for Equality of Variances: F= 4.995 P= .044

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.24	13	.236	.014	(-.013, .049)
Unequal	1.78	9.18	.108	.010	(-.005, .041)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 4	10	1.1610	.389	.123
LOCATION 6	5	1.2126	.240	.107

Mean Difference = -.0516

Levene's Test for Equality of Variances: F= 2.286 P= .154

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.27	13	.792	.192	(-.466, .363)
Unequal	-.32	12.12	.757	.163	(-.407, .304)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 4	10	.2274	.110	.035
LOCATION 6	5	.2376	.085	.038

Mean Difference = -.0102

Levene's Test for Equality of Variances: F= .412 P= .532

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.18	13	.859	.056	(-.132, .112)
Unequal	-.20	10.26	.847	.052	(-.125, .105)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 4	10	.0000	.000	.000
LOCATION 6	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 8.813 P= .011

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	4.88	13	.000	.000	(.000, .000)
Unequal	6.65	11.44	.000	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 4	10	.1979	.118	.037
LOCATION 6	5	.3086	.084	.038

Mean Difference = -.1107

Levene's Test for Equality of Variances: F= .256 P= .621

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.87	13	.085	.059	(-.239, .018)
Unequal	-2.10	11.00	.060	.053	(-.227, .006)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 4	10	2.1000	.316	.100
LOCATION 6	5	3.2000	.447	.200

Mean Difference = -1.1000

Levene's Test for Equality of Variances: F= .983 P= .340

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-5.55	13	.000	.198	(-1.528, -.672)
Unequal	-4.92	6.08	.003	.224	(-1.647, -.553)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 4	10	.1946	.117	.037
LOCATION 6	5	.2630	.066	.029

Mean Difference = -.0684

Levene's Test for Equality of Variances: F= .410 P= .533

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.20	13	.253	.057	(-.192, .055)
Unequal	-1.44	12.63	.174	.047	(-.171, .034)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 4	10	.2481	.106	.034
LOCATION 6	5	.2738	.086	.038

Mean Difference = -.0257

Levene's Test for Equality of Variances: F= .332 P= .574

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.47	13	.648	.055	(-.144, .093)
Unequal	-.50	9.85	.626	.051	(-.139, .088)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
COND				
LOCATION 5	15	587.8667	30.168	7.789
LOCATION 6	5	571.4000	42.934	19.201

Mean Difference = 16.4667

Levene's Test for Equality of Variances: F= 1.928 P= .182

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.95	18	.353	17.263	(-19.810, 52.743)
Unequal	.79	5.38	.460	20.720	(-36.814, 69.747)

Variable	Number of Cases	Mean	SD	SE of Mean
NH33				
LOCATION 5	15	.0075	.005	.001
LOCATION 6	5	.0118	.011	.005

Mean Difference = -.0043

Levene's Test for Equality of Variances: F= 4.220 P= .055

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.22	18	.238	.004	(-.012, .003)
Unequal	-.88	4.72	.421	.005	(-.017, .008)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
NO22				
LOCATION 5	15	.0182	.024	.006
LOCATION 6	5	.0060	.002	.001

Mean Difference = .0122

Levene's Test for Equality of Variances: F= 4.778 P= .042

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.12	18	.278	.011	(-.011, .035)
Unequal	1.95	14.71	.071	.006	(-.001, .026)

Variable	Number of Cases	Mean	SD	SE of Mean
NO3				
LOCATION 5	15	1.2141	.359	.093
LOCATION 6	5	1.2126	.240	.107

Mean Difference = .0015

Levene's Test for Equality of Variances: F= 1.150 P= .298

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.01	18	.993	.174	(-.363, .366)
Unequal	.01	10.52	.992	.142	(-.311, .314)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
OP				
LOCATION 5	15	.2583	.119	.031
LOCATION 6	5	.2376	.085	.038

Mean Difference = .0207

Levene's Test for Equality of Variances: F= .669 P= .424

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.36	18	.726	.058	(-.101, .143)
Unequal	.42	9.73	.682	.049	(-.088, .130)

Variable	Number of Cases	Mean	SD	SE of Mean
H				
LOCATION 5	15	.0000	.000	.000
LOCATION 6	5	.0000	.000	.000

Mean Difference = .0000

Levene's Test for Equality of Variances: F= 1.349 P= .261

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.96	18	.065	.000	(.000, .000)
Unequal	3.44	14.52	.004	.000	(.000, .000)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TKN				
LOCATION 5	15	.1857	.076	.020
LOCATION 6	5	.3086	.084	.038

Mean Difference = -.1229

Levene's Test for Equality of Variances: F= .002 P= .969

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-3.05	18	.007	.040	(-.208, -.038)
Unequal	-2.90	6.37	.025	.042	(-.227, -.019)

Variable	Number of Cases	Mean	SD	SE of Mean
TOC				
LOCATION 5	15	2.2000	.561	.145
LOCATION 6	5	3.2000	.447	.200

Mean Difference = -1.0000

Levene's Test for Equality of Variances: F= .017 P= .899

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-3.60	18	.002	.278	(-1.583, -.417)
Unequal	-4.05	8.61	.003	.247	(-1.559, -.441)

t-tests for independent samples of LOCATION

Variable	Number of Cases	Mean	SD	SE of Mean
TON				
LOCATION 5	15	.1818	.074	.019
LOCATION 6	5	.2630	.066	.029

Mean Difference = -.0812

Levene's Test for Equality of Variances: F= .034 P= .856

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.16	18	.044	.038	(-.160, -.002)
Unequal	-2.31	7.73	.051	.035	(-.162, .000)

Variable	Number of Cases	Mean	SD	SE of Mean
TP				
LOCATION 5	15	.2732	.113	.029
LOCATION 6	5	.2738	.086	.038

Mean Difference = -.0006

Levene's Test for Equality of Variances: F= .427 P= .522

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.01	18	.991	.055	(-.117, .116)
Unequal	-.01	9.03	.990	.048	(-.110, .109)