

1997 LANDFILL STATUS REPORT

Pickles Butte Sanitary Landfill

Canyon County, Idaho

February 1998



Prepared by Jack H. Biddle R.P.G. and William B. Strowd R.P.G.

**Holladay Engineering Company
Project Number 091496**

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TABLE OF CONTENTS

| | |
|---|----|
| INTRODUCTION AND PERMIT STATUS | 3 |
| CONCLUSIONS AND RECOMMENDATIONS | 4 |
| DESIGN | 6 |
| 1973 DESIGN | 6 |
| 1991 DESIGN | 6 |
| 1997 DESIGN | 7 |
| Final Cover Design | 9 |
| Daily Cover | 14 |
| TOTAL CANYON DESIGN | 14 |
| FILL RATES | 17 |
| 1991 FILL VOLUME | 17 |
| FILL RATE CALCULATION METHODOLOGY | 17 |
| 1997 FILL VOLUME | 20 |
| 1991 VERSUS 1997 ASSUMPTIONS | 20 |
| PROJECTED CAPACITY | 22 |
| CAPACITY CONSERVATION STRATEGIES | 25 |
| NEXT STATUS REPORT | 26 |
| ADJACENT PROPERTIES | 27 |
| FACILITY MASTER PLAN | 28 |
| METHANE AND GROUND WATER MONITORING | 29 |
| MONITORING SYSTEM | 29 |
| Methane Monitoring System | 29 |
| Groundwater Monitoring System | 29 |
| MONITORING RESULTS AND CONCLUSIONS | 30 |
| Methane Monitoring Results | 30 |
| Groundwater Monitoring Results | 31 |
| Recommendations | 36 |
| Methane Monitoring Recommendations | 36 |
| Ground Water Monitoring Recommendations | 36 |
| TITLE V - CLEAN AIR ACT | 38 |
| REQUIREMENTS | 38 |
| LANDFILL EVALUATION RESULTS | 39 |
| COMPLIANCE STRATEGY | 40 |
| Background | 40 |
| Strategy | 41 |
| FINANCIAL ASSURANCE | 42 |

| | |
|------------------|----|
| REFERENCES | 44 |
|------------------|----|

APPENDIX A - PERMITS

APPENDIX B - WASTE RECORDS

APPENDIX C - MONITORING RESULTS

LIST OF FIGURES

| | |
|--|----|
| Figure 1 - DRAINAGE CONTROL DETAILS | 8 |
| Figure 2 - MAP VIEW OF FINAL DESIGN SURFACE | 10 |
| Figure 3 - PSEUDO-THREE DIMENSIONAL VIEW OF FINAL DESIGN SURFACE | 11 |
| Figure 4 - FINAL COVER DESIGN | 13 |
| Figure 5 - TOTAL CANYON DESIGN | 16 |
| Figure 6 - MONTHLY YARDAGE RECORDS | 18 |
| Figure 7 - YARDAGE- MOVING ANNUAL AVERAGE | 18 |
| Figure 8 - MONTHLY TONNAGE RECORDS | 19 |
| Figure 9 - TONNAGE- MOVING ANNUAL AVERAGE | 19 |
| Figure 10 - FACILITY FOOTPRINT - OCTOBER 4, 1996 | 21 |
| Figure 11 - VOLUME AND TONNAGE COMPARISON | 22 |
| Figure 12 - GROWTH COMPARISON | 25 |

LIST OF TABLES

| | |
|--|----|
| Table 1 - DESIGN COMPARISON | 9 |
| Table 2 - FINAL COVER MATERIAL QUANTITIES | 13 |
| Table 3 - TOTAL CANYON DESIGN | 15 |
| Table 4 - FILL RATE COMPARISON | 23 |
| Table 5 - YEAR PROJECTED CAPACITY REACHED | 24 |
| Table 6 - ADDITIONAL PROPERTY | 27 |
| Table 7 - METALS WITH STATISTICAL EVIDENCE OF CONTAMINATION OR ABOVE THE MCL | 32 |
| Table 8 - FIELD FILTRATION TEST (01-08-96) | 35 |
| Table 9 - NON METHANE ORGANIC COMPOUND | 39 |



INTRODUCTION AND PERMIT STATUS

The landfill began accepting municipal solid waste April 1, 1983. The landfill began operations in conformance with an operation plan developed in 1973 which was modified in 1975, 1976, 1980, and 1986. With the promulgation, by the Federal Environmental Protection Agency (EPA), of 40 CFR Part 258, commonly referred to as Subtitle D, on October 9, 1991, a new set of design and operation criteria were required. Subsequent to the promulgation of Subtitle D the 1993 Idaho Legislature adopted a new section of Idaho Law that provided the state primacy for implementation of the Subtitle D criteria within Idaho. This law, Title 39, Chapter 74, Idaho Code, defines the site certification, design, operation, closure, and post-closure requirements for landfills in Idaho. The law defined the regulatory authority in the state over various new permits that were required to be obtained to comply with the new criteria. A copy of all permit approvals are located in *Appendix A* of this report.

Site Certification was accepted by the Idaho Division of Environmental Quality (IDEQ) August 9, 1993. Site Certification criteria contains a set of locational standards and restrictions for new and existing landfills that continue to accept waste after October 9, 1993 (for large landfills like Pickles Butte). No locational restrictions are applicable to the Pickles Butte Sanitary Landfill.



The hydrogeologic characterization and facility design were approved by IDEQ on October 28, 1994. The approval acknowledged that the arid design approach was appropriate, that the "no potential for migration" demonstration had been met. Further, IDEQ approved a waiver to the ground water monitoring requirements of state design criteria.











The new Operation and Maintenance Plan was approved by the Southwest District Health Department on October 6, 1993. The approved operation plan does not include any alternative operational criteria requiring approval by IDEQ.

Title 39, Chapter 74 Section 19 of Idaho Code requires that "At intervals of not less than three years, nor more than five years, the owner, county, director and health district shall jointly conduct a comprehensive review of the MSWLF unit for provisions contained in this chapter, technical guidance, other provisions, and the plan for design and operation, as amended." Based on the approval dates for the design and operation plan this review should be conducted between October 1997 and October 1998.



CONCLUSIONS AND RECOMMENDATIONS

This section summarizes the findings of the report and collects all of the recommendations into this one section. Conclusions are denoted by a  symbol and recommendations are marked with a  symbol. The entries are listed in order as they occur in the report.

-  The landfill is in compliance with applicable permits for operation of a municipal solid waste landfill in accordance with the criteria of Title 39 Chapter 74 Idaho Code.
-  Modification of the final design slopes to provide for management of surface water run-off has reduced the total site capacity from 26.4 to 21.6 million cubic yards; an 18% reduction.
-  The capillary break final cover, proposed in this report, promises to have a superior ability to protect the landfill after closure to water infiltration. This design should be submitted to the Southwest District Health Department for review and the facility *Operation and Maintenance Manual* modified to include the new design.
-  Currently approximately 30% of each yard of airspace is consumed by soil cover material. Waste cell size and configuration should be evaluated to maximize waste content and minimize soil.
-  If the entire canyon is used for fill the total site capacity would triple from 21.6 to approximately 64.6 million cubic yards.
-  The 1997 records are far more comprehensive than those available in 1990, but yardage and tonnage records are mixed. All future in coming waste will be weighed and interpolation between yards and tons will not be necessary.
-  The annual fill rate (compacted inplace waste) estimated in 1991 was 100,000 cubic yards and 1997 was 250,000 cubic yards.
-  Actual pounds of solid waste per cubic yard of airspace is 1004 pounds rather than 1400 pounds factor used in the 1991 report ; a 41% reduction. The smaller design capacity and lower density reduces site tonnage capacity from 18.5 to 10.8 million tons: a 41% reduction.
-  Annual waste growth rate based on the 1996 and 1997 County fiscal years was 5.25%. If this growth rate continues the landfill will reach capacity in approximately 30 years.
-  Capacity conservation strategies should be explored to extend the useful life of the landfill.



- ☞ The next status report should be produced within five years of the mapping for this report or by fall 2001.
- ☞ An additional 430 acres should be acquired from the BLM and private landowners to allow the County the option of using the entire canyon for landfill.
- ☞ All components of the *Facility Master Plan* for new facilities construction are completed.
- ☞ The strategy for abandonment and/or relocation of the Nampa Highway District road through the middle of the canyon should be developed.
- ☞ The underground storage tanks located by the old shop should be decommissioned in accordance with IDEQ criteria.
- ☞ The old water supply well located near the old shop should be abandoned in accordance with Idaho Department of Water Resources regulations prior to placement of solid waste over the area.
- ☞ Continue the quarterly methane monitoring program as specified in the *Operation and Maintenance Manual*.
- ☞ Continue to collect water samples from the monitoring wells on a semi-annual basis, and for at least the next four events, collect samples for determination of major ions, alkalinity and dissolved oxygen in addition to the standard suite of parameters.
- ☞ The ground water monitoring system is performing adequately.
- ☞ Meet with IDEQ to discuss the use of alternate default values in the Tier 1 calculations for determination of the gas emission from the landfill as require by the Clean Air Act.
- ☞ If IDEQ will not allow the use of alternate default values, conduct a Tier 2 investigation to derive a site specific C_{NMOC} value for use in the calculations to determine whether the landfill must install a gas collection and control system.
- ☞ The County has developed a system of Financial Assurance reporting acceptable to IDEQ which requires annual evaluation and updating.

Summary Conclusion

Overall the facility is being managed very well, employing up to date operational methods, and adhering to the design criteria, procedures and policies included in the design report approved by IDEQ and the Operation and Maintenance approved by the Health District and adopted by the County.

DESIGN

There have been several designs developed for the Pickles Butte Sanitary Landfill. The first design was completed as a portion of the original operation plan in 1973. This design was modified in the 1991 status report to maximize the advantages allowed in the of the new criteria. The 1997 design outlined in this report refines the 1991 design. Each of the designs is discussed in the sections below and summarized in **Table 1 - Design Comparison**. The Total Canyon Design was briefly mentioned in the 1991 report and is again discussed in this report.

1973 DESIGN

The original Plan of Operation was developed by Blakey Engineering Inc. in 1973 and subsequently modified in 1975, 1976, 1980, 1983 and 1986. Generally, the Plan of Operation entailed a three-phase fill sequence. Phase I began by filling three of the deeper ravines to a common elevation. Two of the three ravines were located northeast of the access road and the third southwest of the road. Phase II continued to fill the area over the three ravines to a depth of 175 feet and a crown elevation of 2900 feet (msl) with 30% side slopes. Phase III filling would consist of filling small miscellaneous higher elevation ravines and place a final lift over the Phase II footprint. The site capacity was estimated to be 16 million cubic yards (Blakley, 1973).

During the first eight years of operation landfill management followed the original Plan of Operation except that the third ravine located southwest of the road was not filled. At the time, the County was still leasing the property from the Bureau of Land Management (BLM) which stipulated that motorcycle use would continue outside of the active area of the landfill. The County modified it's Plan of Operation in 1980 to maximize motorcycle access to the site. When the facility opened in 1983, the two ravines northeast of the road were filled as designed in Phase I and then Phase II filling began without filling the third ravine.

1991 DESIGN

The development of the site has continued along the general intent of the original Plan of Operation with some refinements. The fill continues to use the area northeast of the access road by constructing 15- to 20-foot thick lifts across the entire fill extending towards the canyon rim. All of the daily cover used has been excavated from within the canyon. Cover soil material has been applied daily since 1990, prior to this time only interim cover between lifts was consistently applied. The application of daily cover has probably significantly decreased the methane generation rate of the waste deposited since 1990. This will be discussed in greater detail in the report section *Methane and Ground Water Monitoring - Methane Monitoring Results*.

The floor of the landfill has been graded so that surface water drains to the northwest. To satisfy requirements of the federal National Pollutant Discharge Elimination System (NPDES) a holding pond was constructed below the toe of the fill to retain all surface water drained from the site. The pond,



since its construction in 1992, has performed adequately in retaining all surface water runoff with significant reserve capacity. All collected water evaporates during the following summer season so that by fall the pond is empty.

The principal difference between the 1991 and 1973 designs was the configuration of the design profile from a flat top to a peaked top. The peaked profile would be built with 3:1 sideslopes and three hundred foot-wide shallow dome across the top. The peaked profile is preferable to a flat top since some settlement of the underlying solid waste may be expected to occur. The amount and rate of settlement is a function of a number of factors including: depth of solid waste, inplace density, moisture content, waste composition, daily and interim cover material volume, infiltrated water volume and rate, time, aperiodic climatic events, and final cover integrity. Settlement occurring beneath a flat top may be expected to create depressions in the cover. These depressions would exacerbate the problems which the final cover is designed to avoid, directing surface water into the underlying waste. The peaked design would allow settlement to occur without compromising the integrity of the final cover.

The footprint of the landfill remained the same between the 1997 and 1991 designs but the 3:1 sideslope profile increased the maximum site capacity from 16,000,000 to 26,400,000 cubic yards.

1997 DESIGN

The most significant design change between the 1991 and 1997 Designs is the configuration of the final cover to manage surface water. The 1991 cover assumed uniform 3:1 side slopes which would maximize the fill volume. This approach, although allowed by the design criteria of Idaho Code, results in several of the slopes to be over 1000 feet long. Without provisions to collect and route surface water from thunderstorms and snowmelt events it is expected that large gullies would be eroded into the surface of the cover. These gullies would not only expose the underlying wastes but would act as conduits for surface water to reach underlying wastes. This water would be injected below the depth that evapotranspiration could remove it from the fill, thereby defeating the benefits of an arid climate.

The 1997 Design incorporates the construction of surface water collection swales and downdrop structures into the final cover. The maximum slopes are still 3:1 but are broken every 50 feet in elevation by drainage swales. No section of the slope will be more than 167 feet long. The drainage swales are three feet deep built at a slope of 6:1 into the hillside. The result will be an eighteen foot wide backsloped bench located every 158 feet of slope run. These benches would ring the dome configuration of the final design. The grade along the drainage swales are 2% with the downdrop structures oriented straight down the slope. The effective grade of the downdrop structures will be approximately 3.5:1. The downdrop structures will be armored with large rocks placed on a geotextile fabric. The geotextile fabric is used to protect the underlying fine grained sediments from being eroded from beneath the rock armor (See Figure 1 - *Drainage Control Details*).



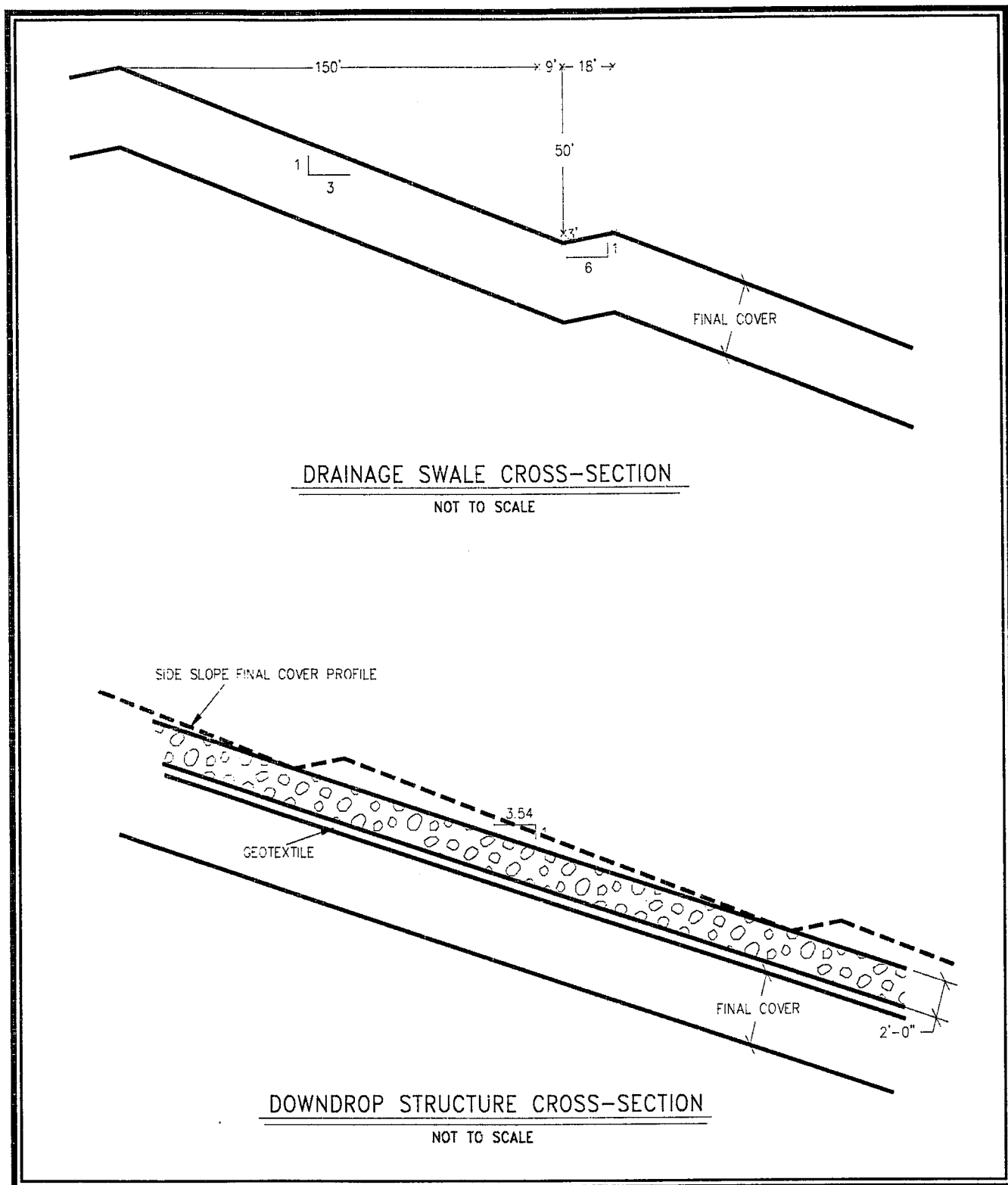


Figure 1 - DRAINAGE CONTROL DETAILS



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The incorporation of this surface water control system into the final design profile reduces the total design capacity from the amount contained in the 1991 Design Report but, the design has a 35 % greater capacity than the original 1973 design. See **Table 1 - Design Comparison** for a tabulation of the three design capacities. The design footprint remains the same as for the 1973 and 1991 Designs. The waste footprint in 1990 was 27 acres and this has expanded into the canyon rim to the east for a total area of about 36.5 acres in 1996. The area from the road to the rim is approximately 60 acres which includes the old shop area. This area is referred to in latter sections of the report as the area east of the road. The total permitted footprint is approximately 100 acres.

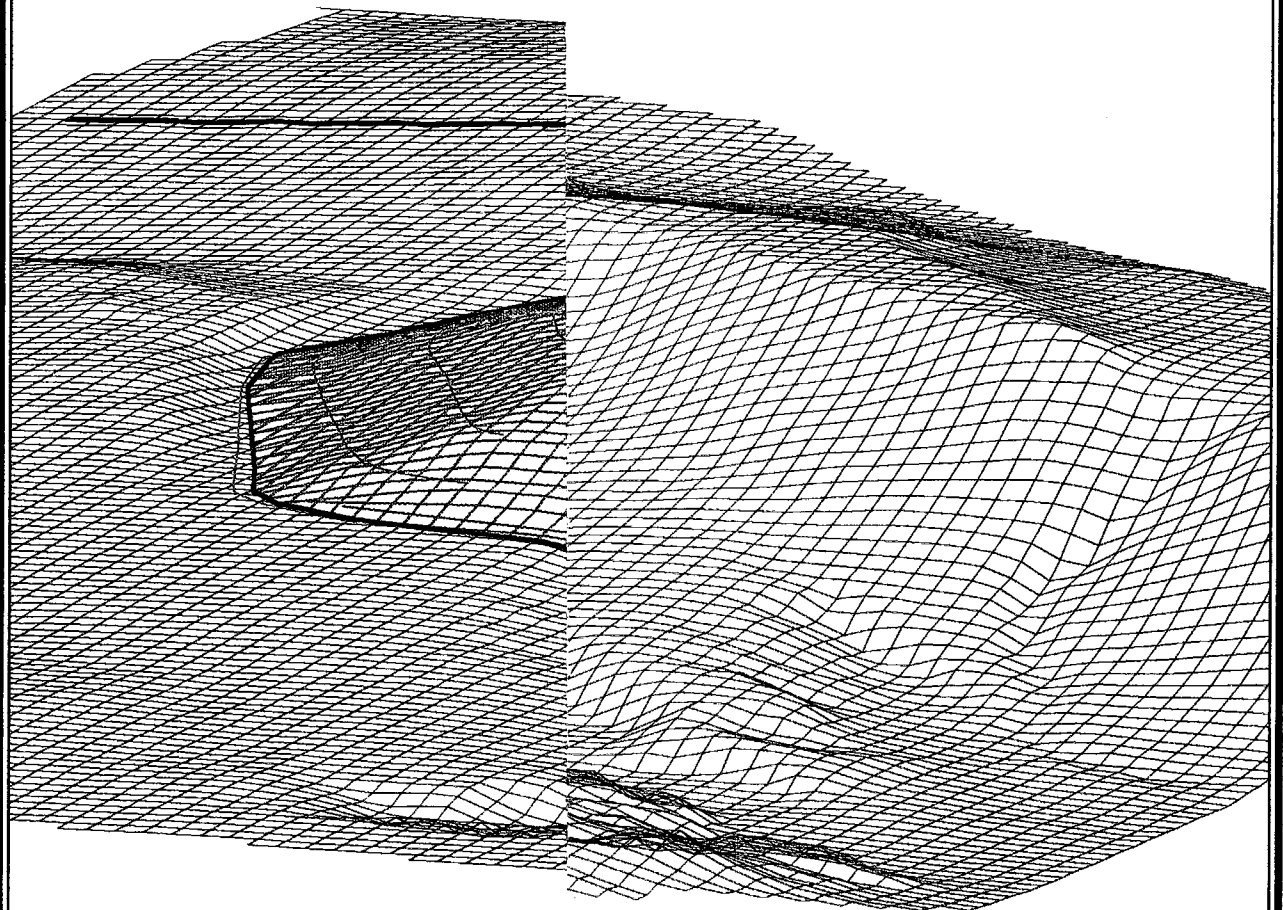
| Table 1 - DESIGN COMPARISON | | | |
|------------------------------------|------------|------------|------------|
| | 1973 | 1991 | 1997 |
| Total Capacity Yards | 16,000,000 | 26,406,000 | 21,586,000 |
| % Change from 1973 | | 65% | 35% |

The 1991 Design Report was developed based on the draft Subtitle D criteria published August 31, 1989 prior to the promulgation of the final criteria on October 9, 1991. The state did not receive primacy for the solid waste program until late summer of 1993. From the time Subtitle D was introduced, through the period that the landfill design was approved by IDEQ in October 1994 it was unknown whether the state would base the permit on volume/tonnage, footprint, or a combination of both. The 1991 design, which was carried unchanged through the permitting process, was formulated to maximize the permitted footprint and volume by taking full advance of all flexibility allowed by the federal and state criteria. The federal regulations did not significantly change between the draft and the final rule. The state permitted the footprint and associated maximum 26.5 million cubic yards of capacity. Although the reduction of nearly five million cubic yards from the 1991 design is significant, the incorporation of the surface water drainage system in the final design profile is a more realistic design for the long term operation and post-closure management of the facility. See **Figure 2** for a map view and **Figure 3** for a pseudo-three-dimensional view of the final design profile.

Final Cover Design

The final cover proposed in the 1991 Design Report and reviewed by IDEQ in 1994 specified that the cover would be constructed from fine-grained soils located at the site. The cover would be 4.3 to 6.5 feet thick depending on the source area material. This cover was designed based on the effective specific retention of the soil types. The effective specific retention is defined as the difference between the moisture content of the soil at field capacity and wilting point. For the two soil resource areas the effective specific retention was estimated to range from 7 to 9 % and 9 to 10 % by volume for Areas VI and VII, respectively. Areas VI and VII are located in the northeast corner of the site.





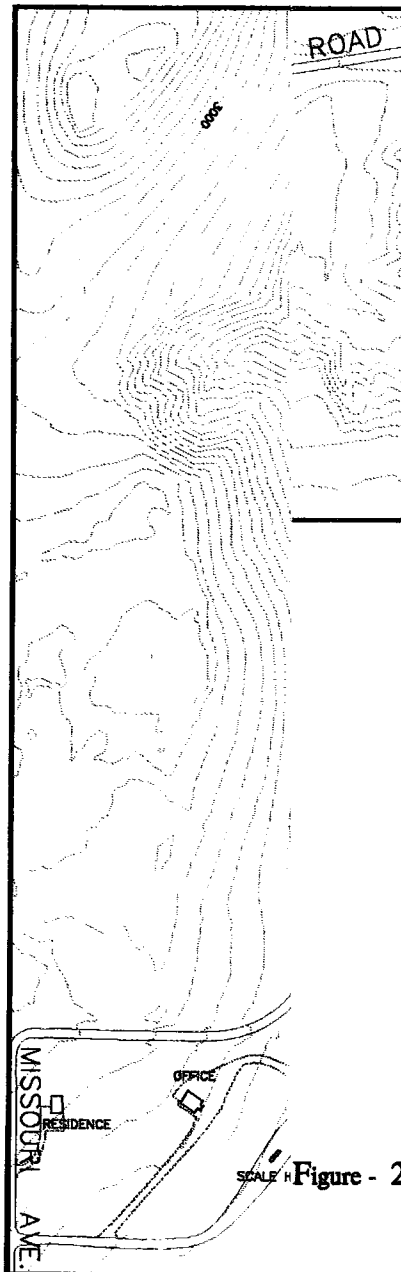
LEGEND

- EXISTING CONTOURS
- 1997 DESIGN CONTOURS
- 1997 DESIGN BOUNDARY
- DRAINAGE

Figure - 3 PSEUDO-THREE DIMENSIONAL
VIEW OF FINAL DESIGN SURFACE



SCALE: 1 INCH=500 FEET
CONTOUR INTERVAL = 10'



LEGEND

- EXISTING CONTOURS
- 1997 DESIGN CONTOURS
- - - - - 1997 DESIGN BOUNDARY
- ===== CURRENT PROPERTY BOUNDARY
- DRAINAGE
- PB-5 • GROUND WATER MONITORING WELL

Figure - 2 MAP VIEW OF FINAL DESIGN SURFACE



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Since the design was written, the federal government has conducted extensive research into the movement of soil moisture in arid climates and the design of cover systems to retain this moisture in the near surface. The research has evaluated the retarding behavior of a capillary break on the downward movement of moisture. The following is excerpted from a paper by Wing and Gee (1994) who have conducted extensive research at the Hanford Site located in Southeastern Washington.

The capillary break is effective in controlling the downward movement of moisture through the break. The break is constructed by placing a fine-grained soil layer directly over a layer of coarse material such as a clayey silt over a gravel layer. The differences in void sizes between the two materials provide a barrier to percolating water.

In an unsaturated system, the capillary pressures are much less than atmospheric pressure. For significant quantities of water to flow into and through the coarser sublayers, the water pressure must be raised to nearly equal atmospheric pressure. The overlying fine soils must become nearly saturated for the water pressure to approach atmospheric pressure and allow water to flow into the sublayers. This resistance to drainage explains the large storage capacity of the overlying fine soil. Keeping the water in the fine-textured layer provides time for evaporation and transpiration to remove it.

The difference in the amount of water that can be held by a given thickness of soil is significant. For the soils identified as area VI and VII the effective specific retention capacity increases from 29 to 31% and 32 to 33%, respectively. This means that each foot of soil would be capable of retaining between 3.48 to 3.96 inches of water. The 1991 design specified the cover to have a effective specific capacity equal to 5.2 inches of water. Less than two feet of either soil VI or VII would be required to retain the design volume of water.

Figure 4 - Final Cover Design, shows the components of the capillary break cover. A layer of sandy gravel twelve inches thick is laid over the interim cover on the waste. The gravel layer is covered by a thin geotextile mat. The purpose of this geotextile mat is to assure that when the fine-grained soil is laid on top of the gravel it does not filter downward into the gravel layer and compromise the capillary break. The geotextile covered gravel layer is overlain by thirty-six inches of fine grained soils for either area VI or VII.

Although, less than twenty four inches of soil is required, the design calls for thirty-six inches of soil to allow for wind erosion, surface water erosion between maintenance periods, and safety margin. The top six inches of the soil is mixed with 15% small pebbles. These small pebbles will produce an armored surface known as desert pavement. This surface will greatly reduce the effect of wind erosion to thin the cover. **Table 2** contains material quantities for construction of 100 acres of final cover.

The available cover material identified in 1991 was 617,000 and 283,500 cubic yards for Areas VI and VII, respectively. The gravel deposit located between the canyon rim and the eastern property boundary is the probable source area for both the sandy gravel and pebbles. If the gravel deposit were 12 feet thick the deposit would need to be at least 8.5 acres in size. Geologic mapping of the canyon rim identified that the gravel deposit thins to the north and is cemented with calcium carbonate which would render the material unuseable. The amount of useable gravel available at the site is unknown.



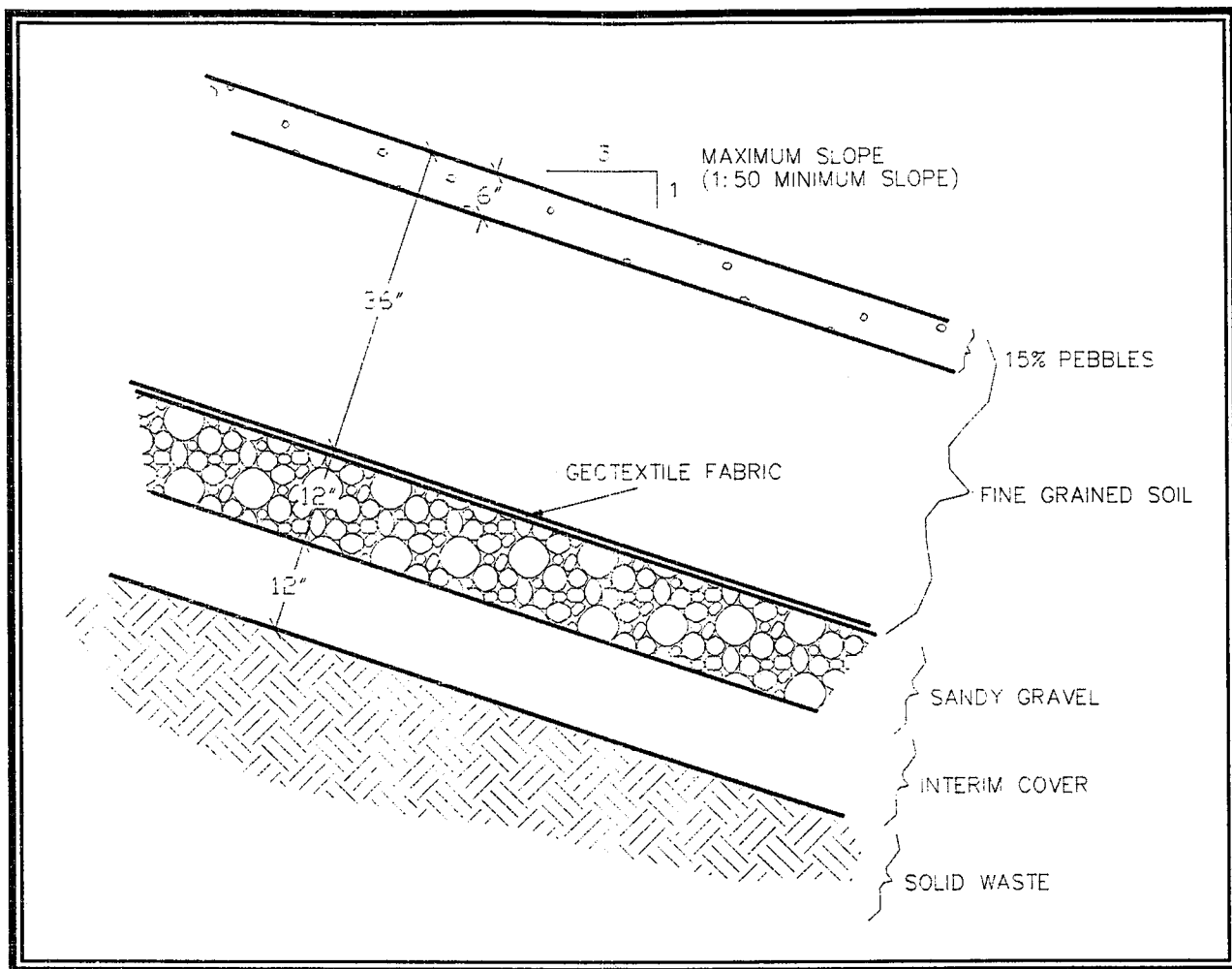


Figure 4 - FINAL COVER DESIGN

| Table 2 - FINAL COVER MATERIAL QUANTITIES | | |
|---|------------------------|--------------------------|
| Daily or Interim Cover | 12 inches thick | 161,000 yds ³ |
| Sandy Gravel | 12 inches thick | 161,000 yds ³ |
| Geotextile Fabric | 8 mil thickness | 484,000 yds ² |
| Fine-grained Cover Soil | 36 inches thick | 472,000 yds ³ |
| Desert Pavement Pebbles | 15% of upper 6 inches | 12,100 yds ³ |
| Armored Drowndrop Structures | 4000' long by 20' wide | 6,000 yd ³ |



The gravel resources located at the landfill should be judiciously used in order that 180,000 to 200,000 cubic yards are identified and reserved for use in the final cover.

Daily Cover

The 30% by volume of filled space composed of daily and interim soil material is not far out of line with accepted management practices reported in the technical literature and by EPA. All of the daily cover has been excavated from within the canyon, and since this area that has been excavated it will receive waste in the future. The net effect is that soil volume used for cover has not reduced available capacity within the canyon. As soon as cover material is brought into the canyon, then this relationship ends, and the volume consumed by the cover material will start effecting the available capacity. At the current rate of cover material application, 30% of the available volume would be consumed by soil. Since the canyon is large there is not a sufficient supply of cover soil located within the canyon to meet all of the operational requirements until the design is completed. The day that cover soil needs to be imported into the canyon can be delayed through stockpiling of material on the short term while the excavation extends outward to the design boundary. Any operational changes that reduce the percentage of soil to total fill volume will increase available volume for burial of wastes. Cell size and configuration should be evaluated to maximize solid waste content and minimize soil.

Contradictory to the aim of minimizing soil content of the fill is the positive effect that the daily cover appears to have on reducing methane generation of the buried wastes. Also, since the cover material is very fine-grained sand, silt, and clay, and usually quite dry, much of the material sifts into the voids in the waste which will tend to stabilize the waste column and reduce future settlement.

The 1991 Design Report calculated that approximately 14,250,000 cubic yards of cover material was available outside of the fill area footprint but within the lands identified for long term purchase by the County. Re-calculation has not been required since the original assumptions used to derive the estimates have not changed nor has the landfill imported material yet from any of these areas. There is sufficient quantity of cover material to provide for all of the daily and interim cover needs of the design.

TOTAL CANYON DESIGN

A concept design was modeled to provide a preliminary estimate of the volume of airspace available if the entire canyon was used for fill. For geotechnical reasons the concept maintains the maximum design height of the 1997 design (3054 msl). But, instead of tapering the west side of the landfill down to the valley floor the design height would be maintained across the valley with fill abutting against the Pickles Butte ridge. Either a shallow dome or a ridge would be constructed to assure that the design height (3054 msl) and maximum thickness (350 feet) would not be exceeded by more than 5%. The slope stability investigation (HECO, 1998) found that this design height and waste thickness are stable under both static and seismic conditions. Please see this report: *Pickles Butte Sanitary Landfill - Geotechnical Evaluation of Final Design, Canyon County, Idaho* (HECO, 1998) for a detailed discussion of slope stability.

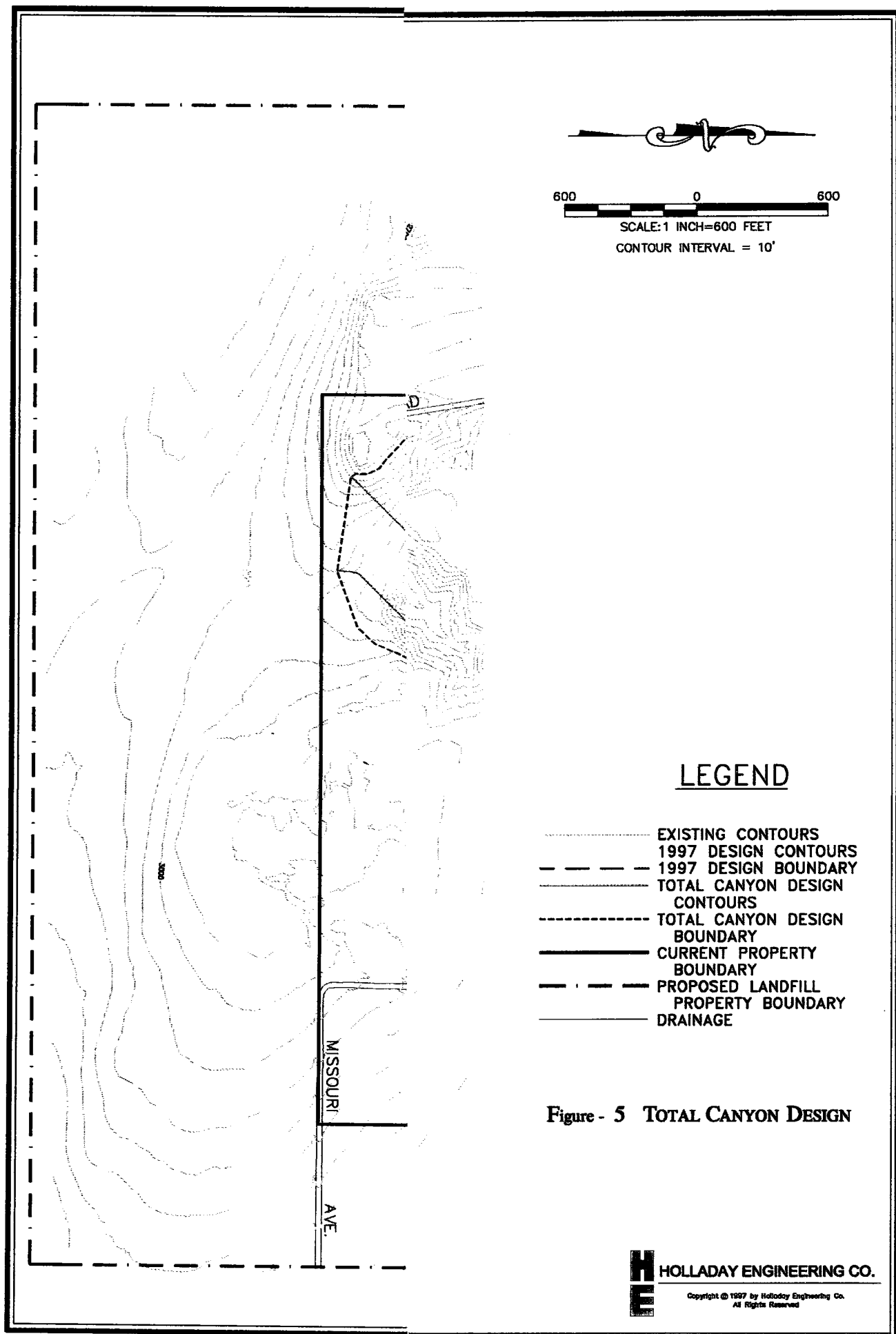


This concept level design allows 43,000,000 additional cubic yards of airspace available for a capacity of approximately 21,600,000 more tons (calculated at 1004 pound per cubic yard). The Total Canyon Design approximately triples the available capacity of the landfill (See **Table 3 - Total Canyon Design**). Additional permit approvals would need to be secured before this area of the canyon could be used. See **Figure 5 - Total Canyon Design** for a representation of the design. The figure shows fifty foot contour intervals of the design, waste boundary, and the dome shape beneath the design represents the current permitted footprint design.

| Table 3 - TOTAL CANYON DESIGN | |
|-------------------------------|------------|
| Total Cubic Yards | 64,586,000 |
| Total Tonnage ¹ | 32,506,000 |

Note: 1 - Calculated at 1004 pounds of waste per cubic yard and does not account for cover material.





FILL RATES

This section of the report begins with a brief review of the conclusions and estimates from the *1991 Design Report*. Many of the assumptions made for the *1991 Design Report* have been found to be erroneous. These assumptions are compared on **Table 4 - Fill Rate Comparison**.

1991 FILL VOLUME

A set of aerial photographs was taken on October 30, 1990 from which a 2 foot contour interval topographic map was generated. This map was compared with the hand drawn base map prepared for the *1973 Plan of Operation Report*. Between the time the site opened and the aerial photos were taken approximately 733,000 cubic yards of airspace has been used. When *1991 Design Report* was written estimates of the amount of waste delivered to the site were not being recorded. One of the recommendations of the report was to implement a waste tracking system. This system was begun in March 1991.

A number of assumptions were made to derive seasonally adjusted waste volume calculations, population growth rate, and compactive effect of equipment in order to develop a fill-rate factor used to calculate projected past and future waste volumes. Methods for deriving all of these factors are include in the *1991 Design Report* and will not be restated here. Most of these assumptions, although reasonable six years ago, significantly understate conditions which, when factored together, dramatically affect the useful life of the landfill. The effects of these assumption will be explored in greater detail in the following sections of this report.

FILL RATE CALCULATION METHODOLOGY

During the development of the 1991 Design Report a recordkeeping system was implemented at the landfill to record all of the wastes delivered to the site. This system estimated yardage of material separated into various waste type classifications. The system was used from March 1991 until mid February 1995 when scales were installed. All wastes delivered to the site since mid-February 1995 have been weighted with scales and this methodology for recording wastes will continue to be used in the future.

The volume records were factored with the tonnage records for the period March 1991 through January 1995 and March 1995 through September 1997 respectively (February 1995 yardage records were kept for the first part of the month and tonnage for the latter part of the month) . A spreadsheet of all of the records is located in *Appendix B*. The monthly yardage records are shown in **Figure 6**. A twelve month moving average is shown in **Figure 7**. The moving average is derived by adding the previous twelve months of records to reflect a year, the next average month shown drops the first month and adds the month shown on the chart. February for example, the first month shown, has a value



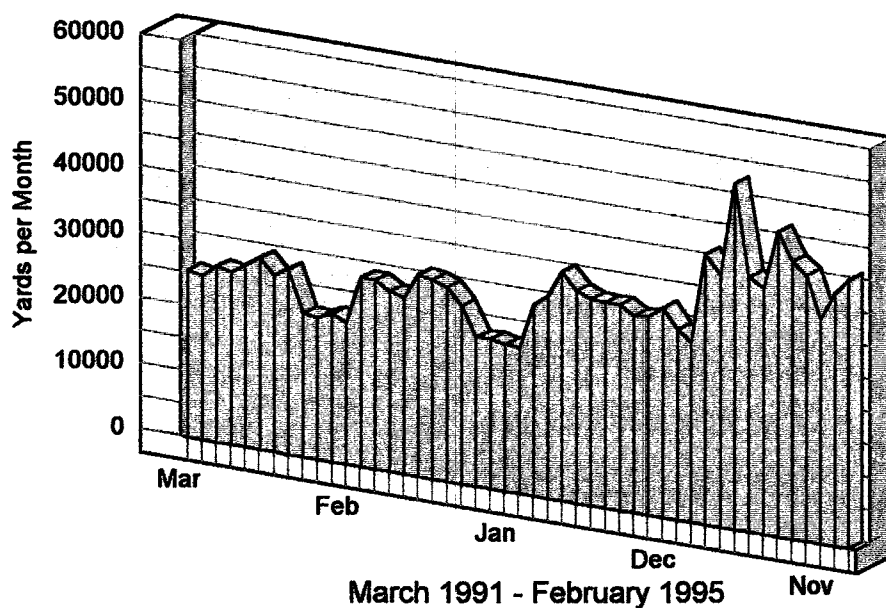


Figure 6 - MONTHLY YARDAGE RECORDS

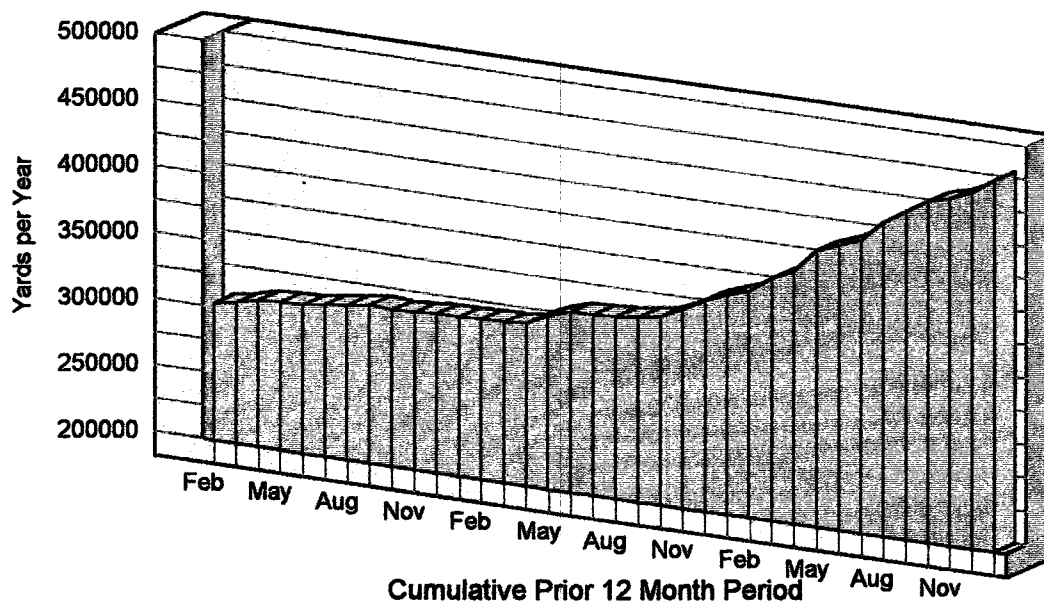


Figure 7 - YARDAGE- MOVING ANNUAL AVERAGE

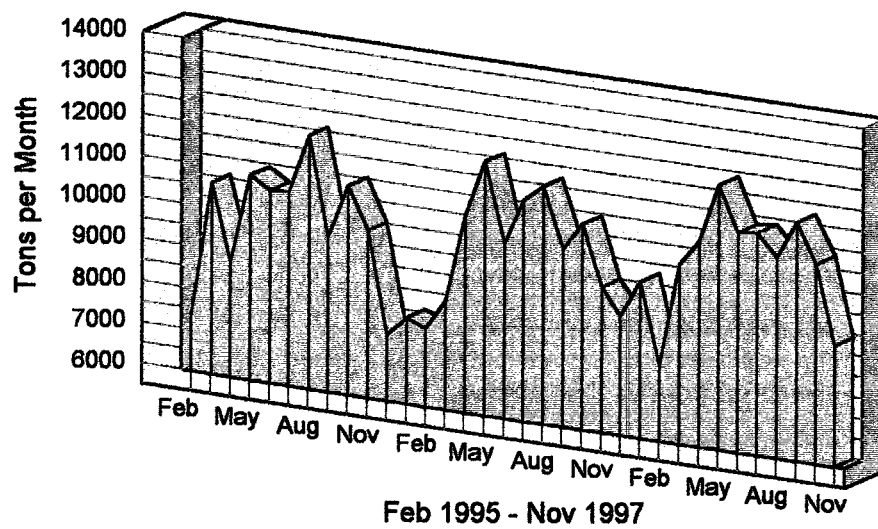


Figure 8 - MONTHLY TONNAGE RECORDS

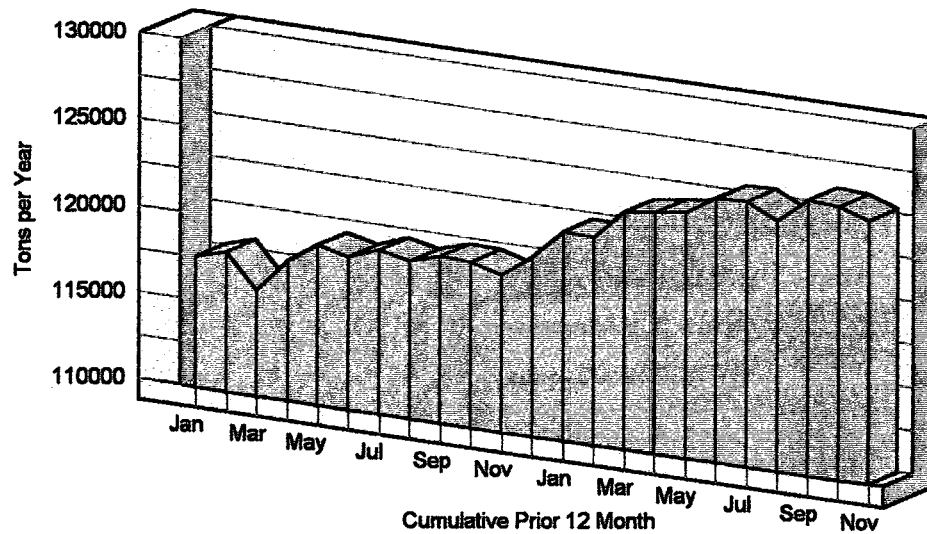


Figure 9 - TONNAGE- MOVING ANNUAL AVERAGE

represented by a summation of the records from March 1991 through February 1992. The next month tick on the chart is for the period April 1991 through March 1992, etc. This method of averaging smooths out the peaks and valleys of the monthly data charts and allows for a trend to be recognized. Likewise, **Figures 8 and 9** show the monthly and 12-month moving average for tonnage for the period February 1995 through November 1997, respectively.

The tonnage increase from County fiscal year 1996 to 1997 was 5.25 percent. This percentage was used to back calculate and convert tonnage to yardage to the year 1994, which results in an estimation that the average yard of waste delivered weighted 483 pounds. A large increase in yardage was experienced between 1993 and 1994 which reflects the delivery of waste from Owyhee and Valley Counties. A factor of 5.75 % was used to estimated the yardage increase for the period prior to 1991 since opening in 1983. This period was also adjusted to reflect the increase of yardage delivered due to the closure of the Parma Sanitary Landfill in 1989. The 5.75% growth-rate was derived as a balance between the inplace density of the waste prior to the 1990 map (approximately 733,000 yards at 1004 pounds per cubic yard) and the loose yards calculated to be delivered at an average density of 483 pounds/cubic yard.

1997 FILL VOLUME

A new set of aerial photographs were taken on October 4, 1996 and a two foot contour interval topographic map was produced. The total area containing buried solid wastes, or facility footprint, as of date of the map is 36.5 acres. **Figure 10 - Facility Footprint October 4, 1996** shows the waste footprint, property and design boundaries. The 1996 map was compared with the previous map made from the October 30, 1990 aerial photos. During this period approximately 1,128,000 cubic yards of the canyon was filled. This volume contained about 333,000 cubic yards of soil material or 30% of the fill volume. The total tonnage delivered to the site based on 483 pounds/cubic yard factor between the map periods October 30, 1990 and October 4, 1996, is 566,140 tons. During this interval, 1,128,000 cubic yards of the canyon were filled, which results in an inplace waste density of 1004 pounds/cubic yard of fill. This inplace density is also used to balance the loose yardage versus inplace yardage for the period prior to 1990. **Figure 11** shows a comparison of tonnage versus yardage fill rates. Fiscal year 1997 added approximately 125,990 tons. The cumulative tonnage deposited at the landfill since opening on April 1, 1983 until October 1, 1997 is 1,067,000 tons in a fill volume of 2,112,000 cubic yards.

1991 VERSUS 1997 ASSUMPTIONS

Many of the assumptions contained in the 1991 Design Report were based on regional studies, extrapolation from limited records, and predictions of growth that proved to be too low. For example, the daily waste generation rate used in 1991 was 4.7 pounds/person/day based on a study done in Washington State for the Yakima area in the 1980's. Based on the tonnage records for 1996-1997 fiscal year, and a Canyon County population of approximately 117,000, Valley County of 8,700, and



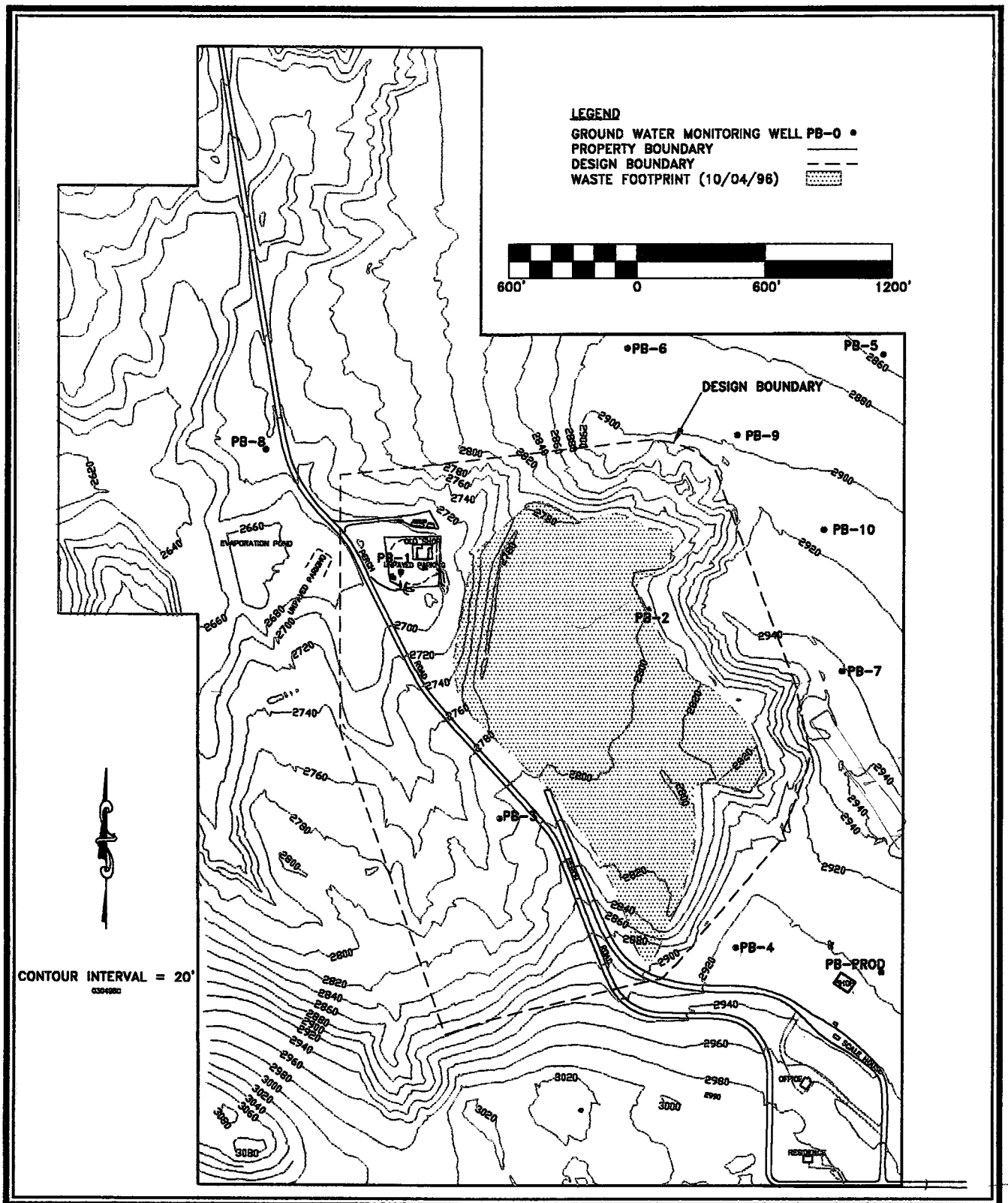


Figure 10 - FACILITY FOOTPRINT - OCTOBER 4, 1996



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1997 STATUS REPORT

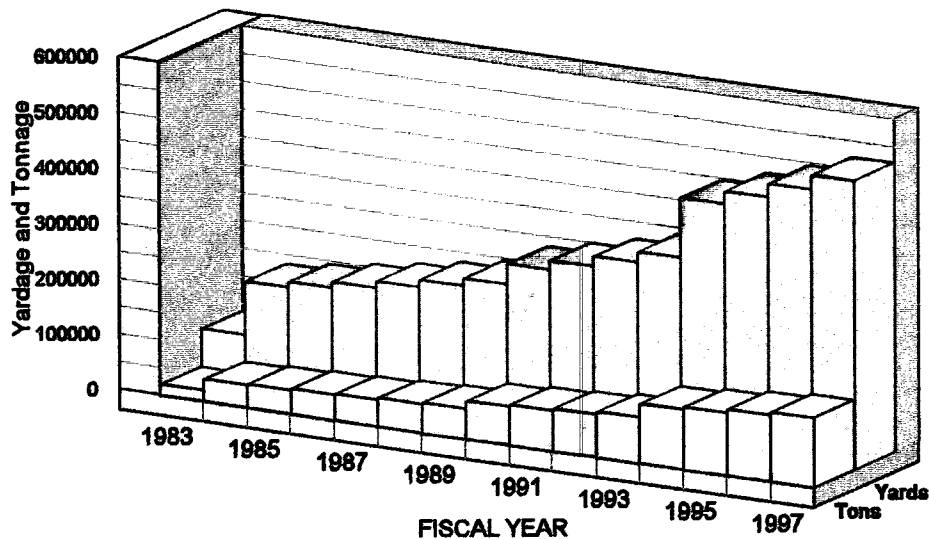


Figure 11 - VOLUME AND TONNAGE COMPARISON

Owyhee County of 10,000 for 1997, the per capita generation rate is about 5.1 pounds/person/day or 8.5% more. **Table 4 - Fill Rate Comparison** presents comparisons between the 1991 Design Report, the factors used in this report, and the percent change. Basically, per capita waste generation rate, population growth, total waste rate, daily cover, and fill rate all are greater in 1997 than they were in 1991. Waste compaction, total capacity, remaining capacity, and years of use have all decreased since 1991. The combined effect of more waste with higher growth, lower density and smaller total capacity reduces the life span of the landfill from 121 years to 30 years.

PROJECTED CAPACITY

The volume numbers present in the **Table 4 - Fill Rate Comparison** represent the airspace available which is the true measure of the asset value of the site. Operation dictates utilization efficiency of the airspace. For example, the landfill has upgraded the size of its compaction equipment which should increase the amount of waste per cubic yard. Contradictorily, state regulations require the application of daily cover to the waste cell which reduces the amount of waste per cubic yard.

Based on the 1997 design, the remaining capacity of the site is approximately 19,474,000 cubic yards. At a density of 1004 pound of waste/cubic yard about 9,776,000 tons of waste could be buried (See **Table 4 - Fill Rate Comparison**). This tonnage estimate does not include a factor for cover material. As long as cover material is excavated from within the landfill footprint the landfill enjoys 100 % utilization of its fill space. Once cover material is excavated outside of the fill area and imported into

Table 4 - FILL RATE COMPARISON

| | 1991 | 1996 | 1997 (est) | % Change (1991-1997) |
|---|-----------------------------------|-----------------------------------|---------------|-------------------------|
| Total Capacity Yards | 26,406,000 | 21,586,000 | 21,586,000 | - 18% |
| Total Capacity Tons | 18,484,200 | 10,836,200 | 10,836,200 | - 41% |
| Yards Used between Reports ¹ | 733,000 | 1,128,000 | 251,000 | |
| Waste Compaction | 1400 #/yd | 1004 #/yd | 1004 #/yd | - 28% |
| Remaining Capacity Yards | 25,673,000 | 19,725,000 | 19,474,000 | - 24% |
| Remaining Capacity Tons | 17,971,000 | 9,902,000 | 9,776,000 | - 46% |
| Daily Cover Percentage | 15-20% estimated | 30 % measured | 30 % measured | +50-100% |
| Per Capita Generation Rate | 4.7 #/person/day | 5.1 #/day | 5.1 #/day | + 8.5% |
| Population Growth ² | 0.8 % actual | 1.0% predicted | 3.8 % actual | + 300% |
| Annual Waste Rate Increase ³ | 1.0% predicted 5.75% estimated | 1.0% predicted 5.25% estimated | 5.25% actual | + 425% |
| Annual Fill Rate Yards ⁴ | 100,000 | 238,500 | 251,000 | + 151% |
| Annual Fill Rate Tons ⁵ | 68,500 | 119,707 | 125,990 | |
| Cumulative Yards | 733,000 | 1,860,000 | 2,112,000 | |
| Cumulative Tons | 368,000 | 941,000 | 1,067,000 | |
| Year Capacity Reached ⁶ | 2119 | | 2028 | - 75% |
| Year 2.5 MG Reached ⁷ | 2020 | | 2007 | - 60% |
| Capacity East of Road | 9,000,000 | 6,444,000 | 6,193,000 | - 31% |
| Ton Cap. East of Road | 6,300,000 | | 3,109,000 | - 51% |
| Year East of Road Filled | 2056 | | 2013 | - 66% |

- Notes:
1. 1991 cubic yards is volume used from April 1, 1983 to October 30, 1990; 1996 cubic yards is between the October 30, 1990 and October 4, 1996 aerial photos; 1997 estimated cubic yards is between the October 4, 1996 map and September 31, 1997 based on the tonnage and calculated in place density.
 2. Population growth between 1980 and 1990 was 0.8% and 1.0% was used for growth predictions in the 1991 Design Report. 1990 to 1995 growth was 3.8% as reported in *County Profiles of Idaho*, Idaho Department of Commerce, 1996.
 3. Predicted value is from the 1991 *Design Report*, estimated values are back calculations based on volume and tonnage records keep from 1991 to 1997, actual value is from tonnage records from 1996 to 1997.
 4. 1991 yardage factor is from the 1991 Design Report, 1996 and 1997 are calculated based on measured tonnage at 1004 #/yd³.
 5. 1991 tonnage factor is back calculated based on growth and yardage records, 1996 and 1997 are from scales records.
 6. Year Capacity Reached calculated based on 1% and 5.25% for 1991 and 1997, respectively and does not include any allowance for daily cover. See Table 5 - *Year Projected Capacity Reached* for effect of daily cover on facility life.
 7. 2.5 MegaGrams is the regulatory trigger amount contained in the Clean Air Act.



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1997 STATUS REPORT

the footprint the percent utilization decreases by the ratio of the volume of the material imported to the total fill. Currently each cubic yard of fill area contains 30% soil cover material. If this relationship continues the total number of tons, and therefore the useful life of the landfill, will be reduced by an equivalent 30%. The area east of the road is projected to reach capacity in 2013. Probably most of the cover material required for this area may be excavated from within the site footprint. Once the landfill expands across the road probably all cover material will need to be imported.

The capacity and year values in **Table 4 - Fill Rate Comparison** do not reflect the effect cover material has in any of the estimates. Cover material volume was intentionally not factored into the figures because many things can occur to alter either the rate of fill, density, or total capacity. Also the numbers are presented without associated factors in order to retain the numbers usefulness for the next status report. **Table 5 - Year Projected Capacity Reached** presents dates that the landfill would be filled based on various growth rates applied to the 1997 tonnage delivered to the site. The table also shows the effects of inclusion of cover material in the projections. **Figure 12** graphically shows the different dates the landfill will reach capacity when daily cover material is included. It is assumed that cover material will not be imported into the landfill until the area east of the road is filled in 2013. After 2013 it is assumed that 25% of the remaining volume is consumed by daily cover material. For example if cover material is applied at a 25 % by volume rate it changes the year the site reaches total capacity from 2028 to 2025.

| Table 5 - YEAR PROJECTED CAPACITY REACHED | | |
|---|----------------------------|-------------------------|
| Various Waste Growth Rates | Without Daily Cover Factor | With Daily Cover Factor |
| 5.25% Measured Growth Rate 1996-1997 | 2028 | 2025 |
| 3.8% Population Growth Rate 1990-1995 | 2033 | 2029 |
| 1.0% Growth Rate | 2054 | 2046 |
| 0.0% Constant Rate | 2075 | 2061 |



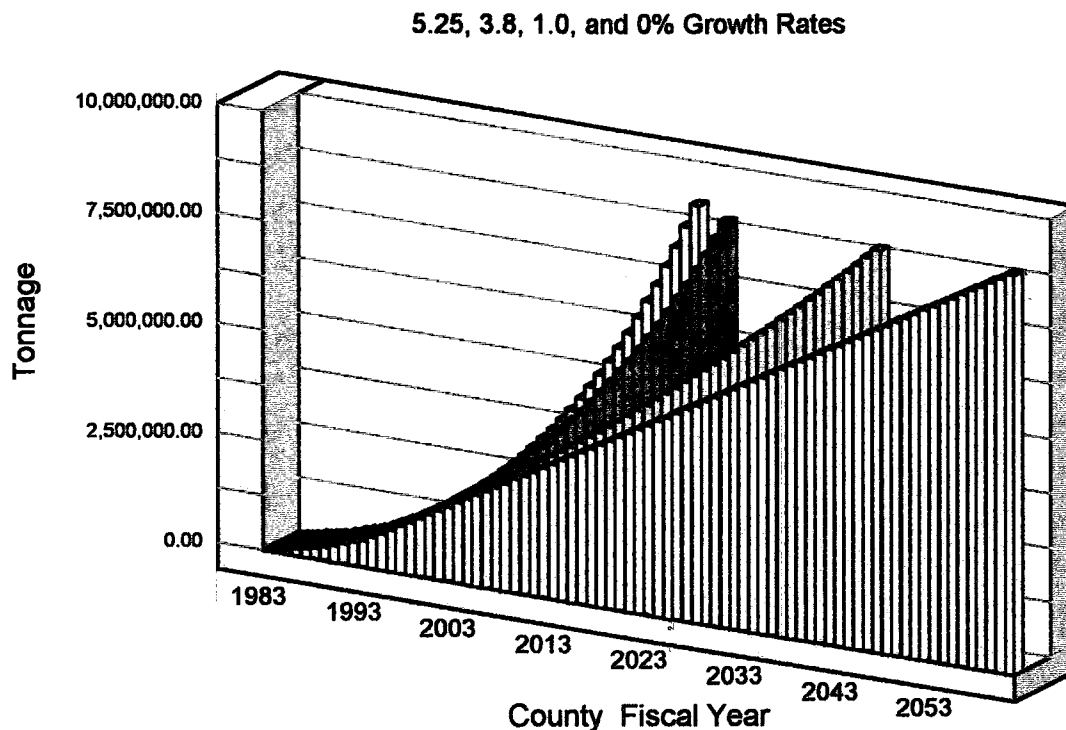


Figure 12 - GROWTH COMPARISON

CAPACITY CONSERVATION STRATEGIES

It is probable that no single strategy will dramatically increase the efficient use of airspace and increase the useful life of the landfill other than expanding the design footprint. But even tripling the site's capacity without reducing the rate of waste growth does not increase landfill life by more than 15 years (due to effects of compounding). The list provided below is intended to prompt the discussion for examination of management options that could increase the landfill's life. All listed suggestions do not have equal merit and the author is not advocating any particular one of the suggestions. Also, the list is not inclusive of all options available nor is it in any way a critique of the current operation of the landfill. Circumstances have changed over the last seven years and some of the management options that were considered in the past to be ineffective or too costly may prove more reasonable under current conditions.

- ☐ Divert green wastes to compost facility. Tree limbs, clean wood, leaves, grass clippings, some agricultural wastes including seed casings, etc. could be separated and composted. Resulting compost could be sold to defray some of the operational costs.

- ☐ Carefully monitor the placement of daily cover to not exceed the regulatory required thickness.
- ☐ Provide opportunities for the public to recycle various material at the entrance into the landfill.
- ☐ Separate any bulk materials that can be safely handled and recycled.
- ☐ Promote community recycling and composting programs.
- ☐ Promote waste reduction and reuse by local industries and citizens.
- ☐ Provide for hazardous waste collection events.
- ☐ Pursue purchase of all identified adjacent lands and permit enlarged footprint.

NEXT STATUS REPORT

The next status report should be started five years after the map for this report was produced or in the fall of 2001. The capacity calculations and projected capacity estimates should be much better since tonnage records will be available for the entire period. At that time, approximately seven years of scale records will be available on which to base long term growth trends.



ADJACENT PROPERTIES

The 1991 *Design and Site Evaluation Report* (HECO, 1991) contained recommendations to acquire 540 acres of additional lands surrounding the 260 acres that were bought from the BLM on August 21, 1991. Since those recommendations were made the County has requested, through a series of letters, purchase of 420 acres from the BLM, of which 80 have been bought. The remaining 340 acres are still being sought by the County. These acres have been included by the BLM into the agency's long term plan for sale to the County within the next five to ten years.

The 1991 report also identified 120 acres of privately owned lands for acquisition. Thirty of these acres were purchase in 1994 and the remaining 90 acres are still recommended for acquisition when they become available under favorable conditions to the County. Ten acres, located in the extreme northwestern corner of the block were offered for sale to the County in 1994, but the County did not pursue the sale. It was determined that these ten acres, due to their location and cost (more than \$3,000/acre), were not critical to the planned development of the landfill or the buffer area.

Of the original 540 acres recommended for acquisition 110 acres have been bought with 430 acres that remain targeted for purchase. Table 6 contains the description of those lands, both BLM and private, that remain to be purchased. If all of the lands are acquired the total landfill property would be 800 acres. All of the properties are located in Township 2 North, Range 3 West, Boise Meridian. The lands are shown on Figure 5 -*Total Canyon Design*.

| Table 6 - ADDITIONAL PROPERTY | | | |
|-------------------------------|----------------|---------|-------|
| Section | Description | Owner | Acres |
| 20 | SE¼ SE¼ | BLM | 40 |
| 20 | NE¼ SE¼ | Private | 40 |
| 20 | W½ E½ NE¼ | Private | 40 |
| 20 | NE ¼ NE ¼ NE ¼ | Private | 10 |
| 21 | E½ W½ E½ | BLM | 80 |
| 21 | W½ NW¼ NE¼ | BLM | 20 |
| 21 | NE¼ NW¼ | BLM | 40 |
| 28 | NW¼ NE¼ | BLM | 40 |
| 28 | N½ NW¼ | BLM | 80 |
| 29 | NE¼ NE¼ | BLM | 40 |
| TOTAL | | | 430 |

FACILITY MASTER PLAN

The County adopted Option #4 of the *Facility Master Plan* (HECO, 1994) on April 22, 1994. The chosen Option provided for the relocation of all of the landfill facilities to an area outside of the canyon. The plan provided for the construction of a new site access road, shop, scalehouse, administration office, public restrooms, weather station, fuel and water systems all located within a contained area with a caretaker residence immediately adjacent and overlooking the complex.

The chosen option was broken into three components parts for implementation over three budget years. All components of the option have been completed. In addition, an equipment storage shed has been constructed in the complex.

Future facility development at the site will principally depend on the fill rate and area of operations. Fill rate and projected capacity are presented in an earlier section of this report. One of the major projects which requires addressing is the relocation and abandonment of the County access road through the middle of the canyon. When the landfill expands across the road, the road will need to be abandoned through the canyon. Depending on operations, this may be necessary within the next ten years. Several options are available which may include, but are not limited to; abandonment of road to through-traffic from Deer Flat to Missouri Avenue with location of a new road along the strip of land the County has requested for purchase from the BLM (eastern side of site), or designation of Farner Road as the landfill bypass road. If a new road is to be built on what in now BLM lands, an additional request to BLM stating the County's intentions and timeframe should be presented to the BLM. For either option the area residents should be notified well in advance of the canyon road closure.

Before the area around the old shop can be used for disposal of solid waste several actions need to be undertaken. The old fuel storage tanks require decommissioning. Since they are located within the permitted foot print of the landfill they should be able to be decommissioned in place. IDEQ approval of the decommissioning should be secured before waste is placed in the area. The old water well needs to be abandoned in conformance with Idaho Department of Water Resources Regulations. The old shop building needs to be removed and either materials salvaged or flattened at its location.



METHANE AND GROUND WATER MONITORING

Methane monitoring and an elective ground water monitoring program have been in place at Pickles Butte since April of 1995. Holladay Engineering Company (HECO) has been managing the program and monitoring records are compiled into three-ring binders. One copy is kept at the HECO office and another at the landfill office. A ground water monitoring plan was developed by HECO and submitted within the document "Hydrogeologic Characterization, Ground Water Monitoring Plan, and Facility Design Report" (1994) for review and approval by IDEQ. Monitoring events have been on a quarterly schedule from inception until the event following April 1997, when the schedule was changed to twice a year. Events currently take place in April and October.

MONITORING SYSTEM

Methane Monitoring System

The presence of methane gas is monitored as percent lower explosive limit (LEL) in the ambient air at each well site, and within the well as the cover is first opened (the gas sampling tube is inserted under the cover). Methane gas concentration is required to be checked quarterly within the active area of the garbage and within facility structures such as the office, scalehouse and shop. Due to the facility structures being relatively distant and at a significantly higher elevation than the waste, monitoring the buildings has not been a routine procedure. The instrument employed is an Aim, Model 2000 with detectors for both combustible gas calibrated for methane and percent oxygen by volume. The instrument contains self-diagnostics with audible alarms and LED readouts which are performed automatically each time the unit is turned on. The unit is sensitive to most volatile hydrocarbons which is periodically checked during use by testing the air near the field vehicle's fuel filler cap.

Groundwater Monitoring System

A dedicated water sampling system is used for each well, consisting of stainless steel bailer, stainless cable and spool. A pump truck with hydraulic winch, steam cleaned prior to each monitoring event, is contracted from Riverside Pump and Electric of Parma to assist in bailing the wells. Eight, four-inch diameter monitoring wells have been installed, all using stainless steel screen. Five wells have all stainless construction and three wells have carbon steel casing. All wells are in excess of four hundred feet deep and most exceed five hundred feet due to the significant depth to groundwater. Each well is capped, has a monument with locking cover, and has an 8' x 8' concrete pad with permanent survey marker and steel bumper posts. Construction diagrams of each well are depicted in the monitoring record books.

Information gathered at each well during monitoring includes time, date, sampler(s) involved, percent methane in and outside the well, static water level, water temperature, pH, electrical conductivity and total dissolved solids (TDS). This information is recorded on a field form which accompanies the laboratory report in the record. Wells are partially purged by bailing prior to sample collection. Due to the slow recharge of these wells, full purging prior to sampling is not possible, but the wells are fully purged following sampling. Groundwater is collected directly from the bailer and is not filtered in the field nor in the lab. Each well sample set consist of two labeled, 40-ml, glass bottles with HCl



preservative for the 48 volatile organic compounds (VOC's) analyzed and one, labeled, one-liter polyethylene bottle for the fifteen inorganic constituents (metals) required for municipal waste landfill monitoring (without arid designs). Duplicate 40-ml VOC samples are taken as quality assurance for backup testing in case of positive detections. A complete list of the constituents analyzed with the lab's respective practical quantitative limit (PQL) and maximum containment limit (MCL) are included in *Appendix C*. PQL defines the range of concentration values that can be meaningful due to laboratory detection limits from equipment sensitivity and analytical error and MCL relates to the maximum allowable contaminant concentration of drinking water under the Clean Water Act. Samples are conveyed to the lab with chilled blue ice in coolers the same day of sample collection; or the day following, to assure sample freshness. A pair of field blanks (de-ionized water) are included in the coolers for quality control and a laboratory chain-of-custody record is completed and signed by all those that have had custody of the samples.

MONITORING RESULTS AND CONCLUSIONS

The purpose of this section of the report is to summarize the results and general status of monitoring from April 1995 to October 1997. The total record of monitoring results are too extensive to list here and readers are referred to the record books for complete data. However, summaries of data relevant to this report are provided in *Appendix C*. These include a list of constituents being monitored, a sampling date report, monitoring results of all inorganic constituents with detections above the PQL, a statistical evaluation of data for evidence of contamination (Kruskal-Wallace Test), and a statistical evaluation of homogeneity of variance of ground water data (Levene' Test). The ground water monitoring program has exclusively employed Analytical Laboratories of Boise for sample analysis and EPA developed GRIT/STAT software (version 4.14) is used in database management and statistical analysis.

Methane Monitoring Results

Positive methane gas detection has occurred in two boreholes and one well to date. In one case a detection of up to twelve percent LEL was found at the collar of PB-2, a 557-foot core hole (open hole below 289 feet) after standing capped for a week. The second detection was at the collar of borehole during drilling monitoring well PB-5 (twenty-five percent LEL while at a depth of 620 feet), and the last detection was at four percent LEL soon after monitoring well PB-3 was completed (upper screen below 340 feet). The purpose of core hole PB-2 was for geologic information used in subsurface characterization and later abandoned by backfilling with bentonite, but subsequent monitoring in the other two wells have shown no methane content. It should be noted that percent LEL represents concentrations much lower than the percent actual concentration. One hundred percent LEL corresponds to only five percent total concentration; for example twenty percent LEL is equivalent to one percent actual concentration. The initial occurrence of methane in the early life of PB-2, PB-3 and PB-5 is attributed to release of natural gas (mostly methane) from the saturated, anoxic conditions of the organic carbon and plant-rich blue clay encountered at depth.

Combustible gas has not been detected at the garbage surface at Pickles Butte Landfill. However, one hundred percent LEL was encountered below a depth of 25 feet in one borehole and 35 feet in another



to the waste bottom (52 feet) during auger drilling a geotechnical holes in November 1996. Interestingly, methane was at or below five percent LEL above these depth during drilling. No other instances of methane detection has been observed in any of the ground water wells, landfill surface, or buildings.

The difference in the methane concentration between the two depths can be attributed to a change in the operation of the landfill. Starting in 1990 daily cover began to be applied to the waste cells on a regular basis. Prior to this time, interim cover material was placed over the final lift surface and daily cover was infrequently applied. The application of daily cover appears to have reduced the overall moisture content of the waste by retarding surface water infiltration and through absorption of water by the very dry fine-grained soil cover material. Moisture content measured on samples collected during the slope stability geotechnical investigation found that average moisture content between 5 and 25 feet depth was 9.4% by volume and below 30 feet averaged 28.3% by volume. The daily cover will form lenses of material that may act as capillary pathways for moisture to move upwards to be removed from the fill by evaporation.

Groundwater Monitoring Results

Volatile organic compounds (VOC's), other than several false positives from confirmed lab errors, have not been found above laboratory method detection limit (MDL) in any samples to date. The false positives involved acetone on sample date 07/09/96. Since only one of two field blanks also had a high positive result, lab error seemed likely. After a lab check, the lab found residual acetone in some of their washed sample bottles (up to this point the lab had been using acetone to clean reused bottles!). This documentation from the lab was included in the monitoring record. VOC's are manmade compounds and their presence are a sure sign of man's impact on groundwater. Due to the absence of VOC's from monitoring thus far, there is no evidence of man-made ground water contamination at Pickles Butte Sanitary Landfill.

However, monitoring has found metal values above drinking water standards in the groundwater, and for this reason the groundwater cannot be given a total clean bill of health (see **Table 7**). The occurrence of these metals, called inorganic constituents in monitoring parlance, and their possible origin, will be discussed here.

The hydrogeologic investigation conducted at Pickles Butte (HECO, 1994) revealed a confined groundwater system with a complex potentiometric surface. This surface is expressed as a ridge of higher head gradient trending northeast below the landfill with lower gradients falling off the ridge towards the northwest and southeast. From this geometry two monitoring wells would be considered up-gradient along this ridge (PB-8 to the southwest and PB-7 to the northeast), which are on opposite ends of the landfill. To avoid having opposite wells both up-gradient, and for practical purposes of comparative analysis, PB-7 has been designated a down-gradient well since it has a lower head than PB-8. All this is mentioned because the convention of picking up-gradient and down-gradient wells within a complex confined (protected) aquifer such as this can be almost arbitrary. What is not arbitrary is that for statistical comparisons to be valid, the two classes of well must not only be designated but must also be real if determination of man-made pollution is occurring.



Table 7 - METALS WITH STATISTICAL EVIDENCE OF CONTAMINATION OR ABOVE THE MCL

| Constituent Metal | Wells with Statistical Evidence of Contamination | Wells and Sampling Events above MCL | | MCL (ug/l) |
|-------------------|--|---------------------------------------|---|------------|
| Silver (Ag) | none | PB-9 | 10-9-96 | 50 |
| Arsenic (As) | PB-3 PB-5 PB-6 PB-7 | PB-5 PB-6 PB-7 | 4-4-95, 7-11-95, 1-8-96 7-11-95, 1-8-96, 4-4-96, 2-6-96 7-11-95, 1-8-96, 7-9-96 | 50 |
| Barium (Ba) | PB-4 | none | | 2000 |
| Beryllium (Be) | none | none | | 4 |
| Cadmium (Cd) | none | PB-10 | 10-29-97 | 5 |
| Cobalt (Co) | none | none | | NA |
| Chromium (Cr) | none | PB-4 PB-10 | 1-8-96, 4-4-96, 2-6-97 7-9-96 | 100 |
| Copper (CU) | none | none | | 1300 |
| Nickel (Ni) | none | PB-8 PB-10 | 4-4-95 7-9-96, 10-9-96 | 100 |
| Lead (Pb) | PB-10 | PB-4 PB-7 PB-8 PB-9 PB-10 | 1-8-96, 4-4-96 1-8-96 1-8-96 10-9-96 7-9-96, 10-9-96, 10-29-97 | 15 |
| Antimony (Sb) | none | PB-3 PB-4 | 10-9-96 7-11-95 | 6 |
| Selenium (Se) | none | PB-3 PB-5 PB-8 | 1-8-96 1-8-96 4-9-97 | 50 |
| Thallium (Tl) | none | PB-3 PB-4 PB-5 PB-6 PB-7 | 1-8-96, 4-4-96 7-11-95 7-11-95 7-11-95 7-11-95 | 2 |
| Vanadium (Va) | none | none | | NA |
| Zinc (Zn) | PB-4 | PB-4 | 1-8-96 | 5000 |

All eight wells, (up- and down-gradient) have metal inorganics reported above the detection limit in varying amounts and over differing sampling events (refer to the Data Base Printouts in *Appendix C*). Thirteen of the fifteen inorganic constituents listed for detection monitoring within Appendix I of 40 CFR, Part 258 have been reported at least once at or above laboratory PQL in one or more wells. Those above detection limits are antimony, arsenic, barium, beryllium, cadmium, chromium, copper, lead, nickel, selenium, silver, thallium, and zinc. Of these thirteen metals, ten have at least once been reported above the MCL (see *Table 7*). Cobalt and vanadium are the two metals that as yet have not been detected. In addition to these two metals, barium, beryllium and copper have not been reported above the MCL. Most of the detections suggest no discernable trend, either between wells or over time, although some metals appear to have somewhat consistent values within the individual well over time. Several metals faintly suggest seasonal variation but this is hardly conclusive. A number of cases are simply one or two hits, or may have just once crept above lab detection limit. None of the thirteen metal constituents with detections show sample populations with either normal or lognormal distributions except for arsenic; which is a lognormal distribution. Distribution of sample populations and the percentage of non-detections are criteria used in selecting the type of statistical methods employed in evaluating whether there is significant evidence of contamination. The Kruskal-Wallace Test is a non-parametric analysis of variance (ANOVA) which is used at Pickles Butte due to the non-normal distribution of laboratory values of samples and the high percentage of non-detections (>15%).

Due to the high variability of metal concentrations between some wells, statistical evaluations indicate significant evidence of ground water contamination with several constituents in differing wells. Those indicating contamination are arsenic, barium, lead and zinc (see following *Table 7* and the Kruskal-Wallace Test in *Appendix C*). So what's happening? This can be answered in fairly certain terms for several metals but only strongly suspected for others.

First, is the lab data accurate and are the results actually representative of the samples? Laboratory error has been found in the past (see above concerning acetone) but identifying each possible error would be difficult or impossible. Based on lab QA/QC and sample controls, and the prevalence of repeatable detections, it is reasonable to conclude that most, if not all, lab results accurately reflect sample concentrations. In fact lab accuracy has mostly improved. Reportable detection limits have declined with some metals. Cr method detection limit (MDL), for example, fell from 50 ug/l to 10, and then to 2 ug/l, Sb from 100 to 5 ug/l, Be from 5 to 0.5 ug/l, Cd from 5 to 0.5 ug/l, and Pb from 50 to 5 ug/l. But this in itself has caused problems, for not only are these unit concentrations extremely low (ug/l equals parts per billion), but what may have been non-detects early in the program may now show low positive detections.

Secondly, are the samples representative of groundwater? Sampling error and well construction are the issue here. Both well construction and sampling procedures are designed to minimize these types of problems. However, several problems are known to exist and their effects on data accuracy are briefly described.

The presence and variability of chromium and nickel can be explained by the simple fact that they are component metals in stainless steel, which is used in the sample bailer, well screen, and well casing. Well depths were too great to use PVC as well materials. Abrasion of stainless steel by the many bailer trips up and down the well for purging and sampling undoubtable contributes variable amounts



in particulate (solid) form, not to mention the opportunity for its dissolution in the standing well column. Similarly, zinc is used in the galvanized fittings on the bailer cable. Hence nickel, chromium and zinc can be discounted as valid pollution indicators of groundwater at Pickles Butte since they are known to be in direct contact with sample waters.

Wells PB-5, 6, and 7 have carbon steel construction above static water levels, but these still rust from condensation and contribute to suspended solids in the samples during bailing. Although iron is not a constituent parameter, it can change water chemistry in the well (by buffering, complexing, redox reactions or other chemical processes) which can potentially change sample metal concentrations. Trace metal impurities in carbon steel can also be solubilized and detected in the ultra-low ppb range. But these effects can only answer some of the question. There still remains detected metal concentrations within the groundwater that are either too high or that are unlikely to be generated by these sources. Furthermore, many of the detections also show up in the wells constructed totally of stainless steel.

Assuming that the lab results do mostly reflect actual groundwater constituents, are the metals detected caused by the landfill or can they be derived elsewhere? In fact, the question of anthropogenic versus natural contamination is the most relevant question. This matter must first address whether comparisons between wells are valid since comparative analysis between wells determines the origin and degree of contamination. The Levene Test of homogeneity of variance can statistically do this. The results of this test on the data indicate a number of metal concentrations show the ranges of variances between up-gradient wells versus down-gradient wells to be too high (see *Appendix C*). This test indicates sample results are probably independent between wells. The most probable reasons for well independence are mostly hydrogeologic in nature. Hence the temporal and spatial variability of metal concentrations within groundwater at this site (regardless of what is up-gradient or down-gradient) are most likely from natural causes.

This conclusion is made because the hydrogeology of the monitoring horizon provides all the conditions necessary to produce results described. These conditions include: complicated groundwater flow regime within sporadically fractured claystone, hypogene hydrothermal sources of metals from underflow along (at least one identified) deep-seated faults, elevated water temperatures (up to 98 degrees F in the borehole bottom of PB-3) of deep, chemically-evolved and confined waters with increased constituent solubility and mobility, the prevalence of reduced, mineral-laden, lacustrine clay and claystone of the Glenn Ferry formation, the high adsorption capacity of naturally occurring metals by the clay and plant carbon that is turbidized and suspended in varying amounts to later be digested during lab procedures, redox reactions precipitating dissolved native metals due to oxygenation of the formerly confined more chemically reduced waters within the well column's air-water interface, and metal complexing with other ionic species characteristic of mineralized thermal waters. These conditions are generally corroborated by the established prevalence of higher relative TDS, dissolved gases and especially minor and trace metals in the deeper confined waters of the Glenns Ferry formation of the western Snake River Plain. This site's constituent range of values are comparable with other deep aquifers in the valley.

Also, all the monitoring wells show a high degree of variability of differing metals regardless of specific direction from the landfill. Landfill leachate contamination is unlikely to have such a



dispersed geometry combined with such a highly diverse yet differentiated metal chemistry. Furthermore, slow recovering monitoring wells such as these are well known for having poorer water quality (higher TDS, including metals) than wells within aquifers of high permeability. In general, the field parameters collected at each sample site; static water level, pH, temperature, conductivity, and TDS show a high degree of variance of values. This also suggest fundamental differences in water chemistry and physiochemical environment.

Table 8 - FIELD FILTRATION TEST (01-08-96)

| Arsenic | Unfiltered | Filtered | Barium | Unfiltered | Filtered | Beryllium | Unfiltered | Filtered |
|----------|------------|----------|----------|------------|----------|-----------|------------|----------|
| PB-3 | 22 | ND<5 | PB-3 | 200 | 210 | PB-3 | ND<1 | ND |
| PB-4 | 36 | 6 | PB-4 | 56 | 370* | PB-4 | 2.8 | 0.6 |
| PB-5 | 55 | 28 | PB-5 | ND<50 | ND | PB-5 | 1.1 | 0.7 |
| PB-6 | 101 | 101 | PB-6 | 280 | 280 | PB-6 | ND | ND |
| PB-7 | 118 | 14 | PB-7 | 180 | 50 | PB-7 | 3.9 | ND |
| PB-8 | 15 | ND | PB-8 | 220 | 120 | PB-8 | 1.4 | ND |
| Chromium | | | Cadmium | | | Copper | | |
| PB-3 | 10 | 14 | PB-3 | 0.7 | 0.6 | PB-3 | ND<10 | ND |
| PB-4 | 280 | ND<2 | PB-4 | 1.5 | 0.9 | PB-4 | 80 | ND |
| PB-5 | 53 | 2 | PB-5 | 1.4 | 1.1 | PB-5 | ND | ND |
| PB-6 | ND<2 | ND | PB-6 | 1.1 | 1.1 | PB-6 | ND | ND |
| PB-7 | 65 | 23 | PB-7 | 1.5 | 1.2 | PB-7 | 20 | ND |
| PB-8 | 98 | ND | PB-8 | 0.9 | 0.9 | PB-8 | ND | ND |
| Nickel | | | Antimony | | | Selenium | | |
| PB-3 | 20 | ND<20 | PB-3 | ND<5 | ND | PB-3 | 79 | ND<5 |
| PB-4 | 90 | ND | PB-4 | ND | ND | PB-4 | 31 | ND |
| PB-5 | 60 | ND | PB-5 | ND | ND | PB-5 | 76 | ND |
| PB-6 | ND<20 | ND | PB-6 | ND | ND | PB-6 | ND<5 | ND |
| PB-7 | 50 | ND | PB-7 | ND | ND | PB-7 | 16 | ND |
| PB-8 | 60 | ND | PB-8 | ND | ND | PB-8 | 12 | ND |
| Lead | | | Thallium | | | Zinc | | |
| PB-3 | ND<5 | ND | PB-3 | 2 | ND<2 | PB-3 | 166 | 161 |
| PB-4 | 121 | ND | PB-4 | ND | ND | PB-4 | 7940 | 290 |
| PB-5 | 14 | ND | PB-5 | ND | ND | PB-5 | 147 | 49 |
| PB-6 | ND | ND | PB-6 | ND | ND | PB-6 | 37 | 37 |
| PB-7 | 36 | ND | PB-7 | ND | ND | PB-7 | 559 | 56 |
| PB-8 | 22 | ND | PB-8 | ND | ND | PB-8 | 100 | 51 |
| Silver | | | Cobalt | | | Vanadium | | |
| PB-3 | ND<5 | ND | PB-3 | ND<20 | ND | PB-3 | ND<50 | ND |
| PB-4 | ND | ND | PB-4 | ND | ND | PB-4 | ND | ND |
| PB-5 | 8.0 | ND | PB-5 | ND | ND | PB-5 | ND | ND |
| PB-6 | ND | ND | PB-6 | ND | ND | PB-6 | ND | ND |
| PB-7 | 8.0 | ND | PB-7 | ND | ND | PB-7 | ND | ND |
| PB-8 | ND | ND | PB-8 | ND | ND | PB-8 | ND | ND |

To test the hypothesis that some contaminants are associated with formation clays, or are themselves solids (minerals or precipitates), field filtration tests were performed on duplicate samples. Filtration was performed with a vacuum barrel filter using a 0.45-micron filter on duplicate samples for each well (see *Table 8* and Database Printouts: Duplicates A on sample date 01/08/96 in *Appendix C*). Of the 51 unfiltered sample detections within the test, 25 (49%) declined to below lab detection with filtering, 17 (33%) showed significant declines, seven (14%) showed no significant change, and two (4%) showed significant increases with filtering. The two duplicates with significantly higher values are either due to sample label reversals or other error (duplicates were collected at the same time and conditions as the originals and cannot substantially increase without involving error in sampling or analysis). Otherwise, these results indicate that most metal contaminants originate, either totally or to a high degree, from suspended clay or other solids within the well samples. Monitoring protocol in Subtitle D regulations specifies samples are not to be field filtered for this very reason; however for the purpose of detecting artificial contaminants adsorbed by native soils within the aquifer. Although field filtration was originally recommended by HECO in the draft monitoring plan of 1994 because this potential problem was anticipated from the clayey turbid water and slow recovery of the wells, IDEQ rejected this in favor of non-filtered sample protocol as per federal regulations.

RECOMMENDATIONS

Methane Monitoring Recommendations

For safety, methane gas will continue to be monitored at the landfill and surrounding areas during ground water sampling events on a semi-annual basis. Quarterly monitoring is required by federal regulations (40 CFR Part 258.23) and the extra two events this entails should be performed by landfill staff as noted in the methane monitoring plan. Despite low methane levels at the landfill, an investigation of sustained methane generation at the landfill will be required due to the Clean Air Act. See report section *Title V - Clean Air Act* for further discussion.

Ground Water Monitoring Recommendations

The site's hydrogeologic setting presents problems to conventional ground water monitoring practices. The blue clay/locally fractured claystone monitoring horizon, the complex potentiometric surface found below the site, and the spacial and temporal variability of minor metal concentrations all suggest groundwater flow is constrained and chemically diverse. Therefore, the hydrogeochemistry below the landfill appears constituted by localized water chemistry from local lithologic, and possibly, local hydrothermal influences. Not only are naturally occurring constituent concentrations independent between wells, but they are also influenced by the vagaries of suspended sediments during well sampling. Without common well dependence nor homogenous samples, comparative statistical analysis of ground water constituents is not valid because samples are not representing identifiable up-gradient or down-gradient conditions from the landfill.

It is recommended that laboratory analysis of groundwater, for at least the following four monitoring events include a suite of major ions, alkalinity, and dissolved oxygen. This will allow characterization of each sample's basic water chemistry in order to determine the homogeneity of the ground water between wells and possibly between events. In this way it should be possible to better assess sample



interdependence between wells. Should the major water chemistry also prove to be significantly different between wells or events, then metal constituents as a monitoring tool would have diminished utility. Since they are listed as required parameters for MSWL monitoring, and because they could potentially show artificial contamination if abrupt increases or trends develop, it is recommended that they continue in the monitoring record. To perform valid statistical evaluations in the future, trend analysis by time-series or control group methodologies may help. However, these forms of analysis may require deference until a larger database is acquired for establishing more reliable background due to the high variance of metal concentrations.

Field filtering could help but not solve the problem. Regardless of any technical justification, the incentive for filtering is diminished since it is not accepted protocol. The additional cost of field filtering, especially since a contract winch truck would be required to sit idly by, is probably not justified. Monitoring already takes two days per monitoring event due to the depth and slow recovery of the wells, filtering could potentially add another day to the sampling time.

Beyond these difficulties, the monitoring system is performing adequately and it is recommended that monitoring proceed as designed. The complex ground water environment unfortunately makes for more difficult monitoring interpretations. Yet so long as VOC's or otherwise inexplicable trends in metal concentrations are not found, routine monitoring can continue to serve as assurance to the public that the landfill is not contaminating groundwater.



TITLE V - CLEAN AIR ACT

This section of the report reviews the requirements of Title V of the federal Clean Air Act as they apply to the landfill. Followed by a section describing the results of the required calculations for the landfill and a section of the possible strategy that the County could follow to comply with the criteria.

REQUIREMENTS

The U.S. Congress amended the Clean Air Act on November 15, 1990 to classify large landfills as stationary sources that must obtain Title V Operating Permits and directed the EPA to promulgate rules to regulate these landfills. On March 12, 1996 EPA promulgated the final rules which require every landfill that has accepted waste at any time since November 8, 1987 to submit a "waste capacity report" and all landfills with a total capacity greater than 2.5 million Megagrams (Mg) or about 2.75 million tons to reduce and/or control all volatile organic compound emissions to less than 50 Mg per year (about 55 tons). This 2.5 million Mg translates to a capacity at the landfill of approximately 5.5 million cubic yards. The total design capacity of the landfill is estimated to be about 20 million cubic yards. The EPA evaluation criteria for determination of compliance involves a three tiered screening approach.

The first tier (Tier 1) employs a series of equations which use a first order decomposition rate to predict whether the landfill will emit more than 50 Mg of Non-Methane Organic Compounds (M_{NMOC}) per year. These equations expect that all solid waste will completely decompose to generate the maximum amount of gases and other byproducts. This assumption that all waste will degenerate to its theoretical potential in an arid climate is fundamentally flawed. If the landfill fails this test the landfill can either install a gas collection system or perform a Tier 2 analysis.

The Tier 2 analysis involves installation of sample probes at least three feet into the waste using a spacing of two probes per hectare (about 4 per every 5 acres). Samples are extracted from these wells and the non-methane organic compound (C_{NMOC}) concentration is determined for the site. Once this value is determined it is used in the same equation used in the Tier 1 evaluation. The C_{NMOC} value must be redetermined every five years which constitutes installation of a new set of probes. If the results of the calculation still predicts that the landfill will emit more than 50 Mg of gases per year the landfill can either install a gas collection system or perform a Tier 3 analysis.

A Tier 3 analysis involves determination of the site specific methane generation rate constant (k) for the landfill. This evaluation involves installation of deep well clusters. Each cluster is comprised of one well constructed through at least 75% of the thickness of the landfill surrounded by three shallow probes and nine deep probes. Three to five of these clusters would need to be constructed depending on the configuration of the waste in the landfill. Blower and flare assemblies, standard pitot tube, differential pressure gauges for flow calibration, barometer and header piping on each deep well. Samples are collected and flow rates are determined to define a site specific gas generation constant. This constant (k) is used in the Tier 1 equations along with the C_{NMOC} concentration developed in Tier 2 to calculate whether the emission rate exceeds 50 Mg/year. The Tier 3 gas generation constant (k) is only calculated once and is used throughout the operation of the site. If the calculations using the site



specific C_{NMOC} and k still indicate that the landfill will emit gases in quantities greater than 50 Mg/year then the facility must install an active gas recovery system and treat recovered gases throughout the remaining life of the site or until gas emission falls below 50 Mg/year.

LANDFILL EVALUATION RESULTS

The Clean Air Act requires that all landfills which have a design capacity in excess of 2.5 million Mg annually calculate the amount of M_{NMOC} is predicted to be emitted from the landfill. The calculations consider age of waste and known fill rate. The tonnage fill rates developed in this report were used in the calculations. The Tier 1 analysis indicates that the landfill is currently generating 178 Mg/yr of M_{NMOC} . The regulatory limit has been set at 50 Mg/yr, therefore the landfill is predicted to exceed this limit and either an additional evaluation or installation of a collection system is required. A waste capacity report was provided to IDEQ in January 1997. A new waste capacity report with the design capacity contained in this report and the annual M_{NMOC} calculations will be provided to IDEQ in February 1998. A strategy to deal with the ramifications of the calculations is presented in the next report section. *Table 9* contains the M_{NMOC} calculations through the 1997 County fiscal year.

Table 9 - NON METHANE ORGANIC COMPOUND

Calculations Through County Fiscal Year 1997

| | |
|---|---------------------------------|
| 1 Refuse Methane generation potential | 170 L_o (m^3/Mg) |
| 2 Mass of waste in the i^{th} section | M_i (Mg) |
| 3 Methane generation rate constant | 0.05 k (1/yr) |
| 4 Age of i^{th} section | t_i (yrs) |
| 5 Concentration of NMOC | 4000 C_{nmoc} (ppm as hexane) |
| 6 Conversion Factor | 3.60e-09 |
| 7 Number of sections accepting MSW | 14.5 n |

Formula: For each i from n to $i=1$ Sum $2 k L_o M_i (e^{-kt_i}) (C_{NMOC}) (3.6 \times 10^{-9})$

| Year | M_i (Mg) | t_i (yrs) | |
|------|------------|-------------|----------|
| 1983 | 18478 | 16768 | 14.5 2.0 |
| 1984 | 39503 | 35847 | 14 4.4 |
| 1985 | 42206 | 38300 | 13 4.9 |
| 1986 | 45074 | 40902 | 12 5.5 |
| 1987 | 48117 | 43663 | 11 6.2 |
| 1988 | 51345 | 46593 | 10 6.9 |
| 1989 | 54770 | 49701 | 9 7.8 |
| 1990 | 68472 | 62134 | 8 10.2 |
| 1991 | 72649 | 65925 | 7 11.4 |
| 1992 | 77081 | 69947 | 6 12.7 |
| 1993 | 81980 | 74392 | 5 14.2 |
| 1994 | 108065 | 98062 | 4 19.7 |
| 1995 | 113424 | 102925 | 3 21.7 |
| 1996 | 119707 | 108627 | 2 24.1 |
| 1997 | 125990 | 114328 | 1 26.6 |

$M_{NMOC} = 178.0$ Mg/yr

Note: Each period (t_i) is for a County fiscal year which runs from October 1 - September 31. Since the landfill opened on April 1, 1983 the first period is for 6 months.



COMPLIANCE STRATEGY

Background

The following two quotations are excerpts from the March 12, 1996 Federal Register that contained the EPA action of Final Rule and Guideline.

From the preamble:

"The Tier 1 default values of k , L_o and C_{NMOC} tend to overstate NMOC emission rates for most landfills, and are intended to be used to indicate the need to install a collection and control system or perform a more detailed Tier 2 analysis." (Page 9912, top of center column)

From Method 2E for determination of k in Tier 3 analysis:

"It is unlikely that a site-specific k value obtained through Method 2E testing will lower the annual emission estimate below 50 Mg/yr NMOC unless the Tier 2 emission estimate is only slightly higher than 50 Mg/yr NMOC. Dry, arid regions may show a more significant difference between the default and calculated k values than wet regions." (Page 9929, last two sentences of first paragraph of Method 2E)

The first statement indicates that EPA knows that the defaults values are too low but they want landfill owners to install systems or collect data for the EPA to use. Even when the EPA admits that the values are too low, it requires that, in this case, the County spend funds to prove what the EPA all ready suspects. This is an expensive way to collect data. The second statement admits that the default value for k is probably invalid for arid areas - such as Pickles Butte.

A study conducted in Dallas/Fort Worth area of Texas measured the C_{NMOC} emissions from nine landfills to replace the default value in the Tier 2 calculations (Waste Age, 1996). The range of values measured for C_{NMOC} was 33 to 1658 ppm and an average of 309 ppm. If these values were used for Pickles Butte the results would range from 1.5 to 73.8 ppm with an average of 13.8 ppm.

A SWANA shortcourse, that was presented at the national meeting held in Portland, Oregon in the fall of 1996, presented that at the 40 to 50 landfills that had conducted a Tier 2 evaluation the average C_{NMOC} generation rate was 300 ppm and that a reasonable value for k , in arid regions, ranges from 0.018 to 0.02 yr^{-1} . Calculation of the M_{NMOC} rate for Pickles Butte using a C_{NMOC} of 300 ppm and k of 0.02 would be 6.5 Mg/yr.

Moisture content is one of the most critical factors in the production of landfill gas. The higher the moisture content, the greater the landfill gas generation rate. Moisture is introduced to a landfill by two principal mechanism: 1 - initial waste moisture content, and 2 - infiltration of surface water from precipitation. In an arid area both initial waste moisture content and amount of water available for infiltration will be low. In a dry waste landfill the methanogenic bacteria will survive and generate gas but the generation rate will be very slow. The Dallas/Fort Worth area has approximately triple the annual precipitation as the Pickles Butte Area and there measured C_{NMOC} rate is much less than the EPA default rate. It may be expected that the rate at Pickles Butte would be less than the average Texas rate.



Strategy

The first stage in the strategy is to meet with IDEQ staff to discuss the applicability of the model default values. Substitution of more climate applicable default values, based on current values collected at other landfills, may be more representative of the conditions at Pickles Butte. If more climatically reasonable values are allowed, the landfill would probably be found to be in compliance with the 50 Mg M_{NMOC} criteria.

If IDEQ will not allow the landfill to use alternative default values then a Tier 2 evaluation should be conducted. This is a far less expensive option than immediately installing a collection and treatment system. Also, this evaluation would be necessary in order to design a collection and treatment system. The landfill, in 1996 covered an area of 36.5 acres, which would require installation of about 30 probes. The criteria also requires that the probes should be installed in areas of the landfill that have contained waste for at least two years old. The way the landfill has been operated the entire landfill footprint is covered with a new lift of waste within a three year period. Most of the current landfill surface is less than two years old. A portion of the landfill that is about to be covered with the new lift could be reserved for evaluation by the Tier 2 criteria and would contain waste between 2 and 3 years old. This area is located above the old shop in the thickest section of waste, oldest landfill area, and may be acceptable to IDEQ for testing. Testing should proceed as soon as possible in order to minimize the disruption to the fill sequence.



FINANCIAL ASSURANCE

The federal Environmental Protection Agency (EPA), as a part of the Subtitle D criteria (40 CFR Part 258.70), require that each landfill in operation after April 9, 1997 provide financial assurance sufficient to cover the cost of third party closure and post-closure care of the landfill. The EPA financial assurance requirements are included by reference in Title 39, Chapter 74, Idaho Code from 40 CFR Part 258 as amended. The County has been collecting, as a portion of the tipping fee, a financial assurance fee from each ton of waste delivered to the site since the installation of weigh scales in February, 1995. The financial assurance cost calculations presented below for closure and post-closure care have been developed in accordance with the facility site, design and operation permit approvals.

Based on aerial photographs taken on October 4, 1996, the area of the landfill that contains buried solid wastes is approximately 36.5 acres. The regulations require that the financial assurance costs be estimated "in current dollars, of the cost of hiring a third party to close the largest area of all MSWLF unit ever requiring a final cover as required under § 258.60 at any time during the active life in accordance with the closure plan." (40 CFR Part 258.71(a)). The site design is for use of approximately 100 acres but, the largest area that would be open prior to the start of final cover application is about 60 acres.

This 60 acres constitutes the area between the canyon rim and the existing county road that bisects the site. The landfill will not be expanded across the road until this portion of the site is filled to the canyon rim. Once the final design profile is completed along the canyon rim, placement of final cover will begin on that portion of the fill which will not receive additional wastes before lateral expansion will commence across the road. The closure and post-closure care calculations are based on this 60 acre area.

The final cover has been designed in accordance with the provisions of 39-74 IC for equivalent cover designs. A detailed description of the final cover is include in this report *1997 Design - Final Cover Design* section. The closure costs are calculated to be \$62,140 per acre and include final cover construction, surface water management, contingency, and engineering costs. The total financial assurance required for closure of 60 acres is \$3,728,400.

Post-closure care costs for cover maintenance, surface water control, gas monitoring, contingency, and engineering are calculated to be \$32,100 per year. The post-closure care period (30 years) would make the total costs \$963,000. Total probable financial assurance cost for both closure and post-closure care is \$4,691,400 for the 1998 County budget year.

The financial assurance funds collected up to the date (September, 1997) total \$1,528,764.98. The \$3,162,635.02 deficit between that required and that collected will be pledged through use of the provisions of the local government financial test as provided for by 40 CFR Part 258.74(f).

The EPA finalized the local government test for financial assurance on November 27, 1996. The regulations require that proof of financial assurance be placed in the Pickles Butte Landfill operating



record by April 9, 1997 unless an extension, of up to one year, is granted by the state director. The County filed for an extension on March 10, 1997 to provide the information to the state by October 1, 1997, which was accepted by IDEQ on March 31, 1997. The County provided the required proof of financial assurance to the state on September, 9, 1997. A copy of IDEQ's approval letter of the County's financial assurance is included in *Appendix A*. The financial assurance will be adjusted each year the new figures will be included in the County Annual Financial Statement.



REFERENCES

- Blakley Engineers Inc., 1973, *Plan of Development and Management for Pickles Butte Sanitary Landfill Site*, Canyon County, Idaho
- Blakley Engineers Inc., 1975, *Addenda to Engineers Report for Pickles Butte Sanitary Landfill Site*, Canyon County, Idaho
- HECO, September 1991, *Pickles Butte Sanitary Landfill, Canyon County, 1991 Design and Site Evaluation Report*, 98 pages with plates.
- HECO, December 1993, *Operation and Maintenance Manual, Pickles Butte Sanitary Landfill, Canyon County*.
- HECO, March 1994, *Facility Master Plan, Pickles Butte Sanitary Landfill, Canyon County*, 25 pages with plates.
- HECO, July 1994, *Hydrogeologic Characterization, Ground Water Monitoring Plan, and Facility Design, Pickles Butte Sanitary Landfill, Canyon County*, 132 pages with plates and appendixes.
- HECO, February 1998, *Pickles Butte Sanitary Landfill - Geotechnical Evaluation of Final Design, Canyon County, Idaho*.
- SWANA, August 1996, *Managing Landfill gas at Municipal Solid Waste Landfills*, SWANA Course Manual.
- Waste Age, July 1996, *The Dallas/Fort Worth Experience*, pages 50 - 70.
- Wing, Richard N., and Gee, Glendon W., 1994, *Quest for the Perfect Cap*, Civil Engineering, October, pages 38-41.



APPENDIX A - PERMITS

Site Certification Approval, IDEQ, August 9, 1993.

Operation and Maintenance Plan Approval, SWDHD, October 6, 1993

Hydrogeologic Characterization and Facility Design Approval, IDEQ, October 28, 1994.

Financial Assurance Approval for 1998, IDEQ, January 20, 1998.



**HOLLADAY
ENGINEERING CO.**

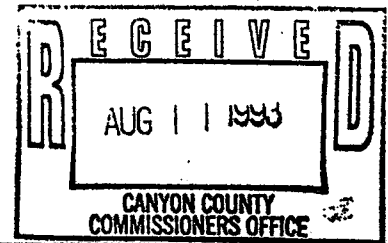
PICKLES BUTTE SANITARY LANDFILL

1997 STATUS REPORT



IDAHO DEPARTMENT
OF HEALTH AND WELFARE

DIVISION OF
ENVIRONMENTAL QUALITY



1420 North Hilton, Boise, ID 83706-1260, (208) 334-0550

Cecil D. Andrus, Governor

August 9, 1993

*Copy - Brewer
Handfile*

Commissioner George Vance
Chairman of the Board
Canyon County Commissioners
1115 Albany
Caldwell, ID 83605

RE: Pickles Butte Municipal Solid Waste Landfill Site Certification

Dear Mr. Vance:

This purpose of this letter is to issue a site certification pursuant to Idaho Code § 39-7408 for the referenced municipal solid waste landfill unit. Upon review of the site certification application and supporting documentation, the Pickles Butte Municipal Solid Waste Landfill has demonstrated that the site complies with the locational restrictions in Idaho Code § 39-7407.

The Department of Health and Welfare, Division of Environmental Quality (DEQ) bases this certification on information submitted on June 28, 1993.

On July 1, 1993, the applicant published notice that the site certification application had been submitted and provided an opportunity for public comment. No comments were received by either DEQ or Canyon County.

In a letter dated July 26, 1993, DEQ requested additional information including a site visit request to support the site certification application. Holladay Engineers provided that information on July 30, 1993.

Idaho does not currently have approval from the U.S. Environmental Protection Agency (EPA) to operate a municipal solid waste program in lieu of the Federal Subtitle D requirements (40 CFR Parts 258). The authority for DEQ to certify compliance with locational restrictions is not in place until EPA approves the state program. In the interim, DEQ provides this approval recognizing that if state approval is not received, the applicant must comply with all the provisions for municipal solid waste landfills under the federal regulations. Should state approval occur, the documentation including the application, DEQ review, and site certification for the Pickles Butte Municipal Solid Waste Landfill will be in place and the site will remain certified provided conditions have remained the same and the facility does not violate any of the criteria set forth in Idaho Code § 39-7407.

Commissioner George Vance
August 9, 1993
Page 2

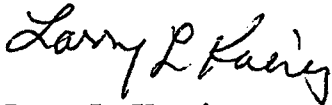
The information necessary to review compliance with locational restrictions was considered complete on July 30, 1993. The Pickles Butte Municipal Solid Waste Landfill is hereby certified in compliance with section 39-7407, Idaho Code dated this 9th day of August, 1993.

We appreciate the Commissioner's commitment to this project and process, and look forward to the next phase of the project. As a reminder, Idaho Code § 39-7408(g) stipulates that:

"within ten (10) working days of receipt of certification ... the applicant shall publish notice in the newspaper... informing the public that certification of the site has been approved."

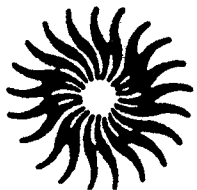
We encourage you to keep the public informed and meet this requirement.

Sincerely,



Larry L. Koenig
Regional Administrator
Southwest Idaho Regional Office

cc: Katie Sewell, DEQ - CO
Jack Gantz, DEQ - SWIRO
Mike Smith, DEQ - SWIRO
Southwest District Health Department
Holladay Engineering Company



Southwest District Health Department

Division of Environmental Health

920 Main St. • Caldwell, Idaho 83605 • (208) 454-7608

October 6, 1993

RECEIVED
OCT 07 1993

HOLLADAY ENGINEERING CO.
PAYETTE, ID

Canyon County Commissioners
1115 Albany Street
Caldwell, ID 83605

Dear Commission:

The Pickles Butte Sanitary Landfill Operation and Maintenance Manual, Canyon County, Idaho, as submitted by Holladay Engineers, was reviewed by the Southwest District Health Department. Provisional approval is hereby granted by this District to begin operation of the Pickles Butte Sanitary Landfill.

The Southwest District Health Department requests the Operation and Maintenance Manual contain a section pertaining to compliance inspections conducted by the Southwest District Health Department. These compliance inspections will be conducted without prior announcement and will be conducted at any time the landfill is in operation. The authority for conducting these compliance inspections is outlined in Code of Federal Regulations, 40, Parts 257 and 258, Solid Waste Disposal Facility Criteria, Section IV Part C.

The provisional approval is subject to comments during the public comment period of the review process.

Sincerely,

Malcolm McGregor

Malcolm McGregor
Senior Environmental Health Specialist

cc: Jack Biddle P.G., Holladay Engineering Co.
Larry L. Koenig, Regional Administrator, DEQ

0500-2740



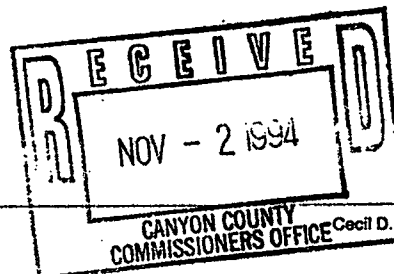
Promoting and Protecting Health in . . .



IDAHO DEPARTMENT
OF HEALTH AND WELFARE

DIVISION OF
ENVIRONMENTAL QUALITY

1445 North Orchard, Suite 100, Statehouse Mail, Boise, ID 83720-9000, (208) 334-0550



October 28, 1994

PB-ARID.APP

Commissioner George Vance
Chairman of the Board
Canyon County Commissioners
1115 Albany
Caldwell, Idaho 83605

Re: Pickles Butte Municipal Solid Waste Landfill
Hydrogeologic Characterization, Proposed Monitoring System and Facility Design Report
Arid Design Approval

Dear Mr. Vance:

In a letter to the Canyon County Commissioners dated September 15, 1994, the Department of Health and Welfare, Division of Environmental Quality (DEQ), pursuant to Idaho Code § 39-7411(7), indicated that there were a number of issues that needed to be resolved before approval could be given to the Pickles Butte Hydrogeologic Characterization, Ground Water Monitoring Plan and Facility Design Report (Report) submitted by the county. On October 4, 1994, the Board of Canyon County Commissioners requested, pursuant to Idaho Code § 39-7411(8), a meeting to try to resolve the issues identified by DEQ. At this meeting, the parties agreed to extend the time frames provided in the Idaho Solid Waste Facilities Act so that by October 21, 1994 the county would provide additional information, and DEQ would respond with its final decision with respect to the Report by October 28, 1994. We have received and reviewed the additional materials submitted by the county. This letter represents our final decision with respect to the Report.

The Report presents an arid design for the landfill as provided for in Idaho Code § 39-7409. DEQ continues to disagree with some aspects (e.g., conservatism of HELP model input parameters) of the material presented by the county in support of the arid design. However, our analysis of the available information indicates an arid design is appropriate. Therefore, we approve the arid design. ✓

✓ The Report also provides a ground water monitoring design. At the same time, however, the county argues that there is "no potential for migration" as provided in Idaho Code § 39-7410. Based upon DEQ's analysis of the available information, we agree that the requirements for proof of "no potential for migration" is met and that a waiver of the ground water monitoring requirements is appropriate at this site pursuant to Idaho Code § 39-7410. We appreciate and applaud the county's commitment, notwithstanding the availability of a waiver, to conduct ground water monitoring. However, we continue to disagree with some aspects of the monitoring design and the arguments made by the county in the Report in support of the monitoring plan (the points of disagreement are set forth below). Because of the unique characteristics of this site that make the waiver available, our disagreement with the monitoring design does not prohibit the county from implementing this design.

Commissioner George Vance
October 28, 1994
Page 2

DEQ has set forth below those aspects of the Report with respect to which it disagrees. These comments do not affect our approval, but instead are set forth because we believe the county should consider these matters in order to avoid the Report being used as a model for other sites where it may not be appropriate.

- As presented several times throughout the review process, DEQ considers the description of quality assurance/quality control (QA/QC) procedures an essential element of a ground water monitoring plan. We cannot concede to approving a ground water monitoring plan without this detail.
- The potentiometric surface determined by water level measurements from monitoring wells depicts two opposing ground water gradients bounded by the fault that dissects the northeast edge of the landfill. Because of this, DEQ believes that downgradient monitoring wells and a point of compliance need to be maintained to the south-southwest of the landfill. Well PB-3 is currently adequate for this purpose. However, the long-term landfill footprint will progress beyond PB-3 to the south at which time an additional well or wells would be needed to maintain an approved point of compliance.
- DEQ does not agree in full with Holladay Engineering Company's assessment of potential water movement and contaminant protection in the southerly "confined aquifer." The horizontal component of flow, as indicated by the southwesterly gradient, should not be ignored. We note the fact that the influence of the fault system at the upgradient boundary of this aquifer is not fully understood. Near the surface expression of the fault and well PB-2, the potentiometric surface approaches the top of the claystone unit greatly reducing the thickness of claystone available for "protection."

If you have any questions regarding this approval, please contact either Jack Gantz or Rob Howarth of this office at (208) 334-0550.

Sincerely,

Craig Shepard
for Joy L. Palmer
Regional Administrator

cc: Holladay Engineering Company
Jack Gantz, DEQ-SWIRO
Rob Howarth, DEQ-SWIRO
Mike Smith, DEQ-SWIRO
Bruce Wicherski, DEQ-CO
Katie Sewell, DEQ-CO
Tom Mullican, DEQ-SEIRO
Southwest District Health Department
Source File #21
Reading File



STATE OF IDAHO
DIVISION OF
ENVIRONMENTAL QUALITY

1445 North Orchard, Boise, ID 83706-2239, (208) 373-0550

Philip E. Batt, Governor

January 20, 1998

Commissioner Abe Vasquez
Board Of Canyon County Commissioners
1115 Albany Street
Caldwell, ID 83605

RE: Financial Assurance for Closure, Post Closure Care and Corrective Action
Canyon County Financial Assurance Plan - Pickles Butte Landfill

Dear Commissioner Vasquez:

The Division of Environmental Quality (DEQ) has reviewed your submittal of the above referenced financial assurance document dated September 9, 1997, for compliance with the provisions of §39-7417 of the Idaho Solid Waste Facilities Act. DEQ finds that your plan complies with these provisions and in accordance with the authority granted the Director under §39-7406(b), DEQ hereby approves your financial assurance plan for this facility. A copy of the completed *MSWLF Financial Assurance Checklist* for your facility that indicates DEQ acceptance of your financial assurance plan is attached.

Please be advised that the financial assurance plan must be inserted into the operating record of your facility. In addition, the financial assurance mechanisms of this plan must remain in effect throughout the closure, post closure and/or corrective action phases of your facility. Any alternative financial assurance mechanism other than that contained within the above plan must be submitted to and approved by this office before termination of the original financial assurance mechanism.

Please contact Jack Gantz at (208) 373-0599 if you have any questions or further information to present.

Sincerely,

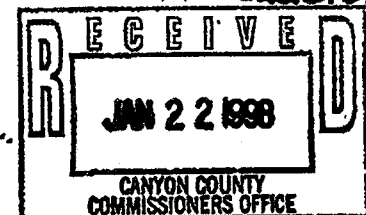
Stephen E. West
Regional Administrator

SEW:JMG:jb

H:\DATA\WP51\GANTZ.MSC\FINASSUR.APP

Attach.

cc: Jack Gantz DEQ-Boise Regional Office
Tom Goss, Southwest District Health Department-Caldwell
Barry Burnell/Tim Wendland, DEQ-CO
Andrew Helmlinger, AG-CO
Source File #21-Canyon County/Pickles Butte, Reading File



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MSWLF FINANCIAL ASSURANCE CHECKLIST
FOR LANDFILLS USING THE "SELF-INSURANCE"
FINANCIAL TEST

Entity's Name: CANYON COUNTY
Reviewer: Jim WEISBLAND
Date: 10/6/97

Are general obligation bonds investment grade?

Yes ☐ No ☐

Are all environmental costs \leq or \approx 43% of the total revenue?

Yes ☐ No ☐

Are the financial statements prepared in accordance with GAAP?

Yes ☐ No ☐

Is the CFO letter included and is it in agreement with the opinion and statements?

Yes ☐ No ☐

Is the entity in default on any outstanding bonds?

Yes ☐ No ☐

Does the entity have any outstanding bonds with ratings of less than Baa, or BBB?

Yes ☐ No ☐

Is the entity has not operated at a deficit $>$ or \approx 5% of the total annual revenue in each of the past two years?

Yes ☐ No ☐

Are cash + securities divided by current expenditures $>$ or \approx 5%?

Yes ☐ No ☐

Is the annual debt service divided by total expenditures \leq or \approx 20%?

Yes ☐ No ☐

Is the opinion qualified, and if so, is the qualification acceptable?

Yes ☐ No ☐

Accept ☐ Reject ☐

RECEIVED
DIVISION OF
ENVIRONMENTAL QUALITY
SWIRO
OCT 07 1997

APPENDIX B - WASTE RECORDS



**HOLLADAY
ENGINEERING CO.**

PICKLES BUTTE SANITARY LANDFILL

1997 STATUS REPORT

| A | A | B | C | D | E | F | G | H | I | J | K | L | M |
|----|--|---------|----------|------------|-------|-------|----------|--------|-----|-------|-------|---------|----|
| 1 | Pickles Butte Sanitary Landfill | | | | | | | | | | | | |
| 2 | Volume and Tonnage Comparison | | | | | | | | | | | | |
| 3 | MONTHLY YARDAGE RECORDS | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | |
| 5 | | MSW | MSW | | | | | | | | | | |
| 6 | Date | Compact | Non-Comp | Demolition | Ag | Yard | Asbestos | Total | | | | Annual | |
| 7 | | | | | | | | | | | | Moving | |
| 8 | 1991 | | | | | | | | | | | Average | |
| 9 | March | 9062 | 11908 | 1400 | 1613 | 1520 | | 25503 | Mar | Yards | 25503 | | 1 |
| 10 | April | 11330 | 9599 | 1856 | 598 | 1557 | | 24940 | Apr | | 24940 | | 2 |
| 11 | May | 12033 | 9457 | 2211 | 1448 | 1611 | | 26760 | May | | 26760 | | 3 |
| 12 | June | 11192 | 9777 | 2506 | 884 | 1908 | | 26267 | Jun | | 26267 | | 4 |
| 13 | July | 11266 | 10875 | 2864 | 1318 | 1404 | | 27727 | Jul | | 27727 | | 5 |
| 14 | August | 11874 | 11254 | 3644 | 883 | 1556 | | 29211 | Aug | | 29211 | | 6 |
| 15 | September | 10177 | 10209 | 2718 | 2488 | 1322 | | 26914 | Sep | | 26914 | | 7 |
| 16 | Totals | 76934 | 73079 | 17199 | 9232 | 10878 | 0 | 187322 | Oct | | 28183 | | 8 |
| 17 | | | | | | | | | Nov | | 21927 | | 9 |
| 18 | 1991/92 | | | | | | | | Dec | | 21621 | | 10 |
| 19 | October | 10963 | 10376 | 2877 | 2922 | 1045 | | 28183 | Jan | | 22586 | | 11 |
| 20 | November | 9821 | 7966 | 1935 | 1622 | 583 | | 21927 | Feb | | 21639 | 303278 | 12 |
| 21 | December | 10302 | 8365 | 1278 | 1256 | 420 | | 21621 | Mar | | 28786 | 306561 | 13 |
| 22 | January | 11174 | 8256 | 1241 | 1529 | 386 | | 22586 | Apr | | 28874 | 310495 | 14 |
| 23 | February | 9890 | 8186 | 2090 | 804 | 669 | | 21639 | May | | 27507 | 311242 | 15 |
| 24 | March | 12313 | 10189 | 3052 | 940 | 2288 | 4 | 28786 | Jun | | 27014 | 311989 | 16 |
| 25 | April | 12206 | 9278 | 2493 | 683 | 1875 | - 1839 | 28874 | Jul | | 30782 | 315044 | 17 |
| 26 | May | 11820 | 10729 | 2798 | 166 | 1990 | 4 | 27507 | Aug | | 30428 | 316281 | 18 |
| 27 | June | 11478 | 10998 | 2759 | 359 | 1314 | 106 | 27014 | Sep | | 29630 | 318977 | 19 |
| 28 | July | 12883 | 10639 | 5430 | 417 | 1411 | 2 | 30782 | Oct | | 27155 | 317949 | 20 |
| 29 | August | 12243 | 10768 | 3719 | 1306 | 2388 | 4 | 30428 | Nov | | 22816 | 318838 | 21 |
| 30 | September | 12433 | 10158 | 3050 | 2783 | 1108 | 98 | 29630 | Dec | | 22852 | 320069 | 22 |
| 31 | Totals | 137526 | 116408 | 32722 | 14787 | 15477 | 2057 | 318977 | Jan | | 22412 | 319895 | 23 |
| 32 | | | | | | | | | Feb | | 22400 | 320656 | 24 |
| 33 | 1992/93 | | | | | | | | Mar | | 29248 | 321118 | 25 |
| 34 | October | 11850 | 10087 | 2979 | 1423 | 814 | 2 | 27155 | Apr | | 30788 | 323032 | 26 |
| 35 | November | 11336 | 8073 | 1714 | 1084 | 585 | 24 | 22816 | May | | 34902 | 330427 | 27 |
| 36 | December | 12178 | 8214 | 1535 | 843 | 82 | 0 | 22852 | Jun | | 32430 | 335843 | 28 |
| 37 | January | 11243 | 8682 | 1390 | 929 | 123 | 45 | 22412 | Jul | | 31480 | 336541 | 29 |
| 38 | February | 10704 | 8699 | 2005 | 850 | 142 | 0 | 22400 | Aug | | 31336 | 337449 | 30 |
| 39 | March | 13626 | 11784 | 2396 | 207 | 1235 | 0 | 29248 | Sep | | 31432 | 339251 | 31 |
| 40 | April | 14140 | 11379 | 2963 | 461 | 1845 | 0 | 30788 | Oct | | 30139 | 342235 | 32 |
| 41 | May | 13178 | 14517 | 3919 | 802 | 2485 | 1 | 34902 | Nov | | 30380 | 349799 | 33 |
| 42 | June | 12558 | 13304 | 3800 | 889 | 1876 | 3 | 32430 | Dec | | 31998 | 358945 | 34 |
| 43 | July | 12591 | 12000 | 4325 | 1081 | 1483 | 0 | 31480 | Jan | | 29104 | 365637 | 35 |
| 44 | August | 13804 | 11352 | 4041 | 848 | 1257 | 34 | 31336 | Feb | | 27573 | 370810 | 36 |
| 45 | September | 13374 | 11275 | 3536 | 2150 | 1087 | 10 | 31432 | Mar | | 41251 | 382813 | 37 |
| 46 | | 150582 | 129366 | 34603 | 11567 | 13014 | 119 | 339251 | Apr | | 38556 | 390581 | 38 |
| 47 | | | | | | | | | May | | 52714 | 408393 | 39 |
| 48 | 1993/94 | | | | | | | | Jun | | 38935 | 414898 | 40 |
| 49 | October | 12614 | 11606 | 2976 | 1604 | 1337 | 2 | 30139 | Jul | | 37646 | 421064 | 41 |
| 50 | November | 13112 | 11802 | 2530 | 2029 | 856 | 51 | 30380 | Aug | | 46547 | 436275 | 42 |
| 51 | December | 13662 | 13903 | 2788 | 1055 | 506 | 84 | 31998 | Sep | | 42350 | 447193 | 43 |
| 52 | January | 12415 | 13202 | 2600 | 554 | 253 | 80 | 29104 | Oct | | 40709 | 457763 | 44 |
| 53 | February | 11462 | 12800 | 2617 | 400 | 281 | 13 | 27573 | Nov | | 34380 | 461763 | 45 |
| 54 | March | 14673 | 18371 | 3026 | 3004 | 2155 | 22 | 41251 | Dec | | 38647 | 468412 | 46 |
| 55 | April | 14701 | 17976 | 3674 | 168 | 1993 | 44 | 38556 | Jan | | 40911 | 480219 | 47 |
| 56 | May | | | | | | | 52714 | Feb | | 5448 | 458094 | 48 |
| 57 | June | | | | | | | 38935 | | | | | |
| 58 | July | | | | | | | 37646 | | | | | |
| 59 | August | | | | | | | 46547 | | | | | |
| 60 | September | | | | | | | 42350 | | | | | |
| 61 | TOTALS | | | | | | | 447193 | | | | | |
| 62 | | | | | | | | | | | | | |
| 63 | 1994/95 | | | | | | | | | | | | |
| 64 | October | | | | | | | 40709 | | | | | |
| 65 | November | | | | | | | 34380 | | | | | |
| 66 | December | | | | | | | 38647 | | | | | |
| 67 | January | | | | | | | 40911 | | | | | |
| 68 | February | | | | | | | 5448 | | | | | |
| 69 | | | | | | | | | | | | | |

| | A | B | C | D | E | F | G | H | I | J | K | L | M |
|-----|--------------------------|--------|--------|-------|--------|--------|--------|--------|-------|---|---|---|---|
| 70 | Growth rate Calculations | | | | | | | | | | | | |
| 71 | | | | | | | | | | | | | |
| 72 | YARDAGE | | | | | | | | | | | | |
| 73 | Mar - Sept 91 | 76934 | 73079 | 17199 | 9232 | 10878 | 0 | 187322 | TOTAL | | | | |
| 74 | Mar - Sept 92 | 85376 | 73259 | 23301 | 6654 | 12374 | 2057 | 203021 | | | | | |
| 75 | Mar - Sept 93 | 93271 | 85611 | 24980 | 6438 | 11268 | 48 | 221616 | | | | | |
| 76 | | | | | | | | | | | | | |
| 77 | 91-92 Change | 10.97 | 0.25 | 35.48 | -27.92 | 13.75 | | 8.38 | | | | | |
| 78 | 92-93 Change | 9.25 | 16.86 | 7.21 | -3.25 | -8.94 | -97.67 | 9.16 | | | | | |
| 79 | 91-93 Change | 10.62 | 8.57 | 22.62 | -15.13 | 1.79 | | 8.77 | | | | | |
| 80 | | | | | | | | | | | | | |
| 81 | Oct 91 - Apr 92 | 76669 | 63116 | 14966 | 9756 | 7266 | 1843 | 173616 | | | | | |
| 82 | Oct 92 - Apr 93 | 85077 | 66918 | 14982 | 5797 | 4826 | 71 | 177671 | | | | | |
| 83 | Oct 93 - Apr 94 | 92639 | 99660 | 20211 | 8814 | 7381 | 296 | 229001 | | | | | |
| 84 | | | | | | | | | | | | | |
| 85 | 92-93 Change | 10.97 | 6.02 | 0.11 | -40.58 | -33.58 | -96.15 | 2.34 | | | | | |
| 86 | 93-94 Change | 8.89 | 48.93 | 34.90 | 52.04 | 52.94 | 316.90 | 28.89 | | | | | |
| 87 | 92-94 Change | 10.41 | 28.95 | 17.52 | -4.83 | 0.79 | -41.97 | 14.85 | | | | | |
| 88 | | | | | | | | | | | | | |
| 89 | Oct 91 - Sept 92 | 137526 | 116408 | 32722 | 14787 | 15477 | 2057 | 318977 | | | | | |
| 90 | Oct 92 - Sept 93 | 150582 | 129366 | 34603 | 11567 | 13014 | 119 | 339251 | | | | | |
| 91 | Oct 93 - Sept 94 | | | | | | | 447193 | | | | | |
| 92 | | | | | | | | | | | | | |
| 93 | 91-93 Change | 9.49 | 11.13 | 5.75 | -21.78 | -15.91 | -94.21 | 6.36 | | | | | |
| 94 | 92 - 94 Change | | | | | | | 31.82 | | | | | |
| 95 | 91 - 94 Change | | | | | | | 18.40 | | | | | |
| 96 | | | | | | | | | | | | | |
| 97 | Nov - Feb 91/92 | 41187 | 32773 | 6544 | 5211 | 2058 | 0 | 87773 | | | | | |
| 98 | Nov - Feb 92/93 | 45461 | 33668 | 6644 | 3706 | 932 | 69 | 90480 | | | | | |
| 99 | Nov - Feb 93/94 | 50651 | 51707 | 10535 | 4038 | 1896 | 228 | 119055 | | | | | |
| 100 | | | | | | | | | | | | | |
| 101 | 91/92 - 92/93 Change | 10.38 | 2.73 | 1.53 | -28.88 | -54.71 | | 3.08 | | | | | |
| 102 | 92/93 - 93/94 Change | 11.42 | 53.58 | 58.56 | 8.96 | 103.43 | 230.43 | 31.58 | | | | | |
| 103 | 91/92 - 93/94 Change | 11.49 | 28.89 | 30.49 | -11.26 | -3.94 | | 16.46 | | | | | |
| 104 | | | | | | | | | | | | | |
| 105 | Jun - Sep 1991 | 44509 | 42115 | 11732 | 5573 | 6190 | 0 | 110119 | | | | | |
| 106 | Jun - Sep 1992 | 49037 | 42563 | 14958 | 4865 | 6221 | 210 | 117854 | | | | | |
| 107 | Jun - Sep 1993 | 52327 | 47931 | 15702 | 4968 | 5703 | 47 | 126678 | | | | | |
| 108 | | | | | | | | | | | | | |
| 109 | 91 - 92 Change | 10.17 | 1.06 | 27.50 | -12.70 | 0.50 | | 7.02 | | | | | |
| 110 | 92 - 93 Change | 6.71 | 12.61 | 4.97 | 2.12 | -8.33 | -77.62 | 7.49 | | | | | |
| 111 | 91 - 93 Change | 8.78 | 6.90 | 16.92 | -5.43 | -3.93 | | 7.26 | | | | | |
| 112 | | | | | | | | | | | | | |
| 113 | | | | | | | | | | | | | |
| 114 | | | | | | | | | | | | | |

| A | A | B | C | D | E | F | G | H | I | J | K | L | M |
|-----|--|-----------|----------------|----------|-------|---|---|---|---|---|---|---|---|
| 115 | TONNAGE GROWTH RATE | | | | | | | | | | | | |
| 116 | | | | | | | | | | | | | |
| 117 | | | tons | change | | | | | | | | | |
| 118 | | 4/94-9/94 | | 73455 | | | | | | | | | |
| 119 | | 4/95-9/95 | | 75052 | 2.17% | | | | | | | | |
| 120 | | 4/96-9/97 | | 78972 | 5.22% | | | | | | | | |
| 121 | | 94-95 | | 119707 | | | | | | | | | |
| 122 | | 96-97 | | 125990 | 5.25% | | | | | | | | |
| 123 | | | | | | | | | | | | | |
| 124 | | | | | | | | | | | | | |
| 125 | TONNAGE RECORDS SINCE SCALE INSTALLATION | | | | | | | | | | | | |
| 126 | | | | | | | | | | | | | |
| 127 | Month | Tons | Prior 12 m sum | | | | | | | | | | |
| 128 | Feb | 7372 | | | | | | | | | | | |
| 129 | Mar | 10605 | | | | | | | | | | | |
| 130 | Apr | 8768 | | | | | | | | | | | |
| 131 | May | 10939 | | | | | | | | | | | |
| 132 | Jun | 10636 | | | | | | | | | | | |
| 133 | Jul | 10666 | | | | | | | | | | | |
| 134 | Aug | 12113 | | | | | | | | | | | |
| 135 | Sep | 9728 | | | | | | | | | | | |
| 136 | Oct | 11038 | | | | | | | | | | | |
| 137 | Nov | 10034 | | | | | | | | | | | |
| 138 | Dec | 7609 | | | | | | | | | | | |
| 139 | Jan | 8078 | 117586 | part feb | | | | | | | | | |
| 140 | Feb | 7895 | 118110 | | | | | | | | | | |
| 141 | Mar | 8619 | 118123 | | | | | | | | | | |
| 142 | Apr | 10738 | 118094 | | | | | | | | | | |
| 143 | May | 12125 | 119280 | | | | | | | | | | |
| 144 | Jun | 10226 | 118870 | | | | | | | | | | |
| 145 | Jul | 11312 | 119516 | | | | | | | | | | |
| 146 | Aug | 11731 | 119134 | | | | | | | | | | |
| 147 | Sep | 10300 | 119707 | | | | | | | | | | |
| 148 | Oct | 10957 | 119625 | | | | | | | | | | |
| 149 | Nov | 9526 | 119118 | | | | | | | | | | |
| 150 | Dec | 8901 | 120409 | | | | | | | | | | |
| 151 | Jan | 9781 | 122112 | | | | | | | | | | |
| 152 | Feb | 7853 | 122070 | | | | | | | | | | |
| 153 | Mar | 10332 | 123783 | | | | | | | | | | |
| 154 | Apr | 10967 | 124011 | | | | | | | | | | |
| 155 | May | 12393 | 124279 | | | | | | | | | | |
| 156 | Jun | 11307 | 125360 | | | | | | | | | | |
| 157 | Jul | 11367 | 125415 | | | | | | | | | | |
| 158 | Aug | 10853 | 124537 | | | | | | | | | | |
| 159 | Sep | 11753 | 125990 | | | | | | | | | | |
| 160 | Oct | 10830 | 125863 | | | | | | | | | | |
| 161 | Nov | 8934 | 125271 | | | | | | | | | | |
| 162 | | | | | | | | | | | | | |

| A | A | B | C | D | E | F | G | H | I | J | K | L | M |
|-----|-------------------------------|------|---------|----------|---------|----------------------|---|---|---|------|-----------|----------|---|
| 163 | ANNUAL WASTE GENERATION | | | | | | | | | | | | |
| 164 | | | | | | | | | | | | | |
| 165 | | YEAR | YARDS | | TONS | | | | | | | | |
| 166 | First map 4/1/83 - 10/30/90 | | 732646 | | 367750 | | | | | | Cumlu Cum | | |
| 167 | Second Map 10/31/90 - 10/4/96 | | 1127887 | | 572906 | | | | | | MG | tons | |
| 168 | | | | FACTOR % | | | | | | | | | |
| 169 | | 1983 | 86397 | | 18478 | | | | | 0.0 | | 18478 | |
| 170 | | 1984 | 183336 | | 39503 | | | | | 0.1 | | 57981 | |
| 171 | | 1985 | 194521 | | 42206 | | | | | 0.1 | | 100188 | |
| 172 | | 1986 | 206388 | | 45074 | | | | | 0.1 | | 145262 | |
| 173 | | 1987 | 218980 | | 48117 | | | | | 0.2 | | 193379 | |
| 174 | | 1988 | 232339 | | 51345 | | | | | 0.2 | | 244724 | |
| 175 | | 1989 | 246514 | | 54770 | sum 83-91 | | | | 0.3 | | 299494 | |
| 176 | | 1990 | 283349 | | 68472 | 367965.95 | | | | 0.3 | | 367966 | |
| 177 | | 1991 | 300636 | 0.0575 | 72649 | | | | | 0.4 | | 440615 | |
| 178 | | 1992 | 318977 | base | 77081 | | | | | 0.5 | | 517696 | |
| 179 | | 1993 | 339251 | base | 81980 | | | | | 0.5 | | 599677 | |
| 180 | | 1994 | 447193 | base | 108065 | | | | | 0.6 | | 707742 | |
| 181 | | 1995 | 470665 | | 113424 | | | | | 0.7 | | 821165 | |
| 182 | | 1996 | 495369 | 0.0525 | 119707 | 483 base #/yd | | | | 0.9 | | 940872 | |
| 183 | | 1997 | 521370 | | 125990 | 1066862 Tons to date | | | | 1.0 | | 1066862 | |
| 184 | | 1998 | | | 132603 | | | | | 1.1 | | 1199465 | |
| 185 | | 1999 | | | 139563 | | | | | 1.2 | | 1339027 | |
| 186 | | 2000 | | | 146888 | | | | | 1.4 | | 1485916 | |
| 187 | | 2001 | | | 154598 | | | | | 1.5 | | 1640514 | |
| 188 | | 2002 | | | 162712 | | | | | 1.6 | | 1803226 | |
| 189 | | 2003 | | | 171253 | | | | | 1.8 | | 1974479 | |
| 190 | | 2004 | | | 180242 | | | | | 2.0 | | 2154721 | |
| 191 | | 2005 | | | 189702 | | | | | 2.1 | | 2344423 | |
| 192 | | 2006 | | | 199659 | | | | | 2.3 | | 2544082 | |
| 193 | | 2007 | | | 210139 | | | | | 2.5 | | 2754221 | |
| 194 | | 2008 | | | 221169 | | | | | 2.7 | | 2975389 | |
| 195 | | 2009 | | | 232777 | | | | | 2.9 | | 3208166 | |
| 196 | | 2010 | | | 244995 | | | | | 3.1 | | 3453161 | |
| 197 | | 2011 | | | 257854 | | | | | 3.4 | | 3711016 | |
| 198 | | 2012 | | | 271389 | | | | | 3.6 | | 3982404 | |
| 199 | | 2013 | | | 285633 | | | | | 3.9 | | 4268037 | |
| 200 | | 2014 | | | 300625 | | | | | 4.2 | | 4568663 | |
| 201 | | 2015 | | | 316405 | | | | | 4.4 | | 4885067 | |
| 202 | | 2016 | | | 333012 | | | | | 4.7 | | 5218079 | |
| 203 | | 2017 | | | 350491 | | | | | 5.1 | | 5568570 | |
| 204 | | 2018 | | | 368887 | | | | | 5.4 | | 5937458 | |
| 205 | | 2019 | | | 388250 | | | | | 5.8 | | 6325707 | |
| 206 | | 2020 | | | 408628 | | | | | 6.1 | | 6734335 | |
| 207 | | 2021 | | | 430076 | | | | | 6.5 | | 7164411 | |
| 208 | | 2022 | | | 452650 | | | | | 6.9 | | 7617061 | |
| 209 | | 2023 | | | 476408 | | | | | 7.4 | | 8093469 | |
| 210 | | 2024 | | | 501414 | | | | | 7.8 | | 8594883 | |
| 211 | | 2025 | | | 527732 | | | | | 8.3 | | 9122614 | |
| 212 | | 2026 | | | 555431 | | | | | 8.8 | | 9678046 | |
| 213 | | 2027 | | | 584585 | | | | | 9.3 | | 10262630 | |
| 214 | | 2028 | | | 615268 | | | | | 9.9 | | 10877899 | |
| 215 | | 2029 | | | 647562 | | | | | 10.5 | | 11525461 | |
| 216 | | 2030 | | | 681551 | | | | | 11.1 | | 12207013 | |
| 217 | | 2031 | | | 717325 | | | | | 11.7 | | 12924337 | |
| 218 | | 2032 | | | 754975 | | | | | 12.4 | | 13679312 | |
| 219 | | 2033 | | | 794602 | | | | | 13.2 | | 14473915 | |
| 220 | | 2034 | | | 836309 | | | | | 13.9 | | 15310224 | |
| 221 | | 2035 | | | 880205 | | | | | 14.7 | | 16190429 | |
| 222 | | 2036 | | | 926405 | | | | | 15.6 | | 17116835 | |
| 223 | | 2037 | | | 975030 | | | | | 16.4 | | 18091865 | |
| 224 | | 2038 | | | 1026207 | | | | | 17.4 | | 19118072 | |
| 225 | | 2039 | | | 1080071 | | | | | 18.4 | | 20198143 | |
| 226 | | 2040 | | | 1136761 | | | | | 19.4 | | 21334904 | |
| 227 | | 2041 | | | 1196427 | | | | | 20.5 | | 22531332 | |
| 228 | | 2042 | | | 1259225 | | | | | 21.6 | | 23790557 | |
| 229 | | 2043 | | | 1325319 | | | | | 22.8 | | 25115876 | |
| 230 | | 2044 | | | 1394882 | | | | | 24.1 | | 26510758 | |
| 231 | | 2045 | | | 1468096 | | | | | 25.4 | | 27978854 | |
| 232 | | 2046 | | | 1545154 | | | | | 26.8 | | 29524008 | |
| 233 | | 2047 | | | 1626255 | | | | | 28.3 | | 31150263 | |
| 234 | | 2048 | | | 1711614 | | | | | 29.9 | | 32861877 | |
| 235 | | 2049 | | | 1801453 | | | | | 31.5 | | 34663329 | |
| 236 | | 2050 | | | 1896007 | | | | | 33.2 | | 36559336 | |
| 237 | | 2051 | | | 1995524 | | | | | 35.0 | | 38554860 | |
| 238 | | 2052 | | | 2100265 | | | | | 37.0 | | 40655125 | |
| 239 | | 2053 | | | 2210503 | | | | | 39.0 | | 42865628 | |
| 240 | | 2054 | | | 2326527 | | | | | 41.1 | | 45192155 | |
| 241 | | 2055 | | | 2448641 | | | | | 43.3 | | 47640796 | |
| 242 | | 2056 | | | 2577165 | | | | | 45.7 | | 50217961 | |
| 243 | | 2057 | | | 2712435 | | | | | 48.1 | | 52930396 | |
| 244 | | 2058 | | | 2854805 | | | | | 50.7 | | 55785201 | |

| A | A | B | C | D | E | F | G | H | I | J | K | L | M |
|-----|---|------|---|---|---------|---|---|---|---|------|----------|---|---|
| 245 | | 2059 | | | 3004647 | | | | | 53.4 | 58789848 | | |
| 246 | | 2060 | | | 3162354 | | | | | 56.3 | 61952202 | | |
| 247 | | 2061 | | | 3328339 | | | | | | | | |
| 248 | | 2062 | | | 3503036 | | | | | | | | |
| 249 | | 2063 | | | 3686903 | | | | | | | | |
| 250 | | 2064 | | | 3880420 | | | | | | | | |
| 251 | | 2065 | | | 4084095 | | | | | | | | |
| 252 | | 2066 | | | 4298460 | | | | | | | | |
| 253 | | 2067 | | | 4524077 | | | | | | | | |
| 254 | | 2068 | | | 4761535 | | | | | | | | |
| 255 | | 2069 | | | 5011458 | | | | | | | | |
| 256 | | 2070 | | | 5274498 | | | | | | | | |
| 257 | | 2071 | | | 5551345 | | | | | | | | |
| 258 | | | | | | | | | | | | | |
| 259 | | | | | | | | | | | | | |

VOLUME OF FILL, DENSITY OF CUBIC YARD, AND SOIL PROPORTION

| | | | | | | |
|-----|-----------------|------------|------------------|-------|------|-------|
| 262 | | Volume | Weight in pounds | Waste | Soil | Total |
| 263 | Com waste #cuyd | 1127887 | 1132279466 | 1004 | 916 | 1920 |
| 264 | Com waste #cuft | 30452939 | 1132279466 | 37 | 34 | 71 |
| 265 | soil #cuyd | 332892 | 3105 | | | |
| 266 | soil #cuft | 8988086 | 115 | | | |
| 267 | | | | | | |
| 268 | Proportion Soil | 30 percent | | | | |

APPENDIX C - MONITORING RESULTS



**HOLLADAY
ENGINEERING CO.**

PICKLES BUTTE SANITARY LANDFILL

1997 STATUS REPORT

LANDFILL DETECTION MONITORING CONSTITUENTS

APPENDIX I 40 CFR Part 258

| | Common Name | Test Method | PQL (ug/l) | MCL (ug/l) |
|----|----------------------------|-------------|------------|------------|
| 1 | Antimony | 7041 | 5 | 6 |
| 2 | Arsenic | 7060 | 5 | 50 |
| 3 | Barium | 6010 | 50 | 2000 |
| 4 | Beryllium | 7091 | 0.5 | 4 |
| 5 | Cadmium | 7131 | 0.5 | 5 |
| 6 | Chromium | 7191 | 2 | 100 |
| 7 | Cobalt | 6010 | 20 | NA |
| 8 | Copper | 6010 | 10 | 1300 |
| 9 | Lead | 7421 | 5 | 15 |
| 10 | Nickel | 6010 | 20 | 100 |
| 11 | Selenium | 7740 | 5 | 50 |
| 12 | Silver | 272.1 | 5 | 50 |
| 13 | Thallium | 7841 | 2 | 2 |
| 14 | Vanadium | 6010 | 50 | NA |
| 15 | Zinc | 6010 | 5 | 5000 |
| 16 | Acetone | 8260 | 20 | NA |
| 17 | Acrylonitrile | 8260 | 1 | NA |
| 18 | Benzene | 8260 | 1 | 5 |
| 19 | Bromochloromethane | 8260 | 1 | NA |
| 20 | Bromodichloromethane | 8260 | 1 | 10 |
| 21 | Bromoform; Tribromomethane | 8260 | 1 | 10 |
| 22 | Carbon disulfide | 8260 | 1 | NA |
| 23 | Carbon tetrachloride | 8260 | 1 | 5 |

February 12, 1998

- 1 -

| | Common Name | Test Method | PQL (ug/l) | MCL (ug/l) |
|----|---|-------------|------------|------------|
| 24 | Chlorobenzene | 8260 | 1 | NA |
| 25 | Chloroethane; Ethyl chloride | 8260 | 1 | NA |
| 26 | Chloroform; Trichloromethane | 8260 | 1 | 10 |
| 27 | Dibromochloromethane; Chlorodibromomethane | 8260 | 1 | 10 |
| 28 | 1,2-Dibromo-3-chloropropane; DBCP | 8260 | 1 | NA |
| 29 | 1,2-Dibromoethane; Ethylene dibromide; EDB | 8260 | 1 | NA |
| 30 | o-Dichlorobenzene; 1,2-Dichlorobenzene | 8260 | 1 | 600 |
| 31 | p-Dichlorobenzene; 1,4-Dichlorobenzene | 8260 | 1 | 75 |
| 32 | trans-1,4-Dichloro-2-butene | 8260 | 1 | NA |
| 33 | 1,1-Dichloroethane; Ethylidene chloride | 8260 | 1 | NA |
| 34 | 1,2-Dichloroethane; Ethylene dichloride | 8260 | 1 | 5 |
| 35 | 1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride | 8260 | 1 | 7 |
| 36 | cis-1,2-Dichloroethylene; cis-1,2-Dichlorethene | 8260 | 1 | 70 |
| 37 | trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene | 8260 | 1 | 100 |
| 38 | 1,2-Dichloropropane; Propylene dichloride | 8260 | 1 | 5 |
| 39 | cis-1,3-Dichloropropene | 8260 | 1 | NA |
| 40 | trans-1,3-Dichloropropene | 8260 | 1 | NA |
| 41 | Ethylbenzene | 8260 | 1 | 700 |
| 42 | 2-Hexanone; Methyl butyl ketone | 8260 | 20 | NA |
| 43 | Methyl bromide; Bromomethane | 8260 | 7 | NA |
| 44 | Methyl chloride; Chloromethane | 8260 | 1 | 5 |
| 45 | Methylene bromide; Dibromomethane | 8260 | 1 | NA |
| 46 | Methylene chloride; Dichloromethane | 8260 | 1 | NA |
| 47 | Methyl ethyl ketone; MEK; 2-Butanone | 8260 | 20 | NA |

| | Common Name | Test Method | PQL (ug/l) | MCL (ug/l) |
|----|---|-------------|------------|------------|
| 48 | Methyl iodide; Iodomethane | 8260 | 1 | NA |
| 49 | 4-Methyl-2-pentanone; Methyl isobutyl ketone | 8260 | 20 | NA |
| 50 | Styrene | 8260 | 1 | 100 |
| 51 | 1,1,1,2-Tetrachloroethane | 8260 | 1 | NA |
| 52 | 1,1,2,2-Tetrachloroethane | 8260 | 1 | NA |
| 53 | Tetrachloroethylene; Tetrachloroethene; Perchloroethylene | 8260 | 1 | 5 |
| 54 | Toluene | 8260 | 1 | 1000 |
| 55 | 1,1,1-Trichloroethane; Methylchloroform | 8260 | 1 | 200 |
| 56 | 1,1,2-Trichloroethane | 8260 | 1 | 5 |
| 57 | Trichloroethylene; Trichloroethene | 8260 | 1 | 5 |
| 58 | Trichlorofluoromethane; CFC-11 | 8260 | 1 | NA |
| 59 | 1,2,3-Trichloropropane | 8260 | 1 | NA |
| 60 | Vinyl acetate | 8260 | 20 | NA |
| 61 | Vinyl chloride | 8260 | 1 | 2 |
| 62 | Xylenes | 8260 | 1 | 10,000 |

Test Method specified were developed in consultation with an EPA certified laboratory utilizing as a guide the suggested test method for analytical procedures from 40 CFR Part 258 Appendix II. For constituents for which a MCL has been established a method with a PQL which will either be equal to less than the MCL has been specified.

F:\HECC\APPENDIX.I-2

Date: 12/11/97

SAMPLING DATES INFORMATION PRINTOUT

FCID: PB LANDFILL

Site Name: PICKLES BUTTE LANDFILL

| SAMPLE DATE | SAMPLING SCHEME | DOCUMENT REFERENCE | COMMENTS |
|----------------|--------------------|-----------------------|--|
| 04/04/95 | | 05/02/95 | ANALYTICAL LABS |
| 07/11/95 | | 08/08/95 | ANALYTICAL LABS |
| 10/11/95 | | 10/31/95 | ANALYTICAL LABS |
| 01/08/96 | | 02/01/96 | Analytical Labs - Boise, Id |
| 01/08/96 | - Dup A | 02/02/96 | Filtered Samp. Dup. |
| 04/04/96 | | 04-23-96 | |
| 07/09/96 | | 07-26-96PB | Lab acetone contamination in trip blank and well PB-4 |
| 10/09/96 | | 10/10/96 | |
| 02/06/97 | | 02-26-97 | |
| 04/09/97 | | 04-29-97 | LAST QUARTERLY SAMPLING EVENT HENCEFORTH BIENNIAL SAMPLING SEMIANNUAL MONITORING |
| 10/29/97 | | 11/21/97 | |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
 FCID: PB LANDFILL
 PARAMETER: Arsenic

WELL: PB3
 NUMBER OF SAMPLE DATES: 11

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | 34.000 | ug/l | | 206.2 |
| 07/11/95 | 11.000 | ug/l | | 206.2 |
| 10/11/95 | 14.000 | ug/l | | 206.2 |
| 01/08/96 | 22.000 | ug/l | | 206.2 |
| 01/08/96 - Dup A | ND<5.000 | ug/l | | 206.2 |
| 04/04/96 | 28.000 | ug/l | | 206.2 |
| 07/09/96 | 28.000 | ug/l | | 206.2 |
| 10/09/96 | 14.000 | ug/l | | 206.2 |
| 02/06/97 | 39.000 | ug/l | | 206.2 |
| 04/09/97 | 6.000 | ug/l | | 206.2 |
| 10/29/97 | 30.000 | ug/l | | 206.2 |

PARAMETER: Barium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|---------|-------|-----------|--------|
| 04/04/95 | 350.000 | ug/l | | 200.7 |
| 07/11/95 | 15.000 | ug/l | | 200.7 |
| 10/11/95 | 150.000 | ug/l | | 200.7 |
| 01/08/96 | 200.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 210.000 | ug/l | | 200.7 |
| 04/04/96 | 210.000 | ug/l | | 200.7 |
| 07/09/96 | 200.000 | ug/l | | 200.7 |
| 10/09/96 | 160.000 | ug/l | | 200.7 |
| 02/06/97 | 180.000 | ug/l | | 200.7 |
| 04/09/97 | 180.000 | ug/l | | 200.7 |
| 10/29/97 | 210.000 | ug/l | | 200.7 |

PARAMETER: Beryllium, total

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 200.7 |
| 07/11/95 | ND<5.000 | ug/l | | 200.7 |
| 10/11/95 | ND<1.000 | ug/l | | 200.7 |
| 01/08/96 | ND<1.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<1.000 | ug/l | | 200.7 |
| 04/04/96 | 3.900 | ug/l | | 200.7 |
| 07/09/96 | ND<0.500 | ug/l | | 200.7 |
| 10/09/96 | ND<0.500 | ug/l | | 200.7 |
| 02/06/97 | ND<0.500 | ug/l | | 200.7 |
| 04/09/97 | ND<0.500 | ug/l | | 200.7 |
| 10/29/97 | ND<0.500 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
 FCID: PB LANDFILL
 PARAMETER: Chromium

WELL: PB3
 NUMBER OF SAMPLE DATES: 11

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | ND<50.000 | ug/l | | 200.7 |
| 07/11/95 | ND<50.000 | ug/l | | 200.7 |
| 10/11/95 | ND<50.000 | ug/l | | 200.7 |
| 01/08/96 | 10.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 14.000 | ug/l | | 200.7 |
| 04/04/96 | 21.000 | ug/l | | 200.7 |
| 07/09/96 | 9.000 | ug/l | | 200.7 |
| 10/09/96 | 34.000 | ug/l | | 200.7 |
| 02/06/97 | 6.000 | ug/l | | 200.7 |
| 04/09/97 | 11.000 | ug/l | | 200.7 |
| 10/29/97 | ND<50.000 | ug/l | | 200.7 |

PARAMETER: Cadmium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 200.7 |
| 07/11/95 | ND<5.000 | ug/l | | 200.7 |
| 10/11/95 | ND<5.000 | ug/l | | 200.7 |
| 01/08/96 | 0.700 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 0.600 | ug/l | | 200.7 |
| 04/04/96 | 1.300 | ug/l | | 200.7 |
| 07/09/96 | ND<5.000 | ug/l | | 200.7 |
| 10/09/96 | 0.600 | ug/l | | 200.7 |
| 02/06/97 | 0.600 | ug/l | | 200.7 |
| 04/09/97 | ND<0.500 | ug/l | | 200.7 |
| 10/29/97 | ND<0.500 | ug/l | | 200.7 |

PARAMETER: Copper

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | ND<10.000 | ug/l | | 200.7 |
| 07/11/95 | ND<10.000 | ug/l | | 200.7 |
| 10/11/95 | ND<10.000 | ug/l | | 200.7 |
| 01/08/96 | ND<10.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<10.000 | ug/l | | 200.7 |
| 04/04/96 | 20.000 | ug/l | | 200.7 |
| 07/09/96 | ND<10.000 | ug/l | | 200.7 |
| 10/09/96 | ND<10.000 | ug/l | | 200.7 |
| 02/06/97 | ND<10.000 | ug/l | | 200.7 |
| 04/09/97 | ND<10.000 | ug/l | | 200.7 |
| 10/29/97 | 20.000 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
 FCID: PB LANDFILL
 PARAMETER: Nickel

WELL: PB3
 NUMBER OF SAMPLE DATES: 11

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | ND<20.000 | ug/l | | 200.7 |
| 07/11/95 | ND<20.000 | ug/l | | 200.7 |
| 10/11/95 | ND<20.000 | ug/l | | 200.7 |
| 01/08/96 | 20.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<20.000 | ug/l | | 200.7 |
| 04/04/96 | 30.000 | ug/l | | 200.7 |
| 07/09/96 | ND<20.000 | ug/l | | 200.7 |
| 10/09/96 | 20.000 | ug/l | | 200.7 |
| 02/06/97 | ND<20.000 | ug/l | | 200.7 |
| 04/09/97 | ND<20.000 | ug/l | | 200.7 |
| 10/29/97 | 20.000 | ug/l | | 200.7 |

PARAMETER: Antimony, total

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 200.9 |
| 07/11/95 | ND<5.000 | ug/l | | 200.9 |
| 10/11/95 | ND<5.000 | ug/l | | 200.9 |
| 01/08/96 | ND<5.000 | ug/l | | 200.9 |
| 01/08/96 - Dup A | ND<5.000 | ug/l | | 200.9 |
| 04/04/96 | ND<5.000 | ug/l | | 200.9 |
| 07/09/96 | ND<5.000 | ug/l | | 200.9 |
| 10/09/96 | 6.000 | ug/l | | 200.9 |
| 02/06/97 | ND<5.000 | ug/l | | 200.9 |
| 04/09/97 | ND<5.000 | ug/l | | 200.9 |
| 10/29/97 | ND<5.000 | ug/l | | 200.9 |

PARAMETER: Selenium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | 14.000 | ug/l | | 270.2 |
| 07/11/95 | ND<5.000 | ug/l | | 270.2 |
| 10/11/95 | 13.000 | ug/l | | 270.2 |
| 01/08/96 | 79.000 | ug/l | | 270.2 |
| 01/08/96 - Dup A | ND<5.000 | ug/l | | 270.2 |
| 04/04/96 | ND<5.000 | ug/l | | 270.2 |
| 07/09/96 | ND<5.000 | ug/l | | 270.2 |
| 10/09/96 | ND<5.000 | ug/l | | 270.2 |
| 02/06/97 | ND<5.000 | ug/l | | 270.2 |
| 04/09/97 | 6.000 | ug/l | | 270.2 |
| 10/29/97 | ND<5.000 | ug/l | | 270.2 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
FCID: PB LANDFILL
PARAMETER: Thallium

WELL: PB3
NUMBER OF SAMPLE DATES: 11

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | ND<50.000 | ug/l | | .002 |
| 07/11/95 | ND<2.000 | ug/l | | 200.9 |
| 10/11/95 | ND<2.000 | ug/l | | 200.9 |
| 01/08/96 | 2.000 | ug/l | | 200.9 |
| 01/08/96 - Dup A | ND<2.000 | ug/l | | 200.9 |
| 04/04/96 | 3.000 | ug/l | | 200.9 |
| 07/09/96 | ND<2.000 | ug/l | | 200.9 |
| 10/09/96 | ND<2.000 | ug/l | | 200.9 |
| 02/06/97 | ND<2.000 | ug/l | | 200.9 |
| 04/09/97 | ND<2.000 | ug/l | | 200.9 |
| 10/29/97 | ND<2.000 | ug/l | | 200.9 |

PARAMETER: Zinc

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|---------|-------|-----------|--------|
| 04/04/95 | 294.000 | ug/l | | 200.7 |
| 07/11/95 | 40.000 | ug/l | | 200.7 |
| 10/11/95 | 28.000 | ug/l | | 200.7 |
| 01/08/96 | 166.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 161.000 | ug/l | | 200.7 |
| 04/04/96 | 280.000 | ug/l | | 200.7 |
| 07/09/96 | 11.000 | ug/l | | 200.7 |
| 10/09/96 | 27.000 | ug/l | | 200.7 |
| 02/06/97 | 28.000 | ug/l | | 200.7 |
| 04/09/97 | 30.000 | ug/l | | 200.7 |
| 10/29/97 | 92.000 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
 FCID: PB LANDFILL
 PARAMETER: Silver, total

WELL: PB4
 NUMBER OF SAMPLE DATES: 11

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 272.1 |
| 07/11/95 | 6.000 | ug/l | | 272.1 |
| 10/11/95 | ND<5.000 | ug/l | | 272.1 |
| 01/08/96 | ND<5.000 | ug/l | | 272.1 |
| 01/08/96 - Dup A | ND<5.000 | ug/l | | 272.1 |
| 04/04/96 | ND<5.000 | ug/l | | 272.1 |
| 07/09/96 | ND<5.000 | ug/l | | 272.1 |
| 10/09/96 | ND<5.000 | ug/l | | 272.1 |
| 02/06/97 | ND<5.000 | ug/l | | 272.1 |
| 04/09/97 | 5.000 | ug/l | | 272.1 |
| 10/29/97 | ND<5.000 | ug/l | | 272.1 |

PARAMETER: Arsenic

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | 16.000 | ug/l | | 206.2 |
| 07/11/95 | 10.000 | ug/l | | 206.2 |
| 10/11/95 | 22.000 | ug/l | | 206.2 |
| 01/08/96 | 36.000 | ug/l | | 206.2 |
| 01/08/96 - Dup A | 6.000 | ug/l | | 206.2 |
| 04/04/96 | 14.000 | ug/l | | 206.2 |
| 07/09/96 | 5.000 | ug/l | | 206.2 |
| 10/09/96 | ND<5.000 | ug/l | | 206.2 |
| 02/06/97 | 10.000 | ug/l | | 206.2 |
| 04/09/97 | 7.000 | ug/l | | 206.2 |
| 10/29/97 | 11.000 | ug/l | | 206.2 |

PARAMETER: Barium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|---------|-------|-----------|--------|
| 04/04/95 | 530.000 | ug/l | | 200.7 |
| 07/11/95 | 380.000 | ug/l | | 200.7 |
| 10/11/95 | 390.000 | ug/l | | 200.7 |
| 01/08/96 | 56.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 370.000 | ug/l | | 200.7 |
| 04/04/96 | 510.000 | ug/l | | 200.7 |
| 07/09/96 | 410.000 | ug/l | | 200.7 |
| 10/09/96 | 420.000 | ug/l | | 200.7 |
| 02/06/97 | 370.000 | ug/l | | 200.7 |
| 04/09/97 | 360.000 | ug/l | | 200.7 |
| 10/29/97 | 41.000 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID

WELL: PB4

FCID: PB LANDFILL

NUMBER OF SAMPLE DATES: 11

PARAMETER: Beryllium, total

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 200.7 |
| 07/11/95 | 1.000 | ug/l | | 200.7 |
| 10/11/95 | ND<1.000 | ug/l | | 200.7 |
| 01/08/96 | 2.800 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 0.600 | ug/l | | 200.7 |
| 04/04/96 | 0.800 | ug/l | | 200.7 |
| 07/09/96 | ND<0.500 | ug/l | | 200.7 |
| 10/09/96 | ND<0.500 | ug/l | | 200.7 |
| 02/06/97 | ND<0.500 | ug/l | | 200.7 |
| 04/09/97 | ND<0.500 | ug/l | | 200.7 |
| 10/29/97 | ND<0.500 | ug/l | | 200.7 |

PARAMETER: Cadmium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 200.7 |
| 07/11/95 | ND<5.000 | ug/l | | 200.7 |
| 10/11/95 | ND<5.000 | ug/l | | 200.7 |
| 01/08/96 | 1.500 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 0.900 | ug/l | | 200.7 |
| 04/04/96 | 2.200 | ug/l | | 200.7 |
| 07/09/96 | ND<0.500 | ug/l | | 200.7 |
| 10/09/96 | 0.700 | ug/l | | 200.7 |
| 02/06/97 | ND<0.500 | ug/l | | 200.7 |
| 04/09/97 | ND<0.500 | ug/l | | 200.7 |
| 10/29/97 | ND<0.500 | ug/l | | 200.7 |

PARAMETER: Chromium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | ND<50.000 | ug/l | | 200.7 |
| 07/11/95 | 60.000 | ug/l | | 200.7 |
| 10/11/95 | ND<50.000 | ug/l | | 200.7 |
| 01/08/96 | 280.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<50.000 | ug/l | | 200.7 |
| 04/04/96 | 119.000 | ug/l | | 200.7 |
| 07/09/96 | 11.000 | ug/l | | 200.7 |
| 10/09/96 | 41.000 | ug/l | | 200.7 |
| 02/06/97 | 117.000 | ug/l | | 200.7 |
| 04/09/97 | 8.000 | ug/l | | 200.7 |
| 10/29/97 | 5.000 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
 FCID: PB LANDFILL
 PARAMETER: Copper

WELL: PB4
 NUMBER OF SAMPLE DATES: 11

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | 30.000 | ug/l | | 200.7 |
| 07/11/95 | 30.000 | ug/l | | 200.7 |
| 10/11/95 | ND<10.000 | ug/l | | 200.7 |
| 01/08/96 | 80.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<10.000 | ug/l | | 200.7 |
| 04/04/96 | 50.000 | ug/l | | 200.7 |
| 07/09/96 | ND<10.000 | ug/l | | 200.7 |
| 10/09/96 | 10.000 | ug/l | | 200.7 |
| 02/06/97 | ND<10.000 | ug/l | | 200.7 |
| 04/09/97 | 20.000 | ug/l | | 200.7 |
| 10/29/97 | 20.000 | ug/l | | 200.7 |

PARAMETER: Nickel

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | 50.000 | ug/l | | 200.7 |
| 07/11/95 | 60.000 | ug/l | | 200.7 |
| 10/11/95 | ND<20.000 | ug/l | | 200.7 |
| 01/08/96 | 90.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<20.000 | ug/l | | 200.7 |
| 04/04/96 | 60.000 | ug/l | | 200.7 |
| 07/09/96 | ND<20.000 | ug/l | | 200.7 |
| 10/09/96 | 20.000 | ug/l | | 200.7 |
| 02/06/97 | ND<20.000 | ug/l | | 200.7 |
| 04/09/97 | ND<20.000 | ug/l | | 200.7 |
| 10/29/97 | ND<20.000 | ug/l | | 200.7 |

PARAMETER: Lead

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | ND<50.000 | ug/l | | 200.7 |
| 07/11/95 | 11.000 | ug/l | | 200.7 |
| 10/11/95 | ND<50.000 | ug/l | | 200.7 |
| 01/08/96 | 121.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<5.000 | ug/l | | 200.7 |
| 04/04/96 | 76.000 | ug/l | | 200.7 |
| 07/09/96 | ND<5.000 | ug/l | | 200.7 |
| 10/09/96 | ND<5.000 | ug/l | | 200.7 |
| 02/06/97 | ND<5.000 | ug/l | | 200.7 |
| 04/09/97 | ND<5.000 | ug/l | | 200.7 |
| 10/29/97 | ND<5.000 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID

WELL: PB4

FCID: PB LANDFILL

NUMBER OF SAMPLE DATES: 11

PARAMETER: Antimony, total

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<100 | ug/l | | 200.9 |
| 07/11/95 | 7.000 | ug/l | | 200.9 |
| 10/11/95 | ND<5.000 | ug/l | | 200.9 |
| 01/08/96 | ND<5.000 | ug/l | | 200.9 |
| 01/08/96 - Dup A | ND<5.000 | ug/l | | 200.9 |
| 04/04/96 | ND<5.000 | ug/l | | 200.9 |
| 07/09/96 | ND<5.000 | ug/l | | 200.9 |
| 10/09/96 | ND<5.000 | ug/l | | 200.9 |
| 02/06/97 | ND<5.000 | ug/l | | 200.9 |
| 04/09/97 | ND<5.000 | ug/l | | 200.9 |
| 10/29/97 | ND<5.000 | ug/l | | 200.9 |

PARAMETER: Selenium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 270.2 |
| 07/11/95 | 10.000 | ug/l | | 270.2 |
| 10/11/95 | ND<5.000 | ug/l | | 270.2 |
| 01/08/96 | 31.000 | ug/l | | 270.2 |
| 01/08/96 - Dup A | ND<5.000 | ug/l | | 270.2 |
| 04/04/96 | ND<5.000 | ug/l | | 270.2 |
| 07/09/96 | ND<5.000 | ug/l | | 270.2 |
| 10/09/96 | ND<5.000 | ug/l | | 270.2 |
| 02/06/97 | ND<5.000 | ug/l | | 270.2 |
| 04/09/97 | ND<5.000 | ug/l | | 270.2 |
| 10/29/97 | ND<5.000 | ug/l | | 270.2 |

PARAMETER: Thallium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<100 | ug/l | | .002 |
| 07/11/95 | 2.000 | ug/l | | 200.9 |
| 10/11/95 | ND<2.000 | ug/l | | 200.9 |
| 01/08/96 | ND<2.000 | ug/l | | 200.9 |
| 01/08/96 - Dup A | ND<2.000 | ug/l | | 200.9 |
| 04/04/96 | ND<2.000 | ug/l | | 200.9 |
| 07/09/96 | ND<2.000 | ug/l | | 200.9 |
| 10/09/96 | ND<2.000 | ug/l | | 200.9 |
| 02/06/97 | ND<2.000 | ug/l | | 200.9 |
| 04/09/97 | ND<2.000 | ug/l | | 200.9 |
| 10/29/97 | ND<2.000 | ug/l | | 200.9 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
FCID: PB LANDFILL
PARAMETER: Zinc

WELL: PB4
NUMBER OF SAMPLE DATES: 11

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | 1350.000 | ug/l | | 200.7 |
| 07/11/95 | 672.000 | ug/l | | 200.7 |
| 10/11/95 | 366.000 | ug/l | | 200.7 |
| 01/08/96 | 7940.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 290.000 | ug/l | | 200.7 |
| 04/04/96 | 642.000 | ug/l | | 200.7 |
| 07/09/96 | 402.000 | ug/l | | 200.7 |
| 10/09/96 | 302.000 | ug/l | | 200.7 |
| 02/06/97 | 61.000 | ug/l | | 200.7 |
| 04/09/97 | 171.000 | ug/l | | 200.7 |
| 10/29/97 | 264.000 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID

WELL: PB5

FCID: PB LANDFILL

NUMBER OF SAMPLE DATES: 11

PARAMETER: Silver, total

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 272.1 |
| 07/11/95 | ND<5.000 | ug/l | | 272.1 |
| 10/11/95 | ND<5.000 | ug/l | | 272.1 |
| 01/08/96 | 8.000 | ug/l | | 272.1 |
| 01/08/96 - Dup A | ND<5.000 | ug/l | | 272.1 |
| 04/04/96 | ND<5.000 | ug/l | | 272.1 |
| 07/09/96 | ND<5.000 | ug/l | | 272.1 |
| 10/09/96 | 17.000 | ug/l | | 272.1 |
| 02/06/97 | 9.000 | ug/l | | 272.1 |
| 04/09/97 | ND<5.000 | ug/l | | 272.1 |
| 10/29/97 | ND<5.000 | ug/l | | 272.1 |

PARAMETER: Arsenic

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | 82.000 | ug/l | | 206.2 |
| 07/11/95 | 108.000 | ug/l | | 206.2 |
| 10/11/95 | ND<5.000 | ug/l | | 206.2 |
| 01/08/96 | 55.000 | ug/l | | 206.2 |
| 01/08/96 - Dup A | 28.000 | ug/l | | 206.2 |
| 04/04/96 | 45.000 | ug/l | | 206.2 |
| 07/09/96 | 11.000 | ug/l | | 206.2 |
| 10/09/96 | ND<5.000 | ug/l | | 206.2 |
| 02/06/97 | ND<5.000 | ug/l | | 206.2 |
| 04/09/97 | 13.000 | ug/l | | 206.2 |
| 10/29/97 | ND<5.000 | ug/l | | 206.2 |

PARAMETER: Beryllium, total

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 200.7 |
| 07/11/95 | 1.000 | ug/l | | 200.7 |
| 10/11/95 | ND<1.000 | ug/l | | 200.7 |
| 01/08/96 | 1.100 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 0.700 | ug/l | | 200.7 |
| 04/04/96 | ND<1.000 | ug/l | | 200.7 |
| 07/09/96 | ND<0.500 | ug/l | | 200.7 |
| 10/09/96 | ND<0.500 | ug/l | | 200.7 |
| 02/06/97 | ND<0.500 | ug/l | | 200.7 |
| 04/09/97 | ND<0.500 | ug/l | | 200.7 |
| 10/29/97 | ND<0.500 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID

WELL: PB5

FCID: PB LANDFILL

NUMBER OF SAMPLE DATES: 11

PARAMETER: Cadmium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 200.7 |
| 07/11/95 | ND<5.000 | ug/l | | 200.7 |
| 10/11/95 | ND<5.000 | ug/l | | 200.7 |
| 01/08/96 | 1.400 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 1.100 | ug/l | | 200.7 |
| 04/04/96 | 2.000 | ug/l | | 200.7 |
| 07/09/96 | ND<0.500 | ug/l | | 200.7 |
| 10/09/96 | 1.800 | ug/l | | 200.7 |
| 02/06/97 | 1.100 | ug/l | | 200.7 |
| 04/09/97 | ND<0.500 | ug/l | | 200.7 |
| 10/29/97 | ND<0.500 | ug/l | | 200.7 |

PARAMETER: Chromium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | ND<50.000 | ug/l | | 200.7 |
| 07/11/95 | ND<50.000 | ug/l | | 200.7 |
| 10/11/95 | ND<50.000 | ug/l | | 200.7 |
| 01/08/96 | 53.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 2.000 | ug/l | | 200.7 |
| 04/04/96 | 16.000 | ug/l | | 200.7 |
| 07/09/96 | 32.000 | ug/l | | 200.7 |
| 10/09/96 | 6.000 | ug/l | | 200.7 |
| 02/06/97 | 3.000 | ug/l | | 200.7 |
| 04/09/97 | ND<50.000 | ug/l | | 200.7 |
| 10/29/97 | 3.000 | ug/l | | 200.7 |

PARAMETER: Nickel

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | 30.000 | ug/l | | 200.7 |
| 07/11/95 | ND<20.000 | ug/l | | 200.7 |
| 10/11/95 | ND<20.000 | ug/l | | 200.7 |
| 01/08/96 | 60.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<20.000 | ug/l | | 200.7 |
| 04/04/96 | ND<20.000 | ug/l | | 200.7 |
| 07/09/96 | ND<20.000 | ug/l | | 200.7 |
| 10/09/96 | 30.000 | ug/l | | 200.7 |
| 02/06/97 | ND<20.000 | ug/l | | 200.7 |
| 04/09/97 | ND<20.000 | ug/l | | 200.7 |
| 10/29/97 | 20.000 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
 FCID: PB LANDFILL
 PARAMETER: Lead

WELL: PB5
 NUMBER OF SAMPLE DATES: 11

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | ND<50.000 | ug/l | | 200.7 |
| 07/11/95 | 8.000 | ug/l | | 200.7 |
| 10/11/95 | ND<50.000 | ug/l | | 200.7 |
| 01/08/96 | 14.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<5.000 | ug/l | | 200.7 |
| 04/04/96 | 8.000 | ug/l | | 200.7 |
| 07/09/96 | ND<5.000 | ug/l | | 200.7 |
| 10/09/96 | ND<5.000 | ug/l | | 200.7 |
| 02/06/97 | ND<5.000 | ug/l | | 200.7 |
| 04/09/97 | ND<5.000 | ug/l | | 200.7 |
| 10/29/97 | ND<5.000 | ug/l | | 200.7 |

PARAMETER: Thallium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<100 | ug/l | | .002 |
| 07/11/95 | 9.000 | ug/l | | 200.9 |
| 10/11/95 | ND<2.000 | ug/l | | 200.9 |
| 01/08/96 | ND<2.000 | ug/l | | 200.9 |
| 01/08/96 - Dup A | ND<2.000 | ug/l | | 200.9 |
| 04/04/96 | ND<2.000 | ug/l | | 200.9 |
| 07/09/96 | ND<2.000 | ug/l | | 200.9 |
| 10/09/96 | ND<2.000 | ug/l | | 200.9 |
| 02/06/97 | ND<2.000 | ug/l | | 200.9 |
| 04/09/97 | ND<2.000 | ug/l | | 200.9 |
| 10/29/97 | ND<2.000 | ug/l | | 200.9 |

PARAMETER: Selenium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 270.2 |
| 07/11/95 | ND<5.000 | ug/l | | 270.2 |
| 10/11/95 | ND<5.000 | ug/l | | 270.2 |
| 01/08/96 | 76.000 | ug/l | | 270.2 |
| 01/08/96 - Dup A | ND<5.000 | ug/l | | 270.2 |
| 04/04/96 | 12.000 | ug/l | | 270.2 |
| 07/09/96 | ND<5.000 | ug/l | | 270.2 |
| 10/09/96 | ND<5.000 | ug/l | | 270.2 |
| 02/06/97 | ND<5.000 | ug/l | | 270.2 |
| 04/09/97 | 23.000 | ug/l | | 270.2 |
| 10/29/97 | ND<5.000 | ug/l | | 270.2 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
FCID: PB LANDFILL
PARAMETER: Zinc

WELL: PB5
NUMBER OF SAMPLE DATES: 11

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | 154.000 | ug/l | | 200.7 |
| 07/11/95 | 72.000 | ug/l | | 200.7 |
| 10/11/95 | ND<5.000 | ug/l | | 200.7 |
| 01/08/96 | 147.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 49.000 | ug/l | | 200.7 |
| 04/04/96 | 35.000 | ug/l | | 200.7 |
| 07/09/96 | 7.000 | ug/l | | 200.7 |
| 10/09/96 | 28.000 | ug/l | | 200.7 |
| 02/06/97 | 7.000 | ug/l | | 200.7 |
| 04/09/97 | ND<5.000 | ug/l | | 200.7 |
| 10/29/97 | ND<5.000 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID

WELL: PB6

FCID: PB LANDFILL

NUMBER OF SAMPLE DATES: 11

PARAMETER: Silver, total

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 272.1 |
| 07/11/95 | 5.000 | ug/l | | 272.1 |
| 10/11/95 | ND<5.000 | ug/l | | 272.1 |
| 01/08/96 | ND<5.000 | ug/l | | 272.1 |
| 01/08/96 - Dup A | ND<5.000 | ug/l | | 272.1 |
| 04/04/96 | ND<5.000 | ug/l | | 272.1 |
| 07/09/96 | ND<5.000 | ug/l | | 272.1 |
| 10/09/96 | ND<5.000 | ug/l | | 272.1 |
| 02/06/97 | 9.000 | ug/l | | 272.1 |
| 04/09/97 | 5.000 | ug/l | | 272.1 |
| 10/29/97 | ND<5.000 | ug/l | | 272.1 |

PARAMETER: Arsenic

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|---------|-------|-----------|--------|
| 04/04/95 | 44.000 | ug/l | | 206.2 |
| 07/11/95 | 446.000 | ug/l | | 206.2 |
| 10/11/95 | 26.000 | ug/l | | 206.2 |
| 01/08/96 | 101.000 | ug/l | | 206.2 |
| 01/08/96 - Dup A | 101.000 | ug/l | | 206.2 |
| 04/04/96 | 63.000 | ug/l | | 206.2 |
| 07/09/96 | 44.000 | ug/l | | 206.2 |
| 10/09/96 | 8.000 | ug/l | | 206.2 |
| 02/06/97 | 76.000 | ug/l | | 206.2 |
| 04/09/97 | 19.000 | ug/l | | 206.2 |
| 10/29/97 | 43.000 | ug/l | | 206.2 |

PARAMETER: Barium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|---------|-------|-----------|--------|
| 04/04/95 | 260.000 | ug/l | | 200.7 |
| 07/11/95 | 320.000 | ug/l | | 200.7 |
| 10/11/95 | 27.000 | ug/l | | 200.7 |
| 01/08/96 | 280.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 280.000 | ug/l | | 200.7 |
| 04/04/96 | 300.000 | ug/l | | 200.7 |
| 07/09/96 | 320.000 | ug/l | | 200.7 |
| 10/09/96 | 260.000 | ug/l | | 200.7 |
| 02/06/97 | 250.000 | ug/l | | 200.7 |
| 04/09/97 | 260.000 | ug/l | | 200.7 |
| 10/29/97 | 280.000 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
 FCID: PB LANDFILL
 PARAMETER: Beryllium, total

WELL: PB6
 NUMBER OF SAMPLE DATES: 11

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 200.7 |
| 07/11/95 | 1.000 | ug/l | | 200.7 |
| 10/11/95 | ND<1.000 | ug/l | | 200.7 |
| 01/08/96 | ND<1.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<1.000 | ug/l | | 200.7 |
| 04/04/96 | ND<1.000 | ug/l | | 200.7 |
| 07/09/96 | ND<0.500 | ug/l | | 200.7 |
| 10/09/96 | ND<0.500 | ug/l | | 200.7 |
| 02/06/97 | ND<0.500 | ug/l | | 200.7 |
| 04/09/97 | ND<0.500 | ug/l | | 200.7 |
| 10/29/97 | ND<0.500 | ug/l | | 200.7 |

PARAMETER: Cadmium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 200.7 |
| 07/11/95 | ND<5.000 | ug/l | | 200.7 |
| 10/11/95 | ND<5.000 | ug/l | | 200.7 |
| 01/08/96 | 1.100 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 1.100 | ug/l | | 200.7 |
| 04/04/96 | 1.000 | ug/l | | 200.7 |
| 07/09/96 | ND<0.500 | ug/l | | 200.7 |
| 10/09/96 | 0.600 | ug/l | | 200.7 |
| 02/06/97 | ND<0.500 | ug/l | | 200.7 |
| 04/09/97 | ND<0.500 | ug/l | | 200.7 |
| 10/29/97 | ND<0.500 | ug/l | | 200.7 |

PARAMETER: Chromium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | ND<50.000 | ug/l | | 200.7 |
| 07/11/95 | ND<50.000 | ug/l | | 200.7 |
| 10/11/95 | ND<50.000 | ug/l | | 200.7 |
| 01/08/96 | ND<50.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<50.000 | ug/l | | 200.7 |
| 04/04/96 | 8.000 | ug/l | | 200.7 |
| 07/09/96 | 12.000 | ug/l | | 200.7 |
| 10/09/96 | 3.000 | ug/l | | 200.7 |
| 02/06/97 | 5.000 | ug/l | | 200.7 |
| 04/09/97 | ND<50.000 | ug/l | | 200.7 |
| 10/29/97 | 11.000 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

12/23/97

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
 FCID: PB LANDFILL
 PARAMETER: Copper

WELL: PB6
 NUMBER OF SAMPLE DATES: 11

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | ND<10.000 | ug/l | | 200.7 |
| 07/11/95 | ND<10.000 | ug/l | | 200.7 |
| 10/11/95 | ND<10.000 | ug/l | | 200.7 |
| 01/08/96 | ND<10.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<10.000 | ug/l | | 200.7 |
| 04/04/96 | ND<10.000 | ug/l | | 200.7 |
| 07/09/96 | ND<10.000 | ug/l | | 200.7 |
| 10/09/96 | ND<10.000 | ug/l | | 200.7 |
| 02/06/97 | ND<10.000 | ug/l | | 200.7 |
| 04/09/97 | ND<10.000 | ug/l | | 200.7 |
| 10/29/97 | 10.000 | ug/l | | 200.7 |

PARAMETER: Lead

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | ND<50.000 | ug/l | | 200.7 |
| 07/11/95 | 8.000 | ug/l | | 200.7 |
| 10/11/95 | ND<50.000 | ug/l | | 200.7 |
| 01/08/96 | ND<5.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<5.000 | ug/l | | 200.7 |
| 04/04/96 | 7.000 | ug/l | | 200.7 |
| 07/09/96 | ND<5.000 | ug/l | | 200.7 |
| 10/09/96 | ND<5.000 | ug/l | | 200.7 |
| 02/06/97 | ND<5.000 | ug/l | | 200.7 |
| 04/09/97 | ND<5.000 | ug/l | | 200.7 |
| 10/29/97 | ND<5.000 | ug/l | | 200.7 |

PARAMETER: Selenium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | 16.000 | ug/l | | 270.2 |
| 07/11/95 | ND<5.000 | ug/l | | 270.2 |
| 10/11/95 | ND<5.000 | ug/l | | 270.2 |
| 01/08/96 | ND<5.000 | ug/l | | 270.2 |
| 01/08/96 - Dup A | ND<5.000 | ug/l | | 270.2 |
| 04/04/96 | ND<5.000 | ug/l | | 270.2 |
| 07/09/96 | ND<5.000 | ug/l | | 270.2 |
| 10/09/96 | ND<5.000 | ug/l | | 270.2 |
| 02/06/97 | ND<5.000 | ug/l | | 270.2 |
| 04/09/97 | 20.000 | ug/l | | 270.2 |
| 10/29/97 | ND<5.000 | ug/l | | 270.2 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
 FCID: PB LANDFILL
 PARAMETER: Thallium

WELL: PB6
 NUMBER OF SAMPLE DATES: 11

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<100 | ug/l | | .002 |
| 07/11/95 | 9.000 | ug/l | | 200.9 |
| 10/11/95 | ND<2.000 | ug/l | | 200.9 |
| 01/08/96 | ND<2.000 | ug/l | | 200.9 |
| 01/08/96 - Dup A | ND<2.000 | ug/l | | 200.9 |
| 04/04/96 | ND<2.000 | ug/l | | 200.9 |
| 07/09/96 | ND<2.000 | ug/l | | 200.9 |
| 10/09/96 | ND<2.000 | ug/l | | 200.9 |
| 02/06/97 | ND<2.000 | ug/l | | 200.9 |
| 04/09/97 | ND<2.000 | ug/l | | 200.9 |
| 10/29/97 | ND<2.000 | ug/l | | 200.9 |

PARAMETER: Zinc

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 200.7 |
| 07/11/95 | 57.000 | ug/l | | 200.7 |
| 10/11/95 | ND<5.000 | ug/l | | 200.7 |
| 01/08/96 | 37.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 37.000 | ug/l | | 200.7 |
| 04/04/96 | 27.000 | ug/l | | 200.7 |
| 07/09/96 | 8.000 | ug/l | | 200.7 |
| 10/09/96 | 21.000 | ug/l | | 200.7 |
| 02/06/97 | ND<5.000 | ug/l | | 200.7 |
| 04/09/97 | ND<5.000 | ug/l | | 200.7 |
| 10/29/97 | ND<5.000 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

12/23/97

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
 FCID: PB LANDFILL
 PARAMETER: Silver, total

WELL: PB7
 NUMBER OF SAMPLE DATES: 11

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | 5.000 | ug/l | | 272.1 |
| 07/11/95 | 6.000 | ug/l | | 272.1 |
| 10/11/95 | ND<5.000 | ug/l | | 272.1 |
| 01/08/96 | 8.000 | ug/l | | 272.1 |
| 01/08/96 - Dup A | ND<5.000 | ug/l | | 272.1 |
| 04/04/96 | ND<5.000 | ug/l | | 272.1 |
| 07/09/96 | ND<5.000 | ug/l | | 272.1 |
| 10/09/96 | 17.000 | ug/l | | 272.1 |
| 02/06/97 | ND<5.000 | ug/l | | 272.1 |
| 04/09/97 | ND<5.000 | ug/l | | 272.1 |
| 10/29/97 | ND<5.000 | ug/l | | 272.1 |

PARAMETER: Arsenic

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | 16.000 | ug/l | | 206.2 |
| 07/11/95 | 64.000 | ug/l | | 206.2 |
| 10/11/95 | ND<5.000 | ug/l | | 206.2 |
| 01/08/96 | 118.000 | ug/l | | 206.2 |
| 01/08/96 - Dup A | 14.000 | ug/l | | 206.2 |
| 04/04/96 | 10.000 | ug/l | | 206.2 |
| 07/09/96 | 52.000 | ug/l | | 206.2 |
| 10/09/96 | 24.000 | ug/l | | 206.2 |
| 02/06/97 | 23.000 | ug/l | | 206.2 |
| 04/09/97 | 28.000 | ug/l | | 206.2 |
| 10/29/97 | 32.000 | ug/l | | 206.2 |

PARAMETER: Beryllium, total

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<1.000 | ug/l | | 200.7 |
| 07/11/95 | 1.000 | ug/l | | 200.7 |
| 10/11/95 | ND<1.000 | ug/l | | 200.7 |
| 01/08/96 | 3.900 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<1.000 | ug/l | | 200.7 |
| 04/04/96 | ND<1.000 | ug/l | | 200.7 |
| 07/09/96 | ND<0.500 | ug/l | | 200.7 |
| 10/09/96 | ND<0.500 | ug/l | | 200.7 |
| 02/06/97 | ND<0.500 | ug/l | | 200.7 |
| 04/09/97 | ND<0.500 | ug/l | | 200.7 |
| 10/29/97 | ND<0.500 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID

WELL: PB7

FCID: PB LANDFILL

NUMBER OF SAMPLE DATES: 11

PARAMETER: Cadmium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 200.7 |
| 07/11/95 | ND<5.000 | ug/l | | 200.7 |
| 10/11/95 | ND<5.000 | ug/l | | 200.7 |
| 01/08/96 | 1.500 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 1.200 | ug/l | | 200.7 |
| 04/04/96 | 2.100 | ug/l | | 200.7 |
| 07/09/96 | 0.600 | ug/l | | 200.7 |
| 10/09/96 | 1.300 | ug/l | | 200.7 |
| 02/06/97 | ND<0.500 | ug/l | | 200.7 |
| 04/09/97 | ND<0.500 | ug/l | | 200.7 |
| 10/29/97 | ND<0.500 | ug/l | | 200.7 |

PARAMETER: Chromium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | ND<50.000 | ug/l | | 200.7 |
| 07/11/95 | ND<50.000 | ug/l | | 200.7 |
| 10/11/95 | ND<50.000 | ug/l | | 200.7 |
| 01/08/96 | 65.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 23.000 | ug/l | | 200.7 |
| 04/04/96 | 11.000 | ug/l | | 200.7 |
| 07/09/96 | 36.000 | ug/l | | 200.7 |
| 10/09/96 | 12.000 | ug/l | | 200.7 |
| 02/06/97 | 2.000 | ug/l | | 200.7 |
| 04/09/97 | ND<50.000 | ug/l | | 200.7 |
| 10/29/97 | ND<50.000 | ug/l | | 200.7 |

PARAMETER: Barium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|---------|-------|-----------|--------|
| 04/04/95 | 110.000 | ug/l | | 200.7 |
| 07/11/95 | 80.000 | ug/l | | 200.7 |
| 10/11/95 | 60.000 | ug/l | | 200.7 |
| 01/08/96 | 180.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 50.000 | ug/l | | 200.7 |
| 04/04/96 | 60.000 | ug/l | | 200.7 |
| 07/09/96 | 80.000 | ug/l | | 200.7 |
| 10/09/96 | 80.000 | ug/l | | 200.7 |
| 02/06/97 | 50.000 | ug/l | | 200.7 |
| 04/09/97 | 50.000 | ug/l | | 200.7 |
| 10/29/97 | 50.000 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
 FCID: PB LANDFILL
 PARAMETER: Copper

WELL: PB7
 NUMBER OF SAMPLE DATES: 11

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | ND<10.000 | ug/l | | 200.7 |
| 07/11/95 | ND<10.000 | ug/l | | 200.7 |
| 10/11/95 | ND<10.000 | ug/l | | 200.7 |
| 01/08/96 | 20.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<10.000 | ug/l | | 200.7 |
| 04/04/96 | ND<10.000 | ug/l | | 200.7 |
| 07/09/96 | ND<10.000 | ug/l | | 200.7 |
| 10/09/96 | ND<10.000 | ug/l | | 200.7 |
| 02/06/97 | ND<10.000 | ug/l | | 200.7 |
| 04/09/97 | ND<10.000 | ug/l | | 200.7 |
| 10/29/97 | 60.000 | ug/l | | 200.7 |

PARAMETER: Nickel

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | ND<20.000 | ug/l | | 200.7 |
| 07/11/95 | ND<20.000 | ug/l | | 200.7 |
| 10/11/95 | ND<20.000 | ug/l | | 200.7 |
| 01/08/96 | 50.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<20.000 | ug/l | | 200.7 |
| 04/04/96 | ND<20.000 | ug/l | | 200.7 |
| 07/09/96 | ND<20.000 | ug/l | | 200.7 |
| 10/09/96 | 60.000 | ug/l | | 200.7 |
| 02/06/97 | ND<20.000 | ug/l | | 200.7 |
| 04/09/97 | ND<20.000 | ug/l | | 200.7 |
| 10/29/97 | ND<20.000 | ug/l | | 200.7 |

PARAMETER: Lead

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | ND<50.000 | ug/l | | 200.7 |
| 07/11/95 | 11.000 | ug/l | | 200.7 |
| 10/11/95 | ND<50.000 | ug/l | | 200.7 |
| 01/08/96 | 36.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<5.000 | ug/l | | 200.7 |
| 04/04/96 | 10.000 | ug/l | | 200.7 |
| 07/09/96 | 7.000 | ug/l | | 200.7 |
| 10/09/96 | 5.000 | ug/l | | 200.7 |
| 02/06/97 | ND<5.000 | ug/l | | 200.7 |
| 04/09/97 | ND<5.000 | ug/l | | 200.7 |
| 10/29/97 | ND<5.000 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
 FCID: PB LANDFILL
 PARAMETER: Selenium

WELL: PB7
 NUMBER OF SAMPLE DATES: 11

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 270.2 |
| 07/11/95 | ND<5.000 | ug/l | | 270.2 |
| 10/11/95 | ND<5.000 | ug/l | | 270.2 |
| 01/08/96 | 16.000 | ug/l | | 270.2 |
| 01/08/96 - Dup A | ND<5.000 | ug/l | | 270.2 |
| 04/04/96 | 10.000 | ug/l | | 270.2 |
| 07/09/96 | ND<5.000 | ug/l | | 270.2 |
| 10/09/96 | ND<5.000 | ug/l | | 270.2 |
| 02/06/97 | ND<5.000 | ug/l | | 270.2 |
| 04/09/97 | 16.000 | ug/l | | 270.2 |
| 10/29/97 | ND<5.000 | ug/l | | 270.2 |

PARAMETER: Thallium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<100 | ug/l | | .002 |
| 07/11/95 | 5.000 | ug/l | | 200.9 |
| 10/11/95 | ND<2.000 | ug/l | | 200.9 |
| 01/08/96 | ND<2.000 | ug/l | | 200.9 |
| 01/08/96 - Dup A | ND<2.000 | ug/l | | 200.9 |
| 04/04/96 | ND<2.000 | ug/l | | 200.9 |
| 07/09/96 | ND<2.000 | ug/l | | 200.9 |
| 10/09/96 | ND<2.000 | ug/l | | 200.9 |
| 02/06/97 | ND<2.000 | ug/l | | 200.9 |
| 04/09/97 | ND<2.000 | ug/l | | 200.9 |
| 10/29/97 | ND<2.000 | ug/l | | 200.9 |

PARAMETER: Zinc

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | 38.000 | ug/l | | 200.7 |
| 07/11/95 | 134.000 | ug/l | | 200.7 |
| 10/11/95 | ND<5.000 | ug/l | | 200.7 |
| 01/08/96 | 559.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 56.000 | ug/l | | 200.7 |
| 04/04/96 | 41.000 | ug/l | | 200.7 |
| 07/09/96 | 107.000 | ug/l | | 200.7 |
| 10/09/96 | 47.000 | ug/l | | 200.7 |
| 02/06/97 | 12.000 | ug/l | | 200.7 |
| 04/09/97 | ND<5.000 | ug/l | | 200.7 |
| 10/29/97 | ND<5.000 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
 FCID: PB LANDFILL
 PARAMETER: Arsenic

WELL: PB8
 NUMBER OF SAMPLE DATES: 11

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | 8.000 | ug/l | | 206.2 |
| 07/11/95 | ND<5.000 | ug/l | | 206.2 |
| 10/11/95 | ND<5.000 | ug/l | | 206.2 |
| 01/08/96 | 15.000 | ug/l | | 206.2 |
| 01/08/96 - Dup A | ND<5.000 | ug/l | | 206.2 |
| 04/04/96 | ND<5.000 | ug/l | | 206.2 |
| 07/09/96 | ND<5.000 | ug/l | | 206.2 |
| 10/09/96 | ND<5.000 | ug/l | | 206.2 |
| 02/06/97 | ND<5.000 | ug/l | | 206.2 |
| 04/09/97 | ND<5.000 | ug/l | | 206.2 |
| 10/29/97 | ND<5.000 | ug/l | | 206.2 |

PARAMETER: Barium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | ND<50.000 | ug/l | | 200.7 |
| 07/11/95 | 190.000 | ug/l | | 200.7 |
| 10/11/95 | 130.000 | ug/l | | 200.7 |
| 01/08/96 | 220.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 120.000 | ug/l | | 200.7 |
| 04/04/96 | 180.000 | ug/l | | 200.7 |
| 07/09/96 | 130.000 | ug/l | | 200.7 |
| 10/09/96 | 170.000 | ug/l | | 200.7 |
| 02/06/97 | 150.000 | ug/l | | 200.7 |
| 04/09/97 | 100.000 | ug/l | | 200.7 |
| 10/29/97 | 110.000 | ug/l | | 200.7 |

PARAMETER: Beryllium, total

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 200.7 |
| 07/11/95 | 1.000 | ug/l | | 200.7 |
| 10/11/95 | ND<1.000 | ug/l | | 200.7 |
| 01/08/96 | 1.400 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<1.000 | ug/l | | 200.7 |
| 04/04/96 | ND<1.000 | ug/l | | 200.7 |
| 07/09/96 | ND<0.500 | ug/l | | 200.7 |
| 10/09/96 | ND<0.500 | ug/l | | 200.7 |
| 02/06/97 | ND<0.500 | ug/l | | 200.7 |
| 04/09/97 | ND<0.500 | ug/l | | 200.7 |
| 10/29/97 | ND<0.500 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
 FCID: PB LANDFILL
 PARAMETER: Cadmium

WELL: PB8
 NUMBER OF SAMPLE DATES: 11

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 200.7 |
| 07/11/95 | ND<5.000 | ug/l | | 200.7 |
| 10/11/95 | ND<5.000 | ug/l | | 200.7 |
| 01/08/96 | 0.900 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 0.900 | ug/l | | 200.7 |
| 04/04/96 | 1.400 | ug/l | | 200.7 |
| 07/09/96 | ND<0.500 | ug/l | | 200.7 |
| 10/09/96 | 0.500 | ug/l | | 200.7 |
| 02/06/97 | 1.100 | ug/l | | 200.7 |
| 04/09/97 | 1.000 | ug/l | | 200.7 |
| 10/29/97 | ND<0.500 | ug/l | | 200.7 |

PARAMETER: Chromium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | ND<50.000 | ug/l | | 200.7 |
| 07/11/95 | ND<50.000 | ug/l | | 200.7 |
| 10/11/95 | ND<50.000 | ug/l | | 200.7 |
| 01/08/96 | 98.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<50.000 | ug/l | | 200.7 |
| 04/04/96 | 18.000 | ug/l | | 200.7 |
| 07/09/96 | 47.000 | ug/l | | 200.7 |
| 10/09/96 | 37.000 | ug/l | | 200.7 |
| 02/06/97 | 16.000 | ug/l | | 200.7 |
| 04/09/97 | 3.000 | ug/l | | 200.7 |
| 10/29/97 | ND<50.000 | ug/l | | 200.7 |

PARAMETER: Copper

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | 30.000 | ug/l | | 200.7 |
| 07/11/95 | ND<10.000 | ug/l | | 200.7 |
| 10/11/95 | ND<10.000 | ug/l | | 200.7 |
| 01/08/96 | ND<10.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<10.000 | ug/l | | 200.7 |
| 04/04/96 | ND<10.000 | ug/l | | 200.7 |
| 07/09/96 | ND<10.000 | ug/l | | 200.7 |
| 10/09/96 | ND<10.000 | ug/l | | 200.7 |
| 02/06/97 | ND<10.000 | ug/l | | 200.7 |
| 04/09/97 | ND<10.000 | ug/l | | 200.7 |
| 10/29/97 | 40.000 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
 FCID: PB LANDFILL
 PARAMETER: Nickel

WELL: PB8
 NUMBER OF SAMPLE DATES: 11

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | 200.000 | ug/l | | 200.7 |
| 07/11/95 | ND<20.000 | ug/l | | 200.7 |
| 10/11/95 | ND<20.000 | ug/l | | 200.7 |
| 01/08/96 | 60.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<20.000 | ug/l | | 200.7 |
| 04/04/96 | ND<20.000 | ug/l | | 200.7 |
| 07/09/96 | ND<20.000 | ug/l | | 200.7 |
| 10/09/96 | 30.000 | ug/l | | 200.7 |
| 02/06/97 | ND<20.000 | ug/l | | 200.7 |
| 04/09/97 | ND<20.000 | ug/l | | 200.7 |
| 10/29/97 | ND<20.000 | ug/l | | 200.7 |

PARAMETER: Lead

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|-----------|-------|-----------|--------|
| 04/04/95 | ND<50.000 | ug/l | | 200.7 |
| 07/11/95 | 6.000 | ug/l | | 200.7 |
| 10/11/95 | ND<50.000 | ug/l | | 200.7 |
| 01/08/96 | 22.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | ND<5.000 | ug/l | | 200.7 |
| 04/04/96 | ND<5.000 | ug/l | | 200.7 |
| 07/09/96 | ND<5.000 | ug/l | | 200.7 |
| 10/09/96 | ND<5.000 | ug/l | | 200.7 |
| 02/06/97 | ND<5.000 | ug/l | | 200.7 |
| 04/09/97 | ND<5.000 | ug/l | | 200.7 |
| 10/29/97 | ND<5.000 | ug/l | | 200.7 |

PARAMETER: Selenium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | ND<5.000 | ug/l | | 270.2 |
| 07/11/95 | ND<5.000 | ug/l | | 270.2 |
| 10/11/95 | ND<5.000 | ug/l | | 270.2 |
| 01/08/96 | 12.000 | ug/l | | 270.2 |
| 01/08/96 - Dup A | ND<5.000 | ug/l | | 270.2 |
| 04/04/96 | ND<5.000 | ug/l | | 270.2 |
| 07/09/96 | ND<5.000 | ug/l | | 270.2 |
| 10/09/96 | ND<5.000 | ug/l | | 270.2 |
| 02/06/97 | 20.000 | ug/l | | 270.2 |
| 04/09/97 | 62.000 | ug/l | | 270.2 |
| 10/29/97 | ND<5.000 | ug/l | | 270.2 |

GROUND WATER DATA BASE PRINTOUT

12/23/97

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
FCID: PB LANDFILL
PARAMETER: Zinc

WELL: PB8
NUMBER OF SAMPLE DATES: 11

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|------------------|----------|-------|-----------|--------|
| 04/04/95 | 1310.000 | ug/l | | 200.7 |
| 07/11/95 | 49.000 | ug/l | | 200.7 |
| 10/11/95 | ND<5.000 | ug/l | | 200.7 |
| 01/08/96 | 100.000 | ug/l | | 200.7 |
| 01/08/96 - Dup A | 51.000 | ug/l | | 200.7 |
| 04/04/96 | 23.000 | ug/l | | 200.7 |
| 07/09/96 | 9.000 | ug/l | | 200.7 |
| 10/09/96 | 16.000 | ug/l | | 200.7 |
| 02/06/97 | 19.000 | ug/l | | 200.7 |
| 04/09/97 | ND<5.000 | ug/l | | 200.7 |
| 10/29/97 | ND<5.000 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

12/23/97

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID

WELL: PB9

FCID: PB LANDFILL

NUMBER OF SAMPLE DATES: 5

PARAMETER: Silver, total

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|----------|-------|-----------|--------|
| 07/09/96 | ND<5.000 | ug/l | | 272.1 |
| 10/09/96 | 260.000 | ug/l | | 272.1 |
| 02/06/97 | 7.000 | ug/l | | 272.1 |
| 04/09/97 | 8.000 | ug/l | | 272.1 |
| 10/29/97 | ND<5.000 | ug/l | | 272.1 |

PARAMETER: Arsenic

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|----------|-------|-----------|--------|
| 07/09/96 | ND<5.000 | ug/l | | 206.2 |
| 10/09/96 | 10.000 | ug/l | | 206.2 |
| 02/06/97 | 6.000 | ug/l | | 206.2 |
| 04/09/97 | 6.000 | ug/l | | 206.2 |
| 10/29/97 | 15.000 | ug/l | | 206.2 |

PARAMETER: Barium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|-----------|-------|-----------|--------|
| 07/09/96 | ND<50.000 | ug/l | | 200.7 |
| 10/09/96 | 110.000 | ug/l | | 200.7 |
| 02/06/97 | ND<50.000 | ug/l | | 200.7 |
| 04/09/97 | ND<50.000 | ug/l | | 200.7 |
| 10/29/97 | ND<50.000 | ug/l | | 200.7 |

PARAMETER: Cadmium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|----------|-------|-----------|--------|
| 07/09/96 | 0.500 | ug/l | | 200.7 |
| 10/09/96 | 1.700 | ug/l | | 200.7 |
| 02/06/97 | 0.600 | ug/l | | 200.7 |
| 04/09/97 | ND<0.500 | ug/l | | 200.7 |
| 10/29/97 | ND<0.500 | ug/l | | 200.7 |

PARAMETER: Chromium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|-----------|-------|-----------|--------|
| 07/09/96 | 35.000 | ug/l | | 200.7 |
| 10/09/96 | 42.000 | ug/l | | 200.7 |
| 02/06/97 | 2.000 | ug/l | | 200.7 |
| 04/09/97 | ND<50.000 | ug/l | | 200.7 |
| 10/29/97 | 12.000 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
 FCID: PB LANDFILL
 PARAMETER: Copper

WELL: PB9
 NUMBER OF SAMPLE DATES: 5

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|-----------|-------|-----------|--------|
| 07/09/96 | ND<10.000 | ug/l | | 200.7 |
| 10/09/96 | 30.000 | ug/l | | 200.7 |
| 02/06/97 | 10.000 | ug/l | | 200.7 |
| 04/09/97 | ND<10.000 | ug/l | | 200.7 |
| 10/29/97 | 90.000 | ug/l | | 200.7 |

PARAMETER: Lead

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|----------|-------|-----------|--------|
| 07/09/96 | ND<5.000 | ug/l | | 200.7 |
| 10/09/96 | 15.000 | ug/l | | 200.7 |
| 02/06/97 | ND<5.000 | ug/l | | 200.7 |
| 04/09/97 | ND<5.000 | ug/l | | 200.7 |
| 10/29/97 | 9.000 | ug/l | | 200.7 |

PARAMETER: Nickel

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|-----------|-------|-----------|--------|
| 07/09/96 | 30.000 | ug/l | | 200.7 |
| 10/09/96 | 60.000 | ug/l | | 200.7 |
| 02/06/97 | 50.000 | ug/l | | 200.7 |
| 04/09/97 | ND<20.000 | ug/l | | 200.7 |
| 10/29/97 | 20.000 | ug/l | | 200.7 |

PARAMETER: Zinc

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|----------|-------|-----------|--------|
| 07/09/96 | 17.000 | ug/l | | 200.7 |
| 10/09/96 | 71.000 | ug/l | | 200.7 |
| 02/06/97 | 78.000 | ug/l | | 200.7 |
| 04/09/97 | ND<5.000 | ug/l | | 200.7 |
| 10/29/97 | ND<5.000 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
 FCID: PB LANDFILL
 PARAMETER: Silver, total

WELL: PB10
 NUMBER OF SAMPLE DATES: 5

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|----------|-------|-----------|--------|
| 07/09/96 | ND<5.000 | ug/l | | 272.1 |
| 10/09/96 | 12.000 | ug/l | | 272.1 |
| 02/06/97 | 14.000 | ug/l | | 272.1 |
| 04/09/97 | ND<5.000 | ug/l | | 272.1 |
| 10/29/97 | 10.000 | ug/l | | 272.1 |

PARAMETER: Arsenic

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|----------|-------|-----------|--------|
| 07/09/96 | 15.000 | ug/l | | 206.2 |
| 10/09/96 | 21.000 | ug/l | | 206.2 |
| 02/06/97 | 7.000 | ug/l | | 206.2 |
| 04/09/97 | ND<5.000 | ug/l | | 206.2 |
| 10/29/97 | 17.000 | ug/l | | 206.2 |

PARAMETER: Barium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|-----------|-------|-----------|--------|
| 07/09/96 | 150.000 | ug/l | | 200.7 |
| 10/09/96 | 140.000 | ug/l | | 200.7 |
| 02/06/97 | ND<50.000 | ug/l | | 200.7 |
| 04/09/97 | ND<50.000 | ug/l | | 200.7 |
| 10/29/97 | ND<50.000 | ug/l | | 200.7 |

PARAMETER: Beryllium, total

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|----------|-------|-----------|--------|
| 07/09/96 | ND<0.500 | ug/l | | 200.7 |
| 10/09/96 | 0.500 | ug/l | | 200.7 |
| 02/06/97 | ND<0.500 | ug/l | | 200.7 |
| 04/09/97 | ND<0.500 | ug/l | | 200.7 |
| 10/29/97 | ND<0.500 | ug/l | | 200.7 |

PARAMETER: Cadmium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|--------|-------|-----------|--------|
| 07/09/96 | 2.400 | ug/l | | 200.7 |
| 10/09/96 | 2.100 | ug/l | | 200.7 |
| 02/06/97 | 0.900 | ug/l | | 200.7 |
| 04/09/97 | 1.000 | ug/l | | 200.7 |
| 10/29/97 | 8.000 | ug/l | | 200.7 |

GROUND WATER DATA BASE PRINTOUT

12/23/97

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
FCID: PB LANDFILL
PARAMETER: Chromium

WELL: PB10
NUMBER OF SAMPLE DATES: 5

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|---------|-------|-----------|--------|
| 07/09/96 | 161.000 | ug/l | | 200.7 |
| 10/09/96 | 60.000 | ug/l | | 200.7 |
| 02/06/97 | 13.000 | ug/l | | 200.7 |
| 04/09/97 | 3.000 | ug/l | | 200.7 |
| 10/29/97 | 30.000 | ug/l | | 200.7 |

PARAMETER: Copper

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|-----------|-------|-----------|--------|
| 07/09/96 | 50.000 | ug/l | | 200.7 |
| 10/09/96 | 70.000 | ug/l | | 200.7 |
| 02/06/97 | ND<10.000 | ug/l | | 200.7 |
| 04/09/97 | ND<10.000 | ug/l | | 200.7 |
| 10/29/97 | 10.000 | ug/l | | 200.7 |

PARAMETER: Nickel

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|-----------|-------|-----------|--------|
| 07/09/96 | 140.000 | ug/l | | 200.7 |
| 10/09/96 | 110.000 | ug/l | | 200.7 |
| 02/06/97 | 30.000 | ug/l | | 200.7 |
| 04/09/97 | ND<20.000 | ug/l | | 200.7 |
| 10/29/97 | ND<20.000 | ug/l | | 200.7 |

PARAMETER: Lead

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|----------|-------|-----------|--------|
| 07/09/96 | 108.000 | ug/l | | 200.7 |
| 10/09/96 | 65.000 | ug/l | | 200.7 |
| 02/06/97 | 13.000 | ug/l | | 200.7 |
| 04/09/97 | ND<5.000 | ug/l | | 200.7 |
| 10/29/97 | 21.000 | ug/l | | 200.7 |

PARAMETER: Selenium

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|----------|-------|-----------|--------|
| 07/09/96 | ND<5.000 | ug/l | | 270.2 |
| 10/09/96 | ND<5.000 | ug/l | | 270.2 |
| 02/06/97 | ND<5.000 | ug/l | | 270.2 |
| 04/09/97 | ND<5.000 | ug/l | | 270.2 |
| 10/29/97 | 11.000 | ug/l | | 270.2 |

GROUND WATER DATA BASE PRINTOUT

FACILITY: PICKLES BUTTE LANDFILL, CALDWELL, ID
FCID: PB LANDFILL
PARAMETER: Zinc

WELL: PB10
NUMBER OF SAMPLE DATES: 5

| DATE | RESULT | UNITS | DATA QUAL | METHOD |
|----------|---------|-------|-----------|--------|
| 07/09/96 | 125.000 | ug/l | | 200.7 |
| 10/09/96 | 140.000 | ug/l | | 200.7 |
| 02/06/97 | 34.000 | ug/l | | 200.7 |
| 04/09/97 | 18.000 | ug/l | | 200.7 |
| 10/29/97 | 41.000 | ug/l | | 200.7 |

Report Printed: 02-03-1998 13:42

Address:15500 MISSOURI AVENUE

ST:ID Zip:83605

County: CANYON

Phone: (208) 466-7288

Permit Type:Detection

Constituent:Ag Silver, total

MCL: 50.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 5.000 ug/l

Start Date: Apr 04 1995

End Date: Oct 29 1997

Data Mode: Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 100 | 0.92 | 0.92 | 0.92 | 0.00 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 40 | 2.64 | 0.92 | 1.85 | 0.86 |
| PB3 | 11 | 100 | 0.92 | 0.92 | 0.92 | 0.00 |
| PB5 | 11 | 73 | 2.83 | 0.92 | 1.31 | 0.70 |
| PB4 | 11 | 82 | 1.79 | 0.92 | 1.06 | 0.32 |
| PB6 | 11 | 73 | 2.20 | 0.92 | 1.16 | 0.44 |
| PB7 | 11 | 64 | 2.83 | 0.92 | 1.34 | 0.66 |
| PB9 | 5 | 40 | 5.56 | 0.92 | 2.28 | 1.91 |

[illegible]

| °Source of | ° Sum | °Degrees | ° Mean squares | ° Computed F ° |
|------------|-------|----------|----------------|----------------|
|------------|-------|----------|----------------|----------------|

| Variation | of squares | of freedom |
|-----------|------------|------------|
|-----------|------------|------------|

[illegible]

| | | | | |
|-----------------|-------|----|-------|-------|
| °Between wells° | 9.13° | 7° | 1.30° | 9.21° |
|-----------------|-------|----|-------|-------|

| | | | | |
|-----------------|-------|-----|-------|---|
| °Within wells ° | 9.64° | 68° | 0.14° | ° |
|-----------------|-------|-----|-------|---|

| | | | | | |
|--------|---|--------|-----|---|---|
| °Total | ° | 18.77° | 75° | ° | ° |
|--------|---|--------|-----|---|---|

[illegible]

Tabulated F at $\hat{A}=0.05$: 2.15

Since the computed F exceeds the tabulated F , the assumption of equal variances should be rejected.

Kruskal-Wallace Test

Report Printed: 02-03-1998 13:43

Facility:PB LANDFILL PICKLES BUTTE LANDFILL

Address:15500 MISSOURI AVENUE

City:CALDWELL

ST:ID Zip:83605

County:CANYON

Contact:RICHARD LATTIMER

Phone:(208)466-7288

Permit Type:Detection

Constituent:Ag Silver, total

CAS Number: 7440-22-4

MCL: 50.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 5.000 ug/l

Start Date:Apr 04 1995

End Date:Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 100 | 0.92 | 0.92 | 0.92 | 0.00 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 40 | 2.64 | 0.92 | 1.85 | 0.86 |
| PB3 | 11 | 100 | 0.92 | 0.92 | 0.92 | 0.00 |
| PB5 | 11 | 73 | 2.83 | 0.92 | 1.31 | 0.70 |
| PB4 | 11 | 82 | 1.79 | 0.92 | 1.06 | 0.32 |
| PB6 | 11 | 73 | 2.20 | 0.92 | 1.16 | 0.44 |
| PB7 | 11 | 64 | 2.83 | 0.92 | 1.34 | 0.66 |
| PB9 | 5 | 40 | 5.56 | 0.92 | 2.28 | 1.91 |

| Well ID | Date | Observation | Rank |
|---------|----------|-------------|------|
| PB8 | 04/04/95 | 0.9163 | 29.5 |
| PB8 | 07/11/95 | 0.9163 | 29.5 |
| PB8 | 10/11/95 | 0.9163 | 29.5 |
| PB8 | 01/08/96 | 0.9163 | 29.5 |
| PB8 | 01/08/96 | 0.9163 | 29.5 |
| PB8 | 04/04/96 | 0.9163 | 29.5 |
| PB8 | 07/09/96 | 0.9163 | 29.5 |

| | | | |
|----------------------|----------|--------|-------|
| PB8 | 10/09/96 | 0.9163 | 29.5 |
| PB8 | 02/06/97 | 0.9163 | 29.5 |
| PB8 | 04/09/97 | 0.9163 | 29.5 |
| PB8 | 10/29/97 | 0.9163 | 29.5 |
| áááááááááááá | | | |
| Background Rank | | Sum: | 324.5 |
| Background Rank | | Avg: | 29.5 |
| PB10 | 07/09/96 | 0.9163 | 29.5 |
| PB10 | 10/09/96 | 2.4849 | 72.0 |
| PB10 | 02/06/97 | 2.6391 | 73.0 |
| PB10 | 04/09/97 | 0.9163 | 29.5 |
| PB10 | 10/29/97 | 2.3026 | 71.0 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 275.0 |
| Compliance Well Rank | | Avg: | 55.0 |
| PB3 | 04/04/95 | 0.9163 | 29.5 |
| PB3 | 07/11/95 | 0.9163 | 29.5 |
| PB3 | 10/11/95 | 0.9163 | 29.5 |
| PB3 | 01/08/96 | 0.9163 | 29.5 |
| PB3 | 01/08/96 | 0.9163 | 29.5 |
| PB3 | 04/04/96 | 0.9163 | 29.5 |
| PB3 | 07/09/96 | 0.9163 | 29.5 |
| PB3 | 10/09/96 | 0.9163 | 29.5 |
| PB3 | 02/06/97 | 0.9163 | 29.5 |
| PB3 | 04/09/97 | 0.9163 | 29.5 |
| PB3 | 10/29/97 | 0.9163 | 29.5 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 324.5 |
| Compliance Well Rank | | Avg: | 29.5 |
| PB5 | 04/04/95 | 0.9163 | 29.5 |
| PB5 | 07/11/95 | 0.9163 | 29.5 |
| PB5 | 10/11/95 | 0.9163 | 29.5 |
| PB5 | 01/08/96 | 2.0794 | 67.0 |
| PB5 | 01/08/96 | 0.9163 | 29.5 |
| PB5 | 04/04/96 | 0.9163 | 29.5 |
| PB5 | 07/09/96 | 0.9163 | 29.5 |
| PB5 | 10/09/96 | 2.8332 | 74.5 |
| PB5 | 02/06/97 | 2.1972 | 69.5 |
| PB5 | 04/09/97 | 0.9163 | 29.5 |
| PB5 | 10/29/97 | 0.9163 | 29.5 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 447.0 |
| Compliance Well Rank | | Avg: | 40.6 |
| PB4 | 04/04/95 | 0.9163 | 29.5 |
| PB4 | 07/11/95 | 1.7918 | 63.5 |
| PB4 | 10/11/95 | 0.9163 | 29.5 |
| PB4 | 01/08/96 | 0.9163 | 29.5 |
| PB4 | 01/08/96 | 0.9163 | 29.5 |
| PB4 | 04/04/96 | 0.9163 | 29.5 |
| PB4 | 07/09/96 | 0.9163 | 29.5 |
| PB4 | 10/09/96 | 0.9163 | 29.5 |
| PB4 | 02/06/97 | 0.9163 | 29.5 |
| PB4 | 04/09/97 | 1.6094 | 60.5 |
| PB4 | 10/29/97 | 0.9163 | 29.5 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 389.5 |
| Compliance Well Rank | | Avg: | 35.4 |
| PB6 | 04/04/95 | 0.9163 | 29.5 |
| PB6 | 07/11/95 | 1.6094 | 60.5 |
| PB6 | 10/11/95 | 0.9163 | 29.5 |

| | | | |
|-----|----------|--------|------|
| PB6 | 01/08/96 | 0.9163 | 29.5 |
| PB6 | 01/08/96 | 0.9163 | 29.5 |
| PB6 | 04/04/96 | 0.9163 | 29.5 |
| PB6 | 07/09/96 | 0.9163 | 29.5 |
| PB6 | 10/09/96 | 0.9163 | 29.5 |
| PB6 | 02/06/97 | 2.1972 | 69.5 |
| PB6 | 04/09/97 | 1.6094 | 60.5 |
| PB6 | 10/29/97 | 0.9163 | 29.5 |

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Compliance Well Rank Sum: 426.5

Compliance Well Rank Avg: 38.8

| | | | |
|-----|----------|--------|------|
| PB7 | 04/04/95 | 1.6094 | 60.5 |
| PB7 | 07/11/95 | 1.7918 | 63.5 |
| PB7 | 10/11/95 | 0.9163 | 29.5 |
| PB7 | 01/08/96 | 2.0794 | 67.0 |
| PB7 | 01/08/96 | 0.9163 | 29.5 |
| PB7 | 04/04/96 | 0.9163 | 29.5 |
| PB7 | 07/09/96 | 0.9163 | 29.5 |
| PB7 | 10/09/96 | 2.8332 | 74.5 |
| PB7 | 02/06/97 | 0.9163 | 29.5 |
| PB7 | 04/09/97 | 0.9163 | 29.5 |
| PB7 | 10/29/97 | 0.9163 | 29.5 |

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Compliance Well Rank Sum: 472.0

Compliance Well Rank Avg: 42.9

| | | | |
|-----|----------|--------|------|
| PB9 | 07/09/96 | 0.9163 | 29.5 |
| PB9 | 10/09/96 | 5.5607 | 76.0 |
| PB9 | 02/06/97 | 1.9459 | 65.0 |
| PB9 | 04/09/97 | 2.0794 | 67.0 |
| PB9 | 10/29/97 | 0.9163 | 29.5 |

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Compliance Well Rank Sum: 267.0

Compliance Well Rank Avg: 53.4

H Statistic: 9.4804

H Adjusted for Ties: 17.0709

Degrees of Freedom: 7

Chi-Squared: 14.0672

ZÁ/DF: 2.3263

* Indicates significant evidence of contamination

| Well ID | Crit. Diff. | Rank Avg. | Background Rank Avg. | Difference |
|---------|-------------|-----------|----------------------|------------|
|---------|-------------|-----------|----------------------|------------|

| | | | | |
|------|---------|-------|-------|-------|
| PB10 | 27.6897 | 55.00 | 29.50 | 25.50 |
| PB3 | 21.8906 | 29.50 | 29.50 | 0.00 |
| PB5 | 21.8906 | 40.64 | 29.50 | 11.14 |
| PB4 | 21.8906 | 35.41 | 29.50 | 5.91 |
| PB6 | 21.8906 | 38.77 | 29.50 | 9.27 |
| PB7 | 21.8906 | 42.91 | 29.50 | 13.41 |
| PB9 | 27.6897 | 53.40 | 29.50 | 23.90 |

Report Printed: 02-03-1998 13:40

Address: 15500 MISSOURI AVENUE

ST:ID Zip:83605

Contact: RICHARD LATTIMER
Phone: (208) 466-7288

Permit Type:Detection

Constituent:As Arsenic

CAS Number: 7440-38-2

MCL: 50.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 5.000 ug/l

Start Date: Apr 04 1995

End Date: Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 82 | 2.71 | 0.92 | 1.18 | 0.61 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 20 | 3.04 | 0.92 | 2.29 | 0.87 |
| PB3 | 11 | 9 | 3.66 | 0.92 | 2.79 | 0.84 |
| PB5 | 11 | 36 | 4.68 | 0.92 | 2.62 | 1.51 |
| PB4 | 11 | 9 | 3.58 | 0.92 | 2.30 | 0.73 |
| PB6 | 11 | 0 | 6.10 | 2.08 | 3.95 | 1.04 |
| PB7 | 11 | 9 | 4.77 | 0.92 | 3.15 | 1.03 |
| PB9 | 5 | 20 | 2.71 | 0.92 | 1.90 | 0.67 |

| Source of Variation | Sum of squares | Degrees of freedom | Mean squares | Computed F |
|---------------------|----------------|--------------------|--------------|------------|
| Between wells | 5.19 | 7 | 0.74 | 2.33 |
| Within wells | 21.65 | 68 | 0.32 | |
| Total | 26.84 | 75 | | |

Tabulated F at $\bar{A}=0.05$: 2.15

Since the computed F exceeds the tabulated F , the assumption of equal variances should be rejected.

Kruskal-Wallace Test

Report Printed: 02-03-1998 13:41

Facility:PB LANDFILL PICKLES BUTTE LANDFILL

Address:15500 MISSOURI AVENUE

City:CALDWELL

ST:ID Zip:83605

County:CANYON

Contact:RICHARD LATTIMER

Phone:(208)466-7288

Permit Type:Detection

Constituent:As Arsenic

CAS Number: 7440-38-2

MCL: 50.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 5.000 ug/l

Start Date:Apr 04 1995

End Date:Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 82 | 2.71 | 0.92 | 1.18 | 0.61 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 20 | 3.04 | 0.92 | 2.29 | 0.87 |
| PB3 | 11 | 9 | 3.66 | 0.92 | 2.79 | 0.84 |
| PB5 | 11 | 36 | 4.68 | 0.92 | 2.62 | 1.51 |
| PB4 | 11 | 9 | 3.58 | 0.92 | 2.30 | 0.73 |
| PB6 | 11 | 0 | 6.10 | 2.08 | 3.95 | 1.04 |
| PB7 | 11 | 9 | 4.77 | 0.92 | 3.15 | 1.03 |
| PB9 | 5 | 20 | 2.71 | 0.92 | 1.90 | 0.67 |

| Well ID | Date | Observation | Rank |
|---------|----------|-------------|------|
| PB8 | 04/04/95 | 2.0794 | 26.5 |
| PB8 | 07/11/95 | 0.9163 | 9.5 |
| PB8 | 10/11/95 | 0.9163 | 9.5 |
| PB8 | 01/08/96 | 2.7081 | 41.0 |
| PB8 | 01/08/96 | 0.9163 | 9.5 |
| PB8 | 04/04/96 | 0.9163 | 9.5 |
| PB8 | 07/09/96 | 0.9163 | 9.5 |

| | | | |
|----------------------|----------|--------|-------|
| PB8 | 10/09/96 | 0.9163 | 9.5 |
| PB8 | 02/06/97 | 0.9163 | 9.5 |
| PB8 | 04/09/97 | 0.9163 | 9.5 |
| PB8 | 10/29/97 | 0.9163 | 9.5 |
| áááááááááááá | | | |
| Background Rank | | Sum: | 153.0 |
| Background Rank | | Avg: | 13.9 |
| PB10 | 07/09/96 | 2.7081 | 41.0 |
| PB10 | 10/09/96 | 3.0445 | 47.0 |
| PB10 | 02/06/97 | 1.9459 | 24.5 |
| PB10 | 04/09/97 | 0.9163 | 9.5 |
| PB10 | 10/29/97 | 2.8332 | 45.0 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 167.0 |
| Compliance Well Rank | | Avg: | 33.4 |
| PB3 | 04/04/95 | 3.5264 | 59.0 |
| PB3 | 07/11/95 | 2.3979 | 33.0 |
| PB3 | 10/11/95 | 2.6391 | 37.5 |
| PB3 | 01/08/96 | 3.0910 | 48.5 |
| PB3 | 01/08/96 | 0.9163 | 9.5 |
| PB3 | 04/04/96 | 3.3322 | 54.5 |
| PB3 | 07/09/96 | 3.3322 | 54.5 |
| PB3 | 10/09/96 | 2.6391 | 37.5 |
| PB3 | 02/06/97 | 3.6636 | 61.0 |
| PB3 | 04/09/97 | 1.7918 | 21.5 |
| PB3 | 10/29/97 | 3.4012 | 57.0 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 473.5 |
| Compliance Well Rank | | Avg: | 43.0 |
| PB5 | 04/04/95 | 4.4067 | 71.0 |
| PB5 | 07/11/95 | 4.6821 | 74.0 |
| PB5 | 10/11/95 | 0.9163 | 9.5 |
| PB5 | 01/08/96 | 4.0073 | 67.0 |
| PB5 | 01/08/96 | 3.3322 | 54.5 |
| PB5 | 04/04/96 | 3.8067 | 65.0 |
| PB5 | 07/09/96 | 2.3979 | 33.0 |
| PB5 | 10/09/96 | 0.9163 | 9.5 |
| PB5 | 02/06/97 | 0.9163 | 9.5 |
| PB5 | 04/09/97 | 2.5649 | 35.0 |
| PB5 | 10/29/97 | 0.9163 | 9.5 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 437.5 |
| Compliance Well Rank | | Avg: | 39.8 |
| PB4 | 04/04/95 | 2.7726 | 43.5 |
| PB4 | 07/11/95 | 2.3026 | 29.5 |
| PB4 | 10/11/95 | 3.0910 | 48.5 |
| PB4 | 01/08/96 | 3.5835 | 60.0 |
| PB4 | 01/08/96 | 1.7918 | 21.5 |
| PB4 | 04/04/96 | 2.6391 | 37.5 |
| PB4 | 07/09/96 | 1.6094 | 19.0 |
| PB4 | 10/09/96 | 0.9163 | 9.5 |
| PB4 | 02/06/97 | 2.3026 | 29.5 |
| PB4 | 04/09/97 | 1.9459 | 24.5 |
| PB4 | 10/29/97 | 2.3979 | 33.0 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 356.0 |
| Compliance Well Rank | | Avg: | 32.4 |
| PB6 | 04/04/95 | 3.7842 | 63.5 |
| PB6 | 07/11/95 | 6.1003 | 76.0 |
| PB6 | 10/11/95 | 3.2581 | 52.0 |

| | | | |
|-----|----------|--------|------|
| PB6 | 01/08/96 | 4.6151 | 72.5 |
| PB6 | 01/08/96 | 4.6151 | 72.5 |
| PB6 | 04/04/96 | 4.1431 | 68.0 |
| PB6 | 07/09/96 | 3.7842 | 63.5 |
| PB6 | 10/09/96 | 2.0794 | 26.5 |
| PB6 | 02/06/97 | 4.3307 | 70.0 |
| PB6 | 04/09/97 | 2.9444 | 46.0 |
| PB6 | 10/29/97 | 3.7612 | 62.0 |

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Compliance Well Rank Sum: 672.5

Compliance Well Rank Avg: 61.1

| | | | |
|-----|----------|--------|------|
| PB7 | 04/04/95 | 2.7726 | 43.5 |
| PB7 | 07/11/95 | 4.1589 | 69.0 |
| PB7 | 10/11/95 | 0.9163 | 9.5 |
| PB7 | 01/08/96 | 4.7707 | 75.0 |
| PB7 | 01/08/96 | 2.6391 | 37.5 |
| PB7 | 04/04/96 | 2.3026 | 29.5 |
| PB7 | 07/09/96 | 3.9512 | 66.0 |
| PB7 | 10/09/96 | 3.1781 | 51.0 |
| PB7 | 02/06/97 | 3.1355 | 50.0 |
| PB7 | 04/09/97 | 3.3322 | 54.5 |
| PB7 | 10/29/97 | 3.4657 | 58.0 |

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Compliance Well Rank Sum: 543.5

Compliance Well Rank Avg: 49.4

| | | | |
|-----|----------|--------|------|
| PB9 | 07/09/96 | 0.9163 | 9.5 |
| PB9 | 10/09/96 | 2.3026 | 29.5 |
| PB9 | 02/06/97 | 1.7918 | 21.5 |
| PB9 | 04/09/97 | 1.7918 | 21.5 |
| PB9 | 10/29/97 | 2.7081 | 41.0 |

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Compliance Well Rank Sum: 123.0

Compliance Well Rank Avg: 24.6

H Statistic: 31.4821
H Adjusted for Ties: 31.9286
Degrees of Freedom: 7
Chi-Squared: 14.0672
ZÁ/DF: 2.3263

* Indicates significant evidence of contamination

| Well ID | Crit. Diff. | Rank Avg. | Background Rank Avg. | Difference |
|---------|-------------|-----------|----------------------|------------|
|---------|-------------|-----------|----------------------|------------|

| | | | | |
|------|---------|-------|-------|-------|
| PB10 | 27.6897 | 33.40 | 13.91 | 19.49 |
| *PB3 | 21.8906 | 43.05 | 13.91 | 29.14 |
| *PB5 | 21.8906 | 39.77 | 13.91 | 25.86 |
| PB4 | 21.8906 | 32.36 | 13.91 | 18.45 |
| *PB6 | 21.8906 | 61.14 | 13.91 | 47.23 |
| *PB7 | 21.8906 | 49.41 | 13.91 | 35.50 |
| PB9 | 27.6897 | 24.60 | 13.91 | 10.69 |

Report Printed: 02-03-1998 13:37

Address:15500 MISSOURI AVENUE

ST:ID Zip:83605

County: CANYON

Phone: (208) 466-7288

Permit Type:Detection

Constituent:Ba Barium

CAS Number: 7440-39-3

MCL: 2000.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 50.000 ug/l

Start Date: Apr 04 1995

End Date: Oct 29 1997

Data Mode: Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 9 | 5.39 | 3.22 | 4.82 | 0.58 |

Compliance Wells

| Well | ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|------|----|----|-----|-----------|-----------|------|---------|
| PB10 | | 5 | 60 | 5.01 | 3.22 | 3.92 | 0.96 |
| PB3 | | 11 | 0 | 5.86 | 2.71 | 5.06 | 0.81 |
| PB5 | | 11 | 100 | 3.22 | 3.22 | 3.22 | 0.00 |
| PB4 | | 11 | 0 | 6.27 | 3.71 | 5.63 | 0.88 |
| PB6 | | 11 | 0 | 5.77 | 3.30 | 5.42 | 0.71 |
| PB7 | | 11 | 0 | 5.19 | 3.91 | 4.26 | 0.41 |
| PB9 | | 5 | 80 | 4.70 | 3.22 | 3.52 | 0.66 |

| Source of Variation | Sum of squares | Degrees of freedom | Mean squares | Computed F |
|---------------------|----------------|--------------------|--------------|------------|
| Between wells | 3.52 | 7 | 0.50 | 2.36 |
| Within wells | 14.48 | 68 | 0.21 | |
| Total | 18.00 | 75 | | |

Tabulated F at $\hat{A}=0.05$: 2.15

Since the computed F exceeds the tabulated F , the assumption of equal variances should be rejected.

Kruskal-Wallace Test

Report Printed: 02-03-1998 13:38

Facility:PB LANDFILL PICKLES BUTTE LANDFILL

Address:15500 MISSOURI AVENUE

City:CALDWELL

ST:ID Zip:83605

County:CANYON

Contact:RICHARD LATTIMER

Phone:(208)466-7288

Permit Type:Detection

Constituent:Ba Barium

CAS Number: 7440-39-3

MCL: 2000.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 50.000 ug/l

Start Date:Apr 04 1995

End Date:Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 9 | 5.39 | 3.22 | 4.82 | 0.58 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 60 | 5.01 | 3.22 | 3.92 | 0.96 |
| PB3 | 11 | 0 | 5.86 | 2.71 | 5.06 | 0.81 |
| PB5 | 11 | 100 | 3.22 | 3.22 | 3.22 | 0.00 |
| PB4 | 11 | 0 | 6.27 | 3.71 | 5.63 | 0.88 |
| PB6 | 11 | 0 | 5.77 | 3.30 | 5.42 | 0.71 |
| PB7 | 11 | 0 | 5.19 | 3.91 | 4.26 | 0.41 |
| PB9 | 5 | 80 | 4.70 | 3.22 | 3.52 | 0.66 |

| Well ID | Date | Observation | Rank |
|---------|----------|-------------|------|
| PB8 | 04/04/95 | 3.2189 | 10.0 |
| PB8 | 07/11/95 | 5.2470 | 50.0 |
| PB8 | 10/11/95 | 4.8675 | 38.5 |
| PB8 | 01/08/96 | 5.3936 | 56.0 |
| PB8 | 01/08/96 | 4.7875 | 37.0 |
| PB8 | 04/04/96 | 5.1930 | 47.5 |
| PB8 | 07/09/96 | 4.8675 | 38.5 |

| | | | |
|-----|----------|--------|------|
| PB8 | 10/09/96 | 5.1358 | 45.0 |
| PB8 | 02/06/97 | 5.0106 | 42.0 |
| PB8 | 04/09/97 | 4.6052 | 33.0 |
| PB8 | 10/29/97 | 4.7005 | 35.0 |

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| | |
|----------------------|-------|
| Background Rank Sum: | 432.5 |
| Background Rank Avg: | 39.3 |

| | | | |
|------|----------|--------|------|
| PB10 | 07/09/96 | 5.0106 | 42.0 |
| PB10 | 10/09/96 | 4.9416 | 40.0 |
| PB10 | 02/06/97 | 3.2189 | 10.0 |
| PB10 | 04/09/97 | 3.2189 | 10.0 |
| PB10 | 10/29/97 | 3.2189 | 10.0 |

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|---------------------------|-------|
| Compliance Well Rank Sum: | 112.0 |
| Compliance Well Rank Avg: | 22.4 |

| | | | |
|-----|----------|--------|------|
| PB3 | 04/04/95 | 5.8579 | 67.0 |
| PB3 | 07/11/95 | 2.7081 | 20.0 |
| PB3 | 10/11/95 | 5.0106 | 42.0 |
| PB3 | 01/08/96 | 5.2983 | 51.5 |
| PB3 | 01/08/96 | 5.3471 | 54.0 |
| PB3 | 04/04/96 | 5.3471 | 54.0 |
| PB3 | 07/09/96 | 5.2983 | 51.5 |
| PB3 | 10/09/96 | 5.0752 | 44.0 |
| PB3 | 02/06/97 | 5.1930 | 47.5 |
| PB3 | 04/09/97 | 5.1930 | 47.5 |
| PB3 | 10/29/97 | 5.3471 | 54.0 |

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|---------------------------|-------|
| Compliance Well Rank Sum: | 533.0 |
| Compliance Well Rank Avg: | 48.5 |

| | | | |
|-----|----------|--------|------|
| PB5 | 04/04/95 | 3.2189 | 10.0 |
| PB5 | 07/11/95 | 3.2189 | 10.0 |
| PB5 | 10/11/95 | 3.2189 | 10.0 |
| PB5 | 01/08/96 | 3.2189 | 10.0 |
| PB5 | 01/08/96 | 3.2189 | 10.0 |
| PB5 | 04/04/96 | 3.2189 | 10.0 |
| PB5 | 07/09/96 | 3.2189 | 10.0 |
| PB5 | 10/09/96 | 3.2189 | 10.0 |
| PB5 | 02/06/97 | 3.2189 | 10.0 |
| PB5 | 04/09/97 | 3.2189 | 10.0 |
| PB5 | 10/29/97 | 3.2189 | 10.0 |

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| | |
|---------------------------|-------|
| Compliance Well Rank Sum: | 110.0 |
| Compliance Well Rank Avg: | 10.0 |

| | | | |
|-----|----------|--------|------|
| PB4 | 04/04/95 | 6.2729 | 76.0 |
| PB4 | 07/11/95 | 5.9402 | 71.0 |
| PB4 | 10/11/95 | 5.9661 | 72.0 |
| PB4 | 01/08/96 | 4.0254 | 27.0 |
| PB4 | 01/08/96 | 5.9135 | 69.5 |
| PB4 | 04/04/96 | 6.2344 | 75.0 |
| PB4 | 07/09/96 | 6.0162 | 73.0 |
| PB4 | 10/09/96 | 6.0403 | 74.0 |
| PB4 | 02/06/97 | 5.9135 | 69.5 |
| PB4 | 04/09/97 | 5.8861 | 68.0 |
| PB4 | 10/29/97 | 3.7136 | 22.0 |

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| | |
|---------------------------|-------|
| Compliance Well Rank Sum: | 697.0 |
| Compliance Well Rank Avg: | 63.4 |

| | | | |
|-----|----------|--------|------|
| PB6 | 04/04/95 | 5.5607 | 59.0 |
| PB6 | 07/11/95 | 5.7683 | 65.5 |
| PB6 | 10/11/95 | 3.2958 | 21.0 |

| | | | |
|-----|----------|--------|------|
| PB6 | 01/08/96 | 5.6348 | 62.0 |
| PB6 | 01/08/96 | 5.6348 | 62.0 |
| PB6 | 04/04/96 | 5.7038 | 64.0 |
| PB6 | 07/09/96 | 5.7683 | 65.5 |
| PB6 | 10/09/96 | 5.5607 | 59.0 |
| PB6 | 02/06/97 | 5.5215 | 57.0 |
| PB6 | 04/09/97 | 5.5607 | 59.0 |
| PB6 | 10/29/97 | 5.6348 | 62.0 |

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Compliance Well Rank Sum: 636.0

Compliance Well Rank Avg: 57.8

| | | | |
|-----|----------|--------|------|
| PB7 | 04/04/95 | 4.7005 | 35.0 |
| PB7 | 07/11/95 | 4.3820 | 31.0 |
| PB7 | 10/11/95 | 4.0943 | 28.5 |
| PB7 | 01/08/96 | 5.1930 | 47.5 |
| PB7 | 01/08/96 | 3.9120 | 24.5 |
| PB7 | 04/04/96 | 4.0943 | 28.5 |
| PB7 | 07/09/96 | 4.3820 | 31.0 |
| PB7 | 10/09/96 | 4.3820 | 31.0 |
| PB7 | 02/06/97 | 3.9120 | 24.5 |
| PB7 | 04/09/97 | 3.9120 | 24.5 |
| PB7 | 10/29/97 | 3.9120 | 24.5 |

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Compliance Well Rank Sum: 330.5

Compliance Well Rank Avg: 30.0

| | | | |
|-----|----------|--------|------|
| PB9 | 07/09/96 | 3.2189 | 10.0 |
| PB9 | 10/09/96 | 4.7005 | 35.0 |
| PB9 | 02/06/97 | 3.2189 | 10.0 |
| PB9 | 04/09/97 | 3.2189 | 10.0 |
| PB9 | 10/29/97 | 3.2189 | 10.0 |

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Compliance Well Rank Sum: 75.0

Compliance Well Rank Avg: 15.0

H Statistic: 52.8661
H Adjusted for Ties: 53.7396
Degrees of Freedom: 7
Chi-Squared: 14.0672
ZÁ/DF: 2.3263

* Indicates significant evidence of contamination

| Well ID | Crit. Diff. | Rank Avg. | Background Rank Avg. | Difference |
|---------|-------------|-----------|----------------------|------------|
|---------|-------------|-----------|----------------------|------------|

| | | | | |
|------|---------|-------|-------|--------|
| PB10 | 27.6897 | 22.40 | 39.32 | -16.92 |
| PB3 | 21.8906 | 48.45 | 39.32 | 9.14 |
| PB5 | 21.8906 | 10.00 | 39.32 | -29.32 |
| *PB4 | 21.8906 | 63.36 | 39.32 | 24.05 |
| PB6 | 21.8906 | 57.82 | 39.32 | 18.50 |
| PB7 | 21.8906 | 30.05 | 39.32 | -9.27 |
| PB9 | 27.6897 | 15.00 | 39.32 | -24.32 |

Report Printed: 02-03-1998 13:34

Address:15500 MISSOURI AVENUE

ST:ID Zip:83605

Contact: RICHARD LATTIMER

Phone: (208) 466-7288

Permit Type:Detection

Constituent:Be Beryllium, total

CAS Number: 7440-41-7

MCL: 4.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 0.500 ug/l

Start Date: Apr 04 1995

End Date: Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|-------|---------|
| PB8 | 11 | 82 | 0.92 | -1.39 | -0.71 | 0.81 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|-------|---------|
| PB10 | 5 | 80 | -0.69 | -1.39 | -1.25 | 0.31 |
| PB3 | 11 | 91 | 1.36 | -1.39 | -0.53 | 1.07 |
| PB5 | 11 | 73 | 0.92 | -1.39 | -0.70 | 0.79 |
| PB4 | 11 | 64 | 1.03 | -1.39 | -0.58 | 0.93 |
| PB6 | 11 | 91 | 0.92 | -1.39 | -0.80 | 0.73 |
| PB7 | 11 | 82 | 1.36 | -1.39 | -0.76 | 0.84 |
| PB9 | 5 | 100 | -1.39 | -1.39 | -1.39 | 0.00 |

| °Source of Variation | °Sum of squares | °Degrees of freedom | °Mean squares | °Computed F |
|----------------------|-----------------|---------------------|---------------|-------------|
| °Between wells | 3.62° | 7° | 0.52° | 2.26 ° |
| °Within wells | 15.59° | 68° | 0.23° | ° |
| °Total | 19.21° | 75° | ° | ° |

Tabulated F at $\hat{A}=0.05$: 2.15

Since the computed F exceeds the tabulated F , the assumption of equal variances should be rejected.

Kruskal-Wallace Test

Report Printed: 02-03-1998 13:36

Facility:PB LANDFILL PICKLES BUTTE LANDFILL

Address:15500 MISSOURI AVENUE

City:CALDWELL

ST:ID Zip:83605

County:CANYON

Contact:RICHARD LATTIMER

Phone:(208)466-7288

Permit Type:Detection

Constituent:Be Beryllium, total

CAS Number: 7440-41-7

MCL: 4.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 0.500 ug/l

Start Date:Apr 04 1995

End Date:Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|-------|---------|
| PB8 | 11 | 82 | 0.92 | -1.39 | -0.71 | 0.81 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|-------|---------|
| PB10 | 5 | 80 | -0.69 | -1.39 | -1.25 | 0.31 |
| PB3 | 11 | 91 | 1.36 | -1.39 | -0.53 | 1.07 |
| PB5 | 11 | 73 | 0.92 | -1.39 | -0.70 | 0.79 |
| PB4 | 11 | 64 | 1.03 | -1.39 | -0.58 | 0.93 |
| PB6 | 11 | 91 | 0.92 | -1.39 | -0.80 | 0.73 |
| PB7 | 11 | 82 | 1.36 | -1.39 | -0.76 | 0.84 |
| PB9 | 5 | 100 | -1.39 | -1.39 | -1.39 | 0.00 |

| Well ID | Date | Observation | Rank |
|---------|----------|-------------|------|
| PB8 | 04/04/95 | 0.9163 | 38.0 |
| PB8 | 07/11/95 | 0.0000 | 38.0 |
| PB8 | 10/11/95 | -0.6931 | 38.0 |
| PB8 | 01/08/96 | 0.3365 | 73.0 |
| PB8 | 01/08/96 | -0.6931 | 38.0 |
| PB8 | 04/04/96 | -0.6931 | 38.0 |
| PB8 | 07/09/96 | -1.3863 | 38.0 |

| | | | |
|-----|----------|---------|------|
| PB8 | 10/09/96 | -1.3863 | 38.0 |
| PB8 | 02/06/97 | -1.3863 | 38.0 |
| PB8 | 04/09/97 | -1.3863 | 38.0 |
| PB8 | 10/29/97 | -1.3863 | 38.0 |

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Background Rank Sum: 453.0

Background Rank Avg: 41.2

| | | | |
|------|----------|---------|------|
| PB10 | 07/09/96 | -1.3863 | 38.0 |
| PB10 | 10/09/96 | -0.6931 | 1.0 |
| PB10 | 02/06/97 | -1.3863 | 38.0 |
| PB10 | 04/09/97 | -1.3863 | 38.0 |
| PB10 | 10/29/97 | -1.3863 | 38.0 |

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Compliance Well Rank Sum: 153.0

Compliance Well Rank Avg: 30.6

| | | | |
|-----|----------|---------|------|
| PB3 | 04/04/95 | 0.9163 | 38.0 |
| PB3 | 07/11/95 | 0.9163 | 38.0 |
| PB3 | 10/11/95 | -0.6931 | 38.0 |
| PB3 | 01/08/96 | -0.6931 | 38.0 |
| PB3 | 01/08/96 | -0.6931 | 38.0 |
| PB3 | 04/04/96 | 1.3610 | 75.5 |
| PB3 | 07/09/96 | -1.3863 | 38.0 |
| PB3 | 10/09/96 | -1.3863 | 38.0 |
| PB3 | 02/06/97 | -1.3863 | 38.0 |
| PB3 | 04/09/97 | -1.3863 | 38.0 |
| PB3 | 10/29/97 | -1.3863 | 38.0 |

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Compliance Well Rank Sum: 455.5

Compliance Well Rank Avg: 41.4

| | | | |
|-----|----------|---------|------|
| PB5 | 04/04/95 | 0.9163 | 38.0 |
| PB5 | 07/11/95 | 0.0000 | 38.0 |
| PB5 | 10/11/95 | -0.6931 | 38.0 |
| PB5 | 01/08/96 | 0.0953 | 72.0 |
| PB5 | 01/08/96 | -0.3567 | 3.0 |
| PB5 | 04/04/96 | -0.6931 | 38.0 |
| PB5 | 07/09/96 | -1.3863 | 38.0 |
| PB5 | 10/09/96 | -1.3863 | 38.0 |
| PB5 | 02/06/97 | -1.3863 | 38.0 |
| PB5 | 04/09/97 | -1.3863 | 38.0 |
| PB5 | 10/29/97 | -1.3863 | 38.0 |

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Compliance Well Rank Sum: 417.0

Compliance Well Rank Avg: 37.9

| | | | |
|-----|----------|---------|------|
| PB4 | 04/04/95 | 0.9163 | 38.0 |
| PB4 | 07/11/95 | 0.0000 | 38.0 |
| PB4 | 10/11/95 | -0.6931 | 38.0 |
| PB4 | 01/08/96 | 1.0296 | 74.0 |
| PB4 | 01/08/96 | -0.5108 | 2.0 |
| PB4 | 04/04/96 | -0.2231 | 4.0 |
| PB4 | 07/09/96 | -1.3863 | 38.0 |
| PB4 | 10/09/96 | -1.3863 | 38.0 |
| PB4 | 02/06/97 | -1.3863 | 38.0 |
| PB4 | 04/09/97 | -1.3863 | 38.0 |
| PB4 | 10/29/97 | -1.3863 | 38.0 |

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Compliance Well Rank Sum: 384.0

Compliance Well Rank Avg: 34.9

| | | | |
|-----|----------|---------|------|
| PB6 | 04/04/95 | 0.9163 | 38.0 |
| PB6 | 07/11/95 | 0.0000 | 38.0 |
| PB6 | 10/11/95 | -0.6931 | 38.0 |

| | | | |
|-----|----------|---------|------|
| PB6 | 01/08/96 | -0.6931 | 38.0 |
| PB6 | 01/08/96 | -0.6931 | 38.0 |
| PB6 | 04/04/96 | -0.6931 | 38.0 |
| PB6 | 07/09/96 | -1.3863 | 38.0 |
| PB6 | 10/09/96 | -1.3863 | 38.0 |
| PB6 | 02/06/97 | -1.3863 | 38.0 |
| PB6 | 04/09/97 | -1.3863 | 38.0 |
| PB6 | 10/29/97 | -1.3863 | 38.0 |

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Compliance Well Rank Sum: 418.0

Compliance Well Rank Avg: 38.0

| | | | |
|-----|----------|---------|------|
| PB7 | 04/04/95 | -0.6931 | 38.0 |
| PB7 | 07/11/95 | 0.0000 | 38.0 |
| PB7 | 10/11/95 | -0.6931 | 38.0 |
| PB7 | 01/08/96 | 1.3610 | 75.5 |
| PB7 | 01/08/96 | -0.6931 | 38.0 |
| PB7 | 04/04/96 | -0.6931 | 38.0 |
| PB7 | 07/09/96 | -1.3863 | 38.0 |
| PB7 | 10/09/96 | -1.3863 | 38.0 |
| PB7 | 02/06/97 | -1.3863 | 38.0 |
| PB7 | 04/09/97 | -1.3863 | 38.0 |
| PB7 | 10/29/97 | -1.3863 | 38.0 |

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Compliance Well Rank Sum: 455.5

Compliance Well Rank Avg: 41.4

| | | | |
|-----|----------|---------|------|
| PB9 | 07/09/96 | -1.3863 | 38.0 |
| PB9 | 10/09/96 | -1.3863 | 38.0 |
| PB9 | 02/06/97 | -1.3863 | 38.0 |
| PB9 | 04/09/97 | -1.3863 | 38.0 |
| PB9 | 10/29/97 | -1.3863 | 38.0 |

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Compliance Well Rank Sum: 190.0

Compliance Well Rank Avg: 38.0

| | |
|----------------------|---------|
| H Statistic: | 1.4908 |
| H Adjusted for Ties: | 4.7345 |
| Degrees of Freedom: | 7 |
| Chi-Squared: | 14.0672 |
| ZÁ/DF: | 2.3263 |

* Indicates significant evidence of contamination

| Well ID | Crit. Diff. | Rank Avg. | Background Rank Avg. | Difference |
|---------|-------------|-----------|----------------------|------------|
|---------|-------------|-----------|----------------------|------------|

| | | | | |
|------|---------|-------|-------|--------|
| PB10 | 27.6897 | 30.60 | 41.18 | -10.58 |
| PB3 | 21.8906 | 41.41 | 41.18 | 0.23 |
| PB5 | 21.8906 | 37.91 | 41.18 | -3.27 |
| PB4 | 21.8906 | 34.91 | 41.18 | -6.27 |
| PB6 | 21.8906 | 38.00 | 41.18 | -3.18 |
| PB7 | 21.8906 | 41.41 | 41.18 | 0.23 |
| PB9 | 27.6897 | 38.00 | 41.18 | -3.18 |

Report Printed: 02-03-1998 13:32

Address:15500 MISSOURI AVENUE

ST:ID Zip:83605

County: CANYON

Phone: (208) 466-7288

Permit Type:Detection

Constituent: Cd Cadmium

MCL: 5.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 0.500 ug/l

Start Date: Apr 04 1995

End Date: Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|-------|---------|
| PB8 | 11 | 45 | 0.92 | -1.39 | -0.05 | 0.83 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|-------|---------|
| PB10 | 5 | 0 | 2.08 | -0.11 | 0.72 | 0.88 |
| PB3 | 11 | 55 | 0.92 | -1.39 | -0.07 | 0.90 |
| PB5 | 11 | 55 | 0.92 | -1.39 | 0.04 | 0.96 |
| PB4 | 11 | 64 | 0.92 | -1.39 | -0.19 | 1.04 |
| PB6 | 11 | 64 | 0.92 | -1.39 | -0.28 | 0.98 |
| PB7 | 11 | 55 | 0.92 | -1.39 | -0.03 | 0.97 |
| PB9 | 5 | 40 | 0.53 | -1.39 | -0.69 | 0.79 |

| °Source of Variation | °Sum of squares | °Degrees of freedom | °Mean squares | °Computed F |
|----------------------|-----------------|---------------------|---------------|-------------|
| °Between wells | 0.85° | 7° | 0.12° | 0.58 ° |
| °Within wells | 14.25° | 68° | 0.21° | ° |
| °Total | 15.10° | 75° | ° | ° |

Tabulated F at $\hat{A}=0.05$: 2.15

Since the computed F does not exceed the tabulated F , the assumption of equal variances may be accepted. .

Kruskal-Wallace Test

Report Printed: 02-03-1998 13:33

Facility:PB LANDFILL PICKLES BUTTE LANDFILL

Address:15500 MISSOURI AVENUE

City:CALDWELL

ST:ID Zip:83605

County:CANYON

Contact:RICHARD LATTIMER

Phone:(208)466-7288

Permit Type:Detection

Constituent:Cd Cadmium

CAS Number: 7440-43-9

MCL: 5.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 0.500 ug/l

Start Date:Apr 04 1995

End Date:Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|-------|---------|
| PB8 | 11 | 45 | 0.92 | -1.39 | -0.05 | 0.83 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|-------|---------|
| PB10 | 5 | 0 | 2.08 | -0.11 | 0.72 | 0.88 |
| PB3 | 11 | 55 | 0.92 | -1.39 | -0.07 | 0.90 |
| PB5 | 11 | 55 | 0.92 | -1.39 | 0.04 | 0.96 |
| PB4 | 11 | 64 | 0.92 | -1.39 | -0.19 | 1.04 |
| PB6 | 11 | 64 | 0.92 | -1.39 | -0.28 | 0.98 |
| PB7 | 11 | 55 | 0.92 | -1.39 | -0.03 | 0.97 |
| PB9 | 5 | 40 | 0.53 | -1.39 | -0.69 | 0.79 |

| Well ID | Date | Observation | Rank |
|---------|----------|-------------|------|
| PB8 | 04/04/95 | 0.9163 | 35.5 |
| PB8 | 07/11/95 | 0.9163 | 35.5 |
| PB8 | 10/11/95 | 0.9163 | 35.5 |
| PB8 | 01/08/96 | -0.1054 | 12.5 |
| PB8 | 01/08/96 | -0.1054 | 12.5 |
| PB8 | 04/04/96 | 0.3365 | 65.5 |
| PB8 | 07/09/96 | -1.3863 | 35.5 |

| | | | |
|-----|----------|---------|------|
| PB8 | 10/09/96 | -0.6931 | 1.5 |
| PB8 | 02/06/97 | 0.0953 | 59.0 |
| PB8 | 04/09/97 | 0.0000 | 35.5 |
| PB8 | 10/29/97 | -1.3863 | 35.5 |

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Background Rank Sum: 364.0

Background Rank Avg: 33.1

| | | | |
|------|----------|---------|------|
| PB10 | 07/09/96 | 0.8755 | 75.0 |
| PB10 | 10/09/96 | 0.7419 | 72.5 |
| PB10 | 02/06/97 | -0.1054 | 12.5 |
| PB10 | 04/09/97 | 0.0000 | 35.5 |
| PB10 | 10/29/97 | 2.0794 | 76.0 |

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Compliance Well Rank Sum: 271.5

Compliance Well Rank Avg: 54.3

| | | | |
|-----|----------|---------|------|
| PB3 | 04/04/95 | 0.9163 | 35.5 |
| PB3 | 07/11/95 | 0.9163 | 35.5 |
| PB3 | 10/11/95 | 0.9163 | 35.5 |
| PB3 | 01/08/96 | -0.3567 | 9.5 |
| PB3 | 01/08/96 | -0.5108 | 5.5 |
| PB3 | 04/04/96 | 0.2624 | 63.5 |
| PB3 | 07/09/96 | 0.9163 | 35.5 |
| PB3 | 10/09/96 | -0.5108 | 5.5 |
| PB3 | 02/06/97 | -0.5108 | 5.5 |
| PB3 | 04/09/97 | -1.3863 | 35.5 |
| PB3 | 10/29/97 | -1.3863 | 35.5 |

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Compliance Well Rank Sum: 302.5

Compliance Well Rank Avg: 27.5

| | | | |
|-----|----------|---------|------|
| PB5 | 04/04/95 | 0.9163 | 35.5 |
| PB5 | 07/11/95 | 0.9163 | 35.5 |
| PB5 | 10/11/95 | 0.9163 | 35.5 |
| PB5 | 01/08/96 | 0.3365 | 65.5 |
| PB5 | 01/08/96 | 0.0953 | 59.0 |
| PB5 | 04/04/96 | 0.6931 | 71.0 |
| PB5 | 07/09/96 | -1.3863 | 35.5 |
| PB5 | 10/09/96 | 0.5878 | 70.0 |
| PB5 | 02/06/97 | 0.0953 | 59.0 |
| PB5 | 04/09/97 | -1.3863 | 35.5 |
| PB5 | 10/29/97 | -1.3863 | 35.5 |

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Compliance Well Rank Sum: 537.5

Compliance Well Rank Avg: 48.9

| | | | |
|-----|----------|---------|------|
| PB4 | 04/04/95 | 0.9163 | 35.5 |
| PB4 | 07/11/95 | 0.9163 | 35.5 |
| PB4 | 10/11/95 | 0.9163 | 35.5 |
| PB4 | 01/08/96 | 0.4055 | 67.5 |
| PB4 | 01/08/96 | -0.1054 | 12.5 |
| PB4 | 04/04/96 | 0.7885 | 74.0 |
| PB4 | 07/09/96 | -1.3863 | 35.5 |
| PB4 | 10/09/96 | -0.3567 | 9.5 |
| PB4 | 02/06/97 | -1.3863 | 35.5 |
| PB4 | 04/09/97 | -1.3863 | 35.5 |
| PB4 | 10/29/97 | -1.3863 | 35.5 |

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Compliance Well Rank Sum: 412.0

Compliance Well Rank Avg: 37.5

| | | | |
|-----|----------|--------|------|
| PB6 | 04/04/95 | 0.9163 | 35.5 |
| PB6 | 07/11/95 | 0.9163 | 35.5 |
| PB6 | 10/11/95 | 0.9163 | 35.5 |

| | | | |
|-----|----------|---------|------|
| PB6 | 01/08/96 | 0.0953 | 59.0 |
| PB6 | 01/08/96 | 0.0953 | 59.0 |
| PB6 | 04/04/96 | 0.0000 | 35.5 |
| PB6 | 07/09/96 | -1.3863 | 35.5 |
| PB6 | 10/09/96 | -0.5108 | 5.5 |
| PB6 | 02/06/97 | -1.3863 | 35.5 |
| PB6 | 04/09/97 | -1.3863 | 35.5 |
| PB6 | 10/29/97 | -1.3863 | 35.5 |

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Compliance Well Rank Sum: 407.5

Compliance Well Rank Avg: 37.0

| | | | |
|-----|----------|---------|------|
| PB7 | 04/04/95 | 0.9163 | 35.5 |
| PB7 | 07/11/95 | 0.9163 | 35.5 |
| PB7 | 10/11/95 | 0.9163 | 35.5 |
| PB7 | 01/08/96 | 0.4055 | 67.5 |
| PB7 | 01/08/96 | 0.1823 | 62.0 |
| PB7 | 04/04/96 | 0.7419 | 72.5 |
| PB7 | 07/09/96 | -0.5108 | 5.5 |
| PB7 | 10/09/96 | 0.2624 | 63.5 |
| PB7 | 02/06/97 | -1.3863 | 35.5 |
| PB7 | 04/09/97 | -1.3863 | 35.5 |
| PB7 | 10/29/97 | -1.3863 | 35.5 |

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Compliance Well Rank Sum: 484.0

Compliance Well Rank Avg: 44.0

| | | | |
|-----|----------|---------|------|
| PB9 | 07/09/96 | -0.6931 | 1.5 |
| PB9 | 10/09/96 | 0.5306 | 69.0 |
| PB9 | 02/06/97 | -0.5108 | 5.5 |
| PB9 | 04/09/97 | -1.3863 | 35.5 |
| PB9 | 10/29/97 | -1.3863 | 35.5 |

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Compliance Well Rank Sum: 147.0

Compliance Well Rank Avg: 29.4

H Statistic: 9.9752
H Adjusted for Ties: 12.0137
Degrees of Freedom: 7
Chi-Squared: 14.0672
ZÁ/DF: 2.3263

* Indicates significant evidence of contamination

| Well ID | Crit. Diff. | Rank Avg. | Background Rank Avg. | Difference |
|---------|-------------|-----------|----------------------|------------|
|---------|-------------|-----------|----------------------|------------|

| | | | | |
|------|---------|-------|-------|-------|
| PB10 | 27.6897 | 54.30 | 33.09 | 21.21 |
| PB3 | 21.8906 | 27.50 | 33.09 | -5.59 |
| PB5 | 21.8906 | 48.86 | 33.09 | 15.77 |
| PB4 | 21.8906 | 37.45 | 33.09 | 4.36 |
| PB6 | 21.8906 | 37.05 | 33.09 | 3.95 |
| PB7 | 21.8906 | 44.00 | 33.09 | 10.91 |
| PB9 | 27.6897 | 29.40 | 33.09 | -3.69 |

Report Printed: 02-03-1998 13:30

Address:15500 MISSOURI AVENUE

ST:ID Zip:83605

County: CANYON

Contact: RICHARD LATTIMER

Phone: (208) 466-7288

Permit Type:Detection

Constituent:Co Cobalt

CAS Number: 7440-48-4

MCL: 0.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 20.000 ug/l

Start Date: Apr 04 1995

End Date: Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N %ND | Max Value | Min Value | Mean | Std Dev |
|---------|--------|-----------|-----------|------|---------|
| PB8 | 11 100 | 2.30 | 2.30 | 2.30 | 0.00 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 100 | 2.30 | 2.30 | 2.30 | 0.00 |
| PB3 | 11 | 100 | 2.30 | 2.30 | 2.30 | 0.00 |
| PB5 | 11 | 100 | 2.30 | 2.30 | 2.30 | 0.00 |
| PB4 | 11 | 100 | 2.30 | 2.30 | 2.30 | 0.00 |
| PB6 | 11 | 100 | 2.30 | 2.30 | 2.30 | 0.00 |
| PB7 | 11 | 100 | 2.30 | 2.30 | 2.30 | 0.00 |
| PB9 | 5 | 100 | 2.30 | 2.30 | 2.30 | 0.00 |

| Source of Variation | Sum of squares | Degrees of freedom | Mean squares | Computed F |
|---------------------|----------------|--------------------|--------------|------------|
| Between wells | 0.00 | 7 | 0.00 | ***** |
| Within wells | 0.00 | 68 | 0.00 | |
| Total | 0.00 | 75 | | |

Tabulated F at $\hat{A}=0.05$: 2.15

Since the computed F exceeds the tabulated F , the assumption of equal variances should be rejected.

Kruskal-Wallace Test

Report Printed: 02-03-1998 13:31

Facility:PB LANDFILL PICKLES BUTTE LANDFILL

Address:15500 MISSOURI AVENUE

City:CALDWELL

ST:ID Zip:83605

County:CANYON

Contact:RICHARD LATTIMER

Phone:(208)466-7288

Permit Type:Detection

Constituent:Co Cobalt

CAS Number: 7440-48-4

MCL: 0.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 20.000 ug/l

Start Date:Apr 04 1995

End Date:Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 100 | 2.30 | 2.30 | 2.30 | 0.00 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 100 | 2.30 | 2.30 | 2.30 | 0.00 |
| PB3 | 11 | 100 | 2.30 | 2.30 | 2.30 | 0.00 |
| PB5 | 11 | 100 | 2.30 | 2.30 | 2.30 | 0.00 |
| PB4 | 11 | 100 | 2.30 | 2.30 | 2.30 | 0.00 |
| PB6 | 11 | 100 | 2.30 | 2.30 | 2.30 | 0.00 |
| PB7 | 11 | 100 | 2.30 | 2.30 | 2.30 | 0.00 |
| PB9 | 5 | 100 | 2.30 | 2.30 | 2.30 | 0.00 |

| Well ID | Date | Observation | Rank |
|---------|----------|-------------|------|
| PB8 | 04/04/95 | 2.3026 | 38.5 |
| PB8 | 07/11/95 | 2.3026 | 38.5 |
| PB8 | 10/11/95 | 2.3026 | 38.5 |
| PB8 | 01/08/96 | 2.3026 | 38.5 |
| PB8 | 01/08/96 | 2.3026 | 38.5 |
| PB8 | 04/04/96 | 2.3026 | 38.5 |
| PB8 | 07/09/96 | 2.3026 | 38.5 |

| | | | |
|----------------------|----------|--------|-------|
| PB8 | 10/09/96 | 2.3026 | 38.5 |
| PB8 | 02/06/97 | 2.3026 | 38.5 |
| PB8 | 04/09/97 | 2.3026 | 38.5 |
| PB8 | 10/29/97 | 2.3026 | 38.5 |
| áááááááááááá | | | |
| Background Rank | | Sum: | 423.5 |
| Background Rank | | Avg: | 38.5 |
| PB10 | 07/09/96 | 2.3026 | 38.5 |
| PB10 | 10/09/96 | 2.3026 | 38.5 |
| PB10 | 02/06/97 | 2.3026 | 38.5 |
| PB10 | 04/09/97 | 2.3026 | 38.5 |
| PB10 | 10/29/97 | 2.3026 | 38.5 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 192.5 |
| Compliance Well Rank | | Avg: | 38.5 |
| PB3 | 04/04/95 | 2.3026 | 38.5 |
| PB3 | 07/11/95 | 2.3026 | 38.5 |
| PB3 | 10/11/95 | 2.3026 | 38.5 |
| PB3 | 01/08/96 | 2.3026 | 38.5 |
| PB3 | 01/08/96 | 2.3026 | 38.5 |
| PB3 | 04/04/96 | 2.3026 | 38.5 |
| PB3 | 07/09/96 | 2.3026 | 38.5 |
| PB3 | 10/09/96 | 2.3026 | 38.5 |
| PB3 | 02/06/97 | 2.3026 | 38.5 |
| PB3 | 04/09/97 | 2.3026 | 38.5 |
| PB3 | 10/29/97 | 2.3026 | 38.5 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 423.5 |
| Compliance Well Rank | | Avg: | 38.5 |
| PB5 | 04/04/95 | 2.3026 | 38.5 |
| PB5 | 07/11/95 | 2.3026 | 38.5 |
| PB5 | 10/11/95 | 2.3026 | 38.5 |
| PB5 | 01/08/96 | 2.3026 | 38.5 |
| PB5 | 01/08/96 | 2.3026 | 38.5 |
| PB5 | 04/04/96 | 2.3026 | 38.5 |
| PB5 | 07/09/96 | 2.3026 | 38.5 |
| PB5 | 10/09/96 | 2.3026 | 38.5 |
| PB5 | 02/06/97 | 2.3026 | 38.5 |
| PB5 | 04/09/97 | 2.3026 | 38.5 |
| PB5 | 10/29/97 | 2.3026 | 38.5 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 423.5 |
| Compliance Well Rank | | Avg: | 38.5 |
| PB4 | 04/04/95 | 2.3026 | 38.5 |
| PB4 | 07/11/95 | 2.3026 | 38.5 |
| PB4 | 10/11/95 | 2.3026 | 38.5 |
| PB4 | 01/08/96 | 2.3026 | 38.5 |
| PB4 | 01/08/96 | 2.3026 | 38.5 |
| PB4 | 04/04/96 | 2.3026 | 38.5 |
| PB4 | 07/09/96 | 2.3026 | 38.5 |
| PB4 | 10/09/96 | 2.3026 | 38.5 |
| PB4 | 02/06/97 | 2.3026 | 38.5 |
| PB4 | 04/09/97 | 2.3026 | 38.5 |
| PB4 | 10/29/97 | 2.3026 | 38.5 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 423.5 |
| Compliance Well Rank | | Avg: | 38.5 |
| PB6 | 04/04/95 | 2.3026 | 38.5 |
| PB6 | 07/11/95 | 2.3026 | 38.5 |
| PB6 | 10/11/95 | 2.3026 | 38.5 |

| | | | |
|-----|----------|--------|------|
| PB6 | 01/08/96 | 2.3026 | 38.5 |
| PB6 | 01/08/96 | 2.3026 | 38.5 |
| PB6 | 04/04/96 | 2.3026 | 38.5 |
| PB6 | 07/09/96 | 2.3026 | 38.5 |
| PB6 | 10/09/96 | 2.3026 | 38.5 |
| PB6 | 02/06/97 | 2.3026 | 38.5 |
| PB6 | 04/09/97 | 2.3026 | 38.5 |
| PB6 | 10/29/97 | 2.3026 | 38.5 |

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Compliance Well Rank Sum: 423.5

Compliance Well Rank Avg: 38.5

| | | | |
|-----|----------|--------|------|
| PB7 | 04/04/95 | 2.3026 | 38.5 |
| PB7 | 07/11/95 | 2.3026 | 38.5 |
| PB7 | 10/11/95 | 2.3026 | 38.5 |
| PB7 | 01/08/96 | 2.3026 | 38.5 |
| PB7 | 01/08/96 | 2.3026 | 38.5 |
| PB7 | 04/04/96 | 2.3026 | 38.5 |
| PB7 | 07/09/96 | 2.3026 | 38.5 |
| PB7 | 10/09/96 | 2.3026 | 38.5 |
| PB7 | 02/06/97 | 2.3026 | 38.5 |
| PB7 | 04/09/97 | 2.3026 | 38.5 |
| PB7 | 10/29/97 | 2.3026 | 38.5 |

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Compliance Well Rank Sum: 423.5

Compliance Well Rank Avg: 38.5

| | | | |
|-----|----------|--------|------|
| PB9 | 07/09/96 | 2.3026 | 38.5 |
| PB9 | 10/09/96 | 2.3026 | 38.5 |
| PB9 | 02/06/97 | 2.3026 | 38.5 |
| PB9 | 04/09/97 | 2.3026 | 38.5 |
| PB9 | 10/29/97 | 2.3026 | 38.5 |

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Compliance Well Rank Sum: 192.5

Compliance Well Rank Avg: 38.5

H Statistic: -1.0000
H Adjusted for Ties: -1.0000
Degrees of Freedom: 7
Chi-Squared: 14.0672
ZÁ/DF: 2.3263

* Indicates significant evidence of contamination

| Well ID | Crit. Diff. | Rank Avg. | Background Rank Avg. | Difference |
|---------|-------------|-----------|----------------------|------------|
|---------|-------------|-----------|----------------------|------------|

| | | | | |
|------|---------|-------|-------|------|
| PB10 | 27.6897 | 38.50 | 38.50 | 0.00 |
| PB3 | 21.8906 | 38.50 | 38.50 | 0.00 |
| PB5 | 21.8906 | 38.50 | 38.50 | 0.00 |
| PB4 | 21.8906 | 38.50 | 38.50 | 0.00 |
| PB6 | 21.8906 | 38.50 | 38.50 | 0.00 |
| PB7 | 21.8906 | 38.50 | 38.50 | 0.00 |
| PB9 | 27.6897 | 38.50 | 38.50 | 0.00 |

Levene's Test for Homogeneity of Variance

Report Printed: 02-03-1998 13:28

Facility:PB LANDFILL PICKLES BUTTE LANDFILL

Address:15500 MISSOURI AVENUE

City:CALDWELL

ST:ID Zip:83605

County:CANYON

Contact:RICHARD LATTIMER

Phone:(208)466-7288

Permit Type:Detection

Constituent:Cr Chromium

CAS Number: 7440-47-3

MCL: 100.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 50.000 ug/l

Start Date:Apr 04 1995

End Date:Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 45 | 4.58 | 1.10 | 3.17 | 0.85 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 0 | 5.08 | 1.10 | 3.25 | 1.52 |
| PB3 | 11 | 36 | 3.53 | 1.79 | 2.80 | 0.56 |
| PB5 | 11 | 36 | 3.97 | 0.69 | 2.52 | 1.14 |
| PB4 | 11 | 27 | 5.63 | 1.61 | 3.52 | 1.23 |
| PB6 | 11 | 55 | 3.22 | 1.10 | 2.63 | 0.76 |
| PB7 | 11 | 45 | 4.17 | 0.69 | 2.96 | 0.89 |
| PB9 | 5 | 20 | 3.74 | 0.69 | 2.74 | 1.24 |

°Source of ° Sum °Degrees ° Mean squares ° Computed F °
 °Variation ° of squares °of freedom° ° °
 °Between wells° 3.89° 7° 0.56° 1.72 °
 °Within wells ° 21.93° 68° 0.32° °
 °Total ° 25.82° 75° ° °
 Tabulated F at $\alpha=0.05$: 2.15

Since the computed F does not exceed the tabulated F , the assumption of equal variances may be accepted. .

Kruskal-Wallace Test

Report Printed: 02-03-1998 13:29

Facility:PB LANDFILL PICKLES BUTTE LANDFILL

Address:15500 MISSOURI AVENUE

City:CALDWELL

ST:ID Zip:83605

County:CANYON

Contact:RICHARD LATTIMER

Phone:(208)466-7288

Permit Type:Detection

Constituent:Cr Chromium

CAS Number: 7440-47-3

MCL: 100.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 50.000 ug/l

Start Date:Apr 04 1995

End Date:Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 45 | 4.58 | 1.10 | 3.17 | 0.85 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 0 | 5.08 | 1.10 | 3.25 | 1.52 |
| PB3 | 11 | 36 | 3.53 | 1.79 | 2.80 | 0.56 |
| PB5 | 11 | 36 | 3.97 | 0.69 | 2.52 | 1.14 |
| PB4 | 11 | 27 | 5.63 | 1.61 | 3.52 | 1.23 |
| PB6 | 11 | 55 | 3.22 | 1.10 | 2.63 | 0.76 |
| PB7 | 11 | 45 | 4.17 | 0.69 | 2.96 | 0.89 |
| PB9 | 5 | 20 | 3.74 | 0.69 | 2.74 | 1.24 |

| Well ID | Date | Observation | Rank |
|---------|----------|-------------|------|
| PB8 | 04/04/95 | 3.2189 | 14.5 |
| PB8 | 07/11/95 | 3.2189 | 14.5 |
| PB8 | 10/11/95 | 3.2189 | 14.5 |
| PB8 | 01/08/96 | 4.5850 | 72.0 |
| PB8 | 01/08/96 | 3.2189 | 14.5 |
| PB8 | 04/04/96 | 2.8904 | 56.0 |
| PB8 | 07/09/96 | 3.8501 | 67.0 |

| | | | |
|----------------------|----------|--------|-------|
| PB8 | 10/09/96 | 3.6109 | 64.0 |
| PB8 | 02/06/97 | 2.7726 | 54.5 |
| PB8 | 04/09/97 | 1.0986 | 34.0 |
| PB8 | 10/29/97 | 3.2189 | 14.5 |
| áááááááááááá | | | |
| Background Rank | | Sum: | 420.0 |
| Background Rank | | Avg: | 38.2 |
| PB10 | 07/09/96 | 5.0814 | 75.0 |
| PB10 | 10/09/96 | 4.0943 | 69.5 |
| PB10 | 02/06/97 | 2.5649 | 52.0 |
| PB10 | 04/09/97 | 1.0986 | 34.0 |
| PB10 | 10/29/97 | 3.4012 | 59.0 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 289.5 |
| Compliance Well Rank | | Avg: | 57.9 |
| PB3 | 04/04/95 | 3.2189 | 14.5 |
| PB3 | 07/11/95 | 3.2189 | 14.5 |
| PB3 | 10/11/95 | 3.2189 | 14.5 |
| PB3 | 01/08/96 | 2.3026 | 44.0 |
| PB3 | 01/08/96 | 2.6391 | 53.0 |
| PB3 | 04/04/96 | 3.0445 | 57.0 |
| PB3 | 07/09/96 | 2.1972 | 43.0 |
| PB3 | 10/09/96 | 3.5264 | 61.0 |
| PB3 | 02/06/97 | 1.7918 | 39.5 |
| PB3 | 04/09/97 | 2.3979 | 46.5 |
| PB3 | 10/29/97 | 3.2189 | 14.5 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 402.0 |
| Compliance Well Rank | | Avg: | 36.5 |
| PB5 | 04/04/95 | 3.2189 | 14.5 |
| PB5 | 07/11/95 | 3.2189 | 14.5 |
| PB5 | 10/11/95 | 3.2189 | 14.5 |
| PB5 | 01/08/96 | 3.9703 | 68.0 |
| PB5 | 01/08/96 | 0.6931 | 30.0 |
| PB5 | 04/04/96 | 2.7726 | 54.5 |
| PB5 | 07/09/96 | 3.4657 | 60.0 |
| PB5 | 10/09/96 | 1.7918 | 39.5 |
| PB5 | 02/06/97 | 1.0986 | 34.0 |
| PB5 | 04/09/97 | 3.2189 | 14.5 |
| PB5 | 10/29/97 | 1.0986 | 34.0 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 378.0 |
| Compliance Well Rank | | Avg: | 34.4 |
| PB4 | 04/04/95 | 3.2189 | 14.5 |
| PB4 | 07/11/95 | 4.0943 | 69.5 |
| PB4 | 10/11/95 | 3.2189 | 14.5 |
| PB4 | 01/08/96 | 5.6348 | 76.0 |
| PB4 | 01/08/96 | 3.2189 | 14.5 |
| PB4 | 04/04/96 | 4.7791 | 74.0 |
| PB4 | 07/09/96 | 2.3979 | 46.5 |
| PB4 | 10/09/96 | 3.7136 | 65.0 |
| PB4 | 02/06/97 | 4.7622 | 73.0 |
| PB4 | 04/09/97 | 2.0794 | 41.5 |
| PB4 | 10/29/97 | 1.6094 | 37.5 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 526.5 |
| Compliance Well Rank | | Avg: | 47.9 |
| PB6 | 04/04/95 | 3.2189 | 14.5 |
| PB6 | 07/11/95 | 3.2189 | 14.5 |
| PB6 | 10/11/95 | 3.2189 | 14.5 |

| | | | |
|-----|----------|--------|------|
| PB6 | 01/08/96 | 3.2189 | 14.5 |
| PB6 | 01/08/96 | 3.2189 | 14.5 |
| PB6 | 04/04/96 | 2.0794 | 41.5 |
| PB6 | 07/09/96 | 2.4849 | 50.0 |
| PB6 | 10/09/96 | 1.0986 | 34.0 |
| PB6 | 02/06/97 | 1.6094 | 37.5 |
| PB6 | 04/09/97 | 3.2189 | 14.5 |
| PB6 | 10/29/97 | 2.3979 | 46.5 |

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Compliance Well Rank Sum: 296.5

Compliance Well Rank Avg: 27.0

| | | | |
|-----|----------|--------|------|
| PB7 | 04/04/95 | 3.2189 | 14.5 |
| PB7 | 07/11/95 | 3.2189 | 14.5 |
| PB7 | 10/11/95 | 3.2189 | 14.5 |
| PB7 | 01/08/96 | 4.1744 | 71.0 |
| PB7 | 01/08/96 | 3.1355 | 58.0 |
| PB7 | 04/04/96 | 2.3979 | 46.5 |
| PB7 | 07/09/96 | 3.5835 | 63.0 |
| PB7 | 10/09/96 | 2.4849 | 50.0 |
| PB7 | 02/06/97 | 0.6931 | 30.0 |
| PB7 | 04/09/97 | 3.2189 | 14.5 |
| PB7 | 10/29/97 | 3.2189 | 14.5 |

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Compliance Well Rank Sum: 391.0

Compliance Well Rank Avg: 35.5

| | | | |
|-----|----------|--------|------|
| PB9 | 07/09/96 | 3.5553 | 62.0 |
| PB9 | 10/09/96 | 3.7377 | 66.0 |
| PB9 | 02/06/97 | 0.6931 | 30.0 |
| PB9 | 04/09/97 | 3.2189 | 14.5 |
| PB9 | 10/29/97 | 2.4849 | 50.0 |

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Compliance Well Rank Sum: 222.5

Compliance Well Rank Avg: 44.5

H Statistic: 9.8836
H Adjusted for Ties: 10.4097
Degrees of Freedom: 7
Chi-Squared: 14.0672
ZÁ/DF: 2.3263

* Indicates significant evidence of contamination

| Well ID | Crit. Diff. | Rank Avg. | Background Rank Avg. | Difference |
|---------|-------------|-----------|----------------------|------------|
|---------|-------------|-----------|----------------------|------------|

| | | | | |
|------|---------|-------|-------|--------|
| PB10 | 27.6897 | 57.90 | 38.18 | 19.72 |
| PB3 | 21.8906 | 36.55 | 38.18 | -1.64 |
| PB5 | 21.8906 | 34.36 | 38.18 | -3.82 |
| PB4 | 21.8906 | 47.86 | 38.18 | 9.68 |
| PB6 | 21.8906 | 26.95 | 38.18 | -11.23 |
| PB7 | 21.8906 | 35.55 | 38.18 | -2.64 |
| PB9 | 27.6897 | 44.50 | 38.18 | 6.32 |

Levene's Test for Homogeneity of Variance

Report Printed: 02-03-1998 13:27

Facility:PB LANDFILL PICKLES BUTTE LANDFILL

Address:15500 MISSOURI AVENUE

City:CALDWELL

ST:ID Zip:83605

County:CANYON

Contact:RICHARD LATTIMER

Phone:(208)466-7288

Permit Type:Detection

Constituent:Cu Copper

CAS Number: 7440-50-8

MCL: 1300.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 10.000 ug/l

Start Date:Apr 04 1995

End Date:Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 82 | 3.69 | 1.61 | 1.96 | 0.79 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 40 | 4.25 | 1.61 | 2.74 | 1.26 |
| PB3 | 11 | 82 | 3.00 | 1.61 | 1.86 | 0.56 |
| PB5 | 11 | 91 | 3.40 | 1.61 | 1.77 | 0.54 |
| PB4 | 11 | 36 | 4.38 | 1.61 | 2.71 | 1.02 |
| PB6 | 11 | 91 | 2.30 | 1.61 | 1.67 | 0.21 |
| PB7 | 11 | 82 | 4.09 | 1.61 | 1.96 | 0.82 |
| PB9 | 5 | 40 | 4.50 | 1.61 | 2.68 | 1.25 |

Source of Variation Between wells
 Sum of squares 6.64
 Degrees of freedom 7
 Mean squares 0.95
 Computed F 5.03
 Tabulated F at $\alpha=0.05$: 2.15

Since the computed F exceeds the tabulated F , the assumption of equal variances should be rejected.

Kruskal-Wallace Test

Report Printed: 02-03-1998 13:27

Facility:PB LANDFILL PICKLES BUTTE LANDFILL

Address:15500 MISSOURI AVENUE

City:CALDWELL

ST:ID Zip:83605

County:CANYON

Contact:RICHARD LATTIMER

Phone:(208)466-7288

Permit Type:Detection

Constituent:Cu Copper

CAS Number: 7440-50-8

MCL: 1300.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 10.000 ug/l

Start Date:Apr 04 1995

End Date:Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 82 | 3.69 | 1.61 | 1.96 | 0.79 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 40 | 4.25 | 1.61 | 2.74 | 1.26 |
| PB3 | 11 | 82 | 3.00 | 1.61 | 1.86 | 0.56 |
| PB5 | 11 | 91 | 3.40 | 1.61 | 1.77 | 0.54 |
| PB4 | 11 | 36 | 4.38 | 1.61 | 2.71 | 1.02 |
| PB6 | 11 | 91 | 2.30 | 1.61 | 1.67 | 0.21 |
| PB7 | 11 | 82 | 4.09 | 1.61 | 1.96 | 0.82 |
| PB9 | 5 | 40 | 4.50 | 1.61 | 2.68 | 1.25 |

| Well ID | Date | Observation | Rank |
|---------|----------|-------------|------|
| PB8 | 04/04/95 | 3.4012 | 67.0 |
| PB8 | 07/11/95 | 1.6094 | 28.0 |
| PB8 | 10/11/95 | 1.6094 | 28.0 |
| PB8 | 01/08/96 | 1.6094 | 28.0 |
| PB8 | 01/08/96 | 1.6094 | 28.0 |
| PB8 | 04/04/96 | 1.6094 | 28.0 |
| PB8 | 07/09/96 | 1.6094 | 28.0 |

| | | | |
|-----|----------|--------|------|
| PB8 | 10/09/96 | 1.6094 | 28.0 |
| PB8 | 02/06/97 | 1.6094 | 28.0 |
| PB8 | 04/09/97 | 1.6094 | 28.0 |
| PB8 | 10/29/97 | 3.6889 | 70.0 |

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Background Rank Sum: 389.0

Background Rank Avg: 35.4

| | | | |
|------|----------|--------|------|
| PB10 | 07/09/96 | 3.9120 | 71.5 |
| PB10 | 10/09/96 | 4.2485 | 74.0 |
| PB10 | 02/06/97 | 1.6094 | 28.0 |
| PB10 | 04/09/97 | 1.6094 | 28.0 |
| PB10 | 10/29/97 | 2.3026 | 57.5 |

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Compliance Well Rank Sum: 259.0

Compliance Well Rank Avg: 51.8

| | | | |
|-----|----------|--------|------|
| PB3 | 04/04/95 | 1.6094 | 28.0 |
| PB3 | 07/11/95 | 1.6094 | 28.0 |
| PB3 | 10/11/95 | 1.6094 | 28.0 |
| PB3 | 01/08/96 | 1.6094 | 28.0 |
| PB3 | 01/08/96 | 1.6094 | 28.0 |
| PB3 | 04/04/96 | 2.9957 | 62.0 |
| PB3 | 07/09/96 | 1.6094 | 28.0 |
| PB3 | 10/09/96 | 1.6094 | 28.0 |
| PB3 | 02/06/97 | 1.6094 | 28.0 |
| PB3 | 04/09/97 | 1.6094 | 28.0 |
| PB3 | 10/29/97 | 2.9957 | 62.0 |

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Compliance Well Rank Sum: 376.0

Compliance Well Rank Avg: 34.2

| | | | |
|-----|----------|--------|------|
| PB5 | 04/04/95 | 1.6094 | 28.0 |
| PB5 | 07/11/95 | 1.6094 | 28.0 |
| PB5 | 10/11/95 | 1.6094 | 28.0 |
| PB5 | 01/08/96 | 1.6094 | 28.0 |
| PB5 | 01/08/96 | 1.6094 | 28.0 |
| PB5 | 04/04/96 | 1.6094 | 28.0 |
| PB5 | 07/09/96 | 1.6094 | 28.0 |
| PB5 | 10/09/96 | 1.6094 | 28.0 |
| PB5 | 02/06/97 | 1.6094 | 28.0 |
| PB5 | 04/09/97 | 1.6094 | 28.0 |
| PB5 | 10/29/97 | 3.4012 | 67.0 |

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Compliance Well Rank Sum: 347.0

Compliance Well Rank Avg: 31.5

| | | | |
|-----|----------|--------|------|
| PB4 | 04/04/95 | 3.4012 | 67.0 |
| PB4 | 07/11/95 | 3.4012 | 67.0 |
| PB4 | 10/11/95 | 1.6094 | 28.0 |
| PB4 | 01/08/96 | 4.3820 | 75.0 |
| PB4 | 01/08/96 | 1.6094 | 28.0 |
| PB4 | 04/04/96 | 3.9120 | 71.5 |
| PB4 | 07/09/96 | 1.6094 | 28.0 |
| PB4 | 10/09/96 | 2.3026 | 57.5 |
| PB4 | 02/06/97 | 1.6094 | 28.0 |
| PB4 | 04/09/97 | 2.9957 | 62.0 |
| PB4 | 10/29/97 | 2.9957 | 62.0 |

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Compliance Well Rank Sum: 574.0

Compliance Well Rank Avg: 52.2

| | | | |
|-----|----------|--------|------|
| PB6 | 04/04/95 | 1.6094 | 28.0 |
| PB6 | 07/11/95 | 1.6094 | 28.0 |
| PB6 | 10/11/95 | 1.6094 | 28.0 |

| | | | |
|-----|----------|--------|------|
| PB6 | 01/08/96 | 1.6094 | 28.0 |
| PB6 | 01/08/96 | 1.6094 | 28.0 |
| PB6 | 04/04/96 | 1.6094 | 28.0 |
| PB6 | 07/09/96 | 1.6094 | 28.0 |
| PB6 | 10/09/96 | 1.6094 | 28.0 |
| PB6 | 02/06/97 | 1.6094 | 28.0 |
| PB6 | 04/09/97 | 1.6094 | 28.0 |
| PB6 | 10/29/97 | 2.3026 | 57.5 |

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Compliance Well Rank Sum: 337.5

Compliance Well Rank Avg: 30.7

| | | | |
|-----|----------|--------|------|
| PB7 | 04/04/95 | 1.6094 | 28.0 |
| PB7 | 07/11/95 | 1.6094 | 28.0 |
| PB7 | 10/11/95 | 1.6094 | 28.0 |
| PB7 | 01/08/96 | 2.9957 | 62.0 |
| PB7 | 01/08/96 | 1.6094 | 28.0 |
| PB7 | 04/04/96 | 1.6094 | 28.0 |
| PB7 | 07/09/96 | 1.6094 | 28.0 |
| PB7 | 10/09/96 | 1.6094 | 28.0 |
| PB7 | 02/06/97 | 1.6094 | 28.0 |
| PB7 | 04/09/97 | 1.6094 | 28.0 |
| PB7 | 10/29/97 | 4.0943 | 73.0 |

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Compliance Well Rank Sum: 387.0

Compliance Well Rank Avg: 35.2

| | | | |
|-----|----------|--------|------|
| PB9 | 07/09/96 | 1.6094 | 28.0 |
| PB9 | 10/09/96 | 3.4012 | 67.0 |
| PB9 | 02/06/97 | 2.3026 | 57.5 |
| PB9 | 04/09/97 | 1.6094 | 28.0 |
| PB9 | 10/29/97 | 4.4998 | 76.0 |

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Compliance Well Rank Sum: 256.5

Compliance Well Rank Avg: 51.3

| | |
|----------------------|---------|
| H Statistic: | 11.0764 |
| H Adjusted for Ties: | 17.8549 |
| Degrees of Freedom: | 7 |
| Chi-Squared: | 14.0672 |
| ZÁ/DF: | 2.3263 |

* Indicates significant evidence of contamination

| Well ID | Crit. Diff. | Rank Avg. | Background Rank Avg. | Difference |
|---------|-------------|-----------|----------------------|------------|
|---------|-------------|-----------|----------------------|------------|

| | | | | |
|------|---------|-------|-------|-------|
| PB10 | 27.6897 | 51.80 | 35.36 | 16.44 |
| PB3 | 21.8906 | 34.18 | 35.36 | -1.18 |
| PB5 | 21.8906 | 31.55 | 35.36 | -3.82 |
| PB4 | 21.8906 | 52.18 | 35.36 | 16.82 |
| PB6 | 21.8906 | 30.68 | 35.36 | -4.68 |
| PB7 | 21.8906 | 35.18 | 35.36 | -0.18 |
| PB9 | 27.6897 | 51.30 | 35.36 | 15.94 |

Report Printed: 02-03-1998 13:23

Address:15500 MISSOURI AVENUE

ST:ID Zip:83605

County: CANYON

Contact: RICHARD LATTIMER

Phone: (208) 466-7288

Permit Type:Detection

Constituent: Ni Nickel

CAS Number: 7440-02-0

MCL: 100.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 20.000 ug/l

Start Date: Apr 04 1995

End Date: Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 73 | 5.30 | 2.30 | 2.84 | 1.01 |

Compliance Wells

| Well | ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|------|----|----|-----|-----------|-----------|------|---------|
| PB10 | | 5 | 40 | 4.94 | 2.30 | 3.53 | 1.26 |
| PB3 | | 11 | 64 | 3.40 | 2.30 | 2.59 | 0.42 |
| PB5 | | 11 | 64 | 4.09 | 2.30 | 2.73 | 0.64 |
| PB4 | | 11 | 55 | 4.50 | 2.30 | 3.04 | 0.92 |
| PB6 | | 11 | 100 | 2.30 | 2.30 | 2.30 | 0.00 |
| PB7 | | 11 | 82 | 4.09 | 2.30 | 2.61 | 0.69 |
| PB9 | | 5 | 20 | 4.09 | 2.30 | 3.34 | 0.72 |

[illegible]

| °Source of | ° Sum | °Degrees | ° Mean squares | ° Computed F ° |
|------------|-------|----------|----------------|----------------|
|------------|-------|----------|----------------|----------------|

| Variation | of squares | of freedom | Mean Squared | |
|-----------|------------|------------|--------------|--|
| Between | | | | |
| Within | | | | |
| Total | | | | |

[illegible]

| | | | | |
|-----------------|-------|----|-------|-------|
| °Between wells° | 6.19° | 7° | 0.88° | 6.37° |
|-----------------|-------|----|-------|-------|

| | | | | |
|-----------------|-------|-----|-------|---|
| °Within wells ° | 9.43° | 68° | 0.14° | ° |
|-----------------|-------|-----|-------|---|

| | | | | | |
|--------|---|--------|-----|---|---|
| °Total | ° | 15.62° | 75° | ° | ° |
|--------|---|--------|-----|---|---|

[illegible]

Tabulated F at $\hat{\alpha}=0.05$: 2.15

Since the computed F exceeds the tabulated F , the assumption of equal variances should be rejected.

Kruskal-Wallace Test

Report Printed: 02-03-1998 13:24

Facility:PB LANDFILL PICKLES BUTTE LANDFILL

Address:15500 MISSOURI AVENUE

City:CALDWELL

ST:ID Zip:83605

County:CANYON

Contact:RICHARD LATTIMER

Phone:(208)466-7288

Permit Type:Detection

Constituent:Ni Nickel

CAS Number: 7440-02-0

MCL: 100.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 20.000 ug/l

Start Date:Apr 04 1995

End Date:Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 73 | 5.30 | 2.30 | 2.84 | 1.01 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 40 | 4.94 | 2.30 | 3.53 | 1.26 |
| PB3 | 11 | 64 | 3.40 | 2.30 | 2.59 | 0.42 |
| PB5 | 11 | 64 | 4.09 | 2.30 | 2.73 | 0.64 |
| PB4 | 11 | 55 | 4.50 | 2.30 | 3.04 | 0.92 |
| PB6 | 11 | 100 | 2.30 | 2.30 | 2.30 | 0.00 |
| PB7 | 11 | 82 | 4.09 | 2.30 | 2.61 | 0.69 |
| PB9 | 5 | 20 | 4.09 | 2.30 | 3.34 | 0.72 |

| Well ID | Date | Observation | Rank |
|---------|----------|-------------|------|
| PB8 | 04/04/95 | 5.2983 | 76.0 |
| PB8 | 07/11/95 | 2.3026 | 26.0 |
| PB8 | 10/11/95 | 2.3026 | 26.0 |
| PB8 | 01/08/96 | 4.0943 | 69.5 |
| PB8 | 01/08/96 | 2.3026 | 26.0 |
| PB8 | 04/04/96 | 2.3026 | 26.0 |
| PB8 | 07/09/96 | 2.3026 | 26.0 |

| | | | |
|-----|----------|--------|------|
| PB8 | 10/09/96 | 3.4012 | 60.5 |
| PB8 | 02/06/97 | 2.3026 | 26.0 |
| PB8 | 04/09/97 | 2.3026 | 26.0 |
| PB8 | 10/29/97 | 2.3026 | 26.0 |

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|----------------------|-------|
| Background Rank Sum: | 414.0 |
| Background Rank Avg: | 37.6 |

| | | | |
|------|----------|--------|------|
| PB10 | 07/09/96 | 4.9416 | 75.0 |
| PB10 | 10/09/96 | 4.7005 | 74.0 |
| PB10 | 02/06/97 | 3.4012 | 60.5 |
| PB10 | 04/09/97 | 2.3026 | 26.0 |
| PB10 | 10/29/97 | 2.3026 | 26.0 |

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|---------------------------|-------|
| Compliance Well Rank Sum: | 261.5 |
| Compliance Well Rank Avg: | 52.3 |

| | | | |
|-----|----------|--------|------|
| PB3 | 04/04/95 | 2.3026 | 26.0 |
| PB3 | 07/11/95 | 2.3026 | 26.0 |
| PB3 | 10/11/95 | 2.3026 | 26.0 |
| PB3 | 01/08/96 | 2.9957 | 54.5 |
| PB3 | 01/08/96 | 2.3026 | 26.0 |
| PB3 | 04/04/96 | 3.4012 | 60.5 |
| PB3 | 07/09/96 | 2.3026 | 26.0 |
| PB3 | 10/09/96 | 2.9957 | 54.5 |
| PB3 | 02/06/97 | 2.3026 | 26.0 |
| PB3 | 04/09/97 | 2.3026 | 26.0 |
| PB3 | 10/29/97 | 2.9957 | 54.5 |

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|---------------------------|-------|
| Compliance Well Rank Sum: | 406.0 |
| Compliance Well Rank Avg: | 36.9 |

| | | | |
|-----|----------|--------|------|
| PB5 | 04/04/95 | 3.4012 | 60.5 |
| PB5 | 07/11/95 | 2.3026 | 26.0 |
| PB5 | 10/11/95 | 2.3026 | 26.0 |
| PB5 | 01/08/96 | 4.0943 | 69.5 |
| PB5 | 01/08/96 | 2.3026 | 26.0 |
| PB5 | 04/04/96 | 2.3026 | 26.0 |
| PB5 | 07/09/96 | 2.3026 | 26.0 |
| PB5 | 10/09/96 | 3.4012 | 60.5 |
| PB5 | 02/06/97 | 2.3026 | 26.0 |
| PB5 | 04/09/97 | 2.3026 | 26.0 |
| PB5 | 10/29/97 | 2.9957 | 54.5 |

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|---------------------------|-------|
| Compliance Well Rank Sum: | 427.0 |
| Compliance Well Rank Avg: | 38.8 |

| | | | |
|-----|----------|--------|------|
| PB4 | 04/04/95 | 3.9120 | 65.0 |
| PB4 | 07/11/95 | 4.0943 | 69.5 |
| PB4 | 10/11/95 | 2.3026 | 26.0 |
| PB4 | 01/08/96 | 4.4998 | 73.0 |
| PB4 | 01/08/96 | 2.3026 | 26.0 |
| PB4 | 04/04/96 | 4.0943 | 69.5 |
| PB4 | 07/09/96 | 2.3026 | 26.0 |
| PB4 | 10/09/96 | 2.9957 | 54.5 |
| PB4 | 02/06/97 | 2.3026 | 26.0 |
| PB4 | 04/09/97 | 2.3026 | 26.0 |
| PB4 | 10/29/97 | 2.3026 | 26.0 |

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|---------------------------|-------|
| Compliance Well Rank Sum: | 487.5 |
| Compliance Well Rank Avg: | 44.3 |

| | | | |
|-----|----------|--------|------|
| PB6 | 04/04/95 | 2.3026 | 26.0 |
| PB6 | 07/11/95 | 2.3026 | 26.0 |
| PB6 | 10/11/95 | 2.3026 | 26.0 |

| | | | |
|-----|----------|--------|------|
| PB6 | 01/08/96 | 2.3026 | 26.0 |
| PB6 | 01/08/96 | 2.3026 | 26.0 |
| PB6 | 04/04/96 | 2.3026 | 26.0 |
| PB6 | 07/09/96 | 2.3026 | 26.0 |
| PB6 | 10/09/96 | 2.3026 | 26.0 |
| PB6 | 02/06/97 | 2.3026 | 26.0 |
| PB6 | 04/09/97 | 2.3026 | 26.0 |
| PB6 | 10/29/97 | 2.3026 | 26.0 |

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Compliance Well Rank Sum: 286.0

Compliance Well Rank Avg: 26.0

| | | | |
|-----|----------|--------|------|
| PB7 | 04/04/95 | 2.3026 | 26.0 |
| PB7 | 07/11/95 | 2.3026 | 26.0 |
| PB7 | 10/11/95 | 2.3026 | 26.0 |
| PB7 | 01/08/96 | 3.9120 | 65.0 |
| PB7 | 01/08/96 | 2.3026 | 26.0 |
| PB7 | 04/04/96 | 2.3026 | 26.0 |
| PB7 | 07/09/96 | 2.3026 | 26.0 |
| PB7 | 10/09/96 | 4.0943 | 69.5 |
| PB7 | 02/06/97 | 2.3026 | 26.0 |
| PB7 | 04/09/97 | 2.3026 | 26.0 |
| PB7 | 10/29/97 | 2.3026 | 26.0 |

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Compliance Well Rank Sum: 368.5

Compliance Well Rank Avg: 33.5

| | | | |
|-----|----------|--------|------|
| PB9 | 07/09/96 | 3.4012 | 60.5 |
| PB9 | 10/09/96 | 4.0943 | 69.5 |
| PB9 | 02/06/97 | 3.9120 | 65.0 |
| PB9 | 04/09/97 | 2.3026 | 26.0 |
| PB9 | 10/29/97 | 2.9957 | 54.5 |

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Compliance Well Rank Sum: 275.5

Compliance Well Rank Avg: 55.1

H Statistic: 9.7059
H Adjusted for Ties: 13.9375
Degrees of Freedom: 7
Chi-Squared: 14.0672
ZÁ/DF: 2.3263

* Indicates significant evidence of contamination

| Well ID | Crit. Diff. | Rank Avg. | Background Rank Avg. | Difference |
|---------|-------------|-----------|----------------------|------------|
| PB10 | 27.6897 | 52.30 | 37.64 | 14.66 |
| PB3 | 21.8906 | 36.91 | 37.64 | -0.73 |
| PB5 | 21.8906 | 38.82 | 37.64 | 1.18 |
| PB4 | 21.8906 | 44.32 | 37.64 | 6.68 |
| PB6 | 21.8906 | 26.00 | 37.64 | -11.64 |
| PB7 | 21.8906 | 33.50 | 37.64 | -4.14 |
| PB9 | 27.6897 | 55.10 | 37.64 | 17.46 |

Report Printed: 02-03-1998 13:22

Address:15500 MISSOURI AVENUE

ST:ID Zip:83605

County: CANYON

Phone: (208) 466-7288

Constituent:Pb Lead

MCL: 15.000 ug/l

ACL: 0.000 ug/l

| | |
|---------------|------------|
| Detect Limit: | 5.000 ug/l |
|---------------|------------|

Start Date: Apr 04 1995

End Date: Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 82 | 3.22 | 0.92 | 1.61 | 1.04 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 20 | 4.68 | 0.92 | 3.08 | 1.48 |
| PB3 | 11 | 100 | 3.22 | 0.92 | 1.33 | 0.93 |
| PB5 | 11 | 73 | 3.22 | 0.92 | 1.70 | 0.97 |
| PB4 | 11 | 73 | 4.80 | 0.92 | 2.13 | 1.52 |
| PB6 | 11 | 82 | 3.22 | 0.92 | 1.53 | 0.94 |
| PB7 | 11 | 55 | 3.58 | 0.92 | 1.99 | 1.03 |
| PB9 | 5 | 60 | 2.71 | 0.92 | 1.53 | 0.86 |

| °Source of Variation | °Sum of squares | °Degrees of freedom | °Mean squares | °Computed F |
|----------------------|-----------------|---------------------|---------------|-------------|
| °Between wells | 2.99° | 7° | 0.43° | 1.58 ° |
| °Within wells | 18.39° | 68° | 0.27° | ° |
| °Total | 21.37° | 75° | ° | ° |

Tabulated F at $\hat{A}=0.05$: 2.15

Since the computed F does not exceed the tabulated F , the assumption of equal variances may be accepted. .

Kruskal-Wallace Test

Report Printed: 02-03-1998 13:22

Facility:PB LANDFILL PICKLES BUTTE LANDFILL

Address:15500 MISSOURI AVENUE

City:CALDWELL

ST:ID Zip:83605

County:CANYON

Contact:RICHARD LATTIMER

Phone:(208)466-7288

Permit Type:Detection

Constituent:Pb Lead

CAS Number: 7439-92-1

MCL: 15.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 5.000 ug/l

Start Date:Apr 04 1995

End Date:Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 82 | 3.22 | 0.92 | 1.61 | 1.04 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 20 | 4.68 | 0.92 | 3.08 | 1.48 |
| PB3 | 11 | 100 | 3.22 | 0.92 | 1.33 | 0.93 |
| PB5 | 11 | 73 | 3.22 | 0.92 | 1.70 | 0.97 |
| PB4 | 11 | 73 | 4.80 | 0.92 | 2.13 | 1.52 |
| PB6 | 11 | 82 | 3.22 | 0.92 | 1.53 | 0.94 |
| PB7 | 11 | 55 | 3.58 | 0.92 | 1.99 | 1.03 |
| PB9 | 5 | 60 | 2.71 | 0.92 | 1.53 | 0.86 |

| Well ID | Date | Observation | Rank |
|---------|----------|-------------|------|
| PB8 | 04/04/95 | 3.2189 | 28.0 |
| PB8 | 07/11/95 | 1.7918 | 57.0 |
| PB8 | 10/11/95 | 3.2189 | 28.0 |
| PB8 | 01/08/96 | 3.0910 | 71.0 |
| PB8 | 01/08/96 | 0.9163 | 28.0 |
| PB8 | 04/04/96 | 0.9163 | 28.0 |
| PB8 | 07/09/96 | 0.9163 | 28.0 |

| | | | |
|----------------------|----------|--------|-------|
| PB8 | 10/09/96 | 0.9163 | 28.0 |
| PB8 | 02/06/97 | 0.9163 | 28.0 |
| PB8 | 04/09/97 | 0.9163 | 28.0 |
| PB8 | 10/29/97 | 0.9163 | 28.0 |
| aaaaaa | | | |
| Background Rank | | Sum: | 380.0 |
| Background Rank | | Avg: | 34.5 |
| PB10 | 07/09/96 | 4.6821 | 75.0 |
| PB10 | 10/09/96 | 4.1744 | 73.0 |
| PB10 | 02/06/97 | 2.5649 | 67.0 |
| PB10 | 04/09/97 | 0.9163 | 28.0 |
| PB10 | 10/29/97 | 3.0445 | 70.0 |
| aaaaaa | | | |
| Compliance Well Rank | | Sum: | 313.0 |
| Compliance Well Rank | | Avg: | 62.6 |
| PB3 | 04/04/95 | 3.2189 | 28.0 |
| PB3 | 07/11/95 | 0.9163 | 28.0 |
| PB3 | 10/11/95 | 3.2189 | 28.0 |
| PB3 | 01/08/96 | 0.9163 | 28.0 |
| PB3 | 01/08/96 | 0.9163 | 28.0 |
| PB3 | 04/04/96 | 0.9163 | 28.0 |
| PB3 | 07/09/96 | 0.9163 | 28.0 |
| PB3 | 10/09/96 | 0.9163 | 28.0 |
| PB3 | 02/06/97 | 0.9163 | 28.0 |
| PB3 | 04/09/97 | 0.9163 | 28.0 |
| PB3 | 10/29/97 | 0.9163 | 28.0 |
| aaaaaa | | | |
| Compliance Well Rank | | Sum: | 308.0 |
| Compliance Well Rank | | Avg: | 28.0 |
| PB5 | 04/04/95 | 3.2189 | 28.0 |
| PB5 | 07/11/95 | 2.0794 | 61.0 |
| PB5 | 10/11/95 | 3.2189 | 28.0 |
| PB5 | 01/08/96 | 2.6391 | 68.0 |
| PB5 | 01/08/96 | 0.9163 | 28.0 |
| PB5 | 04/04/96 | 2.0794 | 61.0 |
| PB5 | 07/09/96 | 0.9163 | 28.0 |
| PB5 | 10/09/96 | 0.9163 | 28.0 |
| PB5 | 02/06/97 | 0.9163 | 28.0 |
| PB5 | 04/09/97 | 0.9163 | 28.0 |
| PB5 | 10/29/97 | 0.9163 | 28.0 |
| aaaaaa | | | |
| Compliance Well Rank | | Sum: | 414.0 |
| Compliance Well Rank | | Avg: | 37.6 |
| PB4 | 04/04/95 | 3.2189 | 28.0 |
| PB4 | 07/11/95 | 2.3979 | 65.5 |
| PB4 | 10/11/95 | 3.2189 | 28.0 |
| PB4 | 01/08/96 | 4.7958 | 76.0 |
| PB4 | 01/08/96 | 0.9163 | 28.0 |
| PB4 | 04/04/96 | 4.3307 | 74.0 |
| PB4 | 07/09/96 | 0.9163 | 28.0 |
| PB4 | 10/09/96 | 0.9163 | 28.0 |
| PB4 | 02/06/97 | 0.9163 | 28.0 |
| PB4 | 04/09/97 | 0.9163 | 28.0 |
| PB4 | 10/29/97 | 0.9163 | 28.0 |
| aaaaaa | | | |
| Compliance Well Rank | | Sum: | 439.5 |
| Compliance Well Rank | | Avg: | 40.0 |
| PB6 | 04/04/95 | 3.2189 | 28.0 |
| PB6 | 07/11/95 | 2.0794 | 61.0 |
| PB6 | 10/11/95 | 3.2189 | 28.0 |

| | | | |
|-----|----------|--------|------|
| PB6 | 01/08/96 | 0.9163 | 28.0 |
| PB6 | 01/08/96 | 0.9163 | 28.0 |
| PB6 | 04/04/96 | 1.9459 | 58.5 |
| PB6 | 07/09/96 | 0.9163 | 28.0 |
| PB6 | 10/09/96 | 0.9163 | 28.0 |
| PB6 | 02/06/97 | 0.9163 | 28.0 |
| PB6 | 04/09/97 | 0.9163 | 28.0 |
| PB6 | 10/29/97 | 0.9163 | 28.0 |

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Compliance Well Rank Sum: 371.5

Compliance Well Rank Avg: 33.8

| | | | |
|-----|----------|--------|------|
| PB7 | 04/04/95 | 3.2189 | 28.0 |
| PB7 | 07/11/95 | 2.3979 | 65.5 |
| PB7 | 10/11/95 | 3.2189 | 28.0 |
| PB7 | 01/08/96 | 3.5835 | 72.0 |
| PB7 | 01/08/96 | 0.9163 | 28.0 |
| PB7 | 04/04/96 | 2.3026 | 64.0 |
| PB7 | 07/09/96 | 1.9459 | 58.5 |
| PB7 | 10/09/96 | 1.6094 | 56.0 |
| PB7 | 02/06/97 | 0.9163 | 28.0 |
| PB7 | 04/09/97 | 0.9163 | 28.0 |
| PB7 | 10/29/97 | 0.9163 | 28.0 |

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Compliance Well Rank Sum: 484.0

Compliance Well Rank Avg: 44.0

| | | | |
|-----|----------|--------|------|
| PB9 | 07/09/96 | 0.9163 | 28.0 |
| PB9 | 10/09/96 | 2.7081 | 69.0 |
| PB9 | 02/06/97 | 0.9163 | 28.0 |
| PB9 | 04/09/97 | 0.9163 | 28.0 |
| PB9 | 10/29/97 | 2.1972 | 63.0 |

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Compliance Well Rank Sum: 216.0

Compliance Well Rank Avg: 43.2

H Statistic: 10.2720
H Adjusted for Ties: 16.5419
Degrees of Freedom: 7
Chi-Squared: 14.0672
ZÁ/DF: 2.3263

* Indicates significant evidence of contamination

| Well ID | Crit. Diff. | Rank Avg. | Background Rank Avg. | Difference |
|---------|-------------|-----------|----------------------|------------|
|---------|-------------|-----------|----------------------|------------|

| | | | | |
|-------|---------|-------|-------|-------|
| *PB10 | 27.6897 | 62.60 | 34.55 | 28.05 |
| PB3 | 21.8906 | 28.00 | 34.55 | -6.55 |
| PB5 | 21.8906 | 37.64 | 34.55 | 3.09 |
| PB4 | 21.8906 | 39.95 | 34.55 | 5.41 |
| PB6 | 21.8906 | 33.77 | 34.55 | -0.77 |
| PB7 | 21.8906 | 44.00 | 34.55 | 9.45 |
| PB9 | 27.6897 | 43.20 | 34.55 | 8.65 |

Report Printed: 02-03-1998 13:19

Address:15500 MISSOURI AVENUE

ST:ID Zip:83605

Contact: RICHARD LATIMER

Phone: (208) 466-7288

Permit Type: Detection

CAS Number: 7440-36-0

MCL: 6.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 5.000 ug/l

Start Date: Apr 04 1995

End Date: Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 100 | 0.92 | 0.92 | 0.92 | 0.00 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 100 | 0.92 | 0.92 | 0.92 | 0.00 |
| PB3 | 11 | 91 | 1.79 | 0.92 | 1.00 | 0.26 |
| PB5 | 11 | 100 | 3.91 | 0.92 | 1.19 | 0.90 |
| PB4 | 11 | 91 | 3.91 | 0.92 | 1.28 | 0.93 |
| PB6 | 11 | 100 | 3.91 | 0.92 | 1.19 | 0.90 |
| PB7 | 11 | 100 | 0.92 | 0.92 | 0.92 | 0.00 |
| PB9 | 5 | 100 | 0.92 | 0.92 | 0.92 | 0.00 |

| Source of Variation | Sum of squares | Degrees of freedom | Mean squares | Computed F |
|---------------------|----------------|--------------------|--------------|------------|
| Between wells | 4.78 | 7 | 0.68 | 2.90 |
| Within wells | 16.01 | 68 | 0.24 | |
| Total | 20.79 | 75 | | |

Tabulated F at $\hat{A}=0.05$: 2.15

Since the computed F exceeds the tabulated F , the assumption of equal variances should be rejected.

Kruskal-Wallace Test

Report Printed: 02-03-1998 13:19

Facility:PB LANDFILL PICKLES BUTTE LANDFILL

Address:15500 MISSOURI AVENUE

City:CALDWELL

ST:ID Zip:83605

County:CANYON

Contact:RICHARD LATTIMER

Phone:(208)466-7288

Permit Type:Detection

Constituent:Sb Antimony, total

CAS Number: 7440-36-0

MCL: 6.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 5.000 ug/l

Start Date:Apr 04 1995

End Date:Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 100 | 0.92 | 0.92 | 0.92 | 0.00 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 100 | 0.92 | 0.92 | 0.92 | 0.00 |
| PB3 | 11 | 91 | 1.79 | 0.92 | 1.00 | 0.26 |
| PB5 | 11 | 100 | 3.91 | 0.92 | 1.19 | 0.90 |
| PB4 | 11 | 91 | 3.91 | 0.92 | 1.28 | 0.93 |
| PB6 | 11 | 100 | 3.91 | 0.92 | 1.19 | 0.90 |
| PB7 | 11 | 100 | 0.92 | 0.92 | 0.92 | 0.00 |
| PB9 | 5 | 100 | 0.92 | 0.92 | 0.92 | 0.00 |

| Well ID | Date | Observation | Rank |
|---------|----------|-------------|------|
| PB8 | 04/04/95 | 0.9163 | 37.5 |
| PB8 | 07/11/95 | 0.9163 | 37.5 |
| PB8 | 10/11/95 | 0.9163 | 37.5 |
| PB8 | 01/08/96 | 0.9163 | 37.5 |
| PB8 | 01/08/96 | 0.9163 | 37.5 |
| PB8 | 04/04/96 | 0.9163 | 37.5 |
| PB8 | 07/09/96 | 0.9163 | 37.5 |

| | | | |
|-----|----------|--------|------|
| PB8 | 10/09/96 | 0.9163 | 37.5 |
| PB8 | 02/06/97 | 0.9163 | 37.5 |
| PB8 | 04/09/97 | 0.9163 | 37.5 |
| PB8 | 10/29/97 | 0.9163 | 37.5 |

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| | |
|----------------------|-------|
| Background Rank Sum: | 412.5 |
| Background Rank Avg: | 37.5 |

| | | | |
|------|----------|--------|------|
| PB10 | 07/09/96 | 0.9163 | 37.5 |
| PB10 | 10/09/96 | 0.9163 | 37.5 |
| PB10 | 02/06/97 | 0.9163 | 37.5 |
| PB10 | 04/09/97 | 0.9163 | 37.5 |
| PB10 | 10/29/97 | 0.9163 | 37.5 |

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| | |
|---------------------------|-------|
| Compliance Well Rank Sum: | 187.5 |
| Compliance Well Rank Avg: | 37.5 |

| | | | |
|-----|----------|--------|------|
| PB3 | 04/04/95 | 0.9163 | 37.5 |
| PB3 | 07/11/95 | 0.9163 | 37.5 |
| PB3 | 10/11/95 | 0.9163 | 37.5 |
| PB3 | 01/08/96 | 0.9163 | 37.5 |
| PB3 | 01/08/96 | 0.9163 | 37.5 |
| PB3 | 04/04/96 | 0.9163 | 37.5 |
| PB3 | 07/09/96 | 0.9163 | 37.5 |
| PB3 | 10/09/96 | 1.7918 | 75.0 |
| PB3 | 02/06/97 | 0.9163 | 37.5 |
| PB3 | 04/09/97 | 0.9163 | 37.5 |
| PB3 | 10/29/97 | 0.9163 | 37.5 |

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|---------------------------|-------|
| Compliance Well Rank Sum: | 450.0 |
| Compliance Well Rank Avg: | 40.9 |

| | | | |
|-----|----------|--------|------|
| PB5 | 04/04/95 | 3.9120 | 37.5 |
| PB5 | 07/11/95 | 0.9163 | 37.5 |
| PB5 | 10/11/95 | 0.9163 | 37.5 |
| PB5 | 01/08/96 | 0.9163 | 37.5 |
| PB5 | 01/08/96 | 0.9163 | 37.5 |
| PB5 | 04/04/96 | 0.9163 | 37.5 |
| PB5 | 07/09/96 | 0.9163 | 37.5 |
| PB5 | 10/09/96 | 0.9163 | 37.5 |
| PB5 | 02/06/97 | 0.9163 | 37.5 |
| PB5 | 04/09/97 | 0.9163 | 37.5 |
| PB5 | 10/29/97 | 0.9163 | 37.5 |

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|---------------------------|-------|
| Compliance Well Rank Sum: | 412.5 |
| Compliance Well Rank Avg: | 37.5 |

| | | | |
|-----|----------|--------|------|
| PB4 | 04/04/95 | 3.9120 | 37.5 |
| PB4 | 07/11/95 | 1.9459 | 76.0 |
| PB4 | 10/11/95 | 0.9163 | 37.5 |
| PB4 | 01/08/96 | 0.9163 | 37.5 |
| PB4 | 01/08/96 | 0.9163 | 37.5 |
| PB4 | 04/04/96 | 0.9163 | 37.5 |
| PB4 | 07/09/96 | 0.9163 | 37.5 |
| PB4 | 10/09/96 | 0.9163 | 37.5 |
| PB4 | 02/06/97 | 0.9163 | 37.5 |
| PB4 | 04/09/97 | 0.9163 | 37.5 |
| PB4 | 10/29/97 | 0.9163 | 37.5 |

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|---------------------------|-------|
| Compliance Well Rank Sum: | 451.0 |
| Compliance Well Rank Avg: | 41.0 |

| | | | |
|-----|----------|--------|------|
| PB6 | 04/04/95 | 3.9120 | 37.5 |
| PB6 | 07/11/95 | 0.9163 | 37.5 |
| PB6 | 10/11/95 | 0.9163 | 37.5 |

| | | | |
|-----|----------|--------|------|
| PB6 | 01/08/96 | 0.9163 | 37.5 |
| PB6 | 01/08/96 | 0.9163 | 37.5 |
| PB6 | 04/04/96 | 0.9163 | 37.5 |
| PB6 | 07/09/96 | 0.9163 | 37.5 |
| PB6 | 10/09/96 | 0.9163 | 37.5 |
| PB6 | 02/06/97 | 0.9163 | 37.5 |
| PB6 | 04/09/97 | 0.9163 | 37.5 |
| PB6 | 10/29/97 | 0.9163 | 37.5 |

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Compliance Well Rank Sum: 412.5

Compliance Well Rank Avg: 37.5

| | | | |
|-----|----------|--------|------|
| PB7 | 04/04/95 | 0.9163 | 37.5 |
| PB7 | 07/11/95 | 0.9163 | 37.5 |
| PB7 | 10/11/95 | 0.9163 | 37.5 |
| PB7 | 01/08/96 | 0.9163 | 37.5 |
| PB7 | 01/08/96 | 0.9163 | 37.5 |
| PB7 | 04/04/96 | 0.9163 | 37.5 |
| PB7 | 07/09/96 | 0.9163 | 37.5 |
| PB7 | 10/09/96 | 0.9163 | 37.5 |
| PB7 | 02/06/97 | 0.9163 | 37.5 |
| PB7 | 04/09/97 | 0.9163 | 37.5 |
| PB7 | 10/29/97 | 0.9163 | 37.5 |

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Compliance Well Rank Sum: 412.5

Compliance Well Rank Avg: 37.5

| | | | |
|-----|----------|--------|------|
| PB9 | 07/09/96 | 0.9163 | 37.5 |
| PB9 | 10/09/96 | 0.9163 | 37.5 |
| PB9 | 02/06/97 | 0.9163 | 37.5 |
| PB9 | 04/09/97 | 0.9163 | 37.5 |
| PB9 | 10/29/97 | 0.9163 | 37.5 |

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Compliance Well Rank Sum: 187.5

Compliance Well Rank Avg: 37.5

H Statistic: 0.3826
H Adjusted for Ties: 4.9758
Degrees of Freedom: 7
Chi-Squared: 14.0672
ZÁ/DF: 2.3263

* Indicates significant evidence of contamination

| Well ID | Crit. Diff. | Rank Avg. | Background Rank Avg. | Difference |
|---------|-------------|-----------|----------------------|------------|
|---------|-------------|-----------|----------------------|------------|

| | | | | |
|------|---------|-------|-------|------|
| PB10 | 27.6897 | 37.50 | 37.50 | 0.00 |
| PB3 | 21.8906 | 40.91 | 37.50 | 3.41 |
| PB5 | 21.8906 | 37.50 | 37.50 | 0.00 |
| PB4 | 21.8906 | 41.00 | 37.50 | 3.50 |
| PB6 | 21.8906 | 37.50 | 37.50 | 0.00 |
| PB7 | 21.8906 | 37.50 | 37.50 | 0.00 |
| PB9 | 27.6897 | 37.50 | 37.50 | 0.00 |

Report Printed: 02-03-1998 13:13

Address:15500 MISSOURI AVENUE

ST:ID Zip:83605

Contact: RICHARD LATTIMER

Phone: (208) 466-7288

Permit Type:Detection

Constituent:Se Selenium

CAS Number: 7782-49-2

MCL: 50.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 5.000 ug/l

Start Date: Apr 04 1995

End Date: Oct 29 1997

Data Mode: Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 73 | 4.13 | 0.92 | 1.54 | 1.13 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 80 | 2.40 | 0.92 | 1.21 | 0.66 |
| PB3 | 11 | 64 | 4.37 | 0.92 | 1.62 | 1.14 |
| PB5 | 11 | 73 | 4.33 | 0.92 | 1.57 | 1.20 |
| PB4 | 11 | 82 | 3.43 | 0.92 | 1.27 | 0.83 |
| PB6 | 11 | 82 | 3.00 | 0.92 | 1.27 | 0.80 |
| PB7 | 11 | 73 | 2.77 | 0.92 | 1.38 | 0.80 |
| PB9 | 5 | 100 | 0.92 | 0.92 | 0.92 | 0.00 |

| °Source of | ° Sum | °Degrees | ° Mean squares | ° Computed F |
|-----------------|--------------|--------------|----------------|--------------|
| °Variation | ° of squares | °of freedom° | ° | ° |
| °Between wells° | 4.58° | 7° | 0.65° | 2.20° |
| °Within wells ° | 20.21° | 68° | 0.30° | |
| °Total ° | 24.80° | 75° | | |

Tabulated F at $\hat{A}=0.05$: 2.15

Since the computed F exceeds the tabulated F , the assumption of equal variances should be rejected.

Kruskal-Wallace Test

Report Printed: 02-03-1998 13:14

Facility:PB LANDFILL PICKLES BUTTE LANDFILL

Address:15500 MISSOURI AVENUE

City:CALDWELL

ST:ID Zip:83605

County:CANYON

Contact:RICHARD LATTIMER

Phone:(208)466-7288

Permit Type:Detection

Constituent:Se Selenium

CAS Number: 7782-49-2

MCL: 50.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 5.000 ug/l

Start Date:Apr 04 1995

End Date:Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 73 | 4.13 | 0.92 | 1.54 | 1.13 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 80 | 2.40 | 0.92 | 1.21 | 0.66 |
| PB3 | 11 | 64 | 4.37 | 0.92 | 1.62 | 1.14 |
| PB5 | 11 | 73 | 4.33 | 0.92 | 1.57 | 1.20 |
| PB4 | 11 | 82 | 3.43 | 0.92 | 1.27 | 0.83 |
| PB6 | 11 | 82 | 3.00 | 0.92 | 1.27 | 0.80 |
| PB7 | 11 | 73 | 2.77 | 0.92 | 1.38 | 0.80 |
| PB9 | 5 | 100 | 0.92 | 0.92 | 0.92 | 0.00 |

| Well ID | Date | Observation | Rank |
|---------|----------|-------------|------|
| PB8 | 04/04/95 | 0.9163 | 29.5 |
| PB8 | 07/11/95 | 0.9163 | 29.5 |
| PB8 | 10/11/95 | 0.9163 | 29.5 |
| PB8 | 01/08/96 | 2.4849 | 63.5 |
| PB8 | 01/08/96 | 0.9163 | 29.5 |
| PB8 | 04/04/96 | 0.9163 | 29.5 |
| PB8 | 07/09/96 | 0.9163 | 29.5 |

| | | | |
|----------------------|----------|--------|-------|
| PB8 | 10/09/96 | 0.9163 | 29.5 |
| PB8 | 02/06/97 | 2.9957 | 70.5 |
| PB8 | 04/09/97 | 4.1271 | 74.0 |
| PB8 | 10/29/97 | 0.9163 | 29.5 |
| áááááááááááá | | | |
| Background Rank | | Sum: | 444.0 |
| Background Rank | | Avg: | 40.4 |
| PB10 | 07/09/96 | 0.9163 | 29.5 |
| PB10 | 10/09/96 | 0.9163 | 29.5 |
| PB10 | 02/06/97 | 0.9163 | 29.5 |
| PB10 | 04/09/97 | 0.9163 | 29.5 |
| PB10 | 10/29/97 | 2.3979 | 62.0 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 180.0 |
| Compliance Well Rank | | Avg: | 36.0 |
| PB3 | 04/04/95 | 2.6391 | 66.0 |
| PB3 | 07/11/95 | 0.9163 | 29.5 |
| PB3 | 10/11/95 | 2.5649 | 65.0 |
| PB3 | 01/08/96 | 4.3694 | 76.0 |
| PB3 | 01/08/96 | 0.9163 | 29.5 |
| PB3 | 04/04/96 | 0.9163 | 29.5 |
| PB3 | 07/09/96 | 0.9163 | 29.5 |
| PB3 | 10/09/96 | 0.9163 | 29.5 |
| PB3 | 02/06/97 | 0.9163 | 29.5 |
| PB3 | 04/09/97 | 1.7918 | 59.0 |
| PB3 | 10/29/97 | 0.9163 | 29.5 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 472.5 |
| Compliance Well Rank | | Avg: | 43.0 |
| PB5 | 04/04/95 | 0.9163 | 29.5 |
| PB5 | 07/11/95 | 0.9163 | 29.5 |
| PB5 | 10/11/95 | 0.9163 | 29.5 |
| PB5 | 01/08/96 | 4.3307 | 75.0 |
| PB5 | 01/08/96 | 0.9163 | 29.5 |
| PB5 | 04/04/96 | 2.4849 | 63.5 |
| PB5 | 07/09/96 | 0.9163 | 29.5 |
| PB5 | 10/09/96 | 0.9163 | 29.5 |
| PB5 | 02/06/97 | 0.9163 | 29.5 |
| PB5 | 04/09/97 | 3.1355 | 72.0 |
| PB5 | 10/29/97 | 0.9163 | 29.5 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 446.5 |
| Compliance Well Rank | | Avg: | 40.6 |
| PB4 | 04/04/95 | 0.9163 | 29.5 |
| PB4 | 07/11/95 | 2.3026 | 60.5 |
| PB4 | 10/11/95 | 0.9163 | 29.5 |
| PB4 | 01/08/96 | 3.4340 | 73.0 |
| PB4 | 01/08/96 | 0.9163 | 29.5 |
| PB4 | 04/04/96 | 0.9163 | 29.5 |
| PB4 | 07/09/96 | 0.9163 | 29.5 |
| PB4 | 10/09/96 | 0.9163 | 29.5 |
| PB4 | 02/06/97 | 0.9163 | 29.5 |
| PB4 | 04/09/97 | 0.9163 | 29.5 |
| PB4 | 10/29/97 | 0.9163 | 29.5 |
| áááááááááááá | | | |
| Compliance Well Rank | | Sum: | 399.0 |
| Compliance Well Rank | | Avg: | 36.3 |
| PB6 | 04/04/95 | 2.7726 | 68.0 |
| PB6 | 07/11/95 | 0.9163 | 29.5 |
| PB6 | 10/11/95 | 0.9163 | 29.5 |

| | | | |
|-----|----------|--------|------|
| PB6 | 01/08/96 | 0.9163 | 29.5 |
| PB6 | 01/08/96 | 0.9163 | 29.5 |
| PB6 | 04/04/96 | 0.9163 | 29.5 |
| PB6 | 07/09/96 | 0.9163 | 29.5 |
| PB6 | 10/09/96 | 0.9163 | 29.5 |
| PB6 | 02/06/97 | 0.9163 | 29.5 |
| PB6 | 04/09/97 | 2.9957 | 70.5 |
| PB6 | 10/29/97 | 0.9163 | 29.5 |

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Compliance Well Rank Sum: 404.0

Compliance Well Rank Avg: 36.7

| | | | |
|-----|----------|--------|------|
| PB7 | 04/04/95 | 0.9163 | 29.5 |
| PB7 | 07/11/95 | 0.9163 | 29.5 |
| PB7 | 10/11/95 | 0.9163 | 29.5 |
| PB7 | 01/08/96 | 2.7726 | 68.0 |
| PB7 | 01/08/96 | 0.9163 | 29.5 |
| PB7 | 04/04/96 | 2.3026 | 60.5 |
| PB7 | 07/09/96 | 0.9163 | 29.5 |
| PB7 | 10/09/96 | 0.9163 | 29.5 |
| PB7 | 02/06/97 | 0.9163 | 29.5 |
| PB7 | 04/09/97 | 2.7726 | 68.0 |
| PB7 | 10/29/97 | 0.9163 | 29.5 |

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Compliance Well Rank Sum: 432.5

Compliance Well Rank Avg: 39.3

| | | | |
|-----|----------|--------|------|
| PB9 | 07/09/96 | 0.9163 | 29.5 |
| PB9 | 10/09/96 | 0.9163 | 29.5 |
| PB9 | 02/06/97 | 0.9163 | 29.5 |
| PB9 | 04/09/97 | 0.9163 | 29.5 |
| PB9 | 10/29/97 | 0.9163 | 29.5 |

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Compliance Well Rank Sum: 147.5

Compliance Well Rank Avg: 29.5

H Statistic: 1.7170
H Adjusted for Ties: 3.0910
Degrees of Freedom: 7
Chi-Squared: 14.0672
ZÁ/DF: 2.3263

* Indicates significant evidence of contamination

| Well ID | Crit. Diff. | Rank Avg. | Background Rank Avg. | Difference |
|---------|-------------|-----------|----------------------|------------|
| PB10 | 27.6897 | 36.00 | 40.36 | -4.36 |
| PB3 | 21.8906 | 42.95 | 40.36 | 2.59 |
| PB5 | 21.8906 | 40.59 | 40.36 | 0.23 |
| PB4 | 21.8906 | 36.27 | 40.36 | -4.09 |
| PB6 | 21.8906 | 36.73 | 40.36 | -3.64 |
| PB7 | 21.8906 | 39.32 | 40.36 | -1.05 |
| PB9 | 27.6897 | 29.50 | 40.36 | -10.86 |

Report Printed: 02-03-1998 13:11

Address:15500 MISSOURI AVENUE

ST:ID Zip:83605

Contact: RICHARD LATTIMER

Phone: (208) 466-7288

Permit Type:Detection

Constituent:Tl Thallium

CAS Number: 7440-28-0

MCL: 0.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 2.000 ug/l

Start Date: Apr 04 1995

End Date: Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 100 | 3.91 | 0.00 | 0.36 | 1.18 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 100 | 0.00 | 0.00 | 0.00 | 0.00 |
| PB3 | 11 | 82 | 3.22 | 0.00 | 0.46 | 0.99 |
| PB5 | 11 | 91 | 3.91 | 0.00 | 0.56 | 1.29 |
| PB4 | 11 | 91 | 3.91 | 0.00 | 0.42 | 1.18 |
| PB6 | 11 | 91 | 3.91 | 0.00 | 0.56 | 1.29 |
| PB7 | 11 | 91 | 3.91 | 0.00 | 0.50 | 1.23 |
| PB9 | 5 | 100 | 0.00 | 0.00 | 0.00 | 0.00 |

| Source of Variation | Sum of squares | Degrees of freedom | Mean squares | Computed F |
|---------------------|----------------|--------------------|--------------|------------|
| Between wells | 6.00 | 7 | 0.86 | 1.27 |
| Within wells | 45.95 | 68 | 0.68 | |
| Total | 51.96 | 75 | | |

Tabulated F at $\hat{\alpha}=0.05$: 2.15

Since the computed F does not exceed the tabulated F , the assumption of equal variances may be accepted. .

Kruskal-Wallace Test

Report Printed: 02-03-1998 13:12

Facility:PB LANDFILL PICKLES BUTTE LANDFILL

Address:15500 MISSOURI AVENUE

City:CALDWELL

ST:ID Zip:83605

County:CANYON

Contact:RICHARD LATTIMER

Phone:(208)466-7288

Permit Type:Detection

Constituent:Tl Thallium

CAS Number: 7440-28-0

MCL: 0.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 2.000 ug/l

Start Date:Apr 04 1995

End Date:Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 100 | 3.91 | 0.00 | 0.36 | 1.18 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 100 | 0.00 | 0.00 | 0.00 | 0.00 |
| PB3 | 11 | 82 | 3.22 | 0.00 | 0.46 | 0.99 |
| PB5 | 11 | 91 | 3.91 | 0.00 | 0.56 | 1.29 |
| PB4 | 11 | 91 | 3.91 | 0.00 | 0.42 | 1.18 |
| PB6 | 11 | 91 | 3.91 | 0.00 | 0.56 | 1.29 |
| PB7 | 11 | 91 | 3.91 | 0.00 | 0.50 | 1.23 |
| PB9 | 5 | 100 | 0.00 | 0.00 | 0.00 | 0.00 |

| Well ID | Date | Observation | Rank |
|---------|----------|-------------|------|
| PB8 | 04/04/95 | 3.9120 | 35.5 |
| PB8 | 07/11/95 | 0.0000 | 35.5 |
| PB8 | 10/11/95 | 0.0000 | 35.5 |
| PB8 | 01/08/96 | 0.0000 | 35.5 |
| PB8 | 01/08/96 | 0.0000 | 35.5 |
| PB8 | 04/04/96 | 0.0000 | 35.5 |
| PB8 | 07/09/96 | 0.0000 | 35.5 |

| | | | |
|-----|----------|--------|------|
| PB8 | 10/09/96 | 0.0000 | 35.5 |
| PB8 | 02/06/97 | 0.0000 | 35.5 |
| PB8 | 04/09/97 | 0.0000 | 35.5 |
| PB8 | 10/29/97 | 0.0000 | 35.5 |

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| | |
|----------------------|-------|
| Background Rank Sum: | 390.5 |
| Background Rank Avg: | 35.5 |

| | | | |
|------|----------|--------|------|
| PB10 | 07/09/96 | 0.0000 | 35.5 |
| PB10 | 10/09/96 | 0.0000 | 35.5 |
| PB10 | 02/06/97 | 0.0000 | 35.5 |
| PB10 | 04/09/97 | 0.0000 | 35.5 |
| PB10 | 10/29/97 | 0.0000 | 35.5 |

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| | |
|---------------------------|-------|
| Compliance Well Rank Sum: | 177.5 |
| Compliance Well Rank Avg: | 35.5 |

| | | | |
|-----|----------|--------|------|
| PB3 | 04/04/95 | 3.2189 | 35.5 |
| PB3 | 07/11/95 | 0.0000 | 35.5 |
| PB3 | 10/11/95 | 0.0000 | 35.5 |
| PB3 | 01/08/96 | 0.6931 | 71.5 |
| PB3 | 01/08/96 | 0.0000 | 35.5 |
| PB3 | 04/04/96 | 1.0986 | 73.0 |
| PB3 | 07/09/96 | 0.0000 | 35.5 |
| PB3 | 10/09/96 | 0.0000 | 35.5 |
| PB3 | 02/06/97 | 0.0000 | 35.5 |
| PB3 | 04/09/97 | 0.0000 | 35.5 |
| PB3 | 10/29/97 | 0.0000 | 35.5 |

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| | |
|---------------------------|-------|
| Compliance Well Rank Sum: | 464.0 |
| Compliance Well Rank Avg: | 42.2 |

| | | | |
|-----|----------|--------|------|
| PB5 | 04/04/95 | 3.9120 | 35.5 |
| PB5 | 07/11/95 | 2.1972 | 75.5 |
| PB5 | 10/11/95 | 0.0000 | 35.5 |
| PB5 | 01/08/96 | 0.0000 | 35.5 |
| PB5 | 01/08/96 | 0.0000 | 35.5 |
| PB5 | 04/04/96 | 0.0000 | 35.5 |
| PB5 | 07/09/96 | 0.0000 | 35.5 |
| PB5 | 10/09/96 | 0.0000 | 35.5 |
| PB5 | 02/06/97 | 0.0000 | 35.5 |
| PB5 | 04/09/97 | 0.0000 | 35.5 |
| PB5 | 10/29/97 | 0.0000 | 35.5 |

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|---------------------------|-------|
| Compliance Well Rank Sum: | 430.5 |
| Compliance Well Rank Avg: | 39.1 |

| | | | |
|-----|----------|--------|------|
| PB4 | 04/04/95 | 3.9120 | 35.5 |
| PB4 | 07/11/95 | 0.6931 | 71.5 |
| PB4 | 10/11/95 | 0.0000 | 35.5 |
| PB4 | 01/08/96 | 0.0000 | 35.5 |
| PB4 | 01/08/96 | 0.0000 | 35.5 |
| PB4 | 04/04/96 | 0.0000 | 35.5 |
| PB4 | 07/09/96 | 0.0000 | 35.5 |
| PB4 | 10/09/96 | 0.0000 | 35.5 |
| PB4 | 02/06/97 | 0.0000 | 35.5 |
| PB4 | 04/09/97 | 0.0000 | 35.5 |
| PB4 | 10/29/97 | 0.0000 | 35.5 |

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| | |
|---------------------------|-------|
| Compliance Well Rank Sum: | 426.5 |
| Compliance Well Rank Avg: | 38.8 |

| | | | |
|-----|----------|--------|------|
| PB6 | 04/04/95 | 3.9120 | 35.5 |
| PB6 | 07/11/95 | 2.1972 | 75.5 |
| PB6 | 10/11/95 | 0.0000 | 35.5 |

| | | | |
|-----|----------|--------|------|
| PB6 | 01/08/96 | 0.0000 | 35.5 |
| PB6 | 01/08/96 | 0.0000 | 35.5 |
| PB6 | 04/04/96 | 0.0000 | 35.5 |
| PB6 | 07/09/96 | 0.0000 | 35.5 |
| PB6 | 10/09/96 | 0.0000 | 35.5 |
| PB6 | 02/06/97 | 0.0000 | 35.5 |
| PB6 | 04/09/97 | 0.0000 | 35.5 |
| PB6 | 10/29/97 | 0.0000 | 35.5 |

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Compliance Well Rank Sum: 430.5

Compliance Well Rank Avg: 39.1

| | | | |
|-----|----------|--------|------|
| PB7 | 04/04/95 | 3.9120 | 35.5 |
| PB7 | 07/11/95 | 1.6094 | 74.0 |
| PB7 | 10/11/95 | 0.0000 | 35.5 |
| PB7 | 01/08/96 | 0.0000 | 35.5 |
| PB7 | 01/08/96 | 0.0000 | 35.5 |
| PB7 | 04/04/96 | 0.0000 | 35.5 |
| PB7 | 07/09/96 | 0.0000 | 35.5 |
| PB7 | 10/09/96 | 0.0000 | 35.5 |
| PB7 | 02/06/97 | 0.0000 | 35.5 |
| PB7 | 04/09/97 | 0.0000 | 35.5 |
| PB7 | 10/29/97 | 0.0000 | 35.5 |

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Compliance Well Rank Sum: 429.0

Compliance Well Rank Avg: 39.0

| | | | |
|-----|----------|--------|------|
| PB9 | 07/09/96 | 0.0000 | 35.5 |
| PB9 | 10/09/96 | 0.0000 | 35.5 |
| PB9 | 02/06/97 | 0.0000 | 35.5 |
| PB9 | 04/09/97 | 0.0000 | 35.5 |
| PB9 | 10/29/97 | 0.0000 | 35.5 |

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Compliance Well Rank Sum: 177.5

Compliance Well Rank Avg: 35.5

H Statistic: 0.7189

H Adjusted for Ties: 3.2880

Degrees of Freedom: 7

Chi-Squared: 14.0672

ZÁ/DF: 2.3263

* Indicates significant evidence of contamination

| Well ID | Crit. Diff. | Rank Avg. | Background Rank Avg. | Difference |
|---------|-------------|-----------|----------------------|------------|
|---------|-------------|-----------|----------------------|------------|

| | | | | |
|------|---------|-------|-------|------|
| PB10 | 27.6897 | 35.50 | 35.50 | 0.00 |
| PB3 | 21.8906 | 42.18 | 35.50 | 6.68 |
| PB5 | 21.8906 | 39.14 | 35.50 | 3.64 |
| PB4 | 21.8906 | 38.77 | 35.50 | 3.27 |
| PB6 | 21.8906 | 39.14 | 35.50 | 3.64 |
| PB7 | 21.8906 | 39.00 | 35.50 | 3.50 |
| PB9 | 27.6897 | 35.50 | 35.50 | 0.00 |

Report Printed: 02-03-1998 13:08

Address:15500 MISSOURI AVENUE

ST:ID Zip:83605

Contact: RICHARD LATTIMER

Phone: (208) 466-7288

Permit Type:Detection

Constituent:Va Vanadium

CAS Number: 7440-62-2

MCL: 0.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 50.000 ug/l

Start Date: Apr 04 1995

End Date: Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 100 | 3.22 | 3.22 | 3.22 | 0.00 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 100 | 3.22 | 3.22 | 3.22 | 0.00 |
| PB3 | 11 | 100 | 3.22 | 3.22 | 3.22 | 0.00 |
| PB5 | 11 | 100 | 3.22 | 3.22 | 3.22 | 0.00 |
| PB4 | 11 | 100 | 3.22 | 3.22 | 3.22 | 0.00 |
| PB6 | 11 | 100 | 3.22 | 3.22 | 3.22 | 0.00 |
| PB7 | 11 | 100 | 3.22 | 3.22 | 3.22 | 0.00 |
| PB9 | 5 | 100 | 3.22 | 3.22 | 3.22 | 0.00 |

| °Source of | ° Sum | °Degrees | ° Mean squares | ° Computed F |
|----------------|--------------|-------------|----------------|--------------|
| °Variation | ° of squares | °of freedom | ° | ° |
| °Between wells | 0.00° | 7° | 0.00° | ***** |
| °Within wells | 0.00° | 68° | 0.00° | |
| °Total | 0.00° | 75° | | |

Tabulated F at $\hat{\alpha}=0.05$: 2.15

Since the computed F exceeds the tabulated F , the assumption of equal variances should be rejected.

Kruskal-Wallace Test

Report Printed: 02-03-1998 13:08

Facility:PB LANDFILL PICKLES BUTTE LANDFILL

Address:15500 MISSOURI AVENUE

City:CALDWELL

ST:ID Zip:83605

County:CANYON

Contact:RICHARD LATTIMER

Phone: (208) 466-7288

Permit Type:Detection

Constituent:Va Vanadium

CAS Number: 7440-62-2

MCL: 0.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 50.000 ug/l

Start Date:Apr 04 1995

End Date:Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 100 | 3.22 | 3.22 | 3.22 | 0.00 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 100 | 3.22 | 3.22 | 3.22 | 0.00 |
| PB3 | 11 | 100 | 3.22 | 3.22 | 3.22 | 0.00 |
| PB5 | 11 | 100 | 3.22 | 3.22 | 3.22 | 0.00 |
| PB4 | 11 | 100 | 3.22 | 3.22 | 3.22 | 0.00 |
| PB6 | 11 | 100 | 3.22 | 3.22 | 3.22 | 0.00 |
| PB7 | 11 | 100 | 3.22 | 3.22 | 3.22 | 0.00 |
| PB9 | 5 | 100 | 3.22 | 3.22 | 3.22 | 0.00 |

| Well ID | Date | Observation | Rank |
|---------|----------|-------------|------|
| PB8 | 04/04/95 | 3.2189 | 38.5 |
| PB8 | 07/11/95 | 3.2189 | 38.5 |
| PB8 | 10/11/95 | 3.2189 | 38.5 |
| PB8 | 01/08/96 | 3.2189 | 38.5 |
| PB8 | 01/08/96 | 3.2189 | 38.5 |
| PB8 | 04/04/96 | 3.2189 | 38.5 |
| PB8 | 07/09/96 | 3.2189 | 38.5 |

| | | | |
|-----|----------|--------|------|
| PB8 | 10/09/96 | 3.2189 | 38.5 |
| PB8 | 02/06/97 | 3.2189 | 38.5 |
| PB8 | 04/09/97 | 3.2189 | 38.5 |
| PB8 | 10/29/97 | 3.2189 | 38.5 |

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Background Rank Sum: 423.5

Background Rank Avg: 38.5

| | | | |
|------|----------|--------|------|
| PB10 | 07/09/96 | 3.2189 | 38.5 |
| PB10 | 10/09/96 | 3.2189 | 38.5 |
| PB10 | 02/06/97 | 3.2189 | 38.5 |
| PB10 | 04/09/97 | 3.2189 | 38.5 |
| PB10 | 10/29/97 | 3.2189 | 38.5 |

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Compliance Well Rank Sum: 192.5

Compliance Well Rank Avg: 38.5

| | | | |
|-----|----------|--------|------|
| PB3 | 04/04/95 | 3.2189 | 38.5 |
| PB3 | 07/11/95 | 3.2189 | 38.5 |
| PB3 | 10/11/95 | 3.2189 | 38.5 |
| PB3 | 01/08/96 | 3.2189 | 38.5 |
| PB3 | 01/08/96 | 3.2189 | 38.5 |
| PB3 | 04/04/96 | 3.2189 | 38.5 |
| PB3 | 07/09/96 | 3.2189 | 38.5 |
| PB3 | 10/09/96 | 3.2189 | 38.5 |
| PB3 | 02/06/97 | 3.2189 | 38.5 |
| PB3 | 04/09/97 | 3.2189 | 38.5 |
| PB3 | 10/29/97 | 3.2189 | 38.5 |

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Compliance Well Rank Sum: 423.5

Compliance Well Rank Avg: 38.5

| | | | |
|-----|----------|--------|------|
| PB5 | 04/04/95 | 3.2189 | 38.5 |
| PB5 | 07/11/95 | 3.2189 | 38.5 |
| PB5 | 10/11/95 | 3.2189 | 38.5 |
| PB5 | 01/08/96 | 3.2189 | 38.5 |
| PB5 | 01/08/96 | 3.2189 | 38.5 |
| PB5 | 04/04/96 | 3.2189 | 38.5 |
| PB5 | 07/09/96 | 3.2189 | 38.5 |
| PB5 | 10/09/96 | 3.2189 | 38.5 |
| PB5 | 02/06/97 | 3.2189 | 38.5 |
| PB5 | 04/09/97 | 3.2189 | 38.5 |
| PB5 | 10/29/97 | 3.2189 | 38.5 |

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Compliance Well Rank Sum: 423.5

Compliance Well Rank Avg: 38.5

| | | | |
|-----|----------|--------|------|
| PB4 | 04/04/95 | 3.2189 | 38.5 |
| PB4 | 07/11/95 | 3.2189 | 38.5 |
| PB4 | 10/11/95 | 3.2189 | 38.5 |
| PB4 | 01/08/96 | 3.2189 | 38.5 |
| PB4 | 01/08/96 | 3.2189 | 38.5 |
| PB4 | 04/04/96 | 3.2189 | 38.5 |
| PB4 | 07/09/96 | 3.2189 | 38.5 |
| PB4 | 10/09/96 | 3.2189 | 38.5 |
| PB4 | 02/06/97 | 3.2189 | 38.5 |
| PB4 | 04/09/97 | 3.2189 | 38.5 |
| PB4 | 10/29/97 | 3.2189 | 38.5 |

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Compliance Well Rank Sum: 423.5

Compliance Well Rank Avg: 38.5

| | | | |
|-----|----------|--------|------|
| PB6 | 04/04/95 | 3.2189 | 38.5 |
| PB6 | 07/11/95 | 3.2189 | 38.5 |
| PB6 | 10/11/95 | 3.2189 | 38.5 |

| | | | |
|-----|----------|--------|------|
| PB6 | 01/08/96 | 3.2189 | 38.5 |
| PB6 | 01/08/96 | 3.2189 | 38.5 |
| PB6 | 04/04/96 | 3.2189 | 38.5 |
| PB6 | 07/09/96 | 3.2189 | 38.5 |
| PB6 | 10/09/96 | 3.2189 | 38.5 |
| PB6 | 02/06/97 | 3.2189 | 38.5 |
| PB6 | 04/09/97 | 3.2189 | 38.5 |
| PB6 | 10/29/97 | 3.2189 | 38.5 |

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Compliance Well Rank Sum: 423.5

Compliance Well Rank Avg: 38.5

| | | | |
|-----|----------|--------|------|
| PB7 | 04/04/95 | 3.2189 | 38.5 |
| PB7 | 07/11/95 | 3.2189 | 38.5 |
| PB7 | 10/11/95 | 3.2189 | 38.5 |
| PB7 | 01/08/96 | 3.2189 | 38.5 |
| PB7 | 01/08/96 | 3.2189 | 38.5 |
| PB7 | 04/04/96 | 3.2189 | 38.5 |
| PB7 | 07/09/96 | 3.2189 | 38.5 |
| PB7 | 10/09/96 | 3.2189 | 38.5 |
| PB7 | 02/06/97 | 3.2189 | 38.5 |
| PB7 | 04/09/97 | 3.2189 | 38.5 |
| PB7 | 10/29/97 | 3.2189 | 38.5 |

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Compliance Well Rank Sum: 423.5

Compliance Well Rank Avg: 38.5

| | | | |
|-----|----------|--------|------|
| PB9 | 07/09/96 | 3.2189 | 38.5 |
| PB9 | 10/09/96 | 3.2189 | 38.5 |
| PB9 | 02/06/97 | 3.2189 | 38.5 |
| PB9 | 04/09/97 | 3.2189 | 38.5 |
| PB9 | 10/29/97 | 3.2189 | 38.5 |

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Compliance Well Rank Sum: 192.5

Compliance Well Rank Avg: 38.5

H Statistic: -1.0000
H Adjusted for Ties: -1.0000
Degrees of Freedom: 7
Chi-Squared: 14.0672
ZÁ/DF: 2.3263

* Indicates significant evidence of contamination

| Well ID | Crit. Diff. | Rank Avg. | Background Rank Avg. | Difference |
|---------|-------------|-----------|----------------------|------------|
|---------|-------------|-----------|----------------------|------------|

| | | | | |
|------|---------|-------|-------|------|
| PB10 | 27.6897 | 38.50 | 38.50 | 0.00 |
| PB3 | 21.8906 | 38.50 | 38.50 | 0.00 |
| PB5 | 21.8906 | 38.50 | 38.50 | 0.00 |
| PB4 | 21.8906 | 38.50 | 38.50 | 0.00 |
| PB6 | 21.8906 | 38.50 | 38.50 | 0.00 |
| PB7 | 21.8906 | 38.50 | 38.50 | 0.00 |
| PB9 | 27.6897 | 38.50 | 38.50 | 0.00 |

Levene's Test for Homogeneity of Variance

Report Printed: 02-03-1998 12:48

Facility:PB LANDFILL PICKLES BUTTE LANDFILL

Address:15500 MISSOURI AVENUE

City:CALDWELL

ST:ID Zip:83605

County:CANYON

Contact:RICHARD LATTIMER

Phone: (208) 466-7288

Permit Type:Detection

Constituent:Zn Zinc

CAS Number: 7440-66-6

MCL: 5000.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 5.000 ug/l

Start Date:Apr 04 1995

End Date:Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 27 | 7.18 | 0.92 | 3.04 | 1.88 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 0 | 4.94 | 2.89 | 3.98 | 0.88 |
| PB3 | 11 | 0 | 5.68 | 2.40 | 4.13 | 1.11 |
| PB5 | 11 | 27 | 5.04 | 0.92 | 2.88 | 1.61 |
| PB4 | 11 | 0 | 8.98 | 4.11 | 6.12 | 1.24 |
| PB6 | 11 | 45 | 4.04 | 0.92 | 2.21 | 1.32 |
| PB7 | 11 | 27 | 6.33 | 0.92 | 3.31 | 1.80 |
| PB9 | 5 | 40 | 4.36 | 0.92 | 2.66 | 1.70 |

| Source of Variation | Sum of squares | Degrees of freedom | Mean squares | Computed F |
|---------------------|----------------|--------------------|--------------|------------|
| Between wells | 4.72 | 7 | 0.67 | 1.11 |
| Within wells | 41.36 | 68 | 0.61 | |
| Total | 46.09 | 75 | | |

Tabulated F at $\alpha=0.05$: 2.15

Since the computed F does not exceed the tabulated F , the assumption of equal variances may be accepted. .

Kruskal-Wallace Test

Report Printed: 02-03-1998 12:51

Facility:PB LANDFILL PICKLES BUTTE LANDFILL

Address:15500 MISSOURI AVENUE

City:CALDWELL

ST:ID Zip:83605

County:CANYON

Contact:RICHARD LATTIMER

Phone:(208)466-7288

Permit Type:Detection

Constituent:Zn Zinc

CAS Number: 7440-66-6

MCL: 5000.000 ug/l

ACL: 0.000 ug/l

Detect Limit: 5.000 ug/l

Start Date:Apr 04 1995

End Date:Oct 29 1997

Data Mode:Log Transformed

Background Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB8 | 11 | 27 | 7.18 | 0.92 | 3.04 | 1.88 |

Compliance Wells

| Well ID | N | %ND | Max Value | Min Value | Mean | Std Dev |
|---------|----|-----|-----------|-----------|------|---------|
| PB10 | 5 | 0 | 4.94 | 2.89 | 3.98 | 0.88 |
| PB3 | 11 | 0 | 5.68 | 2.40 | 4.13 | 1.11 |
| PB5 | 11 | 27 | 5.04 | 0.92 | 2.88 | 1.61 |
| PB4 | 11 | 0 | 8.98 | 4.11 | 6.12 | 1.24 |
| PB6 | 11 | 45 | 4.04 | 0.92 | 2.21 | 1.32 |
| PB7 | 11 | 27 | 6.33 | 0.92 | 3.31 | 1.80 |
| PB9 | 5 | 40 | 4.36 | 0.92 | 2.66 | 1.70 |

| Well ID | Date | Observation | Rank |
|---------|----------|-------------|------|
| PB8 | 04/04/95 | 7.1778 | 74.0 |
| PB8 | 07/11/95 | 3.8918 | 44.5 |
| PB8 | 10/11/95 | 0.9163 | 8.5 |
| PB8 | 01/08/96 | 4.6052 | 54.0 |
| PB8 | 01/08/96 | 3.9318 | 46.0 |
| PB8 | 04/04/96 | 3.1355 | 28.0 |
| PB8 | 07/09/96 | 2.1972 | 20.0 |

| | | | |
|----------------------|----------|--------|-------|
| PB8 | 10/09/96 | 2.7726 | 23.0 |
| PB8 | 02/06/97 | 2.9444 | 26.0 |
| PB8 | 04/09/97 | 0.9163 | 8.5 |
| PB8 | 10/29/97 | 0.9163 | 8.5 |
| aaaaaaa | | | |
| Background Rank | | Sum: | 341.0 |
| Background Rank | | Avg: | 31.0 |
| PB10 | 07/09/96 | 4.8283 | 56.0 |
| PB10 | 10/09/96 | 4.9416 | 58.0 |
| PB10 | 02/06/97 | 3.5264 | 35.0 |
| PB10 | 04/09/97 | 2.8904 | 25.0 |
| PB10 | 10/29/97 | 3.7136 | 41.5 |
| aaaaaaa | | | |
| Compliance Well Rank | | Sum: | 215.5 |
| Compliance Well Rank | | Avg: | 43.1 |
| PB3 | 04/04/95 | 5.6836 | 67.0 |
| PB3 | 07/11/95 | 3.6889 | 40.0 |
| PB3 | 10/11/95 | 3.3322 | 32.0 |
| PB3 | 01/08/96 | 5.1120 | 62.0 |
| PB3 | 01/08/96 | 5.0814 | 61.0 |
| PB3 | 04/04/96 | 5.6348 | 65.0 |
| PB3 | 07/09/96 | 2.3979 | 21.0 |
| PB3 | 10/09/96 | 3.2958 | 29.5 |
| PB3 | 02/06/97 | 3.3322 | 32.0 |
| PB3 | 04/09/97 | 3.4012 | 34.0 |
| PB3 | 10/29/97 | 4.5218 | 53.0 |
| aaaaaaa | | | |
| Compliance Well Rank | | Sum: | 496.5 |
| Compliance Well Rank | | Avg: | 45.1 |
| PB5 | 04/04/95 | 5.0370 | 60.0 |
| PB5 | 07/11/95 | 4.2767 | 51.0 |
| PB5 | 10/11/95 | 0.9163 | 8.5 |
| PB5 | 01/08/96 | 4.9904 | 59.0 |
| PB5 | 01/08/96 | 3.8918 | 44.5 |
| PB5 | 04/04/96 | 3.5553 | 36.0 |
| PB5 | 07/09/96 | 1.9459 | 17.5 |
| PB5 | 10/09/96 | 3.3322 | 32.0 |
| PB5 | 02/06/97 | 1.9459 | 17.5 |
| PB5 | 04/09/97 | 0.9163 | 8.5 |
| PB5 | 10/29/97 | 0.9163 | 8.5 |
| aaaaaaa | | | |
| Compliance Well Rank | | Sum: | 343.0 |
| Compliance Well Rank | | Avg: | 31.2 |
| PB4 | 04/04/95 | 7.2079 | 75.0 |
| PB4 | 07/11/95 | 6.5103 | 73.0 |
| PB4 | 10/11/95 | 5.9026 | 69.0 |
| PB4 | 01/08/96 | 8.9797 | 76.0 |
| PB4 | 01/08/96 | 5.6699 | 66.0 |
| PB4 | 04/04/96 | 6.4646 | 72.0 |
| PB4 | 07/09/96 | 5.9965 | 70.0 |
| PB4 | 10/09/96 | 5.7104 | 68.0 |
| PB4 | 02/06/97 | 4.1109 | 49.0 |
| PB4 | 04/09/97 | 5.1417 | 63.0 |
| PB4 | 10/29/97 | 5.5759 | 64.0 |
| aaaaaaa | | | |
| Compliance Well Rank | | Sum: | 745.0 |
| Compliance Well Rank | | Avg: | 67.7 |
| PB6 | 04/04/95 | 0.9163 | 8.5 |
| PB6 | 07/11/95 | 4.0431 | 48.0 |
| PB6 | 10/11/95 | 0.9163 | 8.5 |

| | | | |
|-----|----------|--------|------|
| PB6 | 01/08/96 | 3.6109 | 37.5 |
| PB6 | 01/08/96 | 3.6109 | 37.5 |
| PB6 | 04/04/96 | 3.2958 | 29.5 |
| PB6 | 07/09/96 | 2.0794 | 19.0 |
| PB6 | 10/09/96 | 3.0445 | 27.0 |
| PB6 | 02/06/97 | 0.9163 | 8.5 |
| PB6 | 04/09/97 | 0.9163 | 8.5 |
| PB6 | 10/29/97 | 0.9163 | 8.5 |

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Compliance Well Rank Sum: 241.0

Compliance Well Rank Avg: 21.9

| | | | |
|-----|----------|--------|------|
| PB7 | 04/04/95 | 3.6376 | 39.0 |
| PB7 | 07/11/95 | 4.8978 | 57.0 |
| PB7 | 10/11/95 | 0.9163 | 8.5 |
| PB7 | 01/08/96 | 6.3261 | 71.0 |
| PB7 | 01/08/96 | 4.0254 | 47.0 |
| PB7 | 04/04/96 | 3.7136 | 41.5 |
| PB7 | 07/09/96 | 4.6728 | 55.0 |
| PB7 | 10/09/96 | 3.8501 | 43.0 |
| PB7 | 02/06/97 | 2.4849 | 22.0 |
| PB7 | 04/09/97 | 0.9163 | 8.5 |
| PB7 | 10/29/97 | 0.9163 | 8.5 |

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Compliance Well Rank Sum: 401.0

Compliance Well Rank Avg: 36.5

| | | | |
|-----|----------|--------|------|
| PB9 | 07/09/96 | 2.8332 | 24.0 |
| PB9 | 10/09/96 | 4.2627 | 50.0 |
| PB9 | 02/06/97 | 4.3567 | 52.0 |
| PB9 | 04/09/97 | 0.9163 | 8.5 |
| PB9 | 10/29/97 | 0.9163 | 8.5 |

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Compliance Well Rank Sum: 143.0

Compliance Well Rank Avg: 28.6

| | |
|----------------------|---------|
| H Statistic: | 30.2637 |
| H Adjusted for Ties: | 30.5515 |
| Degrees of Freedom: | 7 |
| Chi-Squared: | 14.0672 |
| ZÁ/DF: | 2.3263 |

* Indicates significant evidence of contamination

| Well ID | Crit. Diff. | Rank Avg. | Background Rank Avg. | Difference |
|---------|-------------|-----------|----------------------|------------|
|---------|-------------|-----------|----------------------|------------|

| | | | | |
|------|---------|-------|-------|-------|
| PB10 | 27.6897 | 43.10 | 31.00 | 12.10 |
| PB3 | 21.8906 | 45.14 | 31.00 | 14.14 |
| PB5 | 21.8906 | 31.18 | 31.00 | 0.18 |
| *PB4 | 21.8906 | 67.73 | 31.00 | 36.73 |
| PB6 | 21.8906 | 21.91 | 31.00 | -9.09 |
| PB7 | 21.8906 | 36.45 | 31.00 | 5.45 |
| PB9 | 27.6897 | 28.60 | 31.00 | -2.40 |

