CORRECTIVE ACTION PROGRAMS
QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
LICENSE SUA-1473

PREPARED FOR:

NUCLEAR REGULATORY COMMISSION

BY:
QUIVIRA MINING COMPANY
HYDRO-ENGINEERING

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QUIVIRA MINING COMPANY

AMBROSIA LAKE FACILITY

CORRECTIVE ACTION PROGRAMS

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I. Alluvium Unit

A. Corrective Action Plan

The alluvial material found within the Ambrosia Lake mill facility area is characterized as consisting of a very fine grained sand, containing an intermix of clay material with an occasional basal gravel layer. Available records indicate the alluvium in the Ambrosia Lake area was dry prior to mining and milling activities. This condition is the result of sparse rainfall and runoff within the area combined with a high annual evaporation rate which prevented the accumulation of water in the alluvium. The average rainfall and annual evaporation rate for the Ambrosia Lake area are 8.8 inches and 54 inches respectively.

Groundwater monitor wells drilled in areas away from the mill facilities and mine water discharges confirm the alluvium is still a dry formation where unaffected by mining activities. Such was the case for the newly drilled alluvial monitoring well 30-68. This monitor well was drill for NRC to establish background constituency levels in accordance with license condition #34. The well was drilled approximately 300 yards north, northwest of Section 30 West mine shaft, away from any mill or mine discharges. The well was dry confirming the formation had been originally dry. Information about this well was presented to NRC on December 2, 1988 and is hereby referenced for inclusion into this submittal.

In 1983 Quivira Mining Company (Quivira) entered into an Assurance of Discontinuance (AOD) with the State of Mew Mexico to minimize the future impact of mill tailings solution seeping into the alluvium. The approved remedial action plan was designed to prevent further tailings solution seepage from entering the alluvium. To accomplish this, the AOD called for the construction and maintenance of an "Interceptor Trench" and discontinuing the use of unlined tailings solutions evaporation ponds 4, 5, 6, 7, and 8.

The purpose of the interceptor trench was to intercept or "cut off" the source of the solutions to prevent further movement of tailings solutions into the alluvium and to create a local hydrologic gradient back towards the trench. This gradient causes the solutions in the alluvium to the east (otherwise down gradient) of the trench to flow back or be "pulled back " towards the interceptor trench, where they are recovered and removed from the unit.

Construction on the interceptor trench began in 1984 with alluvial material being removed down to the underlying Mancos shale or sandstone. This has resulted in a trench constructed along the eastern boundary of Pond 3, with a total length of approximately 6,200 feet. The maximum depth of 36 feet has effectively isolated the tailings pile and its solutions from the down dip alluvium. A map showing the interceptor trench and its cross sectional cuts as it exists today are presented in Appendix A.

In addition to preventing down gradient migration of tailings solutions into the alluvium, the interceptor trench has also been effective as a "collection and pump back system". Because the trench has been excavated down to a depth of 36 feet, the hydrologic gradient in the down dip area or east of the interceptor trench, has been reversed from its normal easterly direction, to a westerly gradient. This reversed gradient is caused by the dewatering action of the interceptor trench and the recharge of fresh, uncontaminated water along the eastern mill perimeter. In essence, a "push-pull" system, with the "push" being the fresh recharge water to the east and the "pull" the dewatering action of the interceptor trench on the west. The fresh uncontaminated water flowing along the perimeter of the property is permitted by the Environmental Protection Agency (EPA) as an National Pollutant Discharge Elimination System (NPDES) permit.

The reversal of the hydraulic gradient has been documented by comparing the depth-to-water levels in December 1988 to those in 1984. As clearly indicated on the cross sectional map presented in Appendix B, the current hydrologic gradient along each of the sections is toward the interceptor trench. With the addition of clean recharge water to the alluvium from the NPDES drainage system, the contamination plumes underlying the unlined evaporation Ponds 4, 5, and 6 are being flushed and swept back towards the interceptor trench. This westerly sweeping and flushing action moves the contaminated solutions underlying the reclaimed evaporation ponds, to the interceptor trench where it is collected and pumped to lined evaporation ponds.

As a result of this action, the concentrations of indicator parameters such as TDS, SO_4, and Cl in some alluvial monitor wells initially increased. This was caused by the westward movement of fluids with higher levels of contamination passing monitor wells as the solutions migrated back towards the interceptor trench. The higher levels of contamination is attributed to solutions being concentrated by evaporation and the seepage of these solutions from evaporation ponds 4, 5, and 6 into the underlying alluvial material.

Subsequent to the contamination front passing the monitor wells, the indicator parameters are now decreasing in concentration as the fresh recharge water from the NPDES drainage system continues to flush the areas underlying the evaporation ponds 4, 5, and 6. The findings indicated a gradual clean up of the area is occurring and will continue due to the presence of the interceptor trench. Graphs supporting this conclusion are presented in Appendix C.

Due to the configuration of the interceptor trench, it is not currently possible to accurately determine the volume of solutions being recovered from the affected alluvium. However, it is estimated that about 50 gallons per minute are being drawn back into the trench from the alluvium. In order to better quantify a recharge and collection rate for the alluvium, Quivira is establishing a Parshall flume and flow recorder station in the drainage channel just north of evaporation pond 9. This, combined with the NPDES outfall flow records, will enable Quivira to better quantify the recharge and to the alluvium from the recharge creek. The location of the flumes are shown in Appendix D.

Drawdown in the alluvial monitor wells during normal sampling indicate the monitor wells are incapable of supporting a production rate that would significantly improve the alluvial clean up program. However, Quivira will collect detail drawdown and recovery data on two alluvial monitor wells, 31-63 and 32-60 and will summarize and submit the data to NRC by January 1, 1990.

Quivira believes the data collected to date demonstrates the current collection and "pump back system" using the interceptor trench will prevent future migration of tailings solution into the alluvium while removing contamination through the sweeping and flushing action of the clean recharge water from the NPDES drainage.

To develop an estimated a time frame to effect cleanup, Quivira proposes to perform various tests including pump tests to obtain permeabilities, development of gradient maps, and establishing retardation coefficients for various hazardous constituents. This information along with the estimated clean up time will be presented to NRC by April 1, 1990.

Quivira proposes that the interceptor trench be approved by NRC as the appropriate corrective action program for the alluvium because the data has consistently shown the alluvial interceptor trench and its pump back system are effective in both removing and reducing hazardous constituents levels.

The alluvial points of compliance are wells 31-61, 32-59, MW-24 with the background concentration being recognized in well 5-03. The following are the current site standards for these wells: arsenic = 0.05 mg/l, barium = 1.0 mg/l, chromium = 0.05 mg/l, lead = 0.05 mg/l, molybdenum = 0.06 mg/l, nickel = 0.06 mg/l, selenium = 0.05 mg/l, silver = 0.01 mg/l, and natural uranium 0.06 mg/l.

B. Delineation of Contamination Plume

The areal extent of contamination of hazardous constituents in the alluvium will be delineated by three means.

First, Quivira will monitor existing alluvial wells. Each of these wells will be sampled twice and analyzed for the following constituents.

Parameters: arsenic, barium, cadmium, chromium, cyanide, lead, mercury, molybdenum, nickel, selenium, silver, beryllium, antimony, thallium, gross alpha, radium 226, radium 228, natural uranium, thorium 230, lead 210, chloride, sulfate, pH and specific conductivity.

The alluvial monitoring wells that will be sampled under this program are:

30-68, 30-53, 30-46, 30-47, 30-48, 30-04, 30-49, AW-1, 31-05, 31-63, C-3, D-4, E-5, 31-65, 32-01, 32-02, 32-50, 32-41, 32-42, 32-43, 32-51, 32-52, 32-58, 32-59, AW-2, 32-60, 31-61, S-9, S-12, 5-03, MW-24, 32-56, 32-57

Second, Quivira will sample selected ventilation holes and shafts at Section 17, Section 19, Section 24, Section 30, Section 30 West and Section 33 mines. The following ventilation holes are those are scheduled to be sampled once pending access and safety considerations.

Section 17 - shaft, ventilation hole 7

Section 19 - ventilation holes 1, 2, 5, 7

Section 24 - ventilation hole 24

Section 30 - ventilation holes 2, 4, 5, 6, 7, 9, 10, 12, 14, 15, 16, 17

Section 30 West - ventilation holes 1, 2, 3, 4, 5, 6, 7

Section 33 - shaft, venthole 1

Third and finally, Quivira will drill five new alluvial monitor wells to help delineate and further define the water quality and the thickness of the saturated zone in the alluvial material. The location of these new alluvial wells, existing wells, ventilation holes and shaft locations are presented in Appendix D. Names of the new alluvial wells are:

New Alluvial Wells: 32-69, 31-70, 31-71, 32-72, 5-73

The results of this sampling program will be then added to the existing data base and graphs will be prepared for key parameters to indicate the extent of the contamination plume. This data will be summarized and submitted to NRC by January 1, 1996.

C. Additional Submittals

In accordance with the requirements of License Condition 34 (B), Paragraph 2, Quivira has attached the analytical results from the additional sampling of alluvial background well 5-03 for use in establishing baseline water quality concentrations. The analytical results for this well are listed in Appendix E. Quivira is also submitting available alluvial well data collected since 1984 in Appendix F.

Quivira also submits in Appendix G monitoring results since 1984 for well MW-24 in accordance with your letter dated July 26, 1989.

D. Concerns From the March 23 and July 19, 1989 Meetings.

Quivira attaches in Appendix H its comments pertaining to NRC and NMEID concerns stated in the meetings held at NMEID offices in Santa Fe on March 23, 1989 and July 19, 1989 at the Ambrosia Lake facility. Quivira's comments are indexed to match the concerns outlined within NMEID's April 3, 1989 letter.

II. Tres Hermanos B Unit

A. Corrective Action Program

This unit is the middle of three sandstone lenses within the Mancos shale. These sands are characterized as consisting of fine grained material with low porosity and permeability outside of fracture zones. No water wells have been constructed within this unit before or since mining and milling activities commenced within the Ambrosia Lake area.

At the Ambrosia Lake mill facility, a large portion of the mill tailings were deposited in contact with or near to the Tres Hermanos B sandstone outcrop. As a result of this location, tailings solutions have migrated into the Tres Hermanos B unit causing it to be impacted.

During the operating of the Ambrosia Lake facility, numerous studies have been performed on the various lithologic units including the Tres Hermanos B sandstone. These studies were performed to determine the effect dewatering due to mining activities.

These studies include; "Computer Simulation of Ventilation Hole Drainage of the Dakota Formation", "Ventilation Hole Sampling and Confirmation of Drainage of the Dakota and Tres Hermanos Formations", "Assessment of Contamination In The

Dakota and Tres Hermanos Formations", "Electric Analog Modeling of Tailings Seepage, Ambrosia Lake, New Mexico", "Response To NMEID Questions and Comments of Sept. 26, 1983 - Follow up Work On Bedrock Plumes, Vent Holes, and Alluvial Interception Trench"; and "Bedrock and Alluvium Monitoring Plan". These studies were previously submitted to NRC in the October 1986 submittal entitled "Tailings Stabilization Report, License SUA-1473, Docket 40-8905, Volume II". Quivira wishes to reference these studies for inclusion into this submittal.

The conclusion drawn from these studies indicate mining activities have created a large low pressure trough or hydrologic depression within the mining region. This low pressure trough acts as a collection point for seepage from those formations which are intersected by mining activity. This includes the Tres Hermanos B unit. The central portion of the trough stretches along a line of ventilation holes and mine shafts that includes Quivira's Section 30 West and Section 30 Mines.

Three of the studies, "Computer Simulation of Ventilation Hole Drainage of the Dakota Formation", "Ventilation Hole Sampling and Confirmation of Drainage of the Dakota and Tres Hermanos Formations", and "Response To NMEID Questions and Comments of Sept. 26, 1983 - Follow up Work On Bedrock Plumes, Vent Holes, and Alluvial Interception Trench", were performed to evaluate the impact caused by milling and mining activities and the relationship between the two activities.

The 1983 "Ventilation Hole Sampling and Confirmation of Drainage of the Dakota and Tres Hermanos" survey was commissioned to determine the impact of Quivira's tailings impoundment and the effect of the low pressure trough. The study included a visual inspection of ventilation holes down dip from the tailing impoundment area. When flow was encountered at each of the ventilation holes, water flow measurements were made and water samples collected. The results of this survey indicated that in the mining area, the Tres Hermanos B unit has essentially been dewatered by the ventilation hole and mine shaft drainage. The survey also concluded that any seepage from the tailings area into the Tres Hermanos B formation was being intercepted and collected by the ventilation holes and mine shafts.

The source of the contamination that has moved into the Tres Hermanos B has been from tailings ponds 1 and 2. Tailings pond 1 is being recontoured and will no longer hold significant amounts of water thereby eliminating most infiltration. Quivira also constructed in May 1989, a dewatering trench on the west end of pond 2. The dewatering trench has eliminated all standing water on pond 2 by pumping all collected water to lined evaporation ponds. The dewatering trench is also providing some dewatering of the tailings. Currently, about 28 gpm is being recovered from pond 2 tailings material and pumped to lined evaporation ponds.

Although drainage from these piles will continue for some time, no new tailings will be placed on pond 1. All future use of pond 2 for new tailings will be restricted to tailings associated with existing commitments for processing some limited volumes of source material. If conventional milling is resumed at Ambrosia Lake, the new tailings from that operation will be placed in a lined disposal cell constructed either in the pond 2 area or on a nearby site.

As the studies previously referenced have shown, the depression areas created by the ventilation holes and mine workings provide an efficient and effective means of controlling and collecting any contaminated materials that have seeped into the underlying formations. They also prevent migration of these solutions into the groundwater outside the impacted area.

Thus, Quivira believes operation of the groundwater collection and pumping systems that serve Section 30 and 30 West mine shafts and ventilation holes is an appropriate corrective action program for the Tres Hermanos B sandstone. Quivira also believes this Corrective Action Plan meets the criteria set by NRC since recharge to the source of contamination has been all but eliminated. Additionally, as prior studies have demonstrated, the down dip low pressure area acts simultaneously as a control, a collection and a removal point for any continuing seepage. Therefore, Quivira believes that the current "pump back" and "collection system" is justified and prudent since it is already in place and removing contamination from the various geological units.

Should it become necessary to terminate the collection and pumping systems at the Section 30 and Section 30 West systems for economic or other reasons, Quivira will evaluate the extent and level of contamination, if any, remaining in the Tres Hermanos B formation. If at that time the contaminates have not been reduced to acceptable levels, Quivira will submit for NRC review an alternate system for continuing clean-up of the formation. The trough in the Tres Hermanos B piezometric surface will likely continue to exist in the area because the base of the sandstone is above the projected recovery level for the Westwater.

In addition to the above, Quivira will conduct drawdown and recovery tests on two Tres Hermanos B monitor wells. The wells which will be tested are 31-66 and 36-01. These wells will be used to evaluate pumping of the Tres Hermanos B wells as an alternative to pumping the mines. This information will be presented to NRC by January 1, 1990.

In conjunction with the pump tests, Quivira proposes to determine permeability from the pump test results, the development of retardation coefficients, and the construction of gradient maps to determine a time frame to effect cleanup of this unit. This information will be presented to NRC by April 1, 1990.

Quivira believes the proposed corrective action plan combined with continued ground water monitoring are appropriate measures to meet the objective of returning the constituent concentrations within this hydrologic unit to acceptable levels. These actions are also consistent with its potential future uses.

The Tres Hermanos B point of compliance are wells, 31-66, 31-67, 36-01 and 36-02 with the background concentration being recognized in well VH19-2. The following are the current site standards for these wells: arsenic = 0.05 mg/l, barium 1.0 = mg/l, cadmium = 0.01 mg/l, chromium = 0.08 mg/l, cyanide 0.01 mg/l, lead = 0.05 mg/l, mercury = 0.02 mg/l, molybdenum = 0.08 mg/l, nickel = 0.06 mg/l, selenium = 0.04 mg/l, silver = 0.05 mg/l, beryllium = 0.03 mg/l, antimony = 0.05 mg/l, thallium = 0.05 mg/l, gross alpha = 21 pCi/l, combined radium-226 and 228 = 7.4 pCi/l, natural uranium = 0.02 mg/l, thorium 230 = 2.2 pCi/l and lead-210 = 0.9 pCi/l.

B. Delineation of Contamination Plume

The areal extent of contamination within the Tres Hermanos B formation will be delineated by monitoring existing Tres Hermanos B groundwater wells and updating the 1983 ventilation hole monitoring survey by resampling selected ventilation holes on Section 17, 19, 24, 30, 30 West and 33. Quivira will also drill one new Tres Hermanos B well to better define the extent of the contamination plume.

Existing Tres Hermanos B monitoring wells that will be sampled twice to provide additional data for establishing the areal extent of the plume include:

31-02 Trb, 31-62 Trb, 32-64, 36-01 Trb, 36-02 Trb, 31-66, 31-67

The samples from each of these wells will be analyzed for the following constituents:

arsenic, barium, cadmium, chromium, cyanide, lead, mercury, molybdenum, nickel, selenium, silver, beryllium, antimony, thallium, gross alpha, radium 226, radium 228, natural uranium, thorium 230, lead 210, chloride, sulfate, pH and specific conductivity.

The following selected ventilation holes and shafts at

Sections 17, 19, 24, 30, 30 West and 33 mines will be sampled to help delineate the plume. These selected holes and shafts will be sampled once, pending access and safety considerations.

Section 17 - shaft, ventilation hole 7

Section 19 - ventilation holes 1, 2, 5, 7

Section 24 - ventilation hole 24

Section 30 - ventilation holes 2, 4, 5, 6, 7, 9, 10, 12, 14, 15, 16, 17

Section 30 West - ventilation holes 1, 2, 3, 4, 5, 6, 7

Section 33 - shaft, venthole 1

Besides the monitoring of existing monitoring wells and the sampling of selected ventilation holes and shafts, one new well will be drill in the northern portion of Section 36 to help define the western and northern limit of the plume. The name of this new Tres Hermanos B wells is 36-74 Trb. Its location is shown in Appendix D.

The results of this sampling program will be added to the existing data base and graphs will be prepared for key parameters to indicate the extent of the contamination plume. This data will be summarized and submitted to NRC by January 1, 1990.

C. Additional Submittals

Quivira is also submitting available Tres Hermanos B well data collected since 1984 in Appendix I.

D. Concerns From the March 23 and July 19, 1989 Meetings.

Quivira attaches in Appendix H its comments pertaining to NRC and NMEID concerns stated in the meetings held at NMEID offices in Santa Fe on March 23, 1989 and July 19, 1989 at the Ambrosia Lake facility. Quivira's comments are indexed to match the concerns outlined within NMEID's April 3, 1989 letter.

III. Tres Hermanos A Unit

A. Corrective Action Program

This unit is the lowest of three sandstone lenses in the Mancos shale. The unit is characterized as being fine grained with low porosity and permeability except in fracture zones. No water wells have been constructed within this unit before or since mining and milling activities commenced within the Ambrosia Lake area.

During the operation of the Ambrosia Lake facility, several studies were performed on the various lithologic units including the Tres Hermanos A sandstone. These studies include; "Computer Simulation of Ventilation Hole Drainage of the Dakota Formation", "Ventilation Hole Sampling and Confirmation of Drainage of the Dakota and Tres Hermanos Formations", "Assessment of Contamination In The Dakota and Tres Hermanos Formations", "Electric Analog Modeling of Tailings Seepage, Ambrosia Lake, New Mexico", "Response To NMEID Questions and Comments of Sept. 26, 1983 - Follow up Work On Bedrock Plumes, Vent Holes, and Alluvial Interception Trench", and "Bedrock and Alluvium Monitoring Plan". These studies have been previously submitted to NRC in the October 1986 NRC submittal entitled "Tailings Stabilization Report, License SUA-1473, Docket 40-8905, Volume II". Quivira wishes to reference these studies for inclusion into this submittal.

The conclusion from these studies indicate the Tres Hermanos A formation has not been significantly impacted by the mining and milling activities. This conclusion is supported by the unit monitoring well results which show that most values are within the range of background constituent concentrations.

As such, Quivira does not believe that 10 CFR 40, Appendix A, Criteria 5D standards for establishing a corrective action program are applicable for this unit. Furthermore, by eliminating recharge to the tailings pond 1 and 2 areas as previously discussed for the Tres Hermanos B unit, future degradation of this unit is highly unlikely. The Tres

Hermanos A point of compliance and background monitoring wells 31-01 and 33-01 respectively, will continue to be monitored in accordance with license condition 34 (B) and if future data indicates a corrective action plan is required a program will be prepared and submitted to NRC for review.

The Tres Hermanos A point of compliance is well 31-01 Tra, with the background concentration being recognized in well 33-01 Tra. The following are the current site standards for these wells: arsenic = 0.05 mg/l, barium 1.0 = mg/l, cadmium = 0.01 mg/l, chromium = 0.09 mg/l, cyanide 0.01 mg/l, lead = 0.05 mg/l, mercury = 0.002 mg/l, molybdenum = 0.03 mg/l, nickel = 0.05 mg/l, selenium = 0.03 mg/l, silver = 0.05 mg/l, beryllium = 0.01 mg/l, antimony = 0.05 mg/l, thallium = 0.01 mg/l, gross alpha = 18 pCi/l, combined radium-226 and 228 = 5.0 pCi/l, natural uranium = 0.01 mg/l, thorium 230 = 4.3 pCi/l and lead-210 = 4.14 pCi/l.

B. Additional Submittals

Quivira is also submitting available Tres Hermanos A well data collected since 1984 in Appendix J.

C. Concerns From the March 23 and July 19, 1989 Meetings.

Quivira attaches in Appendix H its comments pertaining to NRC and NMEID concerns stated in the meetings held at NMEID offices in Santa Fe on March 23, 1989 and July 19, 1989 at the Ambrosia Lake facility. Quivira's comments are indexed to match the concerns outlined within NMEID's April 3, 1989 letter.

IV. Dakota Unit

A. Corrective Action Program

The Dakota formation is described as a sandstone unit deposited over an erosional surface developed on the Brushy Basin. The unit is dipping to the northeast at 3 degrees and characterized as a fine to medium grained, clean sandstone with fair to good permeability. Carbonaceous material is commonly found in the basal section of this unit. The formation is approximately 80 feet thick across most of the Ambrosia Lake area.

As a result of the uranium mining and milling activity within the Ambrosia Lake area, much of the Dakota formation has been dewatered by drainage to the lower mining levels through the ventilation holes, mine shafts and mine workings, creating a low pressure area or hydrologic depression trough in the area. In the vicinity of the Section 30 and 30 West mining areas, only the basal few feet of the Dakota is saturated.

Dakota monitor well data indicates the mining and milling operations have impacted this formation along the western portion of the facility. Analysis of the data indicates the source of the narrow contamination plume originated from unlined evaporation pond 8. This was confirmed with the drilling of Dakota well 36-06. This well contained evidence of contamination while Dakota well 36-05, 250 yards to the west had shown no signs of contamination. Information about well 36-06 was presented to NRC on December 2, 1988 and Quivira wishes to referenced this earlier submittal for inclusion into this report.

The studies indicate that tailings solutions migrated into this unit through the shallow alluvium overlying the Dakota in the pond 8 area. This conclusion and a map outlining the plume based on chloride concentrations was presented to NRC in the document entitled "Tailings Stabilization Report, License SUA-1473, Docket 40-8905, Volume II, Appendix E, Plate 5, "Geologic Map & Monitor Points for Dakota Formations". Quivira references this document for inclusion into this submittal.

To eliminate the potential sources of contamination into this formation, Quivira entered into an Assurance of Discontinuance (AOD) with the State of New Mexico in 1983. As part of the AOD, unlined ponds 7 and 8 were emptied of their solutions in late 1983 thereby eliminating further recharge by the tailing solutions. Pond 8 has since been reclaimed to comply with 10

CFR 40 Criterion 6, topsoiled and revegetated. The dam on pond 7 has been cut to prevent it from holding water and the pond is currently scheduled to be reclaimed in 1990.

In addition to the AOD, several studies have been performed on the various lithologic units including the Dakota sandstone unit. These were performed to determine the impact from the tailings impoundments and the effect the hydrologic depression created by the mine shafts and vent holes has on the movement of those solutions. The three main studies include "Computer Simulation of Ventilation Hole Drainage of the Dakota Formation", "Ventilation Hole Sampling and Confirmation of Drainage of the Dakota and Tres Hermanos Formations", and "Response To NMEID Questions and Comments of Sept. 26, 1983 - Follow Up Work On Bedrock Plumes, Vent Holes, and Alluvial Interception Trench". The results of these studies are contained in the October 1986 NRC submittal entitled "Tailings Stabilization Report, License USA-1473, Docket 40-8905, Volume II".

The conclusion from these studies, which included modeling of drainage into the ventilation holes and mines, was that the low pressure trough has acted as an efficient collection sink for those formations intersected by the mining activities, which includes the Dakota formation. Water flow measurements and the collection of water samples during a 1983 ventilation hole study indicated the Dakota unit was essentially dewatered in areas near the ventilation holes and mine shafts.

As such, the contaminated solutions within this formation are being collected and removed by the mine collection and pumping systems into lined evaporation ponds. To develop an estimated time frame to effect clean up for this unit, Quivira proposes to perform pump tests to obtain permeabilities, develop retardation coefficients, and to construct of gradient maps. The estimated time frame for cleanup along with the test information will be presented to NRC by April 1, 1990.

The drawdown-recovery test will be conducted on two Dakota wells, 36-06 and 30-48 Kd, to evaluate the feasibility of using existing monitor wells as alternate withdrawal points should it become necessary to terminate pumping at the designated mines. These tests will be completed and the data will be summarized and submitted to NRC by January 1, 1990.

Quivira believes that discontinuing the use of Ponds 7 and 8, has eliminated the source and recharge of the contamination seeping into the Dakota. Studies also have determined the nature and extent of the contamination and the presence of a hydrologic depression created by the mines and vent holes which acts as a control and collection point down dip from the contamination. Thus, Quivira believes that the appropriate corrective action program for the Dakota sandstone is to continue pumping the collection systems that serve Section 30 and 30 West mine shafts and ventilation holes. We believe that this program together with continued monitoring of the Dakota wells and the ongoing hydrological tests contains the necessary elements to prevent further contamination of this unit, provides a collection system for the removal of contamination, and results in the efficient use of an available and in place program.

Should it becomes necessary to terminate pumping at the Section 30 and 30 West mines for economic or other reasons prior to groundwater restoration of the unit, Quivira will evaluate the level and extent of any remaining contaminants in the Dakota formation. The depression in the Dakota piezometric surface will continue after pumping stops until the heads in the Westwater reach the Dakota. If the contamination has not been reduced to an acceptable levels, Quivira will submit an alternate plan for NRC review on continuing the clean up of the formation.

The Dakota points of compliance are wells 30-02, 30-48, 32-45 and 36-06 with the background concentration being recognized in well 17-01. The following are the current site standards for these wells: arsenic - 0.10 mg/l, barium = 1.0 mg/l, cadmium = 0.01 mg/l, chromium = 0.05 mg/l, cyanide = 0.04 mg/l, lead = 0.14 mg/l, mercury = 0.002 mg/l, molybdenum = 0.06 mg/l, nickel = 0.03 mg/l, selenium 0.04 mg/l, silver = 0.05 mg/l, beryllium = 0.01 mg/l, antimony = 0.05 mg/l, thallium = 0.01 mg/l, gross alpha = 56 pCi/l, combined radium-226 and 228 = 5 pCi/l, natural uranium = 0.02 mg/l, thorium-230 = 2.3 pCi/l and lead-210 = 1.9 mg/l.

B. <u>Delineation of Contamination Plume</u>

The areal extent of contamination in the Dakota formation will be delineated through continued monitoring of Dakota ground water wells, updating the 1983 ventilation hole monitoring survey by resampling selected ventilation holes in Sections 17, 19, 24, 30, 30 West, 33 and drilling of two new Dakota wells to help define the western and eastern extent of contamination. These wells will be named 24-76 Kd and 31-75 Kd. The planned drilling locations for these wells are presented in Appendix D.

Existing Dakota monitor wells that will be sampled twice to provide additional data for establishing the areal extent of the plume include:

5-01 Kd, 5-02 Kd, 1-01 Kd, 17-01, 30-02, 30-48 Kd, 31-03 Kd, 32-45, 32-51 Kd, 32-52 Kd, 25-01, 36-01 Kd, 36-04 Kd, 36-06

The samples will be analyzed for the following constituents:

arsenic, barium, cadmium, chromium, cyanide, lead, mercury, molybdenum, nickel, selenium, silver, beryllium, antimony, thallium, gross alpha, radium 226, radium 228, natural uranium, thorium 230, lead 210, chloride, sulfate, pH and specific conductivity.

The following selected ventilation holes and shafts at Sections 17, 19, 24, 30, 30 West and 33 will be sampled to help delineate the plume. These selected holes and shafts are scheduled to be sampled once pending access and safety considerations.

Section 17 - shaft, ventilation hole 7

Section 19 - ventilation holes 1, 2, 5, 7

Section 24 - ventilation hole 24

Section 30 - ventilation holes 2, 4, 5, 6, 7, 9, 10, 12, 14, 15, 16, 17

Section 30 West - ventilation holes 1, 2, 3, 4, 5, 6, 7

Section 33 - shaft, venthole 1

Two new Dakota wells 24-76 and 31-75 will be drilled to help define the western and eastern extent of the plume. They also will be sampled and analyzed for the parameters previously listed.

The results of this sampling program will be then added to the existing data base and graphs will be prepared for key parameters to indicate the extent of the contamination plume. This data will be summarized and submitted to NRC by January 1, 1990.

C. Additional Submittals

Quivira is also submitting available Dakota well data collected since 1984 in Appendix K.

D. Concerns From the March 23 and July 19, 1989 Meetings.

Quivira attaches in Appendix H its comments pertaining to NRC and NMEID concerns stated in the meetings held at NMEID offices in Santa Fe on March 23, 1989 and July 19, 1989 at the Ambrosia Lake facility. Quivira's comments are indexed to match the concerns outlined within NMEID's April 3, 1989 letter.

SURETY BOND ESTIMATES
GROUNDWATER CORRECTIVE ACTION PROGRAM
Ambrosia Lake Facility, New Mexico

			Estimated Cost-$
I.	**Non-Reoccurring Costs**		
A.	Drill & complete 2 Alluvial wells (2 wells)(60 feet deep)($12/ft)	$1,440	
B.	Drill & complete 1 Tres B well (1 well) (150 feet deep)($12/ft)	1,800	
C.	Drill & complete 1 Dakota well (1 well)(350 feet deep)($12/ft)	4,200	
D.	Drill & complete 1 additional well (1 well)(250 feet deep)($12/ft)	3,000	
	Subtotal		$10,440
II.	**Maintain Alluvium Interception Trench**		
A.	Labor - $12/hr x 32 hr/yr	384	
B.	Power (13HP pump)($0.067/kwH) (8760 Hr/Yr)(0.8 load factor) (0.75 oper factor)(0.746 KwH/HP)	3,415	
C.	Maint Parts & Supplies/year	500	
		4,299	
	Subtotal: ($4299/Yr)(15 Yrs[1])		63,435

(1) Based on estimated drainage period for tailing Pond 1.

			Estimated Cost-$
III.	**Pond 2 Pump Out System**		
A.	Labor ($12/Hr)(16 Hr/Yr)	$ 192	
B.	Power - Transfer Pump (30HP pump)($0.067/KwH) (8760 Hr/Yr)(0.8 Load Factor) (0.06 Oper Factor)(0.746 KwH/HP)	630	
C.	Power - Pickup Pump (5HP)($0.067/KwH)(8760 Hr/Yr) (0.8 Load Factor) (0.5 Oper Fac)(0.746 KwH/HP)	876	
D.	Maint Parts & Supplies/Yr	500	
		2,198	
	Subtotal: ($2198/Yr)(2 Yrs[2])		$ 4,396
IV.	**Transfer Solutions Pond 9 to Section 4**		
A.	Labor ($12/Hr)(32Hr/Yr)	384	
B.	Power (40Hp)($0.067/KwH) (8760 Hr/Yr)(0.8 Load Fac) (0.5 Oper Fac/0.4 alloc) (0.746 KwH/Hp)	2,802	
C.	Maint Parts & Supplies ($1000/Yr x 0.4 alloc)	400	
		3,586	
	Subtotal: ($3586/Yr)(15 Yrs)		53,790

(2) Removal of the pump out system will occur when recontouring of Pond 2 begins in 1991.

			Estimated Cost-$
V.	**Maintain Limited Pumpback System at Section 30 & 30W Mines for Tres Hermanos B and Dakota Formations**		
A.	Install 40HP Pump in Sec. 30 & 30W shafts (2 pumps at $6000 each)		$ 12,000
B.	Maintain Pumping Systems		
	1. Labor ($12/Hr)(4Hr/Mo/Mine) (2 Mines)(12 Mo)	$ 1,152	
	2. Power (2 units)(40Hp/ut) ($0.067/KwH)(8760 Hr/Yr) (0.9 Load Fac)(0.95 Oper Fac) (0.746 KwH/Hp)	29,948	
	3. Maint Parts & Supplies (2 units)($2000/unit/Yr)	4,000	
		$35,100	
	Subtotal: ($35,100/Yr)(10 Years[3])		351,000
VI.	**Selected Monitor Well Pumping**		
A.	Install Monitor Well Pump System (4 pump systems)($4000 Each)		16,000
B.	Maintain Pumping Systems		
	1. Labor ($12/Hr)(2Hr/mo ea) (4 units)(12 Mo)	1,152	
	2. Power (4 units)(3/4HP/ut)($0.067/KwH) (8760 Hr/Yr)(0.9 Load Fac) (0.5 Oper Fac)(0.746 KwH/HP)	591	
	3. Maint Parts & Supplies (4 units)($200/ut Yr)	800	
		2,543	
	Subtotal: ($2543/Yr)(8 years)		20,344

(3) Based on estimated cleanup period for Tres Hermanos B and Dakota formations.

			Estimated Cost-$
VII. Monitor Well Sampling & Analysis			
A.	Alluvium (6 wells)		
	1. Labor ($12/Hr)(1 Hr/sample) (6 wells)($2 sample/yr)	144	
	2. Asseys (12 sample)($248/sample)	2,976	
	3. Misc. Asseys @ 20% of 1 & 2	624	
B.	Tres Hermanos A (2 wells)		
	1. Labor ($12/Hr)(1 Hr/sample) (2 wells)(2 samples/Yr)	48	
	2. Asseys (4 samples)($248/sample)	992	
	3. Misc. Asseys @ 20% of 1 & 2	208	
C.	Tres Hermanos B (5 wells & vent hole)		
	1. Labor ($12/Hr)(1 Hr/sample) (6 wells)(2 samples/Yr)	144	
	2. Asseys (12 samples)($248/sample)	2,976	
	3. Misc. Asseys @ 20% of 1 & 2	624	
D.	Dakota Formation (6 wells)		
	1. Labor ($12/Hr)(1 Hr/sample) (6 wells)(2 sample/Yr)	144	
	2. Asseys (12 samples)($248/sample)	2,976	
	3. Misc. Asseys @ 20% of 1 & 2	624	
E.	Data Processing & Analysis $1000/Mo	12,000	
		24,480	
	Subtotal: ($24,480)(12 years[4])		$293,760

(4) Based on Tres Hermanos B and Dakota groundwater cleanup period plus two years.

			Estimated Cost-$
VIII.	Plug & Abandon Monitor Wells		
A.	Alluvium - 6 wells @ $200/ea	$1,200	
B.	Tres Hermanos B - 5 wells @ $200/ea	1,000	
C.	Tres Hermanos A - 2 wells @ $250/ea	500	
D.	Dakota - 6 wells @ $300/ea	1,800	
	Subtotal		4,500
	Subtotal I - VIII		829,665
	Contingency @ 10%		82,967
	Subtotal		912,632
	Overhead & Profit @ 15%		136,895
	Total Groundwater Bond Estimate		$1,049,527

CORRECTION ACTION PLAN

APPENDIX A

Plan View and Cross Sectional Cut of Interceptor Trench

CORRECTION ACTION PLAN

APPENDIX B

Hydrological Cross Section Map of Interceptor Trench

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CORRECTION ACTION PLAN

APPENDIX C

Monitor Wells East of Interceptor Trench and West of NPDES Creek:

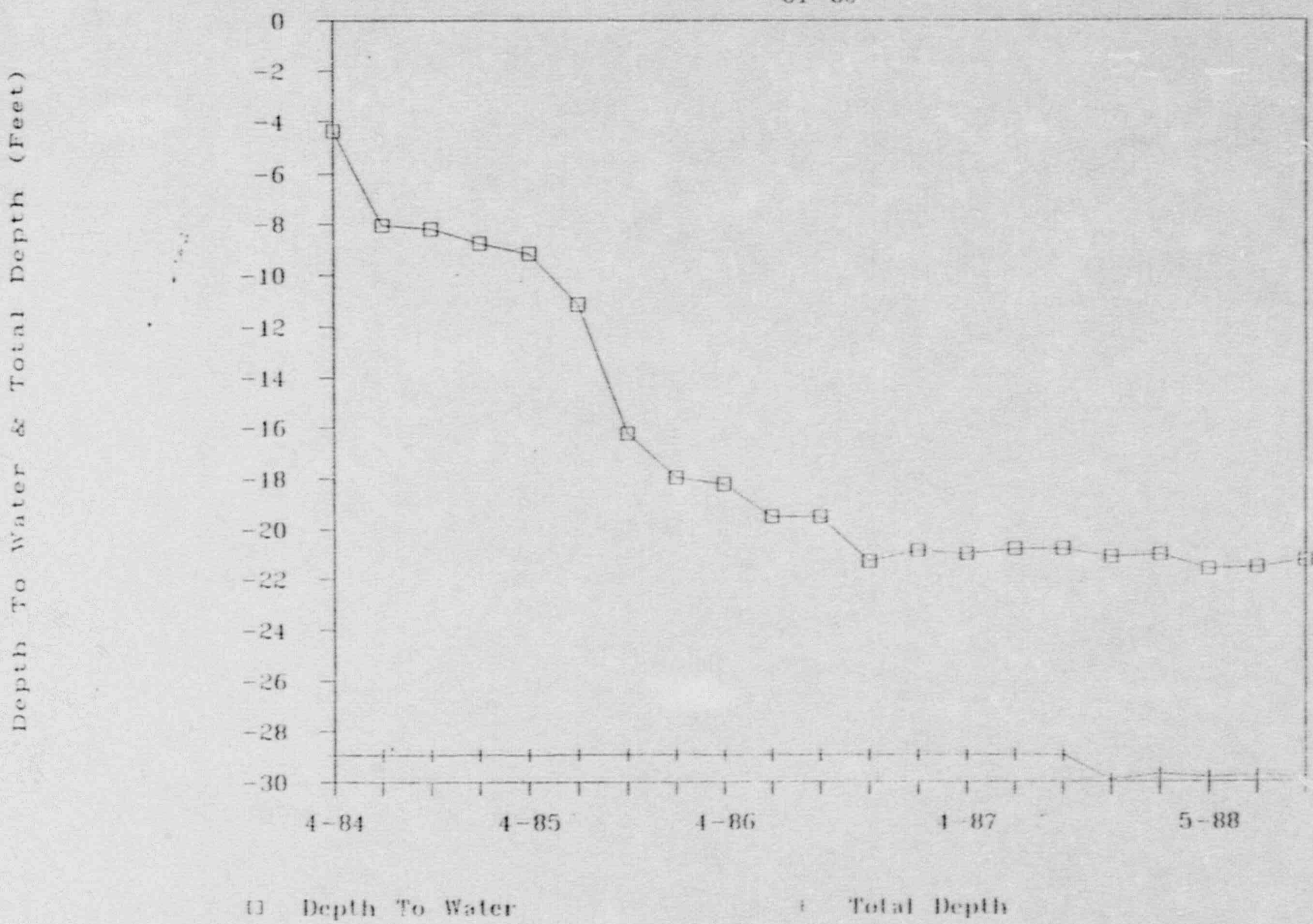
31-63	31-61	S-12	32-60

Monitor Wells East of NPDES Creek:

AW-1	32-42	32-50	32-49
32-02	30-04	32-43	30-48

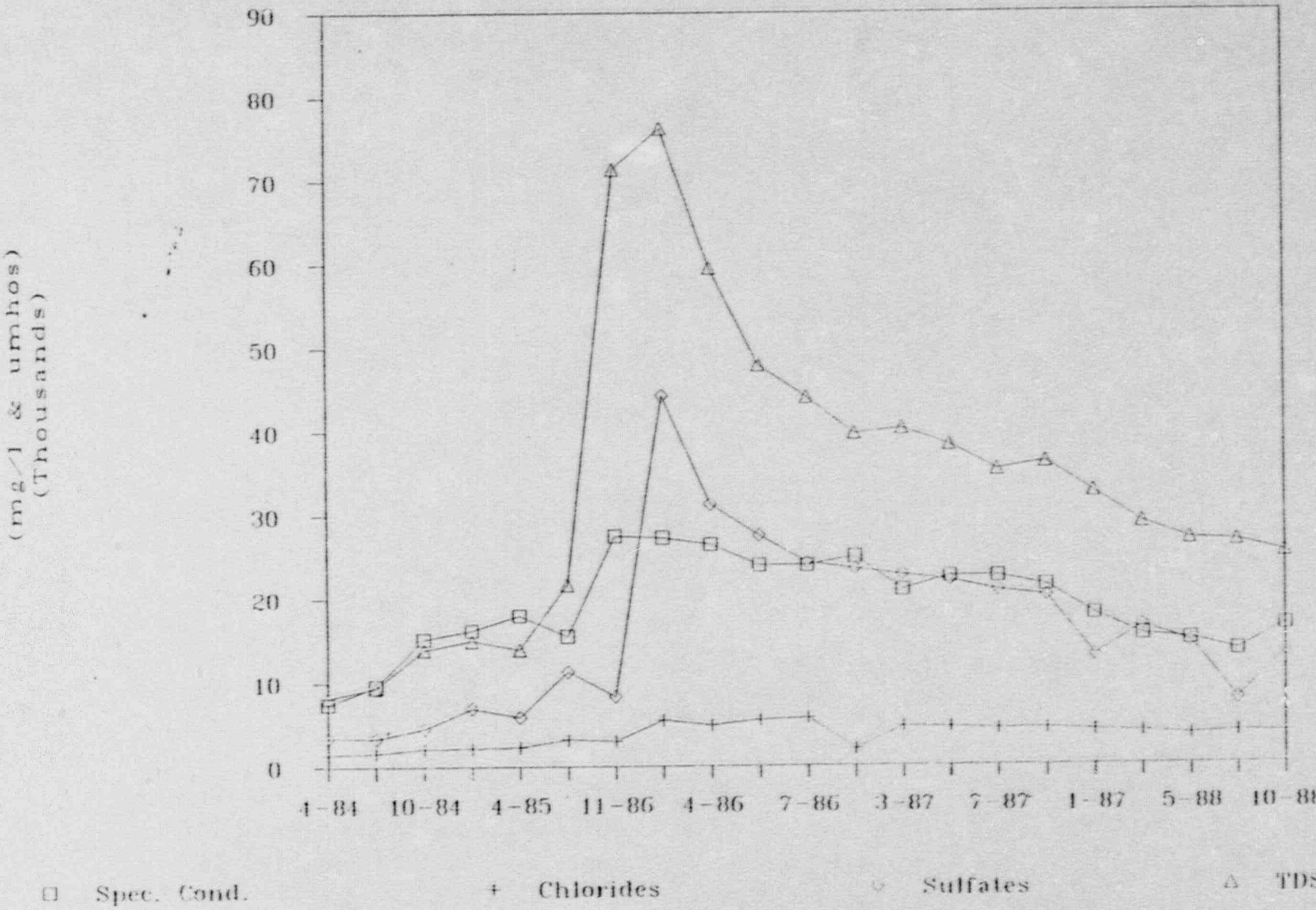
MONITOR WELL

31-63



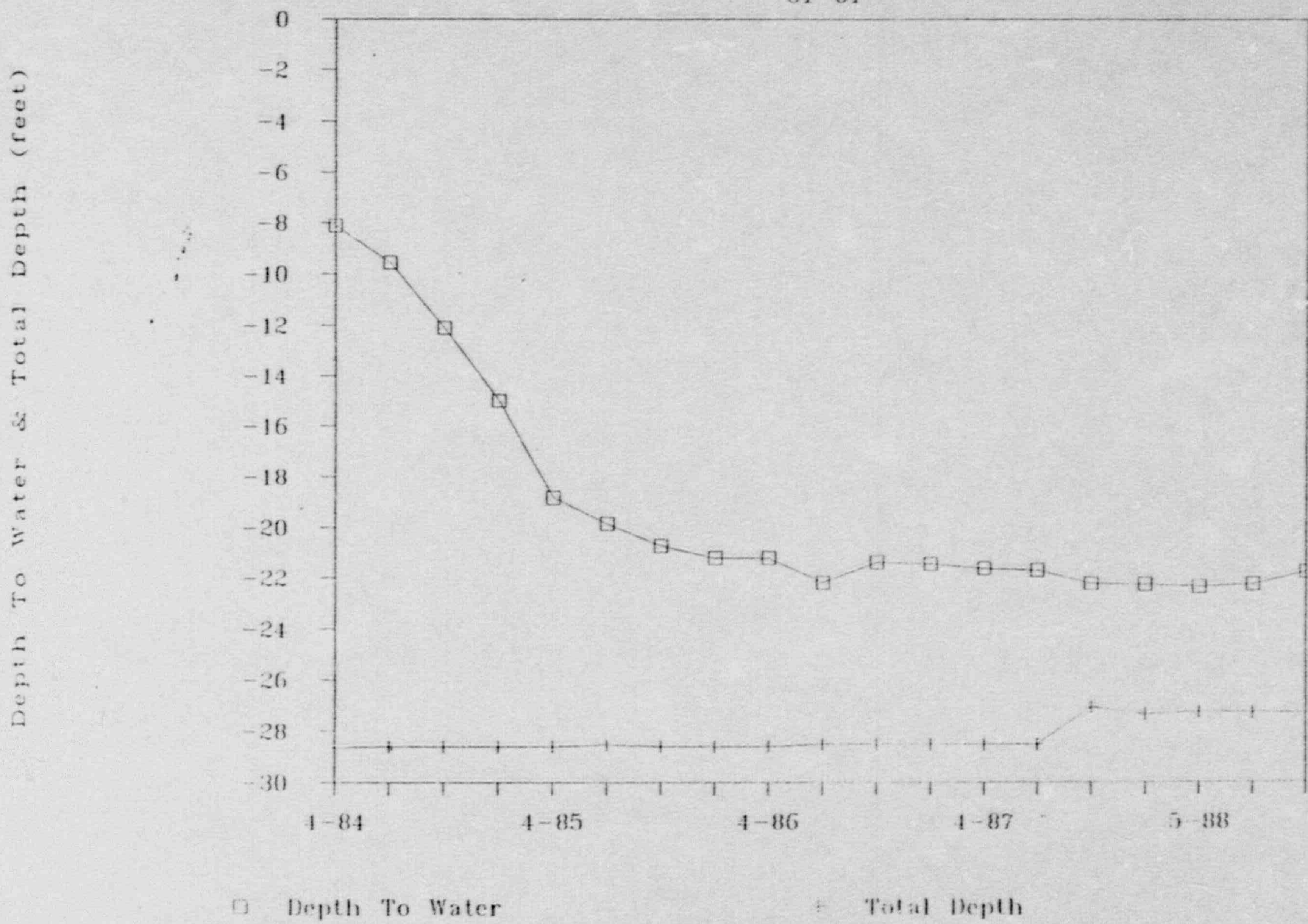
MONITOR WELL

31-63



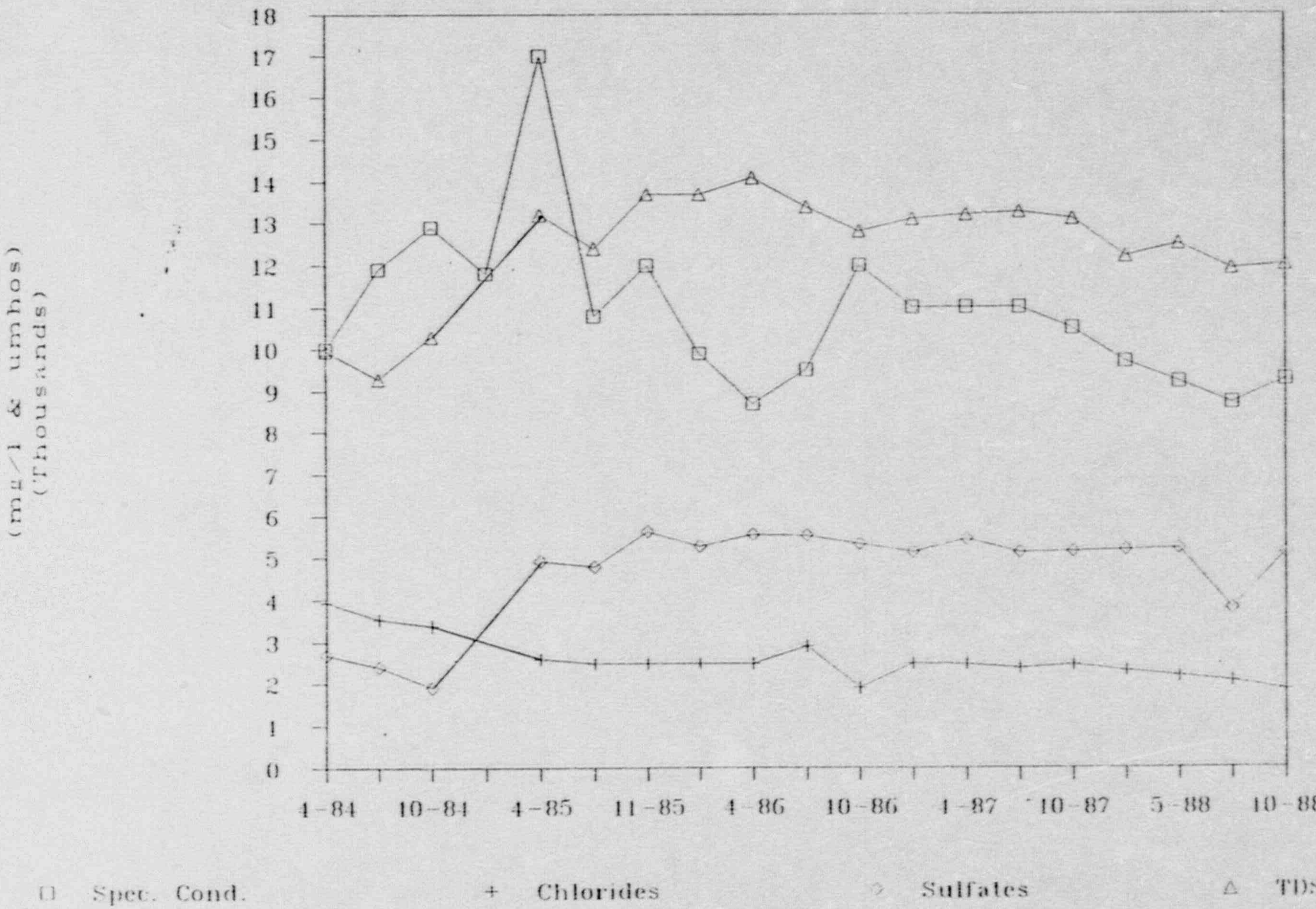
MONITOR WELL

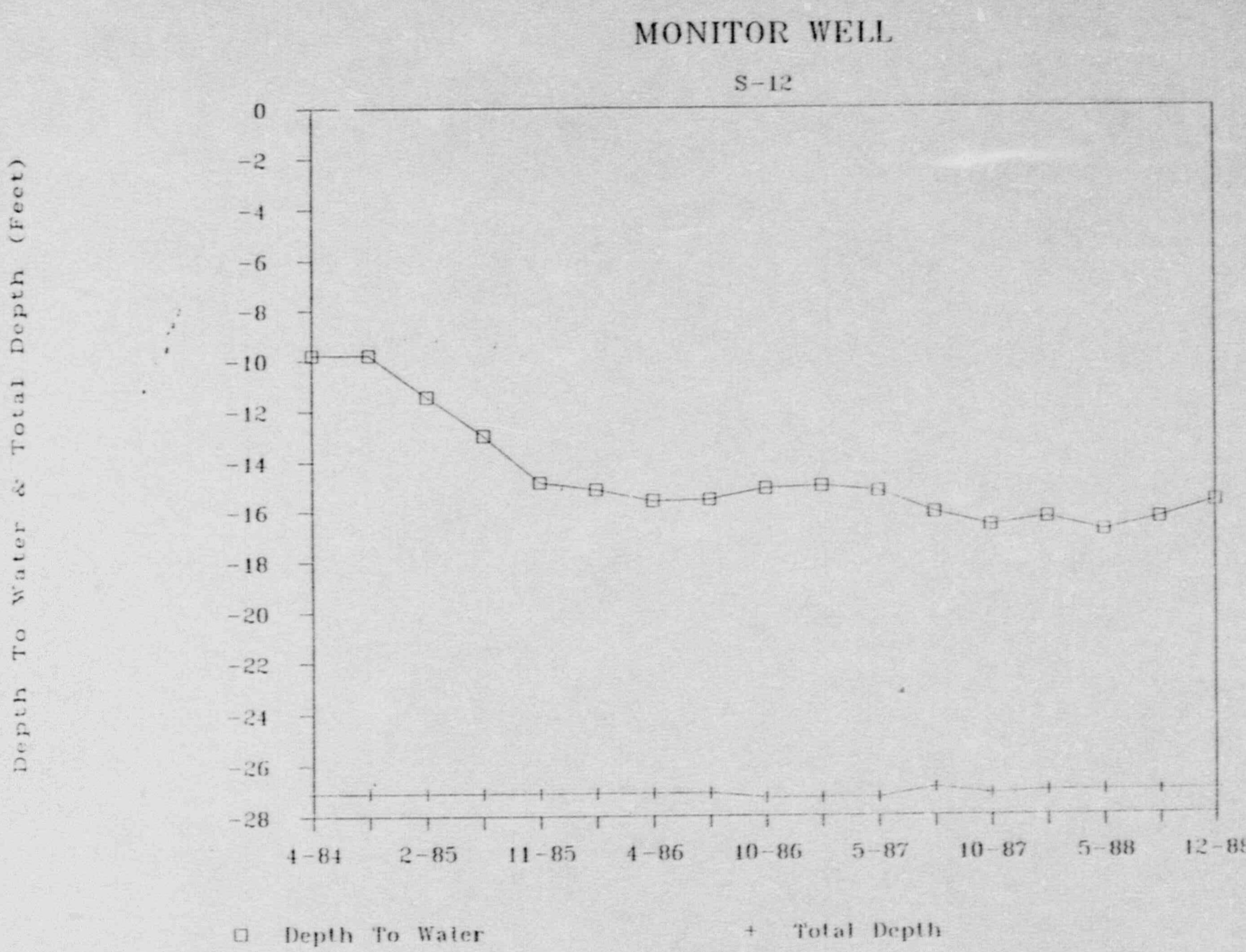
31-61



MONITOR WELL

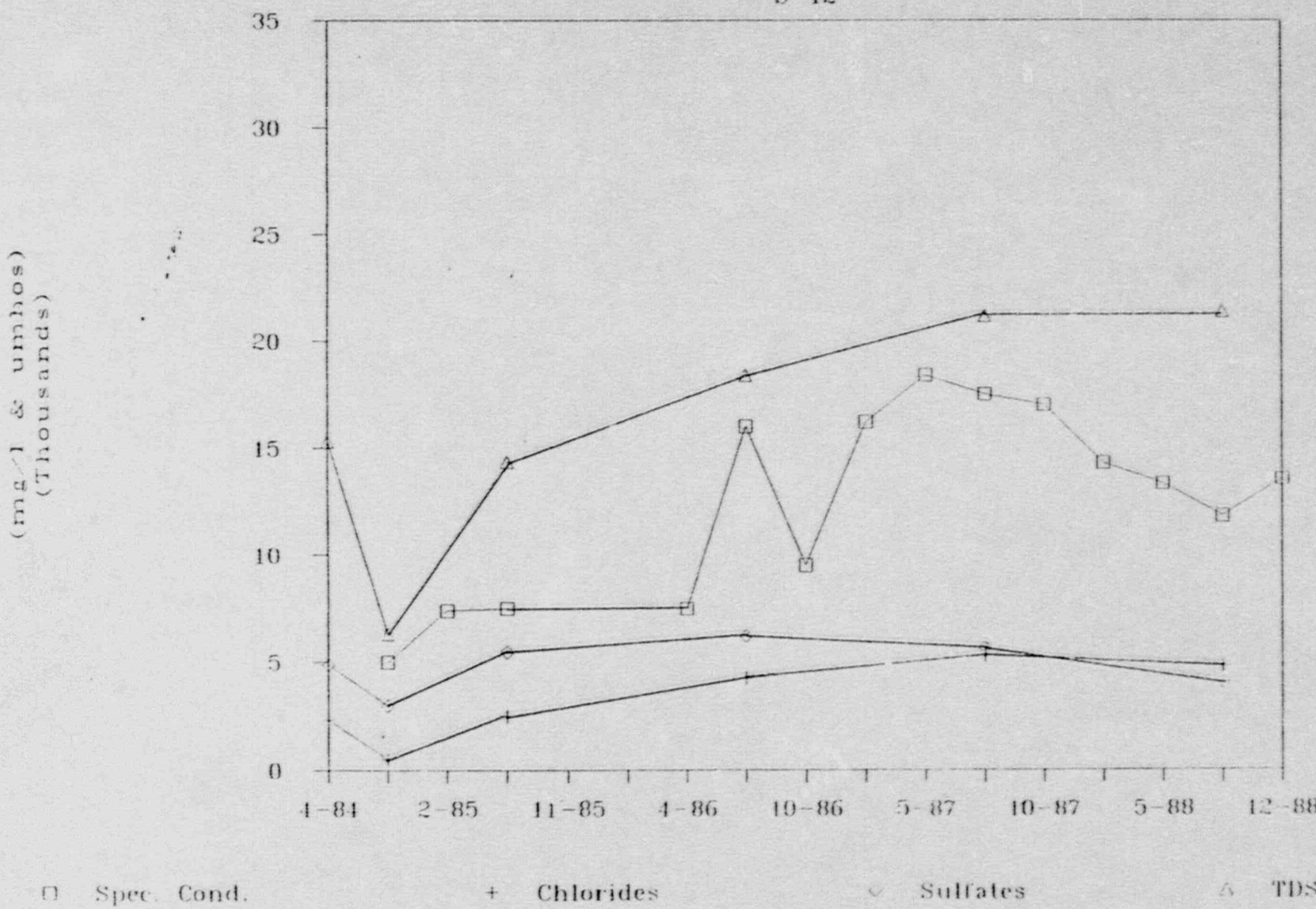
31-61




MONITOR WELL
S-12
Depth To Water & Total Depth (Feet)
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
-26
-28
4-84
2-85
11-85
4-86
10-86
5-87
10-87
5-88
12-88
Depth To Water
Total Depth

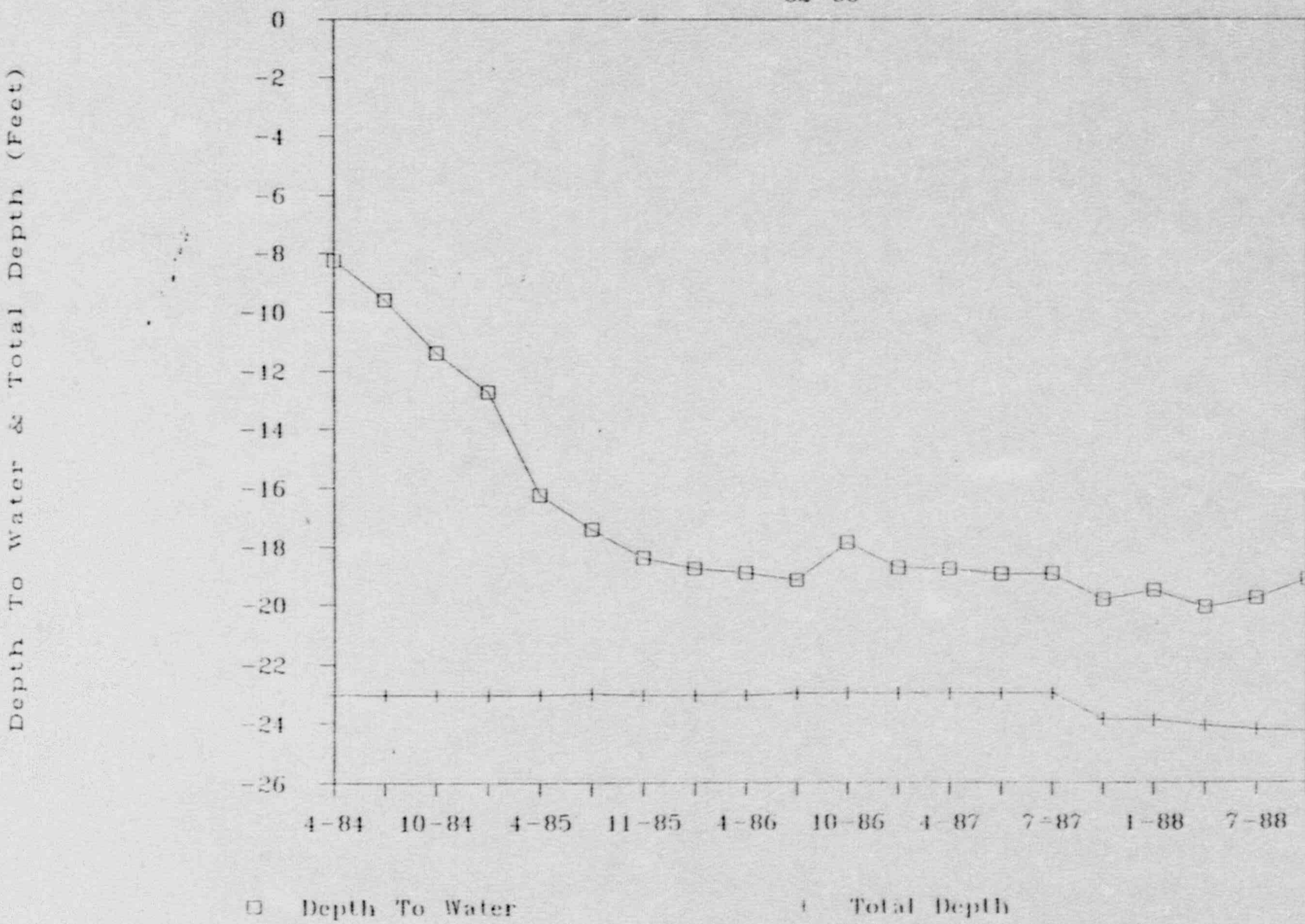
MONITOR WELL

S-12



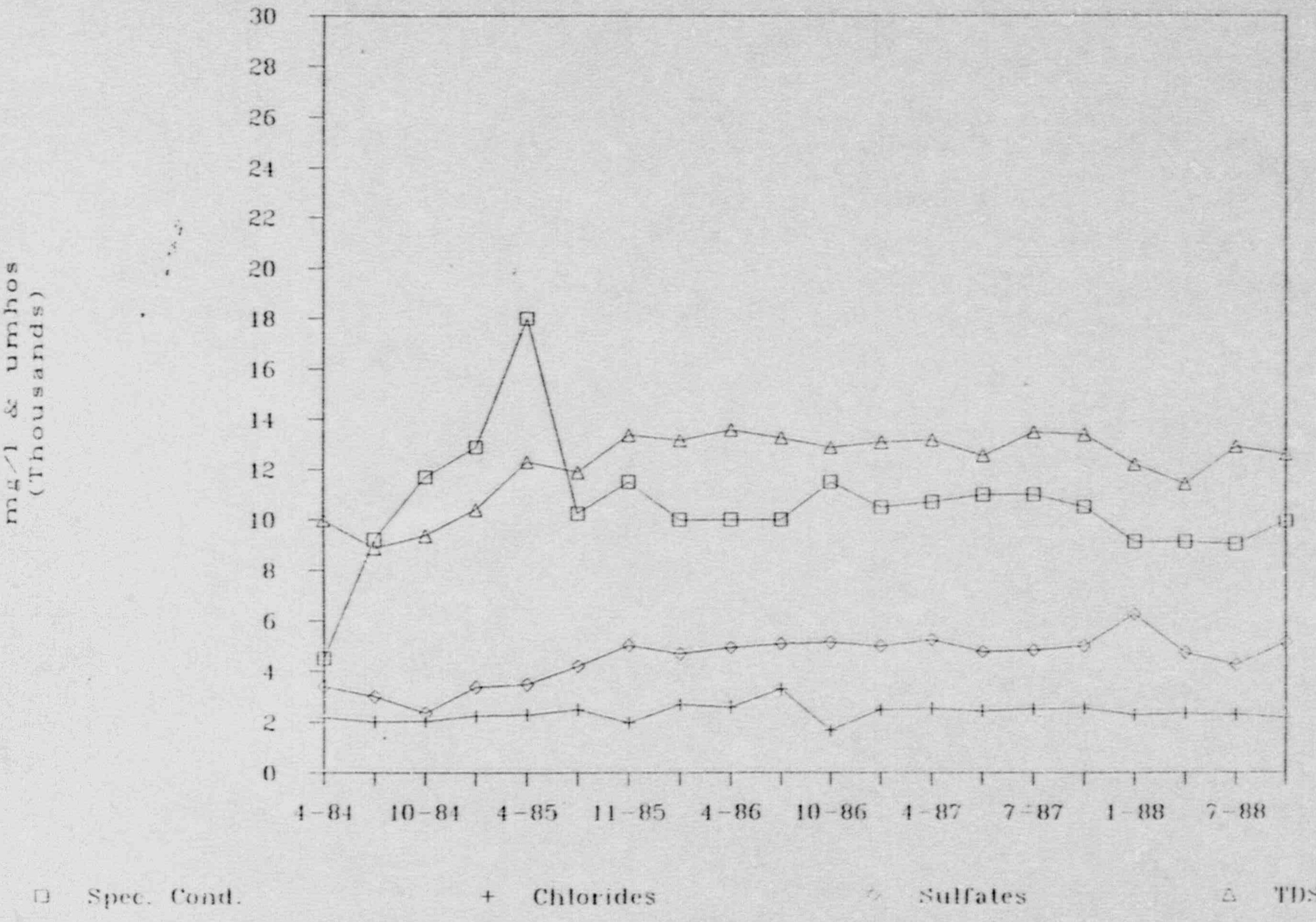
MONITOR WELL

32-60



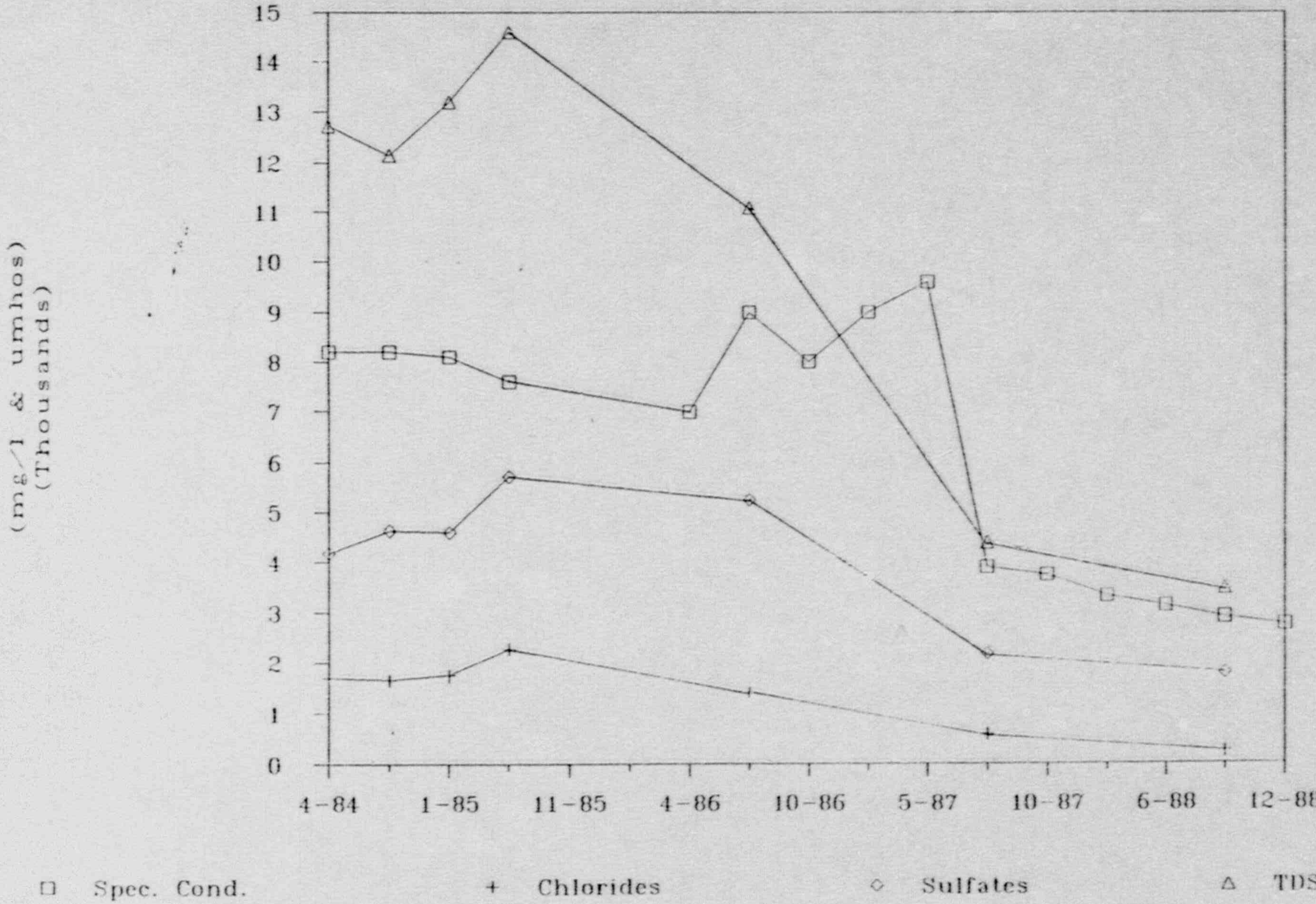
MONITOR WELL

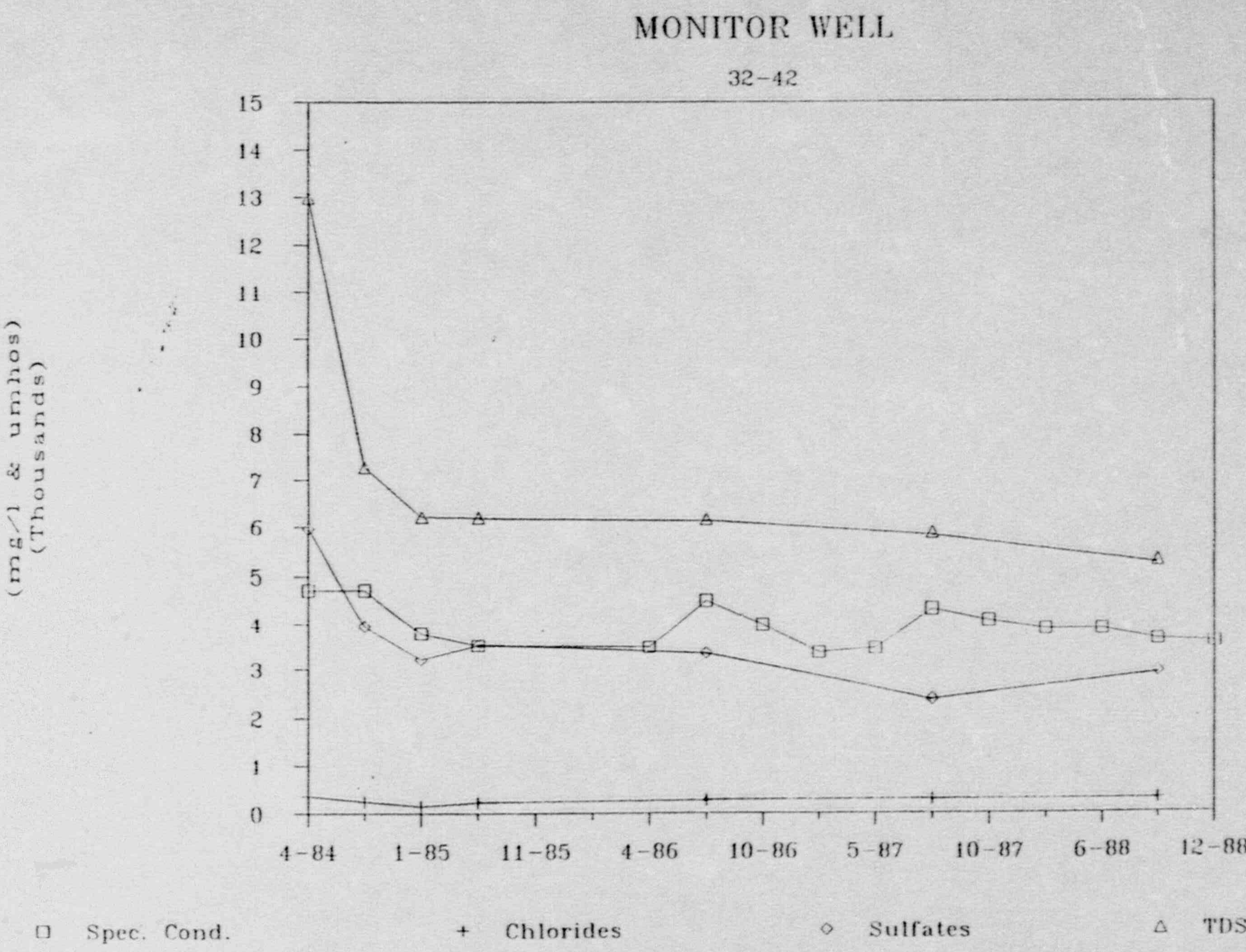
32-60



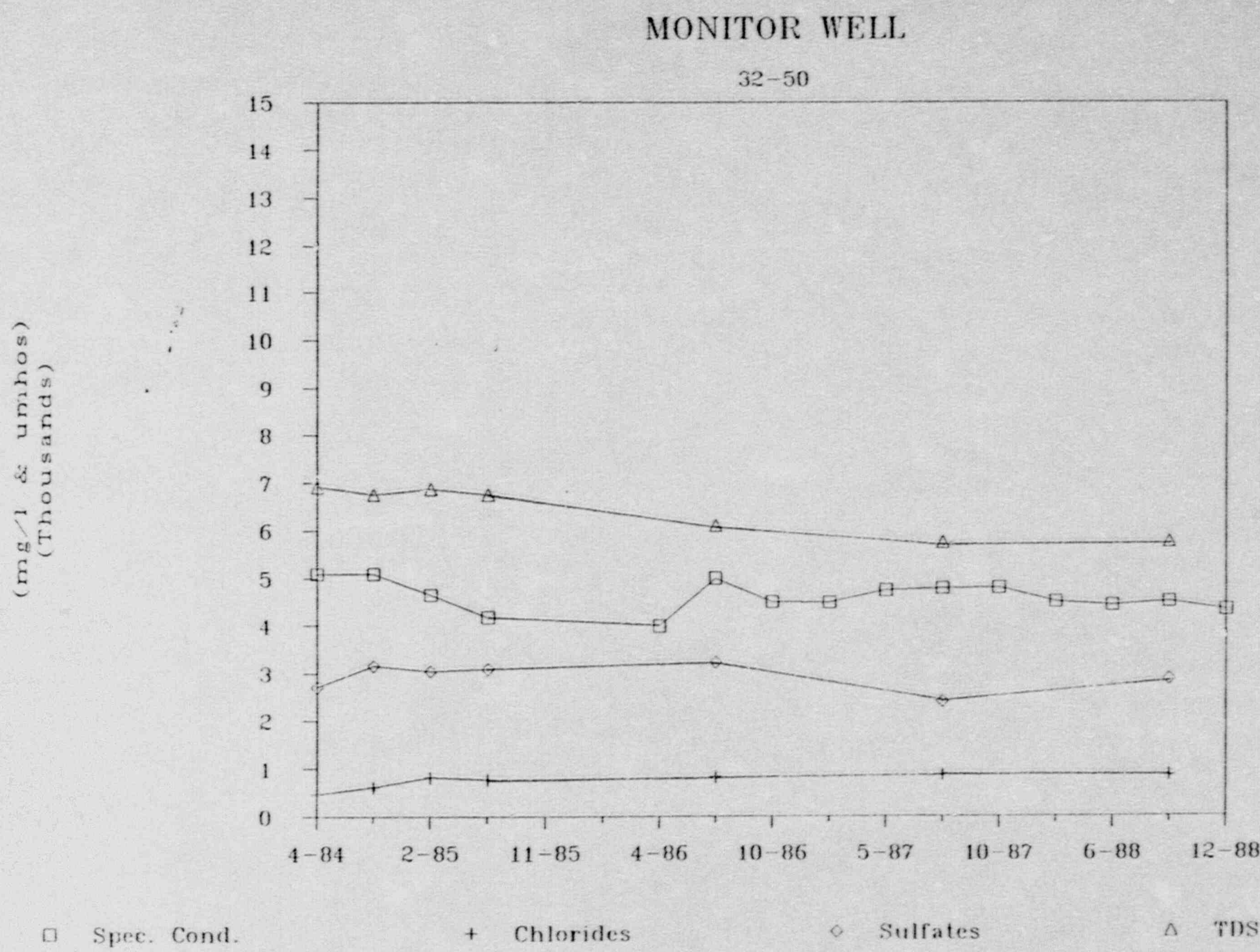
MONITOR WELL

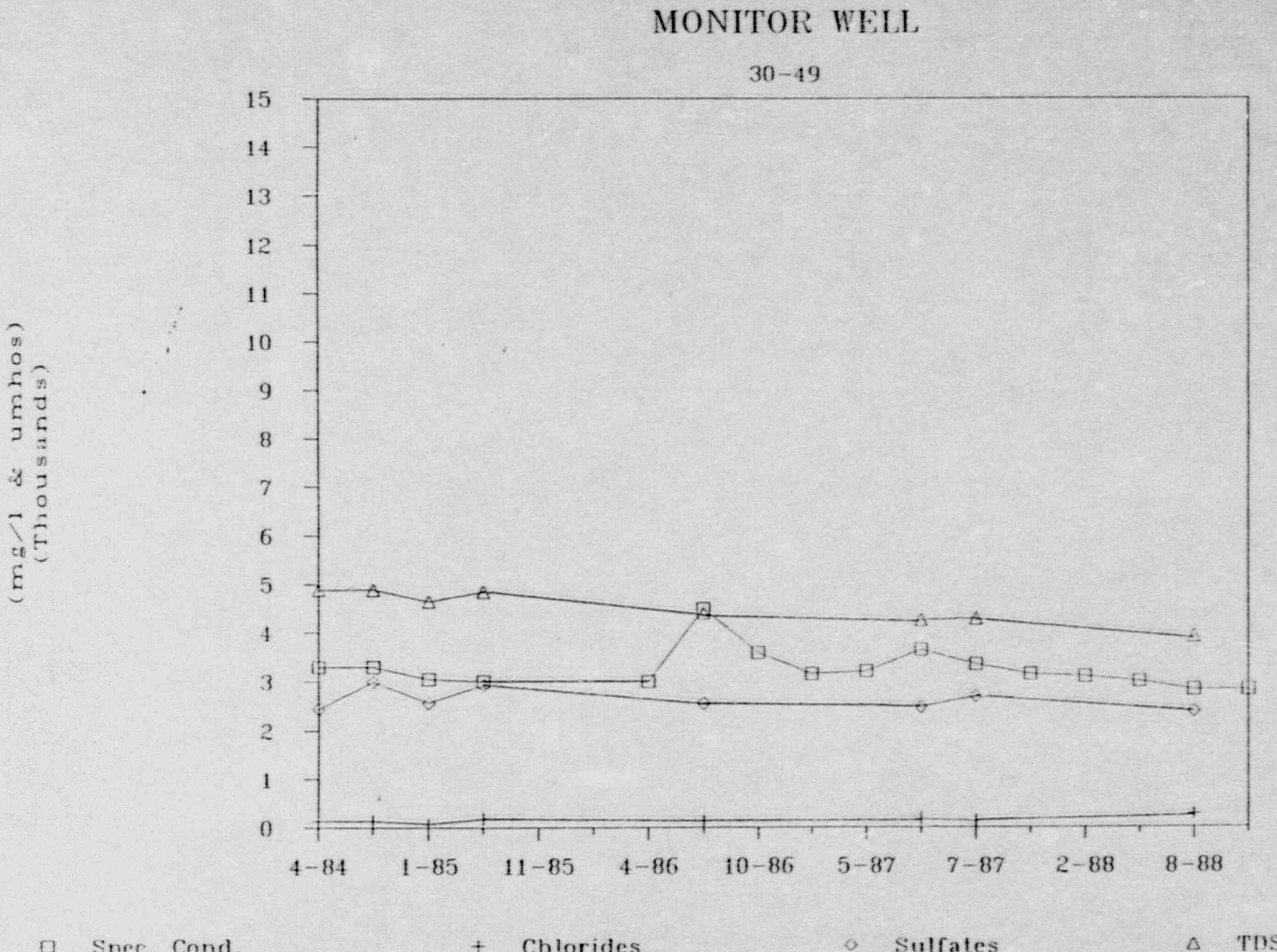
AW-1

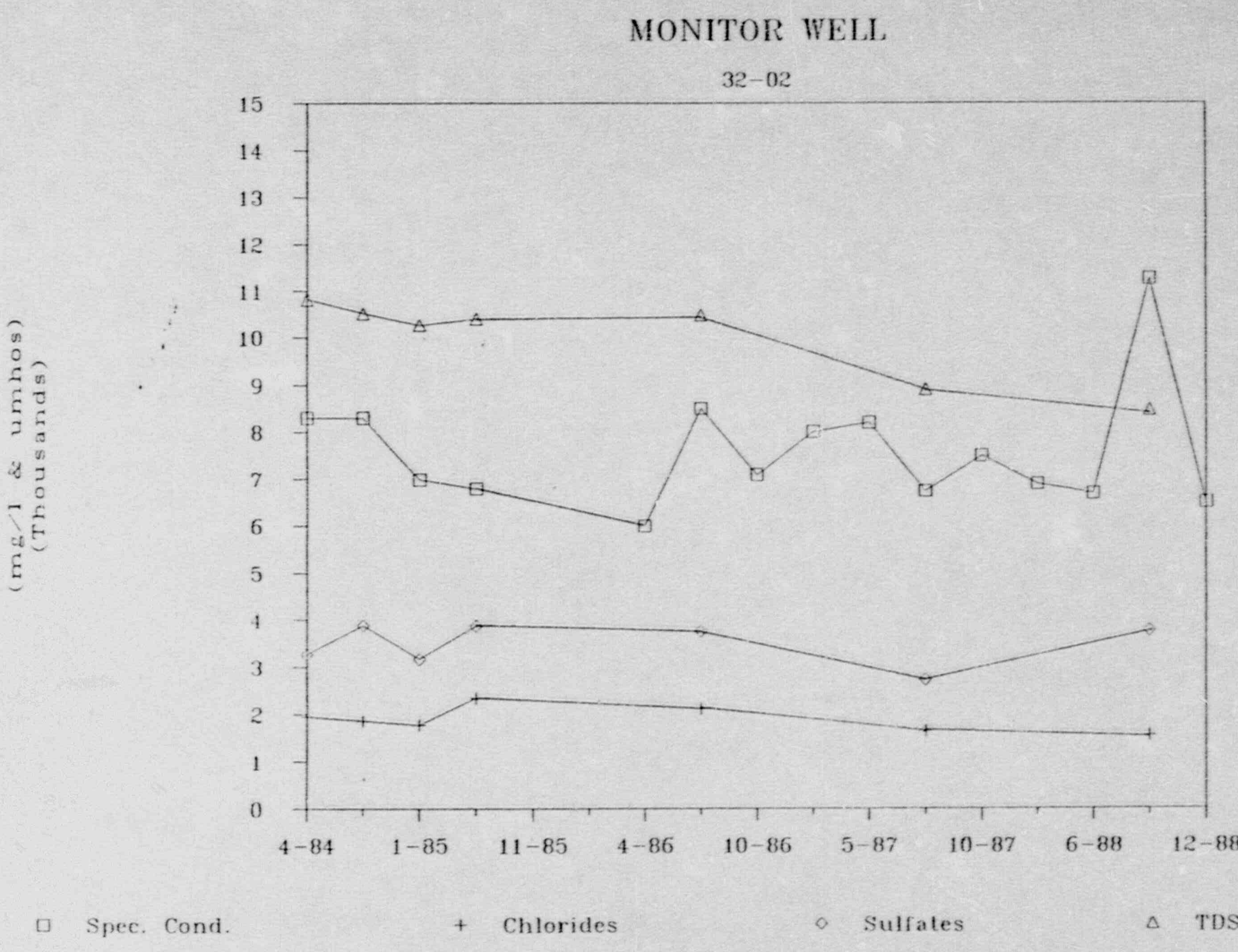


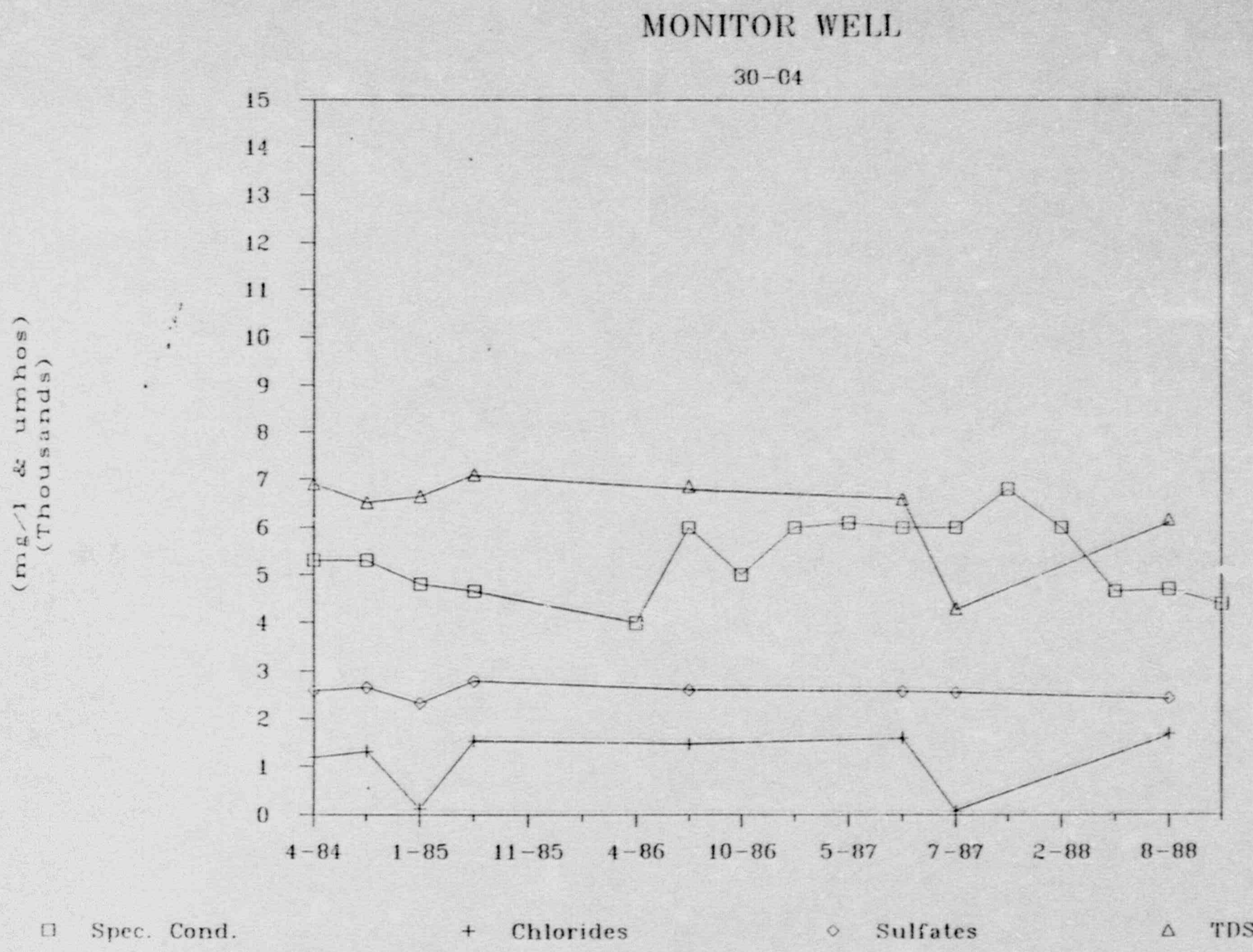


MONITOR WELL
32-42
(mg/l & umhos)
(Thousands)
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
4-84
1-85
11-85
4-86
10-86
5-87
10-87
6-88
12-88
Spec. Cond.
Chlorides
Sulfates
TDS


MONITOR WELL
32-50
(mg/l & umhos)
(Thousands)
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
4-84
2-85
11-85
4-86
10-86
5-87
10-87
6-88
12-88
Spec. Cond.
Chlorides
Sulfates
TDS

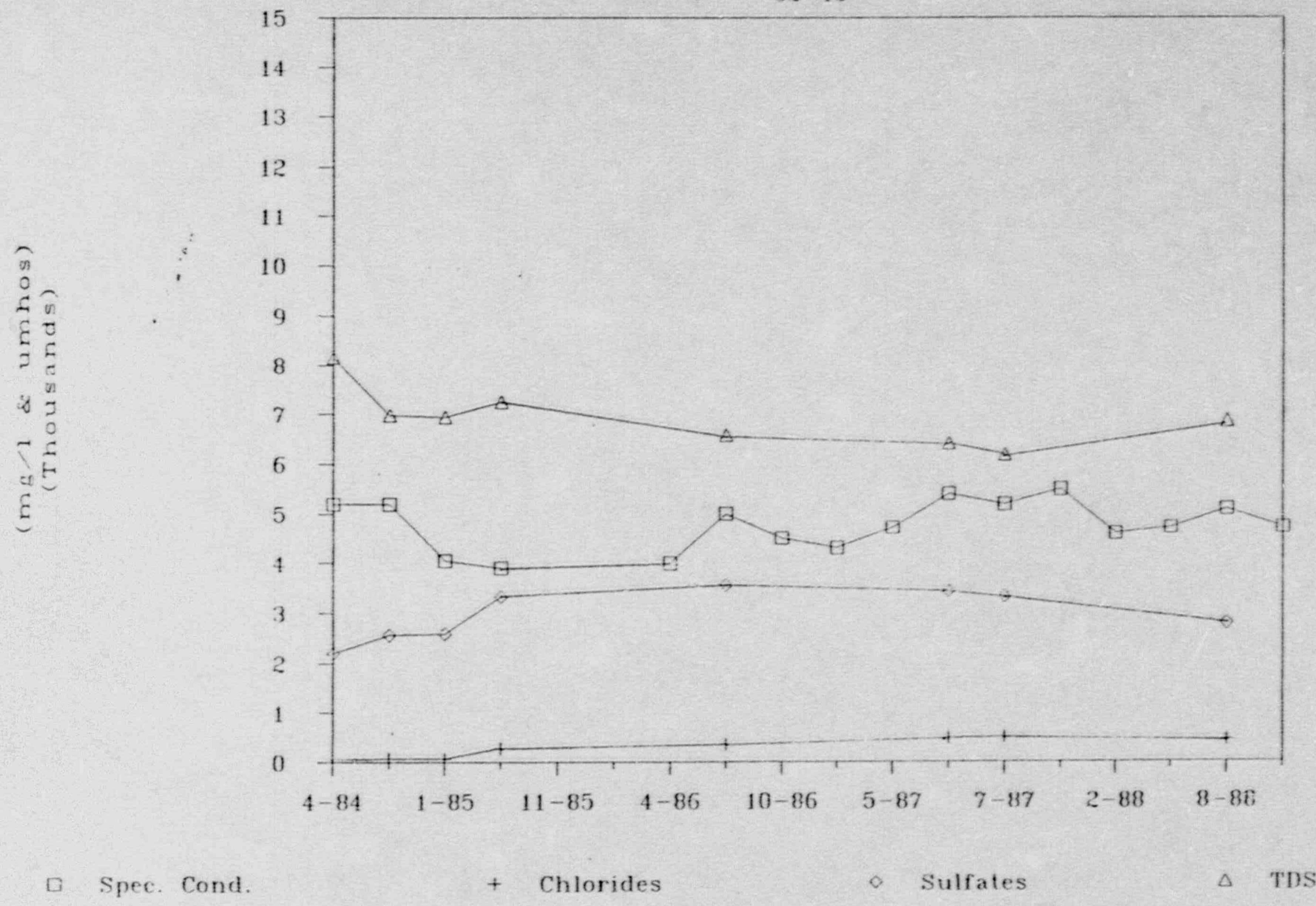

MONITOR WELL
30-49
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
(mg/l & umhos)
(Thousands)
4-84
1-85
11-85
4-86
10-86
5-87
7-87
2-88
8-88
Spec. Cond.
Chlorides
Sulfates
TDS

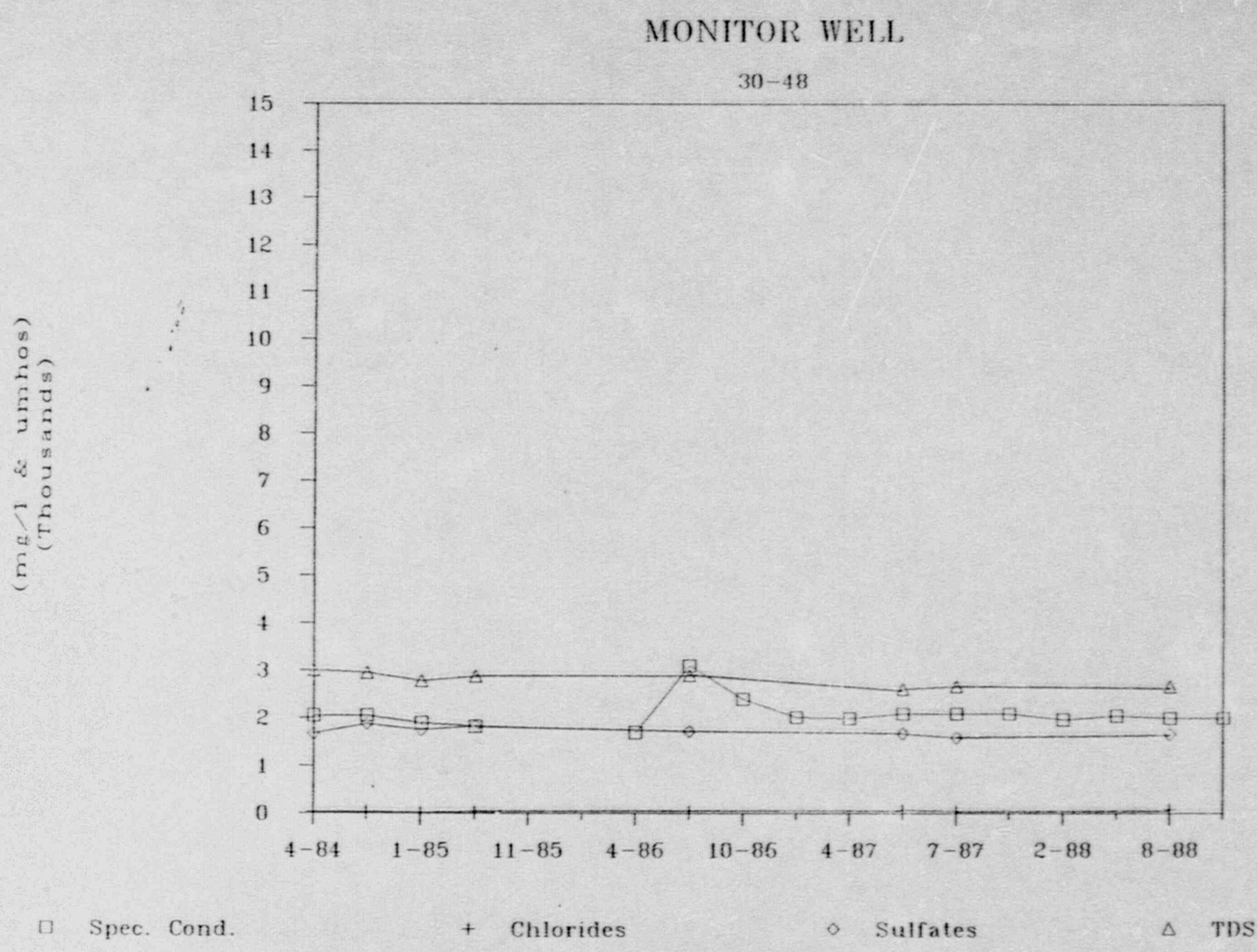

MONITOR WELL
32-02
(mg/l & umhos)
(Thousands)
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
4-84
1-85
11-85
4-86
10-86
5-87
10-87
6-88
12-88
Spec. Cond.
Chlorides
Sulfates
TDS


MONITOR WELL
30-04
(mg/l & umhos)
(Thousands)
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
4-84
1-85
11-85
4-86
10-86
5-87
7-87
2-88
8-88
Spec. Cond.
Chlorides
Sulfates
TDS

MONITOR WELL

32-43




MONITOR WELL
30-48
(mg/l & umhos)
(Thousands)
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
4-84
1-85
11-85
4-86
10-86
4-87
7-87
2-88
8-88
□ Spec. Cond.
+ Chlorides
◇ Sulfates
△ TDS

CORRECTION ACTION PLAN

APPENDIX D

Locations of New Monitor Wells, Existing Monitor Wells

and Ventilation Holes

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CORRECTION ACTION PLAN

APPENDIX E

Data For Alluvial Well 5-03

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
SUA-1473
DOCKET 40-8905

ALLUVIUM MONITOR WELL 5-03

Parameters =====> Date	Ag (mg/l)	As (mg/l)	Ba (mg/l)	Be (mg/l)	Cd (mg/l)	Cr (mg/l)	CN (mg/l)	Hg (t) (mg/l)	Mo (mg/l)
27-Jun-83	0.07	0.160	< 0.02		0.011	0.05	< 1.00	< 0.0001	0.03
26-Sep-83	0.05	0.140	0.04		< 0.007	0.06	< 1.00	0.0044	0.03
17-Apr-84	< 0.11	< 0.110	< 0.01		< 0.007	< 0.03			< 0.02
22-Apr-85	< 0.01	< 0.001	< 0.10		< 0.002	< 0.05			< 0.01
14-Apr-86	< 0.01	< 0.001	0.40		0.000	< 0.05			0.10
27-Apr-87	< 0.01	0.003	< 0.10		< 0.001	< 0.03			0.10
22-Jan-88				< 0.01			< 0.01		
10-May-88	0.01	0.010	0.01		< 0.005	0.11			0.07
26-Oct-88		0.004							0.10
20-Jan-89	< 0.01	0.007	0.01	< 0.01	< 0.005	< 0.01	< 0.01	0.0005	< 0.01
14-Feb-89	< 0.01	< 0.001	0.02	< 0.01	< 0.005	< 0.01	< 0.01	< 0.0002	< 0.01
21-Mar-89	< 0.01	0.039	0.02	< 0.01	< 0.005	< 0.01	< 0.01	0.0008	< 0.01
21-Mar-89	< 0.01	0.044	0.02	< 0.01	< 0.005	< 0.01	< 0.01	0.0005	< 0.01
20-Apr-89	< 0.01	0.005	0.02	< 0.01	< 0.005	< 0.01	< 0.01	0.0004	< 0.01
20-Apr-89	< 0.01	0.007	0.02		< 0.005	< 0.01			< 0.01
19-May-89	< 0.01	0.007	0.02	< 0.01	< 0.005	< 0.01	< 0.01	0.0005	< 0.01
13-Jun-89	< 0.01	0.006	0.02	< 0.01	< 0.005	< 0.01	< 0.01	< 0.0002	0.02
AVERAGES ====>	< 0.02	< 0.034	< 0.06	< 0.01	< 0.005	< 0.03	< 0.21	< 0.0008	< 0.03

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
SUA-1473
DOCKET 40-8905

ALLUVIUM MONITOR WELL 5-03

	Ni (mg/l)	Pb (mg/l)	Sb (mg/l)	Se (mg/l)	Tl (mg/l)	Gross Alpha (pCi/l)	Ra226 (total) (pCi/l)	Ra228 (total) (pCi/l)	Unat (total) (mg/l)	Th230 (total) (pCi/l)	Pb210 (total) (pCi/l)
27-Jun-83	< 0.08	0.220		0.200			0.3	< 2.8	0.0800		
26-Sep-83	< 0.04	0.020		0.190			0.1	< 1.8	0.1100		
17-Apr-84	0.04	< 0.068		0.140			0.7		0.1000		
22-Apr-85	0.15	< 0.001		< 0.001			0.3		0.0366		
14-Apr-86	0.04	< 0.001		< 0.001			8.9		0.0041		
27-Apr-87	0.01	< 0.001		< 0.002			0.5		0.0122		
22-Jan-88										0.0	
10-May-88	0.07	< 0.020		0.009			0.4		0.0077	0.0	
26-Oct-88				0.025			0.5		0.0077	0.2	
20-Jan-89	< 0.01	< 0.020	0.004	0.013	< 0.010	17	1.1	1.2	0.0045	2.0	6.1
14-Feb-89	< 0.01	< 0.020	0.006	0.009	0.003	270	1.0	0.6	0.0064	1.2	6.0
21-Mar-89	0.01	< 0.020	0.081	0.022	< 0.010	0	0.6	0.1	0.0084	1.3	2.2
21-Mar-89	< 0.01	< 0.020	0.192	0.026	0.010	57	1.1	0.7	0.0610	3.5	4.3
20-Apr-89	< 0.01	< 0.020	0.010	0.011	< 0.010	38	0.9	0.0	0.0069	2.4	5.5
20-Apr-89	< 0.01	< 0.020		0.016			2.0		0.0238	7.9	
19-May-89	< 0.01	< 0.020	0.009	0.018	< 0.010	20	1.8	0.0	0.0038	13.0	6.2
13-Jun-89	0.01	0.020	0.015	0.023	< 0.010	0	0.4	0.5	0.0460	2.5	3.9
AVERAGES ==	< 0.03	< 0.033	0.045	< 0.044	< 0.009	57	1.3	< 0.9	0.0324	3.1	4.9

CORRECTION ACTION PLAN

APPENDIX F

Alluvial Well Data

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-01

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84					8.2												
30-Oct-84	20.4	47.7	2275	12.5	7.2												
28-Jan-85	20.0	47.7	2100	10.2													
25-Apr-85	19.7	47.7	2150	12.0	7.7												
20-Nov-85	19.9	47.7															
14-Jan-86	19.8	47.7															
16-Apr-86	19.7	47.7	2100	15.0													
09-Jul-86	20.0	47.7	3850	26.0	7.8												
08-Oct-86	19.[illegible]	47.7	2975	16.0													
18-Mar-87	19.5	47.7	2550	12.0													
16-Apr-87	19.6	46.2	2780	13.0													
03-Sep-87	20.3	46.6	3000	15.0	8.5												
12-Oct-87	20.7	46.7	2950	12.5	8.1												
23-Feb-88	19.7	46.5	3100	13.5	8.2												
02-Jun-88	19.9	46.5	3300	13.8	8.9												
16-Aug-88	19.4	46.5	3100	13.1	8.1												
07-Dec-88	20.2	46.5	3200	12.4	8.2												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-01

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	143																	
30-Oct-84	144																	
28-Jan-85																		
25-Apr-85	157																	
20-Nov-85																		
14-Jan-86																		
16-Apr-86																		
09-Jul-86	243																	
08-Oct-86																		
18-Mar-87																		
16-Apr-87																		
03-Sep-87	277																	
12-Oct-87																		
23-Feb-88																		
02-Jun-88																		
16-Aug-88	552																	
07-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-01

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										1567	2985						
30-Oct-84										1794	3064						
28-Jan-85																	
25-Apr-85										2036	3432						
20-Nov-85																	
14-Jan-86																	
16-Apr-86																	
09-Jul-86										2054	3592						
08-Oct-86																	
18-Mar-87																	
16-Apr-87																	
03-Sep-87										2100	3690						
12-Oct-87																	
23-Feb-88																	
02-Jun-88																	
16-Aug-88										2350	4340						
07-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-02

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84					7.4												
30-Oct-84	18.1	38.0	2125	13.0	8.1												
28-Jan-85	17.8	38.0	1990	11.5	8.4												
25-Apr-85	17.6	38.0	1875	12.0	8.1												
20-Nov-85	18.7	38.0															
14-Jan-86	17.7	38.0															
16-Apr-86	17.5	38.0	2000	16.0													
09-Jul-86	16.9	38.0	2000	27.0	8.3												
08-Oct-86	18.0	38.0	2100	15.5													
18-Mar-87	17.6	38.0	1990	12.2													
16-Apr-87	19.0	36.0	2700	14.9													
03-Sep-87	18.3	37.3	3275	13.5	6.7												
09-Oct-87	18.6	37.4	3490	13.5	6.9												
23-Feb-88	18.[illegible]	37.3	3900	13.5	6.8												
02-Jun-88	18.0	37.3	3150	13.9	7.0												
16-Aug-88	17.7	37.3	3400	13.0	7.0												
07-Dec-88	17.4	37.3	3050	12.5	7.2												

QUIVIRA MINING COMPANY

AMBROSIA LAKE FACILITY

WELL 5-02

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	233																	
30-Oct-84	285																	
28-Jan-85	129																	
25-Apr-85	349																	
20-Nov-85																		
14-Jan-86																		
16-Apr-86																		
09-Jul-86																		
08-Oct-86																		
18-Mar-87																		
16-Apr-87																		
03-Sep-87	804																	
09-Oct-87																		
23-Feb-88																		
02-Jun-88																		
16-Aug-88	960																	
07-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-02

Date	CN (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										943	2115						
30-Oct-84										1096	2398						
28-Jan-85										1177	2385						
25-Apr-85										1240	2654						
20-Nov-85																	
14-Jan-86																	
16-Apr-86																	
09-Jul-86																	
08-Oct-86																	
18-Mar-87																	
16-Apr-87																	
03-Sep-87										1430	3880						
09-Oct-87																	
23-Feb-88																	
02-Jun-88																	
16-Aug-88										1660	4390						
07-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-03

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
03-Feb-84	14.1	48.8	3620	10.0	7.4												
17-Apr-84	9.2	48.8	4230	14.0	7.2	-0.11	0.06		-0.110	0.21	-0.01			280			-0.0070
17-Jul-84	14.2		2910	7.6	7.6												
17-Oct-84	14.0		3300	12.5	7.4												
11-Jan-85	13.9	48.8	3630	11.0	7.3												
03-Feb-85	14.1	48.8	3620	10.0	7.4												
22-Apr-85	13.4	48.8	3706	11.0	7.7	-0.01	-0.10		-0.001	0.30	-0.10			285		210	-0.0020
08-Jul-85	13.6	48.8	2610	14.0	7.4												
13-Nov-85	* 13.5	48.8	2400	11.1	7.3												
14-Jan-86	13.6	48.8	2790	10.2	8.2												
14-Apr-86	13.8	14.8	2750	15.0	6.6	-0.01	0.60		-0.001	0.10	0.40			220		120	-0.0001
08-Jul-86	13.8		2650	17.0	7.4												
07-Oct-86	13.7	48.7	2700	15.0	7.1												
17-Mar-87	12.9	48.7	2650	9.8	7.2												
27-Apr-87	13.4	48.7	2660	14.0	7.0	-0.01	-0.10		0.003	0.20	-0.10			201			-0.0010
21-Jul-87	14.1	48.7	2650	13.0	8.0									191			
12-Oct-87	14.9	42.3	3875	13.0	7.7												
22-Jan-88	13.5	42.3	2790	11.0	7.4			51.7				-0.01		299	52.9		
10-May-88	13.4	42.2	2625	12.8	7.6	0.01	0.17	51.1	0.010	0.33	0.01			265	52.2		-0.0050
20-Jul-88	13.2	42.3	2690	12.5	7.5			51.1						253	47.1		
26-Oct-88	13.0	42.3	2800	13.8	7.5			49.2	0.004					223	49.1		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-03

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
03-Feb-84	260																	
17-Apr-84	270		-0.01		-0.03	0.02		-0.07				280	0.01	-0.02		0.04		
17-Jul-84	320																	
17-Oct-84	230																	
11-Jan-85	230																	
03-Feb-85	260																	
22-Apr-85	260		0.00	-0.5	-0.05	-0.02	0.7	-0.03	260		3.1	250	0.08	-0.01	230	0.15	-0.1	-0.1
08-Jul-85	270																	8.5
13-Nov-85	290																	0.9
14-Jan-86	350																	0.3
14-Apr-86	370		-0.05	-0.5	-0.05	-0.02	0.6	0.09	140		3.3	246	0.16	0.10	306	0.04	0.1	1.7
08-Jul-86	520																	0.3
07-Oct-86	270																	6.6
17-Mar-87	430																	-0.1
27-Apr-87	435		-0.01	-1.0	-0.03	0.01	0.3	-0.03	110		3.4	266	0.12	0.10	343	0.01	-0.1	
28-Jul-87	337							0.02	75		5.9		0.02		315			0.2
12-Oct-87	192																	0.5
22-Jan-88	519	-0.01		-1.0				0.10	201		3.1	310	0.08		286			-0.1
10-May-88	529		0.02	-1.0	0.11	0.01	0.4	0.09	140		4.1	315	0.02	0.07	297	0.07	-0.1	0.0
20-Jul-88	510			-1.0				0.19	139		3.8	276	0.23		269			-0.1
26-Oct-88	516			-1.0				1.12	74		4.2	304	0.31	0.10	296			4.0

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-03

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
03-Feb-84										1710	2970						
17-Apr-84			-0.068			0.7			0.140	1630	3080		14		0.1000	0.03	0.09
17-Jul-84										1420	2700						
17-Oct-84										1390	3000						
11-Jan-85										1220	2830						
03-Feb-85										1710	2970						
22-Apr-85			-0.001			0.3			-0.001	1490	2820		28		0.0366	-0.20	0.01
08-Jul-85										1440	2860						
13-Nov-85										1610	2890						
14-Jan-86										1450	2740						
14-Apr-86			-0.001			8.9			-0.001	1530	2960		4		0.0041	-0.20	0.03
08-Jul-86										1530	2790						
07-Oct-86										2820	2770						
17-Mar-87										1590	3490						
27-Apr-87			-0.001			0.5			-0.002	1560	2970		70		0.0122	-0.20	0.02
21-Jul-87										1620	3060						
12-Oct-87										3000	5310						
22-Jan-88										1590	3270	0.0					
10-May-88			-0.020			0.4			0.009	1600	3240	0.0	19		0.0077	0.05	0.01
20-Jul-88										1630	3640						
26-Oct-88						0.5			0.025	1580	3060	0.2			0.0077		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-04

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84					8.6												
30-Oct-84	10.2	66.5	2710	13.0	9.2												
28-Jan-85	9.7	66.5	2400	10.0													
25-Apr-85	9.1	66.5	2325	11.5	7.5												
20-Nov-85	9.4	66.5															
14-Jan-86	9.4	66.6															
16-Apr-86	10.0	66.5	2100	15.0													
09-Jul-86	10.3	66.5	3900	27.0	7.6												
08-Oct-86	9.6	66.2	2750	17.0													
18-Mar-87	9.3	66.2	2520	10.5													
06-May-87	10.2	66.2	2800	13.8													
03-Sep-87	12.6	66.4	2900	14.0	8.0												
09-Oct-87	13.1	66.3	3080	15.0	8.6												
23-Feb-88	10.4	66.4	2650	12.5	8.4												
02-Jun-88	9.6	66.4	2890	12.1	8.8												
16-Aug-88	8.5	66.4	2850	15.0	8.8												
07-Dec-88	8.1	66.4	2750	12.7	9.0												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-04

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	89																	
30-Oct-84	93																	
28-Jan-85																		
25-Apr-85	120																	
20-Nov-85																		
14-Jan-86																		
16-Apr-86																		
09-Jul-86	297																	
08-Oct-86																		
18-Mar-87																		
06-May-87																		
03-Sep-87	165																	
09-Oct-87																		
23-Feb-88																		
02-Jun-88																		
15-Aug-88	212																	
07-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-04

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										2238	4103						
30-Oct-84										2520	3858						
28-Jan-85																	
25-Apr-85										2655	4106						
20-Nov-85																	
14-Jan-86																	
16-Apr-86																	
09-Jul-86										2385	3892						
08-Oct-86																	
18-Mar-87																	
06-May-87																	
03-Sep-87										2380	3710						
09-Oct-87																	
23-Feb-88																	
02-Jun-88																	
16-Aug-88										2530	3950						
07-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-08

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84					8.8												
30-Oct-84	23.7	87.7	1625	11.7	8.1												
28-Jan-85	22.8	87.7	1475	10.0	8.4												
25-Apr-85	22.6	87.7	1500	12.5	7.8												
20-Nov-85	22.8	87.7															
14-Jan-86	22.5	87.7															
16-Apr-86	22.7	87.7	1500	16.0													
09-Jul-86	22.4	87.7	2500	27.0													
08-Oct-86	23.0	86.9	2000	17.0													
18-Mar-87	22.9	86.9	1550	12.2													
06-May-87	23.4	86.9	1720	14.0													
03-Sep-87	24.6	85.5	1620	13.0	8.3												
09-Oct-87	25.1	85.7	1650	13.9	9.0												
23-Feb-88	23.6	85.7	1675	13.2	8.8												
02-Jun-88	23.3	85.7	1675	14.0	8.9												
16-Aug-88	22.2	85.7	1525	12.9	9.1												
07-Dec-88	21.6	85.7	1500	12.8	9.5												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-08

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	105																	
30-Oct-84	118																	
28-Jan-85	89																	
25-Apr-85	135																	
20-Nov-85																		
14-Jan-86																		
16-Apr-86																		
09-Jul-86	115																	
08-Oct-86																		
18-Mar-87																		
06-May-87																		
03-Sep-87	240																	
09-Oct-87																		
23-Feb-88																		
02-Jun-28																		
16-Aug-88	188																	
07-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-08

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										1056	1851						
30-Oct-84										1122	1990						
28-Jan-85										947	1697						
25-Apr-85										1114	1928						
20-Nov-85																	
14-Jan-86																	
16-Apr-86																	
09-Jul-86										1033	1974						
08-Oct-86																	
18-Mar-87																	
06-May-87																	
03-Sep-87										944	1700						
09-Oct-87																	
23-Feb-88																	
02-Jun-88																	
16-Aug-88										944	1640						
07-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-04

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	36.5	88.9	5300		6.1												
31-Oct-84	36.2	88.9	5300	11.0	8.5												
28-Jan-85	36.6	88.9	4800	10.5	7.5												
25-Apr-85	35.9	88.9	4650	12.5	7.7												
13-Nov-85	35.8	88.9															
14-Jan-86	35.4	88.9															
15-Apr-86	33.8	88.9	4000	16.0													
09-Jul-86	36.0	88.9	6000	28.0													
08-Oct-86	34.3	89.0	5000	16.0													
18-Mar-87	34.5	89.0	6000	13.0													
06-May-87	34.1	89.0	6100	12.6													
15-Jul-87	30.8	88.2	6000	14.0	8.8	-0.10	-0.10		-0.005	0.30	-0.10	-0.10		180			-0.0010
15-Jul-87	30.8	88.2	6000	14.0	8.8	0.06	0.27		-0.001	0.37	0.01			171			-0.0050
14-Oct-87	28.0	88.3	6800	18.0	8.7												
18-Feb-88	32.4	88.2	6000	16.0	8.9												
02-Jun-88	29.7	88.2	4650	9.2	8.9												
15-Aug-88	32.2	88.2	4700	11.5	8.7												
08-Dec-88	34.1	88.2	4380	9.8	8.7												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-04

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	1183																	
31-Oct-84	1311																	
28-Jan-85	130																	
25-Apr-85	1536																	
13-Nov-85																		
14-Jan-86																		
15-Apr-86																		
09-Jul-86	1478																	
08-Oct-86																		
18-Mar-87																		
06-May-87																		
15-Jul-87	68		-0.05		-0.10	-0.10	0.3	-0.10	26		10.9	673	0.46	-0.10	775	-0.10	28.7	0.3
15-Jul-87	1600		-0.01		-0.01	-0.01	-0.1	0.22	41	-0.0002	7.8	644	0.06	0.19	859	-0.01	36.0	-0.1
14-Oct-87																		
18-Feb-88																		
02-Jun-88																		
15-Aug-88	1690																	
08-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-04

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										2571	6906						
31-Oct-84										2650	6520						
28-Jan-85										2315	6646						
25-Apr-85										2784	7100						
13-Nov-85																	
14-Jan-86																	
15-Apr-86																	
09-Jul-86										2603	6858						
08-Oct-86																	
18-Mar-87																	
06-May-87																	
15-Jul-87			-0.010					-0.10	-0.005	2561	4298					-0.10	-0.10
15-Jul-87			0.030						-0.001	2570	6600					0.11	0.01
14-Oct-87																	
18-Feb-88																	
02-Jun-88																	
15-Aug-88										2430	6160						
08-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-47

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	$CaCO_3$ (mg/l)	Cd (mg/l)
06-Apr-84	38.5	79.9	2090	11.0	5.9												
31-Oct-84	38.7	79.9	2090	11.0	5.8												
02-Feb-85	34.7	79.9	1825	12.0	7.9												
25-Apr-85	37.2	79.9	1760	12.0	7.3												
08-Nov-85	37.8	79.9															
14-Jan-86	38.1	79.9															
16-Apr-86	38.0	79.9	1780	16.0													
09-Jul-86	38.0	79.9	2900	27.0													
08-Oct-86	37.9	78.9	2325	17.0													
18-Mar-87	37.8	78.9	2260	12.0													
06-May-87	37.7	78.9	2400	13.9													
31-Aug-87	37.9	80.3	2650	15.5	6.5												
14-Oct-87	38.3	80.5	2550	11.8	6.7												
23-Feb-88	37.8	80.3	2100	13.2	6.6												
31-May-88	36.8	80.3	2600	12.2	6.4												
16-Aug-88	36.8	80.3	2525	12.5	6.4												
08-Dec-88	36.3	80.3	2425	11.0	6.2												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-47

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	60																	
31-Oct-84	75																	
02-Feb-85	86																	
25-Apr-85	77																	
08-Nov-85																		
14-Jan-86																		
16-Apr-86																		
09-Jul-86	79																	
08-Oct-86																		
18-Mar-87																		
06-May-87																		
31-Aug-87	171																	
14-Oct-87																		
23-Feb-88																		
31-May-88																		
16-Aug-88	229																	
08-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-47

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										1681	3048						
31-Oct-84										1906	3032						
02-Feb-85										1520	2490						
25-Apr-85										1743	2798						
08-Nov-85																	
14-Jan-86																	
16-Apr-86																	
09-Jul-86										1493	2644						
08-Oct-86																	
18-Mar-87																	
06-May-87																	
31-Aug-87										2150	3610						
14-Oct-87																	
23-Feb-88																	
31-May-88																	
16-Aug-88										2210	3840						
08-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-48

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	34.5	82.7	2050	11.4	6.6												
31-Oct-84	34.3	82.7	2050	11.4	8.6												
28-Jan-85	33.3	82.7	1900	10.9													
25-Apr-85	33.0	82.7	1825	11.5	7.2												
13-Nov-85	31.6	82.7															
14-Jan-86	31.5	82.7															
16-Apr-86	32.0	82.7	1700	14.0													
09-Jul-86	32.2	82.7	3100	27.0	7.6												
02-Oct-86	31.5	83.0	2400	15.5													
17-Mar-87	31.5	83.0	2020	10.2													
16-Apr-87	31.7	83.0	2000	11.2													
15-Jul-87	29.5	83.0	2100	14.0	6.8	0.05	0.21		-0.001	0.31	0.02			290			-0.0050
15-Jul-87	30.1	83.0	2100	14.0	6.8	-0.10	-0.10		-0.005	0.20	-0.10	-0.10		288			-0.0010
14-Oct-87	31.5	82.2	2100	12.8	9.3												
18-Feb-88	30.8	82.2	1975	11.7	9.4												
31-May-88	30.0	82.2	2050	12.2	10.0												
16-Aug-88	30.5	82.2	2000	12.9	9.3												
08-Dec-88	31.2	82.2	2000	11.1	9.5												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-48

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	37																	
31-Oct-84	35																	
28-Jan-85	22																	
25-Apr-85	44																	
13-Nov-85																		
14-Jan-86																		
16-Apr-86																		
09-Jul-86	53																	
02-Oct-86																		
17-Mar-87																		
16-Apr-87																		
15-Jul-87	68		-0.01		-0.01	-0.01	0.1	0.12	11	0.0002	5.1	127	0.06	0.67	191	-0.01	0.2	-0.1
15-Jul-87	52		-0.05		-0.10	-0.10	0.2	-0.10	14		5.9	166	-0.07	-0.10	214	-0.10	0.2	0.0
14-Oct-87																		
18-Feb-88																		
31-May-88																		
16-Aug-88	89																	
08-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-48

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										1674	2999						
31-Oct-84										1873	2950						
28-Jan-85										1744	2781						
25-Apr-85										1828	2880						
13-Nov-85																	
14-Jan-86																	
16-Apr-86																	
09-Jul-86										1720	2902						
02-Oct-86																	
17-Mar-87																	
16-Apr-87																	
15-Jul-87			-0.010						-0.001	1680	2620					0.07	0.01
15-Jul-87			-0.010					-0.10	-0.005	1590	2676					-0.10	-0.10
14-Oct-87																	
18-Feb-88																	
31-May-88																	
16-Aug-88										1660	2670						
08-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-49

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	50.9	70.5	3300	11.0	5.5												
31-Oct-84	50.7	70.5	3300	11.0	5.8												
28-Jan-85	50.0	70.5	3050	11.0													
25-Apr-85	49.8	70.5	3000	12.0	6.6												
13-Nov-85	48.4	70.5															
14-Jan-86	48.1	70.5															
11-Apr-86	47.1	70.5	3000	16.0													
09-Jul-86	47.3	70.5	4500	27.0	7.7												
02-Oct-86	47.2	70.1	3600	17.0													
18-Mar-87	46.8	70.1	3160	12.5													
06-May-87	46.8	70.1	3210	12.9													
15-Jul-87	46.4	70.1	3360	14.2	6.4	-0.10	-0.10		-0.005	0.30	-0.10	-0.10		426			-0.0010
15-Jul-87	45.8	70.1	3660	14.2	6.4	0.05	0.24		0.002	0.39	0.02			389			-0.0050
14-Oct-87	44.0	69.9	3150	12.3	7.2												
18-Feb-88	43.4	69.9	3100	11.0	7.2												
31-May-88	42.0	69.9	3000	12.2	7.1												
16-Aug-88	43.1	69.9	2825	13.0	7.1												
08-Dec-88	44.3	69.9	2825	11.5	6.9												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-49

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	137																	
31-Oct-84	140																	
28-Jan-85	73																	
25-Apr-85	180																	
13-Nov-85																		
14-Jan-86																		
11-Apr-86																		
09-Jul-86	133																	
02-Oct-86																		
18-Mar-87																		
06-May-87																		
15-Jul-87	137		-0.05		-0.10	-0.10	0.4	-0.10	52		5.1	195	1.60	-0.10	465	-0.10	2.7	1.0
15-Jul-87	168		-0.01		-0.01	-0.01	0.2	0.22	9	-0.0002	4.5	224	1.89	0.19	528	0.01	2.7	0.2
14-Oct-87																		
18-Feb-88																		
31-May-88																		
16-Aug-88	269																	
08-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-49

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										2447	4887						
31-Oct-84										2994	4896						
28-Jan-85										2565	4642						
25-Apr-85										2922	4852						
13-Nov-85																	
14-Jan-86																	
11-Apr-86																	
09-Jul-86										2560	4416						
02-Oct-86																	
18-Mar-87																	
06-May-87																	
15-Jul-87			-0.010					-0.10	0.008	2689	4298					-0.10	-0.10
15-Jul-87			-0.001						0.002	2480	4260					0.09	-0.01
14-Oct-87																	
18-Feb-88																	
31-May-88																	
16-Aug-88										2380	3920						
05-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL AW-1

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	36.7	81.5	8200		6.6												
31-Oct-84	36.7	81.5	8200	11.2	7.7												
28-Jan-85	37.0	81.5	8100	10.5	7.8												
25-Apr-85	36.4	81.5	7600	12.0	7.9												
13-Nov-85	36.2	81.5															
14-Jan-86	35.9	81.5															
15-Apr-86	38.1	81.5	7000	13.0													
09-Jul-86	36.0	81.5	9000	28.0	7.5												
08-Oct-86	* 34.6	81.2	8000	14.0													
18-Mar-87	34.9	81.2	9000	14.0													
06-May-87	35.5	81.2	9600	12.4													
31-Aug-87	29.8	82.0	3900	16.0	6.6												
14-Oct-87	28.2	81.1	3750	13.3	6.8												
18-Feb-88	32.7	81.3	3325	14.7	7.3												
02-Jun-88	29.7	82.3	3125	14.1	6.8												
16-Aug-88	32.5	82.3	2900	13.2	6.8												
08-Dec-88	34.2	82.3	2750	9.9	6.9												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL AW-1

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	1692																	
31-Oct-84	1650																	
28-Jan-85	1747																	
25-Apr-85	2274																	
13-Nov-85																		
14-Jan-86																		
15-Apr-86																		
09-Jul-86	1387																	
08-Oct-86																		
18-Mar-87																		
06-May-87																		
31-Aug-87	579																	
14-Oct-87																		
18-Feb-88																		
02-Jun-88																		
16-Aug-88	235																	
08-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL AW-1

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										4188	12725						
31-Oct-84										4630	12148						
28-Jan-85										4597	13201						
25-Apr-85										5718	14590						
13-Nov-85																	
14-Jan-86																	
15-Apr-86																	
09-Jul-86										5250	11090						
08-Oct-86																	
18-Mar-87																	
06-May-87																	
31-Aug-87										2190	4390						
14-Oct-87																	
18-Feb-88																	
02-Jun-88																	
16-Aug-88										1790	3480						
08-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL A-1

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
07-Apr-84					6.7												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL A-1

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
07-Apr-84																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL [illegible]-1

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
07-Apr-84											19193						

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL B-2

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
07-Apr-84					5.9												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL B-2

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
07-Apr-84																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL B-2

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
07-Apr-84											11125						

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL C-3

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
07-Apr-84					5.8												
27-Mar-85			4800		4.5												
04-Jun-85			5100		3.6												
13-Aug-85	9.7	12.8															
26-Aug-85	9.8	12.8															
10-Oct-85	9.9	12.8															
25-Oct-85	9.8	12.8			3.7												
12-Dec-85	9.9	12.8			3.2												
13-Jan-86	9.7	12.8	5900	8.5													
12-Mar-86	9.7	12.8			4.2												
02-Apr-86	10.6	12.8			5.5												
03-Jul-86	11.2	12.8			4.5												
16-Oct-86	12.0	12.8															
19-Feb-87	12.5	12.8															
16-Apr-87	12.1	12.8															
08-Aug-87	11.2	12.8															
05-Oct-87	11.3	12.8															
03-Feb-88	12.7	12.8															
06-Jun-88	12.7	12.8															
15-Aug-88	12.7	12.8															
23-Nov-88	12.8	12.8															

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL C-3

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
07-Apr-84																		
27-Mar-85	2571																	
04-Jun-85	2553																	
13-Aug-85																		
26-Aug-85																		
10-Oct-85																		
25-Oct-85	3117																	
12-Dec-85	2290																	
13-Jan-86																		
12-Mar-86	2400																	
02-Apr-86	1839																	
03-Jul-86	3872																	
16-Oct-86																		
19-Feb-87																		
16-Apr-87																		
08-Aug-87																		
05-Oct-87																		
03-Feb-88																		
05-Jun-88																		
15-Aug-88																		
23-Nov-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL C-3

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
07-Apr-84											8193						
27-Mar-85						3.8				2264	7820				0.0500		
04-Jun-85						16.6				2078	7596				0.1600		
13-Aug-85																	
26-Aug-85																	
10-Oct-85																	
25-Oct-85						20.9				1692	6730				0.1100		
12-Dec-85						13.9				1487	6850				0.1100		
13-Jan-86																	
12-Mar-86						17.6				1720	6250				0.0040		
02-Apr-86						9.3				2014	6890				0.1700		
03-Jul-86						17.7				1958	7302				0.1000		
16-Oct-86																	
19-Feb-87																	
16-Apr-87																	
08-Aug-87																	
05-Oct-87																	
03-Feb-88																	
06-Jun-88																	
15-Aug-88																	
23-Nov-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL D-4

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
07-Apr-84					5.9												
27-Mar-85			7200.0		4.4												
04-Jun-85			7600.0		3.8												
13-Aug-85	18.6	23.7															
26-Aug-85	18.5	23.7															
10-Sep-85	18.4	23.7															
10-Oct-85	18.4	23.7															
25-Oct-85	18.5	23.7			3.6												
12-Dec-85	19.2	23.7			3.4												
13-Jan-86	19.9	23.7	7900	11.5													
12-Mar-86	20.8	23.7			4.9												
02-Apr-86	21.7	23.7			4.8												
03-Jul-86	20.7	23.7			4.6												
16-Oct-86	19.7	23.7			5.7												
19-Feb-87	21.5	23.6			3.1												
16-Apr-87	19.8	23.9															
08-Aug-87	18.7	23.7															
05-Oct-87	19.2	23.7															
03-Feb-88	19.7	23.7															
06-Jun-88	21.6	23.7															
15-Aug-88	21.0	23.7															
23-Nov-88	20.4	23.7															

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL D-4

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
07-Apr-84																		
27-Mar-85	3607																	
04-Jun-85	3846																	
13-Aug-85																		
26-Aug-85																		
10-Sep-85																		
10-Oct-85																		
25-Oct-85	4787																	
12-Dec-85	3746																	
13-Jan-86																		
12-Mar-86	4200																	
02-Apr-86	3789																	
03-Jul-86	4302																	
16-Oct-86	3930																	
19-Feb-87	3750																	
16-Apr-87	4110																	
08-Aug-87	4250																	
05-Oct-87	4000																	
03-Feb-88	3500																	
06-Jun-88																		
15-Aug-88																		
23-Nov-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL D-4

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
07-Apr-84											6927						
27-Mar-85						140.8				552	9008				0.0500		
04-Jun-85						21.2				426	13662				0.1600		
13-Aug-85																	
26-Aug-85																	
10-Sep-85																	
10-Oct-85																	
25-Oct-85						7.2				645	7722				0.0500		
12-Dec-85						18.1				543	8410				0.1100		
13-Jan-86																	
12-Mar-86						46.8				412	7500				0.0048		
02-Apr-86						23.3				453	9548				0.2300		
03-Jul-86						46.6				470	11582				0.0500		
16-Oct-86						29.0				477	7580				0.1700		
19-Feb-87						51.0				221	6480				0.0020		
16-Apr-87						59.8				165	7630				0.0061		
08-Aug-87						58.7				272	7500				0.0003		
05-Oct-87						49.4				280	9370				0.0234		
03-Feb-88						59.0				191	5970				-0.0003		
06-Jun-88																	
15-Aug-88																	
23-Nov-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL E-5

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	$CaCO_3$ (mg/l)	Cd (mg/l)
07-Apr-84					7.3												
27-Mar-85			6500		8.3												
04-Jun-85			6900		7.5												
13-Aug-85	8.4	16.7															
26-Aug-85	8.7	16.7															
10-Sep-85	8.8	16.7															
10-Oct-85	8.7	16.7															
25-Oct-85	8.6	16.7			8.0												
12-Dec-85	8.4	16.7			8.1												
13-Jan-86	8.7	16.7	7800	8.0													
12-Mar-86	8.4	16.7			7.0												
02-Apr-86	8.5	16.7			7.4												
03-Jul-86	8.2	16.7			8.3												
16-Oct-86	8.5	16.7			7.5												
19-Feb-87	7.7	16.6			7.5												
16-Apr-87	8.0	16.7															
08-Aug-87	7.0	16.6															
05-Oct-87	8.5	16.6															
03-Feb-88	8.4	16.6															
06-Jun-88	8.1	16.6															
15-Aug-88	8.3	16.6															
23-Nov-88	8.3	16.6															

OLIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL E-5

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
07-Apr-84																		
27-Mar-85	1926																	
04-Jun-85	2057																	
13-Aug-85																		
26-Aug-85																		
10-Sep-85																		
10-Oct-85																		
25-Oct-85	2170																	
12-Dec-85	1868																	
13-Jan-86																		
12-Mar-86	2100																	
02-Apr-86	1719																	
03-Jul-86	3528																	
16-Oct-86	1834																	
19-Feb-87	1910																	
16-Apr-87	1990																	
08-Aug-87	1990																	
05-Oct-87	2040																	
03-Feb-88	2180																	
06-Jun-88																		
15-Aug-88																		
23-Nov-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL E-5

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
07-Apr-84											8908						
27-Mar-85						16.8				3206	8878				0.0500		
04-Jun-85						1.4				3279	10042				0.1600		
13-Aug-85																	
26-Aug-85																	
10-Sep-85																	
10-Oct-85																	
25-Oct-85						5.8				3177	9098				0.1700		
12-Dec-85						2.1				3487	9786				0.0500		
13-Jan-86																	
12-Mar-86						5.7				3610	9700				0.0310		
02-Apr-86						4.1				3538	9958				0.2300		
03-Jul-86						6.6				3189	9986				0.0500		
16-Oct-86						5.8				3319	9432				0.2200		
19-Feb-87						6.8				3780	8950				0.0021		
16-Apr-87						4.6				3050	9180				0.0028		
08-Aug-87						7.4				3380	9350				0.0016		
05-Oct-87						11.0				3360	10000				0.0188		
03-Feb-88						17.5				3840	10500				0.0138		
06-Jun-88																	
15-Aug-88																	
23-Nov-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-05

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	30.0	78.3	4850	13.0	8.5												
30-Oct-84	29.8	78.3	4850	13.0	8.9												
28-Jan-85	30.1	78.3	4575	10.0	8.8												
25-Apr-85	29.2	78.3	4650	12.0	8.3												
15-Nov-85	30.3	78.3															
13-Jan-86	29.9	78.3															
16-Apr-86	29.9	78.3	4700	15.0													
10-Jul-86	29.5	78.3	7000	28.0	8.9												
09-Oct-86	29.5	78.2	5200	15.0													
18-Mar-87	28.5	78.2	6100	11.8													
07-May-87	29.0	78.2	6100	12.5													
15-Jul-87	25.5	78.2	8000	14.5	9.2	0.05	0.20		0.001	0.52	0.02			10			-0.0050
15-Jul-87	26.1	78.2	7800	14.9	9.2	-0.10	-0.10		-0.005	0.50	-0.10	-0.10		9			-0.0010
14-Oct-87	23.2	77.5	7900	12.1	9.0												
19-Feb-88	30.2	80.4	7250	13.0	8.9												
31-May-88	27.1	80.4	7100	11.6	9.0												
15-Aug-88	29.7	80.4	7200	13.5	8.8												
07-Dec-88	31.4	80.4	8100	11.5	9.4												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-05

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	282																	
30-Oct-84	1199																	
28-Jan-85	1246																	
25-Apr-85	1482																	
15-Nov-85																		
13-Jan-86																		
16-Apr-86																		
10-Jul-86	1533																	
09-Oct-86																		
18-Mar-87																		
07-May-87																		
15-Jul-87	2000		-0.01		-0.01	-0.01	-0.1	0.13	335	-0.0002	8.7	785	0.02	0.25	1420	-0.01	28.0	-0.1
15-Jul-87	2088		-0.05		-0.10	-0.10	0.2	-0.10	167		11.7	849	0.22	-0.10	1281	-0.10	25.0	0.5
14-Oct-87																		
19-Feb-88																		
31-May-88																		
15-Aug-88	2160																	
07-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-05

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										1408	2775						
30-Oct-84										2177	5428						
28-Jan-85										2038	5865						
25-Apr-85										2506	6408						
15-Nov-85																	
13-Jan-86																	
16-Apr-86																	
10-Jul-86										2897	7560						
09-Oct-86																	
18-Mar-87																	
07-May-87																	
15-Jul-87			0.030						-0.001	3210	8160					0.10	0.01
15-Jul-87			-0.010					-0.10	-0.025	3288	8992					-0.10	-0.10
14-Oct-87																	
19-Feb-88																	
31-May-88																	
15-Aug-88										3590	9450						
07-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-63

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
17-Apr-84	4.4	29.0	7500	12.0	7.2	-0.02	0.07		0.190	0.31	0.02			500			-0.0070
17-Jul-84	8.1	28.9	9600	16.0	6.4												
17-Oct-84	8.2	28.9	15200	13.0	5.7												
11-Jan-85	8.8	28.9	16200	12.0	4.8												
22-Apr-85	9.2	28.9	18000	12.0	6.9	-0.01	-0.10		-0.001	0.70	-0.10			685		100	0.0044
08-Jul-85	11.1	28.9	15500	12.5	3.8												
14-Nov-85	16.2	28.9	27500	12.5	4.0												
13-Jan-86	18.0	28.9	27300	13.5	4.0												
10-Apr-86	18.2	28.9	26500	12.0	3.6	-0.01	1690.00		0.029	0.80	-0.10			439		-1	0.0554
19-Jun-86	19.5		24000	15.0	3.7	-0.01	1150.00		0.360	0.30	0.10			407			0.0077
08-Jul-86	19.5		24000	15.0	3.9												
07-Oct-86	21.3	28.9	25000	13.5	4.0												
17-Mar-87	20.8	28.9	21000	11.0	4.0												
22-Apr-87	21.0	28.9	22600	11.7	4.3	-0.01	0.20		0.671	0.25	-0.10			376			0.2450
15-Jul-87	20.8	28.9	22600	14.0	4.3	-0.10	520.00		-0.025	1.20	-0.10	-0.10		600			0.0620
15-Jul-87	20.8	28.9	21500	13.0	4.4	0.18	489.00		0.327	1.07	0.03			374			0.0500
19-Oct-87	21.1	29.9	18000	11.0	4.4												
21-Jan-88	21.0	29.7	15500	9.8	4.2			455.00				-0.01		456	344.0		
10-May-88	21.6	29.8	14900	12.8	4.4	0.28	318.00	403.50	0.209	0.95	0.02			482	369.1		0.0400
19-Jul-88	21.5	29.8	13500	12.8	4.0			267.30						430	288.9		
26-Oct-88	21.3	29.8	16500	12.8	3.9			384.00	0.188					400	283.0		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-63

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
17-Apr-84	1480		0.04		0.04	-0.02	2.1				6.3	680	2.70	0.10	1100	0.08		
17-Jul-84	1630																	
17-Oct-84	2150																	
11-Jan-85	2200																	
22-Apr-85	2500		0.09	-0.5	-0.05	0.03	0.5	0.55	120		7.7	960	55.50	-0.10	1610	0.[illegible]6	50.0	1.8
08-Jul-85	3200																	0.1
14-Nov-85	3000																	1.0
13-Jan-86	5500																	-0.1
10-Apr-86	4900		2.69	-0.5	0.45	7.39	-0.1	1660.00	-1		3.1	3050	527.00	0.20	4570	2.66	0.6	2.5
19-Jun-86	5500		2.14	-0.5	0.24	4.70		1410.00	-1		6.4	2850	412.00	0.20	3900	1.88	460.0	
08-Jul-86	5800																	12.0
07-Oct-86	2000																	1.6
17-Mar-87	4700																	2.2
22-Apr-87	4640		0.02	-1.0	0.03	1.85	-0.1	911.00	-1		26.6	3100	429.00	-0.10	3540	0.03	510.0	
15-Jul-87	4390					1.40	0.3	720.00	0		26.9	3026	320.00	-0.10	3137		525.8	0.4
15-Jul-87	4470		-0.01		-0.01	-0.01	-0.1	503.00	-1	-0.0002	19.7	2620	252.00	1.07	2540	0.63	508.0	-0.1
19-Oct-87	4160																	0.3
21-Jan-88	3950	-0.01		-1.0				475.00	-1		27.9	2450	287.00		2740			0.2
10-May-88	3600		0.63	-1.0	0.40	0.76	0.2	366.00	-1		35.1	2280	188.00	0.76	3090	0.87		0.4
19-Jul-88	3820			-1.0				342.00	-1		29.0	1940	170.00		2460			0.4
26-Oct-88	3800			-1.0				308.00	-1		24.7	1820	161.00	0.52	2200			0.6

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-63

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
17-Apr-84			0.094			2.1			0.320	3470	8270		30		2.4600	0.05	0.22
17-Jul-84										3360	9420						
17-Oct-84										4570	13900						
11-Jan-85										6990	15000						
22-Apr-85			-0.001			0.1			-0.001	5940	13900		80		0.4020	-0.20	0.40
08-Jul-85										11300	21700						
14-Nov-85										8380	71400						
13-Jan-86										44300	76200						
10-Apr-86			0.021			1.2			-0.001	31200	59500		28		13.8000	72.50	9.39
19-Jun-86			0.160			5.3			0.500	27500	47900		202		5.8400	41.80	6.23
08-Jul-86										24300	44100						
07-Oct-86										23500	39700						
17-Mar-87										22800	40300						
22-Apr-87			0.017			2.4			0.006	22100	38300		28		0.4890	-0.10	3.69
15-Jul-87			0.020					-0.10	0.069	20878	35288					29.00	2.10
15-Jul-87			0.210						0.002	20200	36200					1.74	1.75
19-Oct-87										13000	32600						
21-Jan-88										16500	28900	1.1					
10-May-88			0.290			1.4			0.280	14500	26900	1.6	19		2.6900	0.40	1.41
19-Jul-88										7660	26600						
26-Oct-88						2.4			0.218	13300	25200	1.1			2.9500		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-65

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
08-Oct-86	17.9	46.1	7000	13.0	7.6												
17-Mar-87	16.8	46.1	7500	9.5	6.9												
28-Apr-87	17.0	46.1	8200	12.0	7.4	-0.01	-0.10		0.009	0.29	-0.10			277			-0.0010
15-Jul-87	16.5		8900	14.7	6.4	-0.10	-0.10		-0.005	0.80	-0.10	-0.10		560			-0.0010
15-Jul-87	16.5	46.1	9200	15.5	6.5	0.07	0.39		0.002	0.51	0.02			232			-0.0050
14-Oct-87	19.1	46.1	9200	11.5	6.5												
21-Jan-88	18.7	46.2	9000	9.8	6.3			181.00				-0.01		321	171.0		
10-May-88	19.5	46.2	9000	12.3	6.3	-0.01	0.22	147.60	0.020	0.70	-0.01			316	155.5		-0.0050
19-Jul-88	18.8	46.2	9000	12.5	6.1			192.00						658	185.2		
27-Oct-88	18.4	46.2	9800	11.5	6.1			179.00	0.009					463	165.0		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-65

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
08-Oct-86	600																	0.2
17-Mar-87	1800																	-0.1
28-Apr-87	1810		-0.01	-1.0	-0.03	0.03	0.1	-0.03	1600		7.9	719	0.29	-0.10	1570	0.01	18.0	
15-Jul-87	2305		-0.05		-0.10	-0.10	0.6	6.30	1965		12.5	744		12.00	1272	-0.10	22.5	0.5
15-Jul-87	2100		-0.01		-0.01	-0.01	0.3	140.00	1810	0.0004	9.0	777	2.35	0.33	1080	-0.01	28.0	-0.1
14-Oct-87	2330																	0.5
21-Jan-88	2270	-0.01		-1.0				0.02	1390		21.4	1090	0.80		1490			-0.1
10-May-88	2240		0.06	-1.0	0.18	0.01	0.4	0.16	2040		29.8	924	5.21	0.25	1410	0.19	29.0	-0.1
19-Jul-88	2360			-1.0				0.19	1970		26.3	1050	7.09		1500			-0.1
27-Oct-88	2260			-1.0				0.29	979		22.0	983	0.50	0.31	1390			-0.1

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-65

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
08-Oct-86										2930	7250						
17-Mar-87										3360	9060						
28-Apr-87			-0.001			0.7			0.006	3450	9250		31		1.5100	-0.10	0.01
15-Jul-87			-0.010					0.10	-0.025	3830	10428					-0.10	-0.10
15-Jul-87			0.030						-0.061	3500	10400					0.18	0.05
14-Oct-87										4030	11300						
21-Jan-88										4300	11100				0.0000		
10-May-88			0.040			0.0			0.270	4700	12500	0.1	162		0.4410	0.10	0.01
19-Jul-88										4130	12500						
27-Oct-88						0.1			0.039	4630	12500	0.1			0.0916		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-01

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84					7.7												
30-Oct-84	10.7	58.5	9000	13.0	8.4												
15-Feb-85	11.4	58.5	7400	9.0													
13-Nov-85	16.3	58.5															
14-Jan-86	17.8	58.5															
16-Apr-86	18.9	58.5	6500	16.0													
09-Jul-86	18.0	58.5	9000	27.0	9.1												
09-Oct-86	17.0	58.5	7750	15.0													
18-Mar-87	15.9	58.5	8000	11.0													
06-May-87	15.4	58.5	8900	12.5													
03-Sep-87	18.0	53.8	8900	10.0	8.6												
06-Oct-87	18.4	53.8	7070	10.2	9.0												
19-Feb-88	17.9	53.5	7200	10.5	8.7												
02-Jun-88	18.5	53.5	7100	10.8	8.8												
15-Aug-88	17.8	53.5	6500	11.1	9.0												
07-Dec-88	17.6	53.5	7200	10.9	9.3												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-01

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	2001																	
30-Oct-84	2040																	
15-Feb-85																		
13-Nov-85																		
14-Jan-86																		
16-Apr-86																		
09-Jul-86	2290																	
09-Oct-86																		
18-Mar-87																		
06-May-87																		
03-Sep-87	2270																	
06-Oct-87																		
19-Feb-88																		
02-Jun-88																		
15-Aug-88	2430																	
07-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-01

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										4006	11918						
30-Oct-84										4442	11138						
15-Feb-85																	
13-Nov-85																	
14-Jan-86																	
16-Apr-86																	
09-Jul-86										3716	10160						
09-Oct-86																	
18-Mar-87																	
06-May-87																	
03-Sep-87										2430	8880						
06-Oct-87																	
19-Feb-88																	
02-Jun-88																	
15-Aug-88										2700	8210						
07-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-02

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	31.8	70.8	8300	12.5	8.6												
30-Oct-84	31.8	70.8	8300	12.5	8.8												
28-Jan-85	27.4	70.7	7000	10.0	8.8												
25-Apr-85	31.3	70.7	6800	12.5	8.8												
13-Nov-85	32.4	70.7															
14-Jan-86	32.0	70.7															
15-Apr-86	32.0	70.7	6000	15.0													
09-Jul-86	32.0	70.7	8500	27.0	9.1												
08-Oct-86	30.0	70.6	7100	16.0													
18-Mar-87	30.6	70.6	8000	12.0													
06-May-87	31.0	70.6	8200	12.9													
31-Aug-87	26.1	73.1	6750	15.0	8.3												
12-Oct-87	26.1	73.0	7500	17.2	8.7												
19-Feb-88	29.1	78.0	6900	13.3	8.4												
02-Jun-88	26.4	78.0	6700	12.9	8.7												
15-Aug-88	29.6	78.0	11250	14.1	7.7												
07-Dec-88	30.2	78.0	6500	12.5	8.3												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-02

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	1952																	
30-Oct-84	1870																	
28-Jan-85	1782																	
25-Apr-85	2344																	
13-Nov-85																		
14-Jan-86																		
15-Apr-86																		
09-Jul-86	2126																	
08-Oct-86																		
18-Mar-87																		
06-May-87																		
31-Aug-87	1650																	
12-Oct-87																		
19-Feb-88																		
02-Jun-88																		
15-Aug-88	1550																	
07-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
[illegible] 32-02

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										3270	10829						
30-Oct-84										3888	10534						
28-Jan-85										3170	10276						
25-Apr-85										3879	10416						
13-Nov-85																	
14-Jan-86																	
15-Apr-86																	
09-Jul-86										3763	10502						
08-Oct-86																	
18-Mar-87																	
06-May-87																	
31-Aug-87										2730	8910						
12-Oct-87																	
19-Feb-88																	
02-Jun-88																	
15-Aug-88										3770	8460						
0[illegible]-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-41

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	21.6	60.4	6000	12.0	7.9												
30-Oct-84	21.6	60.4	6000	12.0	8.7												
25-Jun-85	21.0	60.4	5100	10.0	8.2												
25-Apr-85	21.4	60.4	5100	11.0	8.0												
13-Nov-85	22.5	60.4															
14-Jan-86	23.0	60.4															
16-Apr-86	23.0	60.4	5000	16.0													
09-Jul-86	22.1	60.4	7000	28.0													
08-Oct-86	20.8	60.2	6000	18.0													
18-Mar-87	19.9	60.2	6500	11.5													
06-May-87	19.5	60.2	7300	12.9													
31-Aug-87	20.0	59.9	8000	13.0	8.5												
06-Oct-87	20.3	59.9	8000	11.8	8.8												
19-Feb-88	20.0	60.0	8900	11.7	8.0												
02-Jun-88	20.3	60.0	7000	11.9	8.2												
15-Aug-88	20.6	60.0	8250	12.5	8.0												
07-Dec-88	21.0	60.0	9400	11.7	8.1												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-41

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	1357																	
30-Oct-84	1307																	
25-Jan-85	1482																	
25-Apr-85	1859																	
13-Nov-85																		
14-Jan-86																		
16-Apr-86																		
09-Jul-86	1853																	
08-Oct-86																		
18-Mar-87																		
06-May-87																		
31-Aug-87	2240																	
06-Oct-87																		
19-Feb-88																		
02-Jun-88																		
15-Aug-88	3100																	
07-Dec-38																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-41

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										2695	7756						
30-Oct-84										3405	7990						
25-Jan-85										2947	7944						
25-Apr-85										3635	9026						
13-Nov-85																	
14-Jan-86																	
16-Apr-86																	
09-Jul-86										3466	8868						
08-Oct-86																	
18-Mar-87																	
06-May-87																	
31-Aug-87										2370	9470						
06-Oct-87																	
19-Feb-88																	
02-Jun-88																	
15-Aug-88										4510	13200						
07-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-42

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	$CaCO_3$ (mg/l)	Cd (mg/l)
06-Apr-84	24.0	31.7	4725	12.0	7.7												
30-Oct-84	24.0	31.7	4725	12.0	7.9												
25-Jan-85	22.8	31.7	3800	11.0	8.1												
25-Apr-85	22.6	31.7	3525	12.0	8.3												
13-Nov-85	23.1	31.7															
14-Jan-86	23.3	31.7															
16-Apr-86	23.6	31.7	3500	16.0													
09-Jul-86	23.2	31.7	4500	27.0	8.1												
08-Oct-86	21.9	31.7	4000	16.0													
18-Mar-87	20.3	31.7	3380	11.5													
06-May-87	19.5	31.7	3480	12.2													
31-Aug-87	20.4	31.1	4320	13.2	7.1												
05-Oct-87	20.7	31.2	4080	12.0	7.2												
19-Feb-88	20.7	31.0	3900	12.0	7.0												
02-Jun-88	21.8	31.0	3900	12.5	7.1												
15-Aug-88	22.0	31.0	3675	14.2	7.7												
07-Dec-88	22.0	31.0	3625	12.1	7.5												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-42

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	362																	
30-Oct-84	238																	
25-Jan-85	144																	
25-Apr-85	218																	
13-Nov-85																		
14-Jan-86																		
16-Apr-86																		
09-Jul-86	260																	
08-Oct-86																		
18-Mar-87																		
06-May-87																		
31-Aug-87	290																	
06-Oct-87																		
19-Feb-88																		
02-Jun-88																		
15-Aug-88	297																	
07-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-42

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										5959	12988						
30-Oct-84										3962	7276						
25-Jun-85										3211	6217						
25-Apr-85										3527	6196						
13-Nov-85																	
14-Jan-86																	
16-Apr-86																	
09-Jul-86										3363	6158						
08-Oct-86																	
18-Mar-87																	
06-May-87																	
31-Aug-87										2370	5870						
06-Oct-87																	
19-Feb-88																	
02-Jun-88																	
15-Aug-88										2960	5280						
07-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-42

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										5959	12988						
30-Oct-84										3962	7276						
25-Jan-85										3211	6217						
25-Apr-85										3527	6196						
13-Nov-85																	
14-Jan-86																	
16-Apr-86																	
09-Jul-86										3363	6158						
08-Oct-86																	
18-Mar-87																	
06-May-87																	
31-Aug-87										2370	5870						
06-Oct-87																	
19-Feb-88																	
02-Jun-88																	
15-Aug-88										2960	5280						
07-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-43

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	15.3	52.0	5200	15.0	6.9												
30-Oct-84	15.3	52.0	5200	15.0	7.5												
25-Jan-85	14.9	52.0	4050	7.5	8.2												
25-Apr-85	14.9	52.0	3900	11.0	8.3												
07-Nov-85	15.2	52.0															
13-Jan-86	15.6	52.0															
16-Apr-86	19.7	52.0	4000	15.0													
09-Jul-86	15.5	52.0	5000	26.0	7.4												
07-Oct-86	15.6	51.9	4500	17.0													
18-Mar-87	14.2	51.9	4300	8.0													
07-May-87	14.6	51.9	4720	12.2													
15-Jul-87	15.4	51.9	5400	15.3	7.6	-0.10	-0.10		-0.005	0.60	-0.10	-0.10		400			-0.0010
15-Jul-87	14.8	51.9	5200	14.0	8.2	0.06	0.29		-0.001	0.62	0.01			340			-0.0050
29-Oct-87	14.9	51.9	5500	12.0	7.7												
24-Feb-88	16.6	57.7	4600	12.9	7.1												
02-Jun-88	16.8	57.7	4725	9.7	7.3												
15-Aug-88	15.7	57.7	5100	18.9	7.4												
07-Dec-88	15.2	57.7	4725	12.1	8.0												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-43

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	55																	
30-Oct-84	71																	
25-Jan-85	69																	
25-Apr-85	279																	
07-Nov-85																		
13-Jan-86																		
16-Apr-86																		
09-Jul-86	352																	
07-Oct-86																		
18-Mar-87																		
07-May-87																		
15-Jul-87	487		-0.05		-0.10	-0.10	0.3	0.80	106		9.0	515	0.12	-0.10	651	-0.10	22.3	110.0
15-Jul-87	503		-0.01		-0.01	-0.01	-0.3	0.17	90	-0.0002	7.6	494	0.13	0.18	755	-0.01	36.0	1.9
29-Oct-87																		
24-Feb-88																		
02-Jun-88																		
15-Aug-88	446																	
07-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-43

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										2207	8153						
30-Oct-84										2562	6976						
25-Jan-85										2593	6944						
25-Apr-85										3334	7254						
07-Nov-85																	
13-Jan-86																	
16-Apr-86																	
09-Jul-86										3559	6582						
07-Oct-86																	
18-Mar-87																	
07-May-87																	
15-Jul-87			-0.010					-0.10	0.066	3431	6414					-0.10	-0.10
15-Jul-87			-0.010						0.015	3330	6190					0.11	-0.01
29-Oct-87																	
24-Feb-88																	
02-Jun-88																	
15-Aug-88										2790	6860						
07-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-50

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	39.8	91.3	5100	12.5	7.3												
31-Oct-84	39.8	91.3	5100	12.5	7.4												
02-Feb-85	38.9	91.3	4650	11.7	7.3												
25-Apr-85	38.4	91.3	4175	12.0	8.1												
13-Nov-85	38.2	91.3															
14-Jan-86	38.1	91.3															
15-Apr-86	39.1	91.3	4000	15.0													
09-Jul-86	38.0	91.3	5000	28.0	7.9												
08-Oct-86	37.0	90.9	4500	16.5													
18-Mar-87	36.1	90.9	4490	12.5													
06-May-87	34.3	90.9	4750	14.2													
01-Sep-87	35.5	95.6	4790	14.2	7.2												
06-Oct-87	35.5	95.6	4800	14.2	7.0												
19-Feb-88	34.9	94.7	4500	12.0	6.8												
02-Jun-88	34.9	94.7	4425	12.9	7.0												
15-Aug-88	34.6	94.7	4500	14.5	6.4												
07-Dec-88	34.6	94.7	4325	12.0	7.0												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-50

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	467																	
31-Oct-84	610																	
02-Feb-85	820																	
25-Apr-85	771																	
13-Nov-85																		
14-Jan-86																		
15-Apr-86																		
09-Jul-86	825																	
08-Oct-86																		
18-Mar-87																		
06-May-87																		
01-Sep-87	867																	
05-Oct-87																		
19-Feb-88																		
02-Jun-88																		
15-Aug-88	851																	
07-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-50

Date	CN (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										2710	6925						
31-Oct-84										3158	6766						
02-Feb-85										3050	6890						
25-Apr-85										3095	6764						
13-Nov-85																	
14-Jan-86																	
15-Apr-86																	
09-Jul-86										3236	6122						
08-Oct-86																	
18-Mar-87																	
06-May-87																	
01-Sep-87										2400	5750						
06-Oct-87																	
19-Feb-88																	
02-Jun-88																	
15-Aug-88										2870	5760						
07-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-51

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
03-Feb-84	25.2	72.0	3600	10.0	7.6												
17-Apr-84	25.3	80.1	4300	14.0	7.4	0.03	0.08		-0.110	0.46	0.02			490			-0.0070
18-Jul-84	25.3	72.0	5140	15.5	7.5												
17-Oct-84	25.0	72.0	5900	11.0	8.4												
11-Jan-85	24.8	72.0	5790	11.0	7.6												
22-Apr-85	24.2	72.0	7600	10.0	7.8	-0.01	-0.10		-0.001	0.80	-0.10			498		250	-0.0002
08-Jul-85	24.4	72.0	4625	14.5	7.6												
13-Nov-85	24.1	72.0	4200	11.5	7.5												
14-Jan-86	24.1	72.0	4100	11.4	7.6												
14-Apr-86	24.0	72.0	3800	15.0	7.8	-0.01	0.30		-0.001	1.00	-0.10			489		240	0.0015
08-Jul-86	24.1		3600	16.0	7.4												
07-Oct-86	24.0	71.9	4350	14.0	7.7												
17-Mar-87	23.3	71.9	4050	11.0	7.9												
22-Apr-87	23.6	71.9	4250	13.0	7.8	-0.01	-0.10		0.005	0.30	-0.10			420			-0.0010
09-Oct-87	24.0	79.5	4000	13.0	7.3												
20-Jan-88	23.8	80.1	3900	11.0	7.1			86.90				-0.01		496	85.5		
05-May-88	23.9	80.2	3950	12.8	7.7	0.02	0.24	81.27	0.030	0.45	0.01			439	76.0		-0.0050
19-Jul-88	23.5	78.6	4025	14.7	7.2			84.51						454	76.5		
26-Oct-88	22.9	78.8	4200	13.8	7.3			82.90	0.005					479	79.1		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-51

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
03-Feb-84	160																	
17-Apr-84	190		-0.01		0.03	0.04	5.5				3.7	340	0.16	0.02	630	-0.04		
18-Jul-84	170																	
17-Oct-84	160																	
11-Jan-85	160																	
22-Apr-85	260		0.00	-0.5	-0.05	-0.05	0.6	-0.03	310		4.0	365	0.31	-0.10	587	0.17	-0.1	4.1
08-Jul-85	290																	43.0
13-Nov-85	290																	57.0
14-Jan-86	280																	0.4
14-Apr-86	250		0.07	-0.5	-0.05	0.03	0.8	0.08	290		2.5	314	0.32	0.10	649	0.08	0.1	16.0
08-Jul-86	360																	15.0
07-Oct-86	8																	44.0
17-Mar-87	170																	47.0
22-Apr-87	182		-0.01	-1.0	-0.03	0.02	0.5	-0.03	212		2.9	303	0.21	-0.10	789	0.01	0.3	
09-Oct-87	145																	18.0
20-Jan-88	253	-0.01		-1.0				0.98	220		4.1	389	0.03		658			16.4
05-May-88	176		0.03	-1.0	0.16	0.02	0.7	0.11	206		2.9	304	0.22	0.09	666	0.09	0.2	59.0
19-Jul-88	226			-1.0				0.11	241		2.8	332	0.26		609			25.8
26-Oct-88	227			-1.0				0.19	232		2.7	348	0.03	0.12	609			21.5

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-51

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
03-Feb-84										3340	5330						
17-Apr-84			-0.068			0.6			0.260	3340	5520		43		0.0580	0.04	0.11
18-Jul-84										2620	4980						
17-Oct-84										2670	5460						
11-Jan-85										2670	5460						
22-Apr-85			-0.001			0.8			-0.001	3230	5860		29		0.0344	-0.20	0.01
08-Jul-85										3330	5610						
13-Nov-85										3420	5860						
14-Jan-86										3230	5630						
14-Apr-86			0.002			1.5			-0.001	3210	5570		7		0.0169	0.40	0.03
08-Jul-86										3410	5620						
07-Oct-86										3440	5430						
17-Mar-87										3340	5740						
22-Apr-87			-0.001			0.1			0.025	3410	5350		45		0.0429	-0.10	0.02
09-Oct-87										3340	5900						
20-Jan-88										3560	5960	0.1					
05-May-88			-0.020			0.3			0.118	3420	5880	0.0	63		0.0499	0.08	0.01
19-Jul-88										3500	6050						
26-Oct-88						0.1			0.099	3380	5650	0.0			0.2020		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-52

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	27.3	64.4	2525	12.3	7.4												
31-Oct-84	27.3	64.4	2525	12.3	7.6												
19-Feb-85	27.1	64.4	2350	11.7													
25-Apr-85	26.7	64.4	2225	13.0	8.0												
13-Nov-85	26.8	64.4															
14-Jan-86	26.6	64.4															
15-Apr-86	26.8	64.4	2100	15.0													
09-Jul-86	26.3	64.4	2900	28.0	8.1												
08-Oct-86	26.6	64.2	2450	17.0													
18-Mar-87	26.4	64.2	2640	13.0													
06-May-87	26.6	64.2	2600	12.7													
01-Sep-87	26.8	68.7	2650	13.3	7.7												
06-Oct-87	27.0	68.5	2700	13.7	7.8												
19-Feb-88	26.4	68.4	2500	11.7	7.4												
02-Jun-88	26.7	68.4	2600	13.0	7.4												
15-Aug-88	26.3	68.4	2600	13.5	7.7												
07-Dec-88	26.0	68.4	2525	12.1	7.6												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-52

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	40																	
31-Oct-84	42																	
19-Feb-85																		
25-Apr-85	62																	
13-Nov-85																		
14-Jan-86																		
15-Apr-86																		
09-Jul-86	39																	
08-Oct-86																		
18-Mar-87																		
06-May-87																		
01-Sep-87	94																	
06-Oct-87																		
19-Feb-88																		
02-Jun-88																		
15-Aug-83	100																	
07-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-52

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										1957	3483						
31-Oct-84										2242	3600						
19-Feb-85																	
25-Apr-85										2241	3624						
13-Nov-85																	
14-Jan-86																	
15-Apr-86																	
09-Jul-86										2227	3618						
08-Oct-86																	
18-Mar-87																	
06-May-87																	
01-Sep-87										2150	3360						
06-Oct-87																	
19-Feb-88																	
02-Jun-88																	
15-Aug-88										2200	3420						
07-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-57

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	38.7	57.6	4425	14.0	8.5												
30-Oct-84	38.7	57.6	4425	14.0	3.4												
28-Jan-85	38.4	57.6	3825	10.5	8.6												
25-Apr-85	38.3	57.6	4100	12.0	8.7												
15-Nov-85	38.2	57.6															
14-Jan-86	38.1	57.6															
16-Apr-86	38.3	57.6	3500	15.0													
09-Jul-86	38.5	57.6	5000	28.0	7.5												
09-Oct-86	38.9	57.7	4250	18.0													
18-Mar-87	37.8	57.7	5800	13.5													
07-May-87	37.7	57.7	5900	13.5													
03-Sep-87	37.6	55.8	5750	13.3	7.9												
12-Oct-87	37.7	56.0	5500	13.0	8.4												
23-Feb-88	36.5	55.7	5750	13.2	8.3												
02-Jun-88	37.5	55.7	5500	12.1	7.1												
15-Aug-88	37.4	55.7	5500	14.0	7.0												
07-Dec-88	37.3	55.7	5075	11.9	7.0												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-57

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	120																	
30-Oct-84	129																	
28-Jan-85	93																	
25-Apr-85	135																	
15-Nov-85																		
14-Jan-86																		
16-Apr-86																		
09-Jul-86	131																	
09-Oct-86																		
18-Mar-87																		
07-May-87																		
03-Sep-87	215																	
12-Oct-87																		
23-Feb-88																		
02-Jun-88																		
15-Aug-88	215																	
07-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-57

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										1533	4429						
30-Oct-84										546	3782						
28-Jan-85										636	3558						
25-Apr-85										803	4100						
15-Nov-85																	
14-Jan-86																	
16-Apr-86																	
09-Jul-86										3744	6286						
09-Oct-86																	
18-Mar-87																	
07-May-87																	
03-Sep-87										2460	6370						
12-Oct-87																	
23-Feb-88																	
02-Jun-88																	
15-Aug-88										4050	7200						
07-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-58

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
17-Apr-84	9.8	35.0	4500	12.5	7.2	0.04	0.17		0.130	0.38	0.02			530			-0.0070
17-Jul-84	9.9	35.0	5630	14.7	6.6												
17-Oct-84	9.5	35.0	8300	13.0	6.9												
11-Jan-85	9.5	35.0	7370	10.0	7.6												
22-Apr-85	9.1	35.0	10100	9.0	7.2	-0.01	-0.10		-0.001	0.70	-0.10			765		700	-0.0002
08-Jul-85	9.4	34.9	6200	14.0	7.0												
13-Nov-85	9.1	35.0	6000	13.0	6.9												
14-Jan-86	9.2	35.0	5600	10.0	6.7												
14-Apr-86	9.4	35.0	4500	14.0	7.4	-0.01	0.80		-0.001	1.00	-0.10			703		740	-0.0001
08-Jul-86	9.3		4700	15.5	7.3												
07-Oct-86	9.4	34.9	6500	15.0	7.4												
17-Mar-87	8.9	34.9	6000	9.5	7.0												
27-Apr-87	9.2	34.9	6100	11.0	7.0	-0.01	-0.10		0.005	0.27	-0.10			594			-0.0010
16-Jul-87	9.7	34.9	6300	14.0	6.4									609			
09-Oct-87	10.5	34.4	5800	13.9	6.6												
20-Jan-88	9.3	35.3	5700	10.0	6.6			108.00				-0.01		619	104.0		
05-May-88	9.3	34.7	5300	11.9	6.4	0.03	0.30	112.10	0.010	0.43	0.01			643	95.9		-0.0050
19-Jul-88	9.1	34.6	5800	14.5	6.2			108.50						792	104.8		
26-Oct-88	8.9	34.5	6500	14.9	6.3			109.00	0.004					756	99.1		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-58

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
17-Apr-84	1000		0.01		0.04	0.04	-1.0				3.4	340	0.08	0.20	470	0.05		
17-Jul-84	1160																	
17-Oct-84	1490																	
11-Jan-85	1240																	
22-Apr-85	1600		0.00	-0.5	-0.05	-0.02	0.6	0.06	850		0.9	690	0.06	-0.10	555	0.13	-0.1	0.7
08-Jul-85	1600																	3.9
13-Nov-85	1500																	3.3
14-Jan-86	1700																	18.0
14-Apr-86	1700		0.07	-0.5	0.06	0.04	0.5	0.09	900		1.2	514	0.12	0.10	709	0.09	0.2	5.7
08-Jul-[illegible]	2000																	6.0
07-Oct-86	1400																	1.2
17-Mar-87	1800																	7.4
27-Apr-87	1730		-0.01	-1.0	-0.03	0.03	0.3	-0.03	873		1.1	534	0.06	-0.10	882	0.01	0.1	
16-Jul-87	1720							-0.01	802		1.4		0.04		556			0.4
09-Oct-87	1790																	0.6
20-Jan-88	1860	-0.01		-1.0				0.48	382		1.3	586	0.03		567			3.5
05-May-88	1840		0.05	-1.0	0.20	0.02	0.5	0.14	767		1.3	485	0.03	0.13	549	0.12	-0.1	1.3
19-Jul-88	1840			-1.0				0.14	588		0.8	507	0.12		541			0.6
26-Oct-88	1790			-1.0				0.14	743		0.9	467	0.06	0.17	526			3.7

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-58

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
17-Apr-84			0.110			1.3			0.300	2110	4770		20		2.9900	0.05	0.12
17-Jul-84										2120	5510						
17-Oct-84										1930	6280						
11-Jan-85										1660	6020						
22-Apr-85			-0.001			0.3			-0.001	2430	7730		34		0.3990	-0.20	0.01
08-Jul-85										2390	7080						
13-Nov-85										2530	6540						
14-Jan-86										2310	7150						
14-Apr-86			-0.001			1.7			-0.001	2240	7330		11		0.4450	-0.20	0.06
08-Jul-86										2320	7350						
07-Oct-86										2220	6070						
17-Mar-87										2190	7640						
27-Apr-87			-0.001			1.0			0.002	2200	6660		42		0.3640	-0.10	0.02
16-Jul-87										1890	6920						
09-Oct-87										2070	7510						
20-Jan-88										2310	6360	0.1					
05-May-88			-0.020			0.2			0.042	2150	7690	0.0	236		0.3370	0.10	0.01
19-Jul-88										2150	7670						
26-Oct-88						0.1			0.028	2100	6670	0.1			0.6400		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-59

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
17-Apr-84	12.4	40.7	3100	12.0	7.2	0.02	0.06		-0.110	0.29	0.03			510			-0.0070
17-Jul-84	12.4	40.7	3400	13.0	7.3												
17-Oct-84	12.2	40.7	4130	12.5	7.3												
11-Jan-85	12.1	40.7	4100	11.0	7.2												
22-Apr-85	11.6	40.7	4500	9.0	7.7	-0.01	-0.10		-0.001	0.40	-0.10			508		320	-0.0002
08-Jul-85	11.4	40.6	3050	13.0	7.7												
13-Nov-85	11.7	40.7	2300	11.1	7.6												
14-Jan-86	11.8	40.7	2700	10.5	7.3												
14-Apr-86	11.8	40.7	3200	14.0	7.2	-0.01	1.20		-0.001	0.70	-0.10			471		320	-0.0001
08-Jul-86	11.9		3500	16.5	7.5												
07-Oct-86	11.9	40.6	3000	14.0	7.8												
17-Mar-87	11.1	40.6	2750	9.5	7.2												
27-Apr-87	11.7	40.6	2810	11.2	7.4	-0.01	-0.10		0.004	0.20	-0.10			372			-0.0010
16-Jul-87	12.1	40.6	3050	16.0	7.2									365			
09-Oct-87	13.0	40.2	2850	13.0	7.3												
20-Jan-88	11.5	40.6	2750	9.9	7.1			53.90				-0.01		435	53.7		
05-May-88	11.6	39.7	2725	12.3	7.1	0.02	0.22	55.06	0.013	0.28	0.01			396	47.5		-0.0050
19-Jul-88	11.4	39.7	2800	13.8	6.9			53.75						464	50.6		
13-Sep-88						0.03			0.019		0.02	-0.01					-0.0050
23-Sep-88						0.03			0.023		0.04	-0.01					-0.0050
03-Oct-88						0.02			0.014		0.02	-0.01					-0.0050
11-Oct-88						0.03			0.005		0.03	-0.01					-0.0050
26-Oct-88	11.2	39.7	3050	13.8	7.0			54.90	0.003					478	53.3		
21-Nov-88						0.03			-0.001		0.03	-0.01					-0.0050

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-59

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
17-Apr-84	400		0.01		-0.03	0.02	-1.0				2.1	200	0.01	-0.02	320	0.05		
17-Jul-84	280																	
17-Oct-84	370																	
11-Jan-85	290																	
22-Apr-85	360		0.00	-0.5	-0.05	-0.02	0.6	0.04	390		1.0	238	0.03	-0.10	285	0.07	-0.1	1.1
08-Jul-85	460																	0.6
13-Nov-85	380																	1.2
14-Jan-86	380																	3.4
14-Apr-86	420		0.05	-0.5	-0.05	0.03	0.7	0.07	390		1.8	184	0.15	0.20	350	0.05	1.5	2.0
08-Jul-86	510																	1.0
07-Oct-86	250																	0.9
17-Mar-87	350																	0.6
27-Apr-87	412		-0.01	-1.0	-0.03	0.02	0.5	-0.03	380		1.4	117	0.03	-0.10	468	0.01	-0.1	
16-Jul-87	425							0.02	356		1.4		0.02		285			-0.1
09-Oct-87	422																	-0.1
20-Jan-88	456	-0.01		-1.0				1.18	250		1.7	217	0.03		324			0.6
05-May-88	478		0.03	-1.0	0.14	0.02	0.1	0.63	350		1.4	186	0.03	0.06	286	0.07	-0.1	0.3
19-Jul-88	438			-1.0				0.11	341		1.2	193	0.10		285			-0.1
13-Sep-88		-0.01			0.12					0.0002				0.05		0.06		
23-Sep-88		-0.01			0.13					0.0003				0.06		0.08		
03-Oct-88		-0.01			0.13					-0.0002				0.07		0.07		
11-Oct-88		-0.01			0.15					0.0006				0.07		0.09		
26-Oct-88	441			-1.0				0.17	364		1.2	193	0.02	0.08	312			-0.1
21-Nov-88		-0.01			0.17					0.0010				0.07		0.09		

QUIVIRA MINING COMPANY

AMBROSIA LAKE FACILITY

WELL 32-59

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
17-Apr-84			0.100			0.8			0.120	1960	3620		7		0.2700	0.04	0.07
17-Jul-84										1270	3250						
17-Oct-84										1590	3530						
11-Jan-85										1310	3310						
22-Apr-85			-0.001			0.7			-0.001	1700	3470		25		0.7000	-0.20	0.01
08-Jul-85										1730	3420						
13-Nov-85										1860	3430						
14-Jan-86										1710	3440						
14-Apr-86			0.002			0.8	0.3		-0.001	1720	3530		11		0.3170	-0.20	0.02
08-Jul-86										1740	3560						
07-Oct-86										1690	3260						
17-Mar-87										1650	3330						
27-Apr-87			-0.001			0.2				1650	3340		47		0.4160	-0.10	0.01
16-Jul-87										1620	3360						
09-Oct-87										1500	3380						
20-Jan-88										1730	3430	0.5					
05-May-88			-0.020			0.1			0.014	1660	3510	0.1	112		0.4150	0.07	-0.01
19-Jul-88										1660	3520						
13-Sep-88			-0.020	2.6		0.8	0.6	0.01	0.007			1.7			0.4920		
23-Sep-88			0.030	8.7		0.9	0.3	0.02	0.049			1.3			0.4720		
03-Oct-88			0.030	4.2		0.4	0.3	0.01	0.030			2.0			0.3440		
11-Oct-88			0.090	3.5		0.6	1.0	0.04	0.024			1.8			0.3510		
26-Oct-88						0.0			0.028	1690	3500	6.8			0.4410		
21-Nov-88				13.0		1.3	0.5	0.01	0.019			0.9			0.4810		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-60

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
17-Apr-84	8.3	23.0	4500	11.0	6.8	-0.0[illegible]	0.05		0.280	0.46	0.02			660			-0.0070
18-Jul-84	9.6	23.1	9200	13.0	6.8												
17-Oct-84	11.4	23.1	11700	13.0	6.6												
11-Jan-85	12.7	23.1	12900	12.0	6.6												
22-Apr-85	16.3	23.1	18000	12.0	7.0	-0.01	-0.10		-0.001	0.60	-0.10			660		160	-0.0002
08-Jul-85	17.4	23.0	10250	13.0	7.0												
07-Nov-85	18.4	23.1	11500	13.2	6.7												
13-Jan-86	18.7	23.1	10000	11.0	6.4												
10-Apr-86	18.9	23.1	10000	15.0	7.7	-0.01	1.30		-0.001	0.70	-0.10			656		1500	-0.0001
08-Jul-86	19.1		10000	16.0	7.4												
07-Oct-86	17.9	[illegible]3.0	11500	12.0	7.4												
17-Mar-87	18.7	23.0	10500	9.0	6.5												
27-Apr-87	18.7	23.0	10700	11.2	7.1	-0.01	-0.10		0.004	0.30	-0.10			327			-0.0010
15-Jul-87	18.9	23.0	11000	12.0	6.5	-0.10	-0.10		-0.005	0.60	-0.10	-0.10		463			-0.0010
15-Jul-87	18.9	23.0	11000	12.8	6.3	0.07	0.44		0.005	0.67	0.01			351			-0.0050
14-Oct-87	19.8	23.9	10500	11.3	6.2												
21-Jan-88	19.5	23.9	9100	9.2	6.4			220.00				-0.01		514	220.0		
10-May-88	20.1	24.1	9100	13.0	6.5	-0.01	0.25	195.20	0.022	0.58	0.01			551	212.9		-0.0050
19-Jul-88	19.8	24.2	9000	13.2	6.8			182.60						554	188.0		
27-Oct-88	19.1	24.3	9900	10.9	6.2			191.00	0.016					484	168.0		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-60

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
17-Apr-84	2180		0.02		0.05	0.02	-1.0				8.3	760	2.30	0.09	1400	0.06		
18-Jul-84	2030																	
17-Oct-84	2050																	
11-Jan-85	2250																	
22-Apr-85	2300		0.03	-0.5	-0.05	-0.02	0.3	0.07	200		8.1	760	7.25	-0.10	1330	0.12	30.0	0.3
08-Jul-85	2500																	9.1
07-Nov-85	2000																	2.3
13-Jan-86	2700																	0.8
10-Apr-86	2600		0.13	-0.5	-0.05	0.05	0.4	0.11	1800		20.1	1160	6.85	0.20	1790	0.13	35.0	59.0
08-Jul-86	3300																	22.0
07-Oct-86	1700																	8.0
17-Mar-87	2500																	84.0
27-Apr-87	2540		-0.01	-1.0	-0.03	0.05	0.0	-0.03	2160		14.5	1120	1.30	-0.10	2530	0.01	69.0	
15-Jul-87	2455		-0.10		-0.10	-0.10	0.2	-0.10	1964		12.9	1037	6.90	-0.10	1553	-0.10	83.9	6.4
15-Jul-87	2530		-0.01		-0.01	-0.01	0.3	0.27	1780	0.0011	9.7	1040	0.46	0.31	1360	0.01	84.0	39.0
14-Oct-87	2540																	6.1
21-Jan-88	2300	-0.01		-1.0				0.21	1120		16.5	1330	0.34		1930			30.3
10-May-88	2340		0.04	-1.0	0.19	0.02	0.4	0.16	1530		18.1	1270	0.59	0.25	1760	0.17	70.0	14.4
19-Jul-88	2290			-1.0				0.24	1490		17.8	1060	7.49		1670			6.8
27-Oct-88	2170			-1.0				0.39	1160		14.9	962	4.34	0.30	1480			0.4

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-60

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
17-Apr-84			0.094			1.9			0.230	3390	9980		20		2.7900	0.04	0.24
18-Jul-84										3000	8870						
17-Oct-84										2370	9360						
11-Jan-85										3370	10400						
22-Apr-85			-0.001			1.2			-0.001	3480	12300		150		1.0100	-0.20	0.02
08-Jul-85										4200	11900						
07-Nov-85										5020	13400						
13-Jan-86										4690	13200						
10-Apr-86			0.003			2.2			-0.001	4950	13600		34		1.0900	-0.20	0.07
08-Jul-86										5090	13300						
07-Oct-86										5140	12900						
17-Mar-87										5010	13100						
27-Apr-87			-0.001			1.4			0.011	5250	13200		41		0.7690	-0.10	0.02
15-Jul-87			-0.100					0.10	-0.025	4772	12568					-0.10	-0.10
15-Jul-87			0.030						-0.001	4830	13500					0.15	0.01
14-Oct-87										5000	13400						
21-Jan-88										6250	12200	0.0					
10-May-88			0.030			0.6			0.126	4720	11400	0.0	211		0.6820	0.10	0.01
19-Jul-88										4230	12900						
27-Oct-88						0.5			0.032	5110	12600	0.9			0.7730		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-61

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
17-Apr-84	8.1	28.7	10000	11.0	7.1	0.02	0.05		0.210	0.46	0.02			870			-0.0079
17-Jul-84	9.5	28.6	11900	13.0	6.7												
17-Oct-84	12.1	28.6	12900	12.7	6.8												
11-Jan-85	15.0	28.6	11800	13.0	6.7												
22-Apr-85	18.8	28.5	17000	13.0	7.1	-0.01	-0.10		-0.001	[illegible]	-0.10			750		170	-0.0002
08-Jul-85	19.9	28.5	10800	13.5	7.2												
07-Nov-85	20.7	28.6	12000	11.9	6.6												
13-Jan-86	21.2	28.6	9900	11.5	6.5												
10-Apr-86	21.2	28.6	8700	12.0	7.5	-0.01	0.60		-0.001	0.80	0.10			605		1700	-0.0001
08-Jul-86	22.2		9500	16.5	7.8												
07-Oct-86	21.4	28.5	12000	13.0	7.4												
17-Mar-87	21.5	28.5	11000	10.5	6.5												
28-Apr-87	21.6	28.5	11000	12.0	7.1	-0.01	-0.10		0.005	0.15	-0.10			124			-0.0010
16-Jul-87	21.7	28.5	11000	12.5	6.4									96			
14-Oct-87	22.2	27.1	10500	12.2	6.2												
21-Jan-88	22.3	27.3	9700	10.2	6.3			199.00				-0.01		368	202.0		
10-May-88	22.3	27.3	9200	13.0	4.8	-0.01	0.20	205.60	0.027	0.66	-0.01			422	201.3		-0.0050
19-Jul-88	22.3	27.3	8700	12.9	6.1			167.10						540	179.3		
20-Sep-88						0.03			0.016		0.02	-0.01					-0.0050
26-Sep-88						0.03			0.020		0.04	-0.01					-0.0050
04-Oct-88						0.04			0.027		0.04	-0.01					-0.0050
13-Oct-88						0.05			0.044		0.02	-0.01					-0.0050
27-Oct-88	21.8	27.3	9250	11.5	6.1			178.00	0.018					410	154.0		
21-Nov-88						0.04			0.035		0.02	-0.01					-0.0050

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-61

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
17-Apr-84	3940		0.02		0.05	0.02	-1.0				7.2	690	0.06	0.03	1500	0.08		
17-Jul-84	3540																	
17-Oct-84	3390																	
11-Jan-85																		
22-Apr-85	2600		0.05	1.8	-0.05	-0.02	0.5	-0.03	210		17.5	900	10.80	-0.10	1680	0.[illegible]5	90.0	1.8
08-Jul-85	2500																	6.3
07-Nov-85	2500																	24.0
13-Jan-86	2500																	5.2
10-Apr-86	2500		0.19	-0.5	0.07	0.05	0.4	0.10	2100		23.9	1170	11.90	0.10	2170	0.21	110.0	6.2
08-Jul-86	2900																	9.9
07-Oct-86	1900																	70.0
17-Mar-87	2500																	86.0
28-Apr-87	2470		-0.01	-1.0	-0.03	0.04	0.3	-0.03	2190		20.5	1140	1.93	-0.10	2710	0.01	110.0	
16-Jul-87	2380							0.12	2070		22.0		0.11		1689			4.3
14-Oct-87	2450																	0.3
21-Jan-88	2310	-0.01		-1.0				0.47	1430		20.7	1240	0.10		1800			9.4
10-May-88	2180		0.06	-1.0	0.17	0.01	0.5	0.14	1780		25.8	1170	1.61	0.24	1790	0.20	98.0	4.8
19-Jul-88	2060			-1.0				0.18	1520		20.3	1010	6.61		1580			1.4
20-Sep-88		0.02			0.18					0.0003				0.21		0.24		
26-Sep-88		0.01			0.19					0.0005				0.21		0.23		
04-Oct-88		-0.01			0.22					0.0008				0.21		0.24		
13-Oct-88		-0.01			0.23					0.0007				0.23		0.24		
27-Oct-88	1850			-1.0				0.73	994		17.3	883	1.46	0.13	1390			-0.1
21-Nov-88		-0.01			0.26					0.0016				0.24		0.24		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-61

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
17-Apr-84			0.097			0.9			0.150	2690	9950		11		1.3300	0.04	0.23
17-Jul-84										2400	9280						
17-Oct-84										1900	10300						
11-Jan-85																	
22-Apr-85			-0.001			1.1			-0.001	4910	13200		71		0.6780	-0.20	0.02
08-Jul-85										4780	12400						
07-Nov-85										5620	13700						
13-Jan-86										5270	13700						
10-Apr-86			-0.001			2.7			-0.001	5550	14100		16		0.8360	-0.20	0.06
08-Jul-86										5530	13400						
07-Oct-86										5320	12800						
17-Mar-87										5120	13100						
28-Apr-87			-0.001			0.9			0.007	5430	13200		25		0.6150	-0.10	0.02
16-Jul-87										5110	13260						
14-Oct-87										5130	13100						
21-Jan-88										5180	12200	0.4					
10-May-88			0.020			0.9			0.147	5210	12500	0.3	229		0.6480	0.09	0.01
19-Jul-88										3770	11900						
20-Sep-88			0.030	6.1		3.3	2.9	0.06	0.384			51.0			0.5900		
26-Sep-88			0.040	7.3		2.9	1.6	0.03	0.336			5.3			0.5140		
04-Oct-88			0.040	16.0		6.9	3.1	0.07	0.361			12.0			0.4160		
13-Oct-88			0.070	9.9		3.8	2.9	0.03	0.023			9.0			0.4120		
27-Oct-88						0.4			0.039	5090	12000	0.1			0.1750		
21-Nov-88			0.030	13.0		0.8	2.7	0.05	0.060			5.7			0.8040		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL S-9

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	6.5	26.1	8200	13.0	8.0												
31-Oct-84	6.5	26.1	8200	13.0	8.5												
15-Feb-85	6.5	26.1	6900	9.0													
25-Apr-85	6.5	26.1	5900		8.4												
11-Nov-85	7.0	26.1															
13-Jan-86	7.2	26.1															
15-Apr-86	7.0	26.1	6000	14.0													
0[illegible]-Jul-86	7.2	26.1	7500	27.0	8.4												
07-Oct-86	7.4	26.5	7000	16.0													
18-Mar-87	6.6	26.2	7900	9.0													
06-May-87	6.5	26.2	8500	11.8													
03-Sep-87	7.5	25.0	8750	15.5	8.3												
29-Oct-87	7.8	25.0	8300	13.3	8.3												
18-Feb-88	7.6	25.1	7000	10.1	8.5												
31-May-88	7.6	25.1	7000	10.8	8.4												
15-Aug-88	8.1	25.1	7200	14.2	8.2												
07-Dec-88	7.7	25.1	7800	11.1	8.9												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL S-9

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
05-Apr-84	1801																	
31-Oct-84	2297																	
15-Feb-85	1780																	
25-Apr-85	2363																	
11-Nov-85																		
13-Jan-86																		
15-Apr-86																		
09-Jul-86	2071																	
07-Oct-86																		
18-Mar-87																		
06-May-87																		
03-Sep-87	2520																	
29-Oct-87																		
18-Feb-88																		
31-May-88																		
15-Aug-88	2400																	
07-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL S-9

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										3866	11153						
31-Oct-84										4359	11320						
15-Feb-85										4230	11640						
25-Apr-85										4390	11394						
11-Nov-85																	
13-Jan-86																	
15-Apr-86																	
09-Jul-86										3996	11200						
07-Oct-86																	
18-Mar-87																	
06-May-87																	
03-Sep-87										2440	10000						
29-Oct-87																	
18-Feb-88																	
31-May-88																	
15-Aug-88										3720	10500						
07-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL S-12

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84					6.5												
31-Oct-84	9.8	27.1	5000	13.2	8.0												
15-Feb-85	11.4	27.1	7400	11.0													
25-Apr-85	13.0	27.1	7500	11.5	7.9												
07-Nov-85	14.9	27.1															
13-Jan-86	15.1	27.1															
16-Apr-86	15.6	27.1	7500	16.0													
09-Jul-86	15.5	27.1	16000	25.0	7.3												
07-Oct-86	15.1	27.3	9500	16.0													
18-Mar-87	15.0	27.3	16200	11.0													
06-May-87	15.2	27.3	18400	14.5													
03-Sep-87	16.1	26.9	17500	15.0	6.4												
14-Oct-87	16.6	27.2	17000	12.5	6.4												
18-Feb-88	16.3	27.1	14300	11.5	6.7												
31-May-88	16.8	27.1	13300	10.8	6.2												
15-Aug-88	16.3	27.1	11800	12.5	6.0												
07-Dec-88	15.7	27.1	13500	11.8	6.1												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL S-12

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	2322																	
31-Oct-84	516																	
15-Feb-85																		
25-Apr-85	2472																	
07-Nov-85																		
13-Jan-86																		
16-Apr-86																		
09-Jul-86	4245																	
07-Oct-86																		
18-Mar-87																		
06-May-87																		
03-Sep-87	5280																	
14-Oct-87																		
18-Feb-88																		
31-May-88																		
15-Aug-88	4800																	
07-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL S-12

Date	CN (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										4879	15315						
31-Oct-84										2963	6298						
15-Feb-85																	
25-Apr-85										5445	14332						
07-Nov-85																	
13-Jan-86																	
16-Apr-86																	
09-Jul-86										6213	18398						
07-Oct-86																	
18-Mar-87																	
06-May-87																	
03-Sep-87										5620	21206						
14-Oct-87																	
18-Feb-88																	
31-May-88																	
15-Aug-88										4020	21400						
07-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL AW-2

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84					7.6												
30-Oct-84	29.2	86.0	2825	13.0	7.7												
02-Feb-85	28.8	86.1	2550	11.5	7.6												
25-Apr-85	28.4	86.1	2350	12.0	8.3												
13-Nov-85	28.5	86.1															
14-Jan-86	28.4	86.1															
15-Apr-86	28.8	86.1	2550	14.0													
09-Jul-86	28.3	86.1	3900	28.0	8.0												
08-Oct-86	28.7	86.0	3200	16.0													
18-Mar-87	28.1	86.0	2770	12.6													
06-May-87	28.4	86.0	2890	13.5													
01-Sep-87	29.5	82.0	2875	13.8	7.2												
14-Oct-87	28.6	84.3	2825	12.5	7.3												
19-Feb-88	28.1	84.0	2790	12.5	7.0												
02-Jun-88	28.4	84.0	2800	13.0	7.1												
15-Aug-88	28.1	84.0	2700	14.0	7.0												
07-Dec-88	27.7	84.0	2725	12.8	7.1												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL AW-2

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	48																	
30-Oct-84	57																	
02-Feb-85	57																	
25-Apr-85	50																	
13-Nov-85																		
14-Jan-86																		
15-Apr-86																		
09-Jul-86	84																	
08-Oct-86																		
18-Mar-87																		
06-May-87																		
01-Sep-87	92																	
14-Oct-87																		
19-Feb-88																		
02-Jun-88																		
15-Aug-88	113																	
07-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL AW-2

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										2114	4011						
30-Oct-84										2372	4008						
02-Feb-85										2220	4020						
25-Apr-85										2325	4054						
13-Nov-85																	
14-Jan-86																	
15-Apr-86																	
09-Jul-86										2228	3860						
08-Oct-86																	
18-Mar-87																	
06-May-87																	
01-Sep-87										2210	3770						
14-Oct-87																	
19-Feb-88																	
02-Jun-88																	
15-Aug-88										2130	3640						
07-Dec-88																	

CORRECTION ACTION PLAN

APPENDIX G

Data For Alluvial Well MW-24

AMBROSIA LAKE FACILITY
SUA-1473
DOCKET 40-8905
ALLUVIUM MONITOR WELL MW-24

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
29-Jan-87	44.93	49.95	3250	10.0	7.3												
23-Feb-87	44.87	49.95	3150	10.5	7.3												
30-Mar-87	44.95	50.05	3400	13.0	7.8												
30-Apr-87	44.96	50.05	3490	14.5	7.3												
20-May-87	45.05	50.05	3400	13.5	7.6												
19-Jun-87	45.23	50.26	3400	13.5	7.8												
31-Jul-87	45.40	50.24	3380	14.8	7.2												
26-Aug-87	45.58	50.23	3400	13.0	7.1												
23-Sep-87	45.95	50.27	3400	14.0	7.4												
22-Oct-87	46.06	50.27	3450	13.0	7.2												
24-Nov-87	46.35	50.30	3300	11.8	7.1									572			
29-Dec-87	46.42	50.30	3325	11.0	7.1									518			
28-Jan-88	46.29	50.26	3200	12.5	7.1									534			
23-Feb-88	46.18	50.24	3250	13.1	7.0									504			
25-Mar-88	46.12	50.32	3200	12.5	7.1									486			
28-Apr-88	46.24	50.42	3150	12.9	7.0									493			
25-May-88	46.19	50.40	3180	13.3	7.0									544			
27-Jun-88	45.76	50.38	3200	13.0	7.2									500			
26-Jul-88	45.32	50.39	3290	11.3	7.1									496			
23-Aug-88	45.77	50.38	3175	13.8	7.0									509			
21-Sep-88	44.45	50.39				0.03			0.023		0.04	-0.01					-0.005
26-Sep-88	44.45	50.39				0.03			0.032		0.04	-0.01					-0.005
29-Sep-88	44.45	50.39	3000	12.0	7.0									558			
04-Oct-88	44.00	50.41				0.03			0.025		0.04	-0.01					-0.005
14-Oct-88	44.00	50.41				0.03			0.045		0.02	-0.01					-0.005
27-Oct-88	44.03	50.41	3300	14.9	7.2									488			
21-Nov-88	44.04	50.47				0.03			0.005		0.03	-0.01					-0.005
29-Nov-88	44.04	50.47	3100	11.9	7.1									458			
28-Dec-88	43.73	50.46	2825	11.8	7.1									482			
24-Jan-89	43.59	50.48	2780	12.2	7.1									513			
14-Feb-89	43.46	50.40				-0.01			0.001		0.04	-0.01					-0.005
28-Feb-89	43.46	50.40	2825	12.5	7.1									508			
30-Mar-89	43.18	50.40	2950	12.0	7.1									507			
28-Apr-89	43.00	50.40	2850	12.2	7.1									506			
19-May-89	42.54	50.33				-0.01			0.002		0.02	-0.01					-0.005
30-May-89	42.54	50.33	3200	13.5	7.2									655			
29-Jun-89	42.55	50.33	3150	12.0	7.2									552			

AMBROSIA LAKE FACILITY
SUA-1473
DOCKET 40-8905
ALLUVIUM MONITOR WELL MW-24

Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (t) (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
98.0																	190
95.0																	240
92.7																	130
94.5																	110
94.6																	100
95.6																	95
97.6																	101
95.0																	97
92.8																	115
99.5																	110
94.3						0.44											100
98.0						0.42											98
91.0						0.44											89
91.0						0.43											72
94.0						0.46											84
92.0						0.46											86
91.0						0.56											75
90.0						0.40											72
92.1						0.42											77
89.9						0.41											74
	-0.01			0.15					0.0004				0.06		0.08		
	0.01			0.14					0.0005				0.06		0.08		
94.8						0.38											72
	0.02			0.14					0.0005				0.06		0.08		
	0.05			0.15					0.0004				0.06		0.07		
91.7						0.40											78
	-0.01			0.20					0.0012				0.15		0.14		
96.4						0.48											67
87.3						0.48											68
83.8						0.49											72
	0.02			0.03					0.0002				-0.01		0.02		
82.0						0.49											57
80.3						0.48											60
86.3						0.48											67
	-0.01			-0.01					0.0003				-0.01		-0.01		
77.3						0.52											54
78.8						0.54											59

AMBROSIA LAKE FACILITY
SUA-1473
DOCKET 40-8905
ALLUVIUM MONITOR WELL MW-24

DH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb210 (pCi/l)	Po210 (pCi/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Tl (mg/l)	Th230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Gross Alpha (pCi/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
									2430	4460								
									2360	4440								
									2260	4440								
									2430	4510								
									2460	4550								
									2420	4610								
									2490	4620								
									2050	4350								
									2410	4430								
									2410	4580								
									2420	4680								
									2440	4570								
									2620	4370								
									2490	4550								
									2490	4610								
									2460	4550								
									2790	5340								
									2500	4330								
									2510	4410								
									2430	4370								
		0.05	31.0		4.2	2.1	0.015	0.016			-0.01	4.8			130	0.0288		
		0.04	6.0		0.9	1.4	0.009	0.080			-0.01	1.3			46	0.0358		
									2510	4210								
		-0.02	2.9		1.0	1.4	0.021	0.076			0.01	1.2			60	0.0303		
		-0.02	3.3		0.8	1.3	0.042	0.063			0.03	3.3			93	0.0246		
									2540	4240								
		0.02	19.0		4.2	3.3	0.015	0.043			0.01	4.4			110	0.1840		
									2440	4210								
									2370	4130								
									2350	3980								
		-0.02	18.0		1.5	2.1	0.010	0.051			0.01	2.8			150	0.0422		
									2330	4060								
									2310	4000								
									2390	4060								
		-0.02	7.3		1.6	1.2	0.010	0.055			-0.01	1.6			28	0.0380		
									2220	3840								
									2320	3860								

CORRECTION ACTION PLAN

APPENDIX H

Quivira's Comments To NRC and NMEID Concerns

of March 23 and July 19, 1989 Meetings

QUIVIRA RESPONSES TO NRC AND NMEID QUESTIONS AND COMMENTS

OF APRIL 3 AND JULY 19, 1989

EID Comment 1

For the bedrock aquifers, there are significant "holes" in the areal coverage (discussed below). Also, the structural geology of the site (specifically, more accurate fault displacement estimates and fracture zone evaluation) should be better defined in the immediate area of the tailings. The EID feels that this would contribute to a better understanding of the ground water flow and could help predict impacts from any future activities such as the use of Pond 2.

Quivira Response 1

Quivira Mining Company and its predecessor Kerr McGee Nuclear Corporation has performed numerous studies on the site geology and hydrology including:

"Hydrological Assessment", December 1980

"Ventilation Hole Sampling and Confirmation of Drainage of the Dakota and Tres Hermanos Formations, Ambrosia Lake, New Mexico", July 15, 1983

"Computer Simulation of Ventilation Hole Drainage of the Dakota Formation", July 15, 1983

"Bedrock Monitoring Plan", July 15, 1983

"Assessment of Contamination in the Dakota and Tres Hermanos Formations", July 25, 1983

"Electronic Analog Modeling of Tailings Seepage", September 14, 1983

"Ventilation Hole Investigation", September 23, 1983

"Hydrologic Assessment of Quivira Mining Company Operations, Ambrosia Lake Area, New Mexico", September 1986

"Ambrosia Lake Mill, Tailings Stabilization Report", October 1986

"Update of Groundwater Monitoring of the Bedrock at the Quivira Mining Company, Ambrosia Lake Facility", September 1987.

Each of these studies have been previously submitted to your office. The title "Update of Groundwater Monitoring of the Bedrock at the Quivira Mining Company, Ambrosia Lake Facility", September 1987, was submitted on October 13 and December 28, 1987. All other titles were submitted to your office on October 1, 1986 as part of the "Ambrosia Lake Mill, Tailings Stabilization Report, Volume II". Quivira wishes to reference each of these reports into this submittal.

It is Quivira's belief the hydrological setting of the Ambrosia Lake area as well as the facility's impact to the different geologic units has been fully studied, analyzed and documented. Quivira believes that performing additional studies on the area already thoroughly studied would not provide significant additional information.

However, in order to minimize and to mitigate future groundwater impacts, Quivira proposes that no new tailings will be placed on pond 1. Additionally, all future uses of pond 2 for new tailings will be restricted to tailings associated with Quivira's existing commitments for processing limited volumes of source material. Further, if conventional mining is resumed at Ambrosia Lake, all new tailings material from that operation will be placed in lined disposal cells constructed in pond 2 or on a nearby site.

Quivira has also eliminated all standing water on pond 2 through the construction in May 1989 of a dewatering trench along the west end of pond 2. All standing fluids were pump to lined evaporation ponds. The dewatering trench has also dewatered some of the tailings material on pond 2 thereby helping to eliminate a potential recharge source.

EID Comment 1 (a)

a. Tres Hermanos A Sandstone: Though well data indicates that there is no contamination in the Tra, the EID believes that there is a probability that some contamination may be present and is not being detected because of a lack of wells in the appropriate locations. Well 31-01Tra is closest to the tailings, but has exhibited unusual fluctuations in water level and water quality in the past. In addition, its water level is indicated to be below the base of the Tra sandstone, as are the water levels in Tra wells 36-02Tr and 30-01. The EID believes that contamination may be found in the Tra in the vicinity of well 36-02 and in an area just north of Ponds 1 and 2. Whether or not existing contamination is found, new wells in these locations would provide early detection of any future impacts from Pond 2, if used again for tailings solutions.

Quivira Response 1 (a)

During the operation of the Ambrosia Lake facility, several studies have been performed on the various lithologic units including the Tres Hermanos A sandstone. The findings from these studies including some of those previously mentioned, are included in the submittal entitled "Tailings Stabilization Report, License SUA-1473, Docket 40-8905, Volume II".

The conclusion from these studies is the Tres Hermanos A formation has not been significantly impacted by the mining and milling activities. This conclusion is supported by this unit's monitoring well results which show that most values are within the range of background constituent concentrations.

Additionally, we do not understand the statement that water levels in 31-01Tra exhibited unusual depth to water and water quality fluctuations. As shown in Quivira's reports dated October 13, 1987 and March 22, 1989, and sent to your office, the depth to water and analytical graphs for 31-01Tra have been relatively constant. Quivira references these reports "Update of Groundwater Monitoring of the Bedrock at the Quivira Mining Company, Ambrosia Lake Facility", October 13, 1987 and "Five Year Discharge Plan 169 Summary", March 22, 1989 for inclusion into this submittal.

Attached in Appendix L, the graphs from these two submittals have been combined to show the continuous depth to water measurements and the indicator parameters results. As shown, the depth to water measurements have not varied significantly during the last 5 years nor have the indicator parameters sulfates, chlorides, and TDS.

Quivira also questions statement that water levels within 31-01Tra and 30-01 monitor wells are below the base of the Tres Hermanos A sandstone. As indicated on the lithologic logs of 31-01Tra and 30-01, the historical depth to water data as presented in Appendix M, indicates water levels are approximately 5 feet and 25 feet above the base of the Tres Hermanos A sandstone/shale contact respectively.

We also puzzled by the statement that monitor well 36-02 water levels are below the Tres Hermanos A sandstone. This well has been essentially dry since 1984.

Based on the information available for this geologic formation, Quivira does not believe the request for the installation of new

Tres Hermanos A wells is justified nor does Quivira know of information supporting the installation of additional Tres Hermanos A wells. As previously stated, Quivira does not believe that any groundwater standards have been exceeded and does not believe the Tres Hermanos A unit has been significantly impacted from the tailings impoundments.

EID Comment 1 (b)

Tres Hermanos B Sandstone: Though areal coverage by wells in the Trb is better than for the other bedrock aquifers, the existence of known contamination justifies the installation of additional wells to help fill in the coverage. The extent of the plume to the west of wells 36-02 and 36-01 is not known; at least one well (depending on what is found in the first well) should be installed in this area. Nothing is known about the extent of the plume north of well 36-01; at least two more wells between wells 36-01 and 30-01 should be considered. The EID understands that two new wells (31-66 and 31-67) were drilled last year, but EID does not have any information on these wells.

Well 31-02Trb is not considered a reliable Trb well since it is completed across both the Trb and Trc units. Quivira, in the Update report of 1987, proposed recommitting this well in the Trb alone and drilling a new Trc well at this location. The EID concurs with this proposal.

QMC Response 1 (b)

The areal extent of contamination within the Tres Hermanos B formation will be delineated through the monitoring of existing Tres Hermanos B groundwater wells and by updating the 1983 ventilation hole monitoring survey by resampling selected ventilation holes at Sections 17, 19, 24, 30, 30 West and 33. Quivira will also drill one new Tres Hermanos B well in the northern part of Section 36, pending approval from the New Mexico State Land Commission, to better define the western and northern extent of the plume.

Tres Hermanos B monitor wells 31-66 and 31-67 in addition to existing Tres Hermanos B monitoring wells will be sampled twice to provide additional data to establish the areal extent of the plume. Presented in Appendix N are the analytical data and well logs for the new Tres Hermanos B wells 31-66 and 31-67. Listed below are the wells that will be sampled for this formation.

31-02 Trb, 31-62 Trb, 32-64, 36-01 Trb, 36-02 Trb, 31-66, 31-67

Each of the samples from these wells will be analyzed for the following constituents:

arsenic, barium, cadmium, chromium, cyanide, lead, mercury, molybdenum, nickel, selenium, silver, beryllium, antimony, thallium, gross alpha, radium 226, radium 228, natural uranium, thorium 230, lead 210, chloride, sulfate, pH and specific conductivity.

The following selected ventilation holes and shafts at Sections 17, 19, 24, 30, 30 West and 33 are scheduled to be sampled pending access and safety considerations to provide additional information to help delineate the plume. These selected holes and shafts will be sampled once.

Section 17 - shaft, ventilation hole 7

Section 19 - ventilation holes 1, 2, 5, 7

Section 24 - ventilation hole 24

Section 30 - ventilation holes 2, 4, 5, 6, 7, 9, 10, 12, 14, 15, 16, 17

Section 30 West - ventilation holes 1, 2, 3, 4, 5, 6, 7

Section 33 - shaft, venthole 1

Besides the monitoring of existing monitoring wells and the sampling of selected ventilation holes and shafts, one new well will be drill in the northern portion of Section 36 to help define the western and northern limit of the plume. The name of this new Tres Hermanos B wells is 36-74 Trb. A map showing the drilling location is presented within Appendix D.

Quivira believes the 36 sampling sites which include the ventilation holes, mine shafts, and existing monitor wells in addition to the commitment to drill a new Tres Hermanos B well will be sufficient to accurately detail the areal extent of the contamination plume for this unit.

Quivira had proposed to recomplete monitor well 31-02Trb and drill a new Tres Hermanos C well pending EID's approval as part of the original "Update of Groundwater Monitoring of the Bedrock at the Quivira Mining Company, Ambrosia Lake Facility" report dated October 13, 1987 and submittal to NRC and NMEID. This was because 31-02Trb well log indicated an open hole across the Tres Hermanos B and C formations. Subsequent to that commitment, the well log was shown to be inaccurate as the hole was indeed cased and completed through the Tres Hermanos C formation. This item was discussed during the July 19, 1989 meeting and verbally agreed by both parties that a new well completion for 31-02Trb was not needed.

EID Comment 1 (c)

Tres Hermanos C Sandstone: As mentioned above, Quivira proposed a new well next to 31-02Trb in the Trc alone, as part of recommitting 31-02Trb in the Tres Hermanos B unit alone. The EID concurs with this proposal, and urges Quivira to complete this task as soon as possible.

QMC Response 1 (c)

As discussed in EID Comment 1 (b), the original well log for 31-02Trb indicated an open hole across the Tres Hermanos B and C formations. However, this was proved incorrect as the hole was indeed cased and completed through the Tres Hermanos C formation. Thus, solutions from the Tres Hermanos B unit were not in communication with the Tres Hermanos C unit.

As shown during the field visit in the course of the July 19, 1989 meeting, two areas which cross cut the entire Tres Hermanos C formation were dry.

The first area inspected was the borrow pit. It is located just 30 yards to the north of tails pile 1 and 150 yards south of the proposed location for the new Tres Hermanos C well. The borrow pit cuts down almost 15 feet whereas the Tres Hermanos C formation in that area is only 10 feet in thickness. If fluids were in the Tres Hermanos C formation, they would be seen seeping from the south side of the borrow pit wall as they migrated north in the direction of the formation dip and the proposed well. However, there are no fluids in the borrow pit cut.

The second area inspected was the road cut to the primary crusher. The road to the primary crusher cuts completely through the Tres Hermanos C formation and rest on the underlying Mancos shale. The top of the Tres Hermanos C formation is at 7002 feet with the bottom of this unit at 6970 feet. The primary crusher's pit floor is at 6960 feet or 10 feet below the Tres Hermanos C formation. Again, as was shown during the field tour, the formation is dry.

Quivira also notes that 250 yards north of the proposed well site, the Tres Hermanos C formation has been completely eroded away by the ancestral Arroyo del Puerto. Visual inspection of outer limit of this outcropping does not reveal fluids seeping from the formation.

Other Tres Hermanos C wells, such as 36-03Trc and 36-04Trc have been drilled in the unit and also dry. It was also documented that when drilling the Tres Hermanos B well 31-02Trb, the Tres Hermanos C formation was dry.

Therefore, based on the fact that all available information indicates the unit is dry and the formation is completely eroded away only 250 yards north of the proposed well site, Quivira does not believe it justified that a Tres Hermanos C well be constructed to confirm what is already known, that the unit is dry. Quivira believes that those resources be better spend on areas with known problems. NMEID has concurred.

EID Comment 1 (d)

Dakota sandstone: Well 30-02 has shown increasing contamination and water level since 1980, possibly reflecting the effects of a plume of contaminates arriving at the well. However, at such a distance (over 1 mile) from the source of contamination, the amount of the water level rise (over 25 feet) seems too large to be explained as a "slug" from Ponds 7 or 8. Perhaps it can be explained by fracture or fault-controlled flow, as postulated in the Groundwater Discharge Plan (1981) and in Appendix E of the Tailings Stabilization Report (1986)?

In order to more accurately define the plume of contamination, additional Dakota monitoring wells should be considered north of Pond 2, north of the mill reservoir, north of wells 36-01KD and 36-04KD (to define the extent of the plume), and near well 31-66.

QMC Response 1 (d)

Quivira believes the comments on well 30-02 are based on an incomplete set of data. Analytical data and depth to water measurements subsequent to Quivira's October 13, 1987 submittal to your office of "Update of Groundwater Monitoring of the Bedrock at the Quivira Mining Company, Ambrosia Lake Facility", indicate that water levels and contaminate levels are declining.

Contained within Appendix O are depth to water and analytical data graphs along with available historical analytical data. As shown on the depth to water graph, current water levels are decreasing and are approaching those prior to 1980. The analytical data shows the indicator parameters such as sulfates and TDS are also declining with time.

This would lead one to surmise that fluids in the Dakota formation associated with seepage from Pond 8 (as previously discussed in the Tailings Stabilization Report) did indeed pass through the area, increasing the water level and the concentration of contaminates in the well. However, in accordance with the AOD, the use of pond 8 was discontinued in 1983 with all standing water removed. As such, further recharge of tailings solutions into the Dakota formation has been eliminated thereby preventing future increase in contamination from this source.

The recent decline in the fluid level in the Dakota formation indicates the fluids are being collected and removed through the pumping of the underground mines which have dewatered much of the Dakota formation through ventilation holes, mine shafts and mine workings. This system has created a low pressure area or hydrologic depression trough in the vicinity of the Section 30 and 30 West mining area. When it becomes necessary to terminate pumping the Section 30 and Section 30 West mine systems for economic or other reasons, Quivira will evaluate the extent and level of contamination, if any, remaining in this unit. If at that time the contaminates have not been reduced to acceptable levels, Quivira will submit for NRC review an alternate system for continuing clean up of the formation.

The areal extent of contamination in the Dakota formation will be delineated through continued monitoring of Dakota ground water wells, updating the 1983 ventilation hole monitoring survey by resampling selected ventilation holes in Sections 17, 19, 24, 30, 30 West, 33 and the drilling of two new Dakota wells to help define the western and eastern limit of contamination. These wells will be named 24-76 Kd and 31-75 Kd. Their prospective drilling locations are presented in Appendix D.

Existing Dakota wells that will be sampled twice to provide additional data to establish the areal extent of the plume include:

5-01 Kd, 5-02 Kd, 1-01 Kd, 17-01, 30-02, 30-48 Kd, 31-03 Kd, 32-45, 32-51 Kd, 32-52 Kd, 25-01, 36-01 Kd, 36-04 Kd, 36-06

These wells and the new Dakota wells will be analyzed for the following constituents:

arsenic, barium, cadmium, chromium, cyanide, lead, mercury, molybdenum, nickel, selenium, silver, beryllium, antimony, thallium, gross alpha, radium 226, radium 228, natural uranium, thorium 230, lead 210, chloride, sulfate, pH and specific conductivity.

The following selected ventilation holes and shafts at Sections 17, 19, 24, 30, 30 West and 33 are scheduled to be sampled to help delineate the plume. These selected holes and shafts will be sampled once, pending access and safety considerations.

Section 17 - shaft, ventilation hole 7

Section 19 - ventilation holes 1, 2, 5, 7

Section 24 - ventilation hole 24

Section 30 - ventilation holes 2, 4, 5, 6, 7, 9, 10, 12, 14, 15, 16, 17

Section 30 West - ventilation holes 1, 2, 3, 4, 5, 6, 7

Section 33 - shaft, venthole 1

The results of this sampling program will be then added to the existing data base and graphs will be prepared for key parameters to indicate the limit of the contamination plume. This data will be summarized and submitted to NRC by January 1, 1990.

EID Comment 1 (e)

Dakota well 32-50KD, as discussed in the Groundwater Discharge Plan (1981) and in Appendix E of the Tailings Stabilization Report (1986), has anomalous water quality that indicates leakage of poor quality water from the alluvial aquifer above. Because its water is higher than those in wells 32-45KD and 32-51KD, these wells will eventually be affected by the outward flowing mound of poor quality water from 32-50KD. In fact, wells 32-45KD and 32-51KD have shown rising water levels since 1982. Well 30-48KD is also reported to be leaking from the alluvium. The leaking wells are therefore unnecessarily degrading very good quality water in the Dakota Sandstone. Quivira should consider plugging both these wells and replacing them with new wells.

QMC Response 1 (e)

Quivira agrees to plug well 32-50KD because of NRC and EID concerns about possible leakage of poor quality water from the alluvium. A decision on plugging monitor well 30-48KD will be deferred pending the updating of the 1983 ventilation hole monitoring survey. Upon completion and evaluation of the sampling results, Quivira will then determine the status and future of well 30-48KD.

With the updating and resampling of the ventilation hole monitoring survey, Quivira believes the Dakota formation will be sufficiently covered to determine the areal extent of the plume and does not plan to replace well 32-50KD.

EID Comment 1 (f)

A review should be performed of the calculations that were done in 1983 and 1984 to show that WQCC standards will not be exceeded in the Westwater Canyon Member of the Morrison Formation. The recalculation should consider any new information of the areal extent of contamination, volume of water in the bedrock units (taking into account changes in water levels), and contaminant concentrations of the plumes that new wells may provide, as well as any new data from the vent holes survey to be conducted. For this reason, a commitment and timetable to perform the calculations after any new wells have been constructed and sampled, is acceptable.

QMC Response (f)

Quivira commits to review and update as needed the calculations used to evaluate the potential impact on the Westwater Canyon formation as it relates to the WQCC standards. The recalculation will incorporate the new analytical data being generated through the ventilation hole survey update and the current monitor well data. The updated calculations will be completed and submitted to the NRC and NMEID with the 1st quarter 1990 report of Discharge Plan 169.

EID Comment 2

The EID's general concerns about the alluvium are insufficient well density to document Quivira's contention that contamination is being captured, whether the realigned stream and the interception ditch are causing the predicted changes in the direction of ground water movement, and whether additional contamination increases are occurring elsewhere (specifically near Pond 10 and east of Ponds 4, 5, and 6).

QMC Response 2

The alluvial material found within the Ambrosia Lake mill facility area is mostly logged as being a very fine grained sand, containing an intermix of clay material with an occasional basal gravel layer. All available records indicate the alluvium in the Ambrosia Lake area was dry prior to mining and milling activities. This is primarily the result of sparse rainfall and limited runoff within the area which, when combined with the high annual evaporation rate, prevented this unit from becoming an aquifer. Monitor wells subsequently drilled in areas away from the mill facilities and mine discharges confirm the alluvium remains a dry formation where unaffected by these activities.

Such was the case for the newly drilled alluvium monitoring well 30-68. This monitor well was drilled for NRC to establish background constituency levels in accordance with license condition #34. The well was drilled approximately 300 yards north, northwest of Section 30 West mine shaft, away from any mill or mine discharges. The well was dry confirming the formation had been originally dry. Information about this well was presented to NRC on December 2, 1988 and is hereby referenced for inclusion into this submittal.

To minimize the future impact of tailings solutions to the alluvium, Quivira entered into an Assurance of Discontinuance (AOD) with the State of New Mexico in 1983. This remedial action plan was initiated to prevent further seepage of tailings solutions into the alluvium from the toe of tailings pile #1. The AOD called for the construction and maintenance of an "Interceptor Trench" and specified that the use of unlined evaporation ponds 4, 5, 6, 7 and 8 be discontinued.

The interceptor trench was designed to intercept the source of contamination, prevent further migration and recharge of tailings solutions into the alluvium and create a hydrologic gradient back towards the trench to pull back and capture contaminated water in the alluvium to the east of the trench.

Construction on the interceptor trench began in 1984 with alluvial material being removed down to the Mancos shale or underlying sandstone formation. This has resulted in the trench constructed along the eastern boundary of Pond 3 stretching for a length of approximately 6,200 feet. Maps showing the interceptor trench as presently built is presented in Appendix A.

In addition to preventing further tailings solutions from seeping into the alluvium, the interceptor trench also acts as a "collection and pump back system". Since the trench is excavated to a maximum depth of 36 feet, the hydrologic gradient in the area immediately east of the trench area has been reversed from its normal, easterly direction, to a westernly gradient. This new gradient is also aided by a recharge of fresh, uncontaminated water flowing along the mill property perimeter. The fresh uncontaminated water is from the mill-mine water discharge system which is permitted through an Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) permit.

The reversal of this gradient in the area east of the trench has been documented by comparing the depth to water levels in 1984 to those in December 1988. As clearly indicated on the cross section map presented in Appendix B, the current hydrologic gradient along each of the sections is toward the interceptor trench. With the addition of clean recharge water from the NPDES drainage system, the plumes of contamination underlying the unlined evaporation Ponds 4, 5, and 6 are being flushed and swept back towards the interceptor trench. This sweeping and flushing action moves the contaminated solutions underlying the reclaimed evaporation ponds to the interceptor trench where it is collected and pumped to lined evaporation ponds.

As a results of this activity, the concentration of indicator parameters such as TDS, SO_4, and Cl concentrations in some of the alluvium wells initially increased as the fluids with higher levels of contamination began to pass the monitor wells as they moved toward the interceptor trench.

After the contamination front passed the monitoring wells, the indicator parameters are now decreasing in concentration as the fresh recharge water from the NPDES drainage system continues to flush the area underlying the evaporation ponds. The findings indicate a gradual clean up of the area is occurring and will continue due to the presence of the interceptor trench. It should also be noted that wells to the east of the NPDES creek have started to show a decrease in contamination levels as shown in wells AW-1, 32-42, 32-50, 32-49, 32-02, 30-04, 32-43 and 30-48. Graphs supporting these conclusion presented in Appendix C.

With the configuration of the interceptor trench it is not possible to accurately determine volume of solutions being recovered from the affected alluvium; however, it is estimated that about 50 gallons per minute are being drawn back to the trench from the alluvium.

In order to better quantify a recharge and collection rate for the alluvium, Quivira is establishing a Parshall flume and flow recorder just north of evaporation pond 9 in the recharge creek. This, combined with the NPDES outfall flow records, will enable Quivira to better quantity the recharge and collection rates in the alluvium and interceptor trench. The location of the flumes are shown in Appendix D.

Quivira believes that the data show the current collection and "pump back system" in the interceptor trench prevents future migration of tailings seepage into the alluvium while restoring the alluvium by the sweeping and flushing action of the clean recharge water from the NPDES outfall.

EID Comment 2 (a)

It was postulated by Bill Ganus (in conversations with him in 1987) that a residual ground water mound exists under Ponds 4, 5, and 6. However, there are no wells in this area to verify this, or to define the zone of capture of the alluvial trench. Also, Quivira asserts that the realigned stream is acting as a ground water divide; again, no data exist to confirm or deny this assertion. Several wells should be considered immediately adjacent to the stream to determine how much the water table has been raised by the stream's return flow. The cleanup of the alluvium depends on this reversal of the ground water gradient. The EID strongly suggests that approximately six new wells be installed in the area of Ponds 4, 5, and 6 in order to accurately determine the shape of the potentiometer surface in this area.

QMC Response 2 (a)

Quivira believes the interceptor trench which was constructed in accordance with the AOD is performing as it was intended, namely to cut off future seepage from tailings pile #1 and to reverse the local hydraulic gradient in the area allowing contamination underlying the unlined evaporation ponds to be "pull back" and captured. As discussed in the above response, both the alluvium cross section and analytical results indicate the fluids are being flushed and swept towards the interceptor trench where they are collected and removed.

The areal extent of contamination of hazardous constituents within this unit will be delineated using the combination of three methods.

First, Quivira will monitor existing alluvium wells. Each of these wells will be sampled twice and analyzed for the following constituents.

Parameters: arsenic, barium, cadmium, chromium, cyanide, lead, mercury, molybdenum, nickel, selenium, silver, beryllium, antimony, thallium, gross alpha, radium 226, radium 228, natural uranium, thorium 230, lead 210, chloride, sulfate, pH and specific conductivity.

The existing alluvium monitoring wells that will be sampled are:

30-68, 30-53, 30-46, 30-47, 30-48, 30-04, 30-49, AW-1, 31-05, 31-63, C-3, D-4, E-5, 31-65, 32-01, 32-02, 32-50, 32-41, 32-42, 32-43, 32-51, 32-52, 32-58, 32-59, AW-2, 32-60, 31-61, S-9, S-12, 5-03, MW-24, 32-56, 32-57

Second, Quivira will sample selected ventilation holes and shafts in Section 17, Section 19, Section 24, Section 30, Section 30 West and Section 33. The following ventilation holes are those that will be sampled once, pending access and safety considerations.

Section 17 - shaft, ventilation hole 7

Section 19 - ventilation holes 1, 2, 5, 7

Section 24 - ventilation hole 24

Section 30 - ventilation holes 2, 4, 5, 6, 7, 9, 10, 12, 14, 15, 16, 17

Section 30 West - ventilation holes 1, 2, 3, 4, 5, 6, 7

Section 33 - shaft, venthole 1

Third and finally, Quivira will drill five new alluvial monitor wells to help delineate and further define the water quality and the thickness of the saturated zone in the alluvial material. The names of these new alluvium wells are listed below with their approximate drill locations shown in Appendix D.

New Alluvial Wells: 32-69, 31-70, 31-71, 32-72, 5-73

The wells 31-70 and 31-71 will be drilled between ponds 4 and 5. These will be used to establish potentiometric surface in the underlying area and to evaluate cleanup efforts caused by the sweeping and flushing action of the fresh recharge water. Monitor well 32-69 well be drilled adjacent to the stream to determine how much the water table has been raised by the stream's return flow.

The results of this sampling program will be then added to the existing data base and graphs will be prepared for key parameters to indicate the extent of the contamination plume. This data will be summarized and submitted to NRC by January 1, 1990.

<u>EID Comment 2 (b)</u>

Well 32-42 shows high levels of contamination (though well 32-41 shows only "moderate" contamination, this may be attributable to construction differences, as discussed below) which suggests contamination is moving eastward from Ponds 4, 5, and 6. This also may indicate that the realigned stream is not acting as a ground water divide. Additional wells to the south of Well 32-42 and north of the realigned stream therefore appear justified.

QMC Response 2 (b)

A review of the analytical data for monitor well 32-42 indicates that since the construction of the interceptor trench, the contamination levels have shown a continual decrease with time. This well confirms Quivira's belief that the local gradient has been reversed from an easterly direction to a westernly direction thereby pulling contamination towards the interceptor trench for collection and removal. A graph demonstrating the continual decrease in contaminate levels is presented in Appendix P.

Quivira believes that continued use of the interceptor trench will result in the steady decrease of contaminate levels at this well.

EID Comment 2 (c)

In many of the alluvial wells, the water level is well above the screened interval (e.g., 30-04, 30-47, 30-48, 31-05, 32-02, 32-43, 32-50, 32-51, 32-52, and 32-59), implying that water samples may not be indicative of water quality in the top portion of the water table (where contamination is likely to be greatest). In addition, substantial layers of clay, which would inhibit vertical permeability, are shown on the logs for many alluvial wells (e.g. 30-46, 30-47, 30-48, 30-49, 31-05, 32-43, 32-51, 32-52, and 32-56). For these reasons, new wells should be constructed and screened in the upper part of the water table.

QMC Response 2 (c)

Quivira does not agree with the statement that water samples in these wells are not indicative of the water quality and do not represent samples where the contamination is likely to be the greatest.

Quivira has evaluated the water analysis of several alluvial wells where the water levels are within the screened interval versus nearby wells where the water levels are significantly above the screened interval. The evaluations were made comparing only those wells in close proximity to each other so a meaningful correlation could be made.

As shown in the table below, the alluvial wells whose water levels are in the screened interval have chloride concentrations less than or equal to the nearby wells whose water levels are above the screened interval.

Table 1
Alluvial Well Comparison

	Monitor Well	Distance From Comparison Field (yards)	Chloride (mg/l)
Comparison Set #1			
Monitor Well Whose Water Level Is In Screened Interval	AW-1		235

Monitor Wells Whose Water Level Is Not In Screened Interval	30-04 31-05 32-02	12 107 120	1690 2190 1550

Comparison Set #2

Monitor Wells Whose Water Level Is In Screened Interval	32-61 32-60		1850 2170
Monitor Well Whose Water Level Is Not In Screened Interval	S-12	52	4800

Comparison Set #3

Monitor Wells Whose Water Level Is In Screened Interval	AW-2		113
Monitor Well Whose Water Level Is Not In Screened Interval	32-52	10	100

This data indicates that those alluvial wells whose screened intervals are in the lower part of the saturated zone continue to indicate the quality of formation water impacted most by the contaminated solutions because of the physical makeup and subsequent recharge of the alluvial formation. These wells do not underestimate the formation water quality.

This is because as fresh water from the NPDES permit drainage percolates down through the alluvium reaching the saturated portion of the alluvium, the fresh recharge water forces the contaminated seepage up and into the monitor well.

However, for those wells whose water levels are within the screened interval, the fresh NPDES drainage recharge water can percolate down through the alluvium and directly into the monitor well via the screen interval without having to displace the underlying seepage fluid if present.

Additionally, the layers of clay within the alluvium are noncontinuous, interlaced lenses, intermixed with fine grained sands which permit percolation and communication through the alluvial formation.

We believe these supports Quivira's position that water samples collected from the referenced monitor wells accurately represent the true water quality conditions within the alluvium.

EID Comment 2 (d)

Data in wells 32-58 and 32-59 indicate increasing contamination in this area, possibly from Ponds 9 and 10. Additional wells between the stream course and the ponds are suggested to help define the source of contamination. There is no mechanism in this area to capture contamination. If there is evidence of a significant plume of contamination in this area, Quivira should evaluate the feasibility of an active pump back system to contain contamination.

Quivira Response 2 (d)

Quivira does not believe it would be beneficial to install additional monitoring wells in this area to help define the source of the contamination as pond 10 is no longer a potential source of contamination. As agreed to in the AOD, pond 10, which lost its liner integrity, was removed from service in 1983, and is being reclaimed. The other potential source, tailings pile #1, has also been eliminated because of the construction of the interceptor trench. The interceptor trench was reworked this spring and extended to the south and southeast thereby effectively intercepting all seepage from Pond 1.

Because both ponds rest on a shoulder of the Mancos shale, additional monitoring wells in the shale would prove inconclusive. With the reclamation and removal of pond 10 and the reworking of the interceptor trench, the most probable sources of future contamination seepage have been eliminated.

However, to respond to NRC and NMEID concerns, one new well (32-72) will be located to the east of pond 9 and west of the creek to help define the source of contamination and define the plume contamination. We will also continue to monitor existing wells to evaluate the effectiveness of these activities. The site of this new well in presented in Appendix D.

EID Comment 2 (e)

Other than a few older sample results, the EID has no data from the alluvial wells other than those that are sampled as part of the DP-169 monitoring program. Therefore, the EID cannot evaluate the complete alluvial aquifer system. The extent of coverage for monitoring requirements of DP-169 will need to be expanded prior to renewal. It would be extremely helpful to the EID to have all existing water quality and water level data for all the alluvial wells. This data could be most usefully provided on a computer diskette that EID could then load into its existing database for Quivira's site.

QMC Response 2 (e)

Quivira is submitting in Appendix F, the available water quality and water level data for all the alluvial wells at the Ambrosia Lake facility which surround the tailings impoundment area.

EID Comment 2 (f)

When more detailed information is available from the additional alluvium wells, Quivira should make an estimate of the time to effect cleanup of the alluvium aquifer. If, in the region of Ponds 4, 5, and 6, cleanup can be effected in a much shorter time by the use of active pumping in addition to the alluvial trench, Quivira should seriously consider this option.

QMC Comment 2 (f)

To estimate a time frame to effect cleanup, Quivira proposes to perform various tests including pump tests to define permeabilities, development of gradient maps, and establishing retardation coefficients for various hazardous constituents. This information along with the determined clean up time will be presented to NRC by April 1, 1990.

CORRECTION ACTION PLAN

APPENDIX I

Tres Hermanos B Monitor Well Data

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-02TRB

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
03-Feb-84	36.9	128.7	3730	11.0	5.7												
17-Apr-84	36.7	128.7	4650	13.0	5.8	-0.02	0.05		-0.110	0.15	-0.01			170			-0.0070
18-Jul-84	36.8	128.7	3010	14.0	6.3												
22-Apr-85	36.6	128.7	5000	12.5	7.2	-0.01	-0.10		-0.001	0.30	-0.10			280			-0.0002
08-Jul-85	36.5	128.7	3000	14.0	7.2												
07-Nov-85	37.9	128.7	3460	12.5	6.5												
13-Jan-86	36.4	128.7	3110	11.5	6.7												
10-Apr-86	35.4	128.7	1600	16.0	7.4	-0.01	0.10		-0.001	0.70	0.30			503		460	-0.0001
08-Jul-86	*35.4		3400	15.0	7.9												
07-Oct-86	36.5	128.7	3850	15.0	7.5												
15-Jan-87																	
15-Apr-87																	
15-Jul-87	36.9	128.7	4500	17.0	6.5	-0.10	-0.10		-0.005	0.30	-0.10	-0.10		568			-0.0010
15-Jul-87	36.9	128.7	4470	15.0	6.3	0.06	0.26		-0.001	0.36	[illegible]			367			-0.0050
19-Oct-87	36.4	127.6	4250	12.0	7.1												
20-Jan-88	36.7	127.7	4100	10.1	7.0			81.9				-0.01		452	77.1		
25-May-88	36.6	127.5	4090	13.3	6.6	0.03	0.27	74.4	0.015	0.33	0.02			372	69.6		-0.0050
19-Jul-88	36.5	127.5	4100	14.0	6.6			76.2						498	71.1		
26-Oct-88	36.4	127.6	4250	12.8	6.9			80.1	0.004					487	72.1		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-02TRB

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
03-Feb-84	570																	
17-Apr-84	540		-0.01		-0.03	0.02	0.1				16.0	220	1.10	-0.02	380	0.04		
18-Jul-84	420																	
22-Apr-85	400		0.00	-0.5	-0.05	-0.02	-0.1	0.04	230		18.7	265	0.73	-0.10	518	0.08	2.5	2.5
08-Jul-85	280																	1.6
07-Nov-85	320																	3.3
13-Jan-86	330																	0.9
10-Apr-86	460		0.10	-0.5	-0.05	0.03	-0.1	0.09	560		15.3	251	0.31	0.10	545	0.10	2.9	12.0
08-Jul-86	520																	0.2
07-Oct-85	6																	0.2
15-Jan-87																		
15-Apr-87																		
15-Jul-87	693		-0.05		-0.10	-0.10	0.2	-0.10	533		12.5	224	-0.61	-0.10	561	-0.10	6.8	1.4
15-Jul-87	700		-0.01		-0.01	-0.01	-0.1	0.14	444	-0.0002	10.3	287	0.44	0.11	566	-0.01	6.4	0.8
19-Oct-87	639																	-0.1
20-Jan-88	625	-0.01		-1.0				0.28	435		14.2	301	0.24		677			-0.1
25-May-88	650		0.02	-1.0	0.15	0.02	0.1	0.08	344		16.5	250	0.03	0.07	690	0.07	0.4	0.5
19-Jul-88	611			-1.0				0.21	478		15.1	245	0.25		591			0.1
26-Oct-88	591			-1.0				1.12	472		14.4	265	0.48	0.11	590			1.3

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-02TRB

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
03-Feb-84										1330	2770						
17-Apr-84			-0.068			6.5			-0.100	1380	2940		27		0.0330	0.02	0.08
18-Jul-84										1300	2730						
22-Apr-85			-0.001			2.5			-0.001	2050	3860		26		0.5090	-0.20	0.01
08-Jul-85										2200	4040						
07-Nov-85										2420	4100						
13-Jan-86										2310	4340						
10-Apr-86			0.004			0.8			-0.001	2290	4680		15		2.9400	0.30	0.15
08-Jul-86										2130	3840						
07-Oct-86										2170	4080						
15-Jan-87																	
15-Apr-87																	
15-Jul-87			-0.010					-0.10	-0.005	2321	4986					-0.10	-0.10
15-Jul-87			-0.010						0.007	2340	4890					0.10	-0.01
19-Oct-87										2480	5120						
20-Jan-88										2670	5270	0.2					
25-May-88			-0.020			0.4			0.044	2360	5240	0.0	103		2.4700	0.07	-0.01
19-Jul-88										2370	5410						
26-Oct-88						0.3			0.022	2590	5080	0.2			0.4160		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-62TRB

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
17-Apr-84	8.6	64.6	3810	13.0	7.3	-0.11	0.13		-0.110	0.21	-0.01			420			-0.0070
17-Jul-84	10.2	64.6	3010	14.0	7.0												
17-Oct-84	12.7	64.3	3300	13.0	6.9												
11-Jan-85	14.3	64.6	3390	11.0	7.0												
22-Apr-85	19.1	64.6	4600	13.0	7.7	-0.01	-0.10		-0.001	0.20	-0.10			422		50	-0.0002
08-Jul-85	20.3	64.5	3000	13.0	7.3												
13-Nov-85	21.5	64.6	3200	12.2	6.9												
13-Jan-86	21.9	64.6	3000	11.0	6.9												
10-Apr-86	21.8	64.6	2775	13.0	7.3	-0.01	0.60		-0.001	0.40	-0.10			547		480	0.0554
08-Jul-86	21.8		2800	17.0	7.7												
07-Oct-86	22.1	64.6	3950	15.0	7.6												
17-Mar-87	22.0	64.6	3700	11.5	6.8												
28-Apr-87	22.0	64.6	3800	12.5	7.2	-0.01	-0.10		0.005	0.35	-0.10			457			-0.0010
16-Jul-87	22.0	64.6	3500	12.5	6.6									526			
14-Oct-87	22.7	64.5	3400	12.0	6.7												
21-Jan-88	22.6	64.7	3350	10.2	6.5			70.3				-0.01		513	65.9		
10-May-88	22.9	64.8	3900	12.9	6.6	-0.01	0.24	71.9	0.015	0.30	0.01			597	67.4		-0.0050
19-Jul-88	22.7	64.7	3450	13.1	6.5			70.8						667	70.9		
27-Oct-88	22.3	64.6	3475	11.3	6.3			65.4	0.004					590	63.1		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-62TRB

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
17-Apr-84	69		-0.01		-0.03	0.03	-1.0				6.9	180	0.13	-0.02	160	0.04		
17-Jul-84	110																	
17-Oct-84	52																	
11-Jan-85	11																	
22-Apr-85	150		0.00	-0.5	-0.05	-0.02	0.2	-0.03	61		7.2	188	0.23	-0.10	193	0.12	0.9	-0.1
08-Jul-85	210																	-0.1
13-Nov-85	270																	0.9
13-Jan-86	310																	-0.1
10-Apr-86	340		0.06	-0.5	-0.05	0.04	0.2	0.20	580		8.3	267	1.25	0.20	322	0.10	2.1	3.0
03-Jul-86	430																	0.3
07-Oct-86	400																	0.4
17-Mar-87	400																	1.3
28-Apr-87	400		-0.01	-1.0	-0.03	0.02	-0.1	-0.03	633		7.9	286	0.22	-0.10	536	0.01	0.7	
16-Jul-87	421							0.04	665		9.5		0.08		233			3.0
14-Oct-87	470																	0.8
21-Jan-88	458	-0.01		-1.0				0.49	503		8.7	338	0.23		283			-0.1
10-May-88	491		0.02	-1.0	0.16	0.02	0.2	0.12	538		9.1	223	0.33	0.08	247	0.07	0.4	-0.1
19-Jul-88	499			-1.0				0.25	453		8.4	327	0.37		240			-0.1
27-Oct-88	503			-1.0				0.95	237		8.1	286	0.31	0.13	227			-0.1

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-62TRB

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
17-Apr-84			0.094			3.5			0.150	1630	2890		12		0.0270	0.04	0.07
17-Jul-84										1500	2760						
17-Oct-84										1480	3010						
11-Jan-85										1560	3030						
22-Apr-85			-0.001			0.7			-0.001	1890	3540		18		0.0066	-0.20	-0.01
08-Jul-85										1990	3700						
13-Nov-85										2120	4030						
13-Jan-86										2260	4120						
10-Apr-86			-0.001			1.2	0.0		-0.001	2130	4240		5		0.0223	0.30	0.03
08-Jul-86										2220	4260						
07-Oct-86										2510	4470						
17-Mar-87										2190	4390						
28-Apr-87			-0.001			0.4			-0.002	2210	4340		58		0.0109	-0.10	0.02
16-Jul-87										1910	4500						
14-Oct-87										2100	4510						
21-Jan-88										2270	4340	0.0					
10-May-88			0.030			0.4			0.012	2270	4560	0.0	58		0.0011	0.07	0.01
19-Jul-88										2290	5140						
27-Oct-88						0.3			0.037	2230	4650	0.5			0.0023		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-64

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
07-Oct-86	11.9	36.2	6500	13.0	7.3												
17-Mar-87	11.2	36.2	4800	9.0	7.1												
28-Apr-87	11.8	36.2	5600	11.6	7.2	-0.01	-0.10		0.007	0.30	-0.10			382			-0.0010
16-Jul-87	13.4	36.2	6000	11.5	6.6									305			
14-Oct-87	15.4	36.3	6800	11.5	6.4												
21-Jan-88	11.2	36.4	3750	9.3	6.5			76.6				-0.01		422	72.4		
10-May-88	11.4	36.3	3400	10.9	6.6	-0.01	0.21	69.6	0.018	0.30	0.02			412	63.2		-0.0050
19-Jul-88	10.4	36.4	3300	12.5	6.4			67.3						425	60.2		
27-Oct-88	10.0	36.4	3310	12.5	6.5			56.0	0.007					371	54.4		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-64

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
07-Oct-86	500																	0.9
17-Mar-87	930																	1.4
28-Apr-87	1010		-0.01	-1.0	-0.03	0.03	0.2	-0.03	1080		7.1	408	0.07	-0.10	1280	0.01	0.3	
16-Jul-87	976							-0.01	1190		8.4		0.03		927			0.6
14-Oct-87	1150																	0.3
21-Jan-88	658	-0.01		-1.0				0.10	454		6.2	282	0.04		643			0.5
10-May-88	542		0.01	-1.0	0.13	0.02	0.4	0.09	488		5.8	212	0.09	0.21	576	0.06	-0.1	0.5
19-Jul-88	592			-1.0				0.11	426		5.8	201	0.35		512			-0.1
27-Oct-88	478			-1.0				0.10	306		5.7	184	0.12	0.26	473			-0.1

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-64

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
07-Oct-86										2710	6550						
17-Mar-87										2560	6020						
28-Apr-87			-0.001			0.2			0.006	2820	6530		20		0.9710	-0.10	0.02
16-Jul-87										1930	7280						
14-Oct-87										3510	8320						
21-Jan-88										2350	4260	1.3					
10-May-88			-0.020			0.1			0.040	2140	4430	0.0	77		1.1000	0.05	-0.01
19-Jul-88										2020	4190						
27-Oct-88						0.2			0.058	1750	3730	0.0			0.9560		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 36-01TR

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84					7.0												
01-Nov-84	38.7	59.9	5300	[illegible]	4.8												
29-Jan-85	43.8	59.9	5200	10.2	7.5												
25-Apr-85	43.9	59.9	5200	12.5	8.3												
08-Nov-85	44.2	59.9															
13-Jan-86	44.5	59.9															
16-Apr-86	44.4	59.9	5200	15.0													
09-Jul-86	43.9	59.9	4000	27.0	3.6												
02-Oct-86	44.5	60.0	5100	17.0													
18-Mar-87	43.5	60.0	4610	12.5													
16-Apr-87	44.9	60.0	6000	16.0													
15-Jul-87	45.1	60.3	6800	15.8	6.5	-0.10	-0.10		-0.005	0.40	-0.10	-0.10		280			-0.0010
15-Jul-87	44.5	60.3	7790	15.0	6.9	0.07	0.40		-0.001	0.51	0.02			229			-0.0050
29-Oct-87	43.4	60.0	7500	12.5	7.0												
18-Feb-88	47.8	58.8	6900	11.0	7.2												
31-May-88	47.8	58.8	6900	12.1	6.9												
16-Aug-88	48.8	58.8	6750	12.9	6.8												
13-Sep-88						0.04			0.019		0.02	0.01					-0.0050
23-Sep-88						0.03			0.016		0.01	0.01					-0.0050
07-Dec-88	57.5	58.8	6200	11.3	6.8												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 36-01TR

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	380																	
01-Nov-84	1125																	
29-Jan-85	910																	
25-Apr-85	32[illegible]9																	
08-Nov-85																		
13-Jan-86																		
16-Apr-86																		
09-Jul-86	[illegible]61																	
02-Oct-86																		
18-Mar-87																		
16-Apr-87																		
15-Jul-87	1473		-0.05		-0.10	-0.10	0.3	-0.10	0		12.1	1147	2.10	-0.10	508	-0.10	8.3	0.0
15-Jul-87	1260		-0.01		-0.01	-0.01	-0.1	129.00	-1	-0.0002	8.9	1080	2.32	0.33	457	-0.01	20.0	-0.1
29-Oct-87																		
18-Feb-88																		
31-May-88																		
16-Aug-88	1820																	
13-Sep-88		-0.01			0.22					-0.0002				0.29		0.29		
23-Sep-88		-0.01			0.22					0.0003				0.32		0.28		
07-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 36-01TR

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										2639	6126						
01-Nov-84										4194	8622						
29-Jan-85										3706	8594						
25-Apr-85										4403	11930						
08-Nov-85																	
13-Jan-86																	
16-Apr-86																	
09-Jul-86										3024	5278						
02-Oct-86																	
18-Mar-87																	
16-Apr-87																	
15-Jul-87			-0.010					-0.10	-0.005	5424	10750					-0.10	-0.10
15-Jul-87			0.020						0.002	4460	8850					0.18	0.04
29-Oct-87																	
18-Feb-88																	
31-May-88																	
16-Aug-88										4460	10400						
13-Sep-88			0.070	12.0		0.9	1.8	0.02	0.032			1.8			0.0044		
23-Sep-88			0.050	3.9		0.6	0.7	0.05	0.242			1.2			0.0049		
07-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 36-02TRB

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
03-Feb-84	33.3	59.9	5500	13.0	6.3												
17-Apr-84	32.8	59.9	6500	12.0	6.4	-0.02	0.04		-0.110	51.00	0.04			6			-0.0070
18-Jul-84	37.4	59.9	10200	11.0	6.2												
17-Oct-84	37.5	59.9	12900	10.0	6.1												
11-Jan-85	33.5	59.9	12200	11.5	6.8												
22-Apr-85	34.8	58.9	16200	11.0	6.0	-0.01	-0.10		-0.001	0.40	-0.10			530		480	-0.0002
08-Jul-85	39.5	59.8	10200	14.0	5.3												
08-Nov-85	35.1	59.9	10000	13.0	5.7												
13-Jan-86	† 35.5	59.9	9100	12.9	5.7												
11-Apr-86	34.9	59.9	10000	15.0	5.4	-0.01	1.10		-0.001	0.40	-0.10			217		12	-0.0001
08-Jul-86	34.6		10500	16.0	7.8												
07-Oct-86	36.8	59.8	8000	14.0	7.7												
15-Jan-87	36.7	59.8	6500	13.0	7.2												
15-Apr-87	37.0	59.8	15000	15.0	6.9	-0.01	-0.10		0.003	0.62	-0.10			273			-0.0010
16-Apr-87	37.0	59.8	8000	15.0	7.3	-0.01	0.10		0.006	0.22	-0.10			284			-0.0010
15-Jul-87	36.1	59.8	11000	13.8	7.0	0.07	0.44		0.001	0.57	0.02			299			-0.0050
15-Jul-87	36.1	59.8	10200	14.8	6.9	-0.10	-0.10		-0.005	0.60	-0.10	-0.10		360			-0.0010
06-Nov-87	35.9	58.9	9200	11.5	7.0												
21-Jan-88	36.1	59.0	8500	9.8	7.3			206.0				-0.01		151	206.0		
05-May-88	37.6	59.1	9200	13.5	7.0	0.02	0.34	215.8	0.020	0.50	0.01			211	166.2		-0.0050
19-Jul-88	38.0	59.1	9000	14.2	6.9			181.2						251	185.1		
20-Sep-88						0.04			0.019		0.02	-0.01					-0.0050
23-Sep-88						0.03			0.016		0.01	-0.01					-0.0050
03-Oct-88						0.03			0.021		0.01	-0.01					-0.0050
11-Oct-88						0.04			0.012		0.02	-0.01					-0.0050
26-Oct-88	37.7	59.0	10200	13.2	6.9			206.0	0.005					321	192.0		
18-Nov-88						0.04			0.018		0.02	-0.01					-0.0050

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 36-02TRB

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
03-Feb-84	1424																	
17-Apr-84	1360		-0.01		0.07	0.03	-1.0				26.0	3	7.80	0.03	410	0.08		-1.0
18-Jul-84	1749																	
17-Oct-84	2410																	
11-Jan-85	2080																	
22-Apr-85	2300		0.00	-0.5	-0.05	-0.02	-0.	1.85	590		12.8	1520	2.17	-0.10	690	0.29	3.2	1.8
08-Jul-85	2500																	0.2
08-Nov-85	2500																	0.5
13-Jan-86	2500																	-0.1
11-Apr-86	2500		0.11	-0.5	0.06	0.04	-0.1	23.40	15		14.2	1700	1.99	0.10	1090	0.15	7.0	3.0
08-Jul-86	3000																	8.5
07-Oct-86	480																	0.2
15-Jan-87	2300																	0.1
15-Apr-87	2720		-0.01	-1.0	-0.03	0.03	0.1	-0.03	648		10.7	1860	2.27	-0.10	857	0.01	0.5	
16-Apr-87	2780		-0.01	-1.0	-0.03	0.04	-0.1	0.09	791		12.3	1860	1.89	-0.10	1200	0.01	14.0	
15-Jul-87	2840		-0.01		-0.01	-0.01	-0.1	0.25	598	-0.0002	9.0	1780	1.83	0.41	974	-0.01	20.0	-0.1
15-Jul-87	2700		-0.05		-0.10	-0.10	0.3	190.00	740		11.3	2059	2.20	-0.10	867	-0.10	15.2	-0.1
06-Nov-87	2700																	-0.1
21-Jan-88	2680	-0.01		-1.0				0.87	628		13.2	1920	1.14		916			-0.1
05-May-88	2960		0.09	-1.0	0.23	0.02	0.1	0.17	637		14.9	1440	1.99	0.31	839	0.23	5.7	-0.1
19-Jul-88	2930			-1.0				5.12	595		14.9	1620	1.92		893			-0.1
20-Sep-88		-0.01			0.22					0.0003				0.32		0.31		
23-Sep-88		-0.01			0.22					0.0003				0.32		0.28		
03-Oct-88		0.02			0.23					-0.0002				0.35		0.28		
11-Oct-88		0.01			0.27					0.0008				0.37		0.33		
26-Oct-88	2960			-1.0				235.00	525		13.6	1650	2.46	0.40	925			-0.1
18-Nov-88		-0.01			0.30					0.0003				0.39		0.31		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 36-02TRB

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
03-Feb-84										3622	8381						
17-Apr-84			-0.068			0.4			0.170	4785	11444		63		0.1200	0.04	0.21
18-Jul-84										4536	12718						
17-Oct-84										4500	11700						
11-Jan-85										4010	10600						
22-Apr-85			-0.001			1.2			-0.001	5540	12500		16		0.0004	-0.20	0.02
08-Jul-85										5850	14100						
08-Nov-85										6080	12300						
13-Jan-86										5710	13100						
11-Apr-86			-0.001			0.8			-0.001	6140	13100		10		0.0006	0.30	0.05
08-Jul-86										6020	13700						
07-Oct-86										5730	12100						
15-Jan-87										5520	12200						
15-Apr-87			-0.001			0.4			0.003	5510	14700		121		0.0097	-0.10	0.21
16-Apr-87			-0.001			0.3			-0.002	6030	13500		60		0.0128	-0.10	0.03
15-Jul-87			-0.010						0.002	5570	13600					0.19	0.02
15-Jul-87			-0.010						-0.005	5780	14218					-0.10	-0.10
06-Nov-87										5680	12500						
21-Jan-88										5670	11800	0.1					
05-May-88			-0.020			0.6			0.119	5740	14690	0.1	192		0.0024	0.15	0.02
19-Jul-88										4160	15200						
20-Sep-88			0.020	5.5		0.1	2.2	0.03	0.286			1.6			0.0037		
23-Sep-88			0.050	3.9		0.6	0.7	0.05	0.242			1.2			0.0049		
03-Oct-88			0.030	3.1		2.0	1.2	0.59	0.165			1.2			0.0062		
11-Oct-88			0.080	4.5		0.3	1.7	0.12	0.022			1.5			0.0044		
26-Oct-88						0.1			0.051	5400	14000	0.0			0.2000		
18-Nov-88			0.060	99.0		1.4	0.0	0.02	0.104			3.6			0.0095		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-66

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
18-Feb-88	109.3	123.2	12500	10.5	6.1	0.04	0.48		0.007	0.54	0.01			444			-0.0100
31-May-88	109.6	123.2	7500	13.8	6.0												
15-Aug-88	110.7	123.2	11400	15.8	6.2												
20-Sep-88						0.04			0.013		0.03	-0.01					-0.0050
26-Sep-88						0.04			0.040		0.04	-0.01					-0.0050
03-Oct-88						0.03			0.012		0.03	-0.01					-0.0050
11-Oct-88						0.04			0.019		0.04	-0.01					-0.0050
21-Nov-88						0.04			0.029		0.03	-0.01					-0.0050
08-Dec-88	109.8	123.2	11900	13.0	5.9												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-66

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
18-Feb-88	4960		0.12	-1.0	0.20	0.03	0.1	0.20	1100		30.4	1250	8.04	0.48	2750	0.37	23.0	-0.1
31-May-88																		
15-Aug-88	4530																	
20-Sep-88		-0.01			0.21					0.0006				0.22		0.36		
26-Sep-88		-0.01			0.21					0.0004				0.21		0.32		
03-Oct-88		-0.01			0.22					-0.0002				0.24		0.33		
11-Oct-88		-0.01			0.25					0.0008				0.26		0.35		
21-Nov-88		-0.01								0.0012				0.25		0.32		
08-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-66

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
18-Feb-88			0.050			1.3			0.065	3640	16400	0.4	90		0.2650	0.12	0.02
31-May-88																	
15-Aug-88										4030	15400						
20-Sep-88			0.030	7.7		1.1	4.9	0.02	0.339			9.5			0.1940		
26-Sep-88			0.050	5.0		1.0	4.5	0.01	0.245			1.3			0.2060		
03-Oct-88			0.030	4.5		0.7	5.2	0.02	0.384			0.7			0.2020		
11-Oct-88			0.060	5.6		0.3	4.5	0.14	0.025			1.0			0.2600		
21-Nov-88			0.040	9.5		1.2	5.4	0.02	0.031			1.1			0.3670		
08-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-67

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
18-Feb-88	19.1	96.5	4620	10.0	6.4	0.03	0.35		0.009	0.47	-0.01			509			-0.0100
31-May-88	19.2	96.5	4225	10.9	6.2												
15-Aug-88	19.7	96.5	4375	12.0	6.2												
20-Sep-88						0.03			0.017		0.02	-0.01					-0.0050
26-Sep-88						0.03			0.017		0.01	-0.01					-0.0050
04-Oct-88						0.03			0.018		0.01	-0.01					-0.0050
11-Oct-88						0.03			0.007		0.01	-0.01					-0.0050
21-Nov-88						0.04			0.004		0.03	-0.01					-0.0050
07-Dec-88	19.9	96.5	4350	11.2	6.5												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-67

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
18-Feb-88	920		0.03	-1.0	0.16	0.03	0.3	0.14	751		14.9	552	1.07	0.30	575	0.13	1.4	0.3
31-May-88																		
15-Aug-88	872																	
20-Sep-88		-0.01			0.18					0.0004				0.13		0.15		
26-Sep-88		-0.01			0.17					0.0003				0.12		0.13		
04-Oct-88		-0.01			0.21					0.0004				0.13		0.13		
11-Oct-88		-0.01			0.20					0.0007				0.13		0.13		
21-Nov-88		-0.01			0.24					0.0011				0.15		0.14		
07-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-67

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
18-Feb-88			0.020			0.2			0.039	2900	5020	0.3	128		0.0074	0.08	0.02
31-May-88																	
15-Aug-88										2930	6330						
20-Sep-88			0.040	14.0		2.0	11.0	0.02	0.154			9.0			0.0040		
26-Sep-88			0.040	7.0		1.0	9.8	0.01	0.067			2.6			0.0045		
04-Oct-88			0.020	[illegible]		0.9	8.8	0.02	0.110			2.0			0.0036		
11-Oct-88			0.020	4.5		0.7	8.4	0.05	0.020			2.5			0.0035		
21-Nov-88			0.020	27.0		3.3	9.9	0.01	0.024			7.2			0.0069		
07-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
VENT HOLE 19-21R8

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
01-Apr-84			5640		7.8				-0.110		0.02						
23-Apr-85			6080		7.9	0.00	-0.10		-0.001	0.30	-0.10			322		290	-0.0001
22-Apr-86			4500		7.8	-0.01	0.20		-0.001	0.65	0.20			319		240	-0.0001
22-Apr-87			4500		7.7	-0.01	-0.10		0.005	0.20	-0.10			274			-0.0010
26-Apr-88			2790	8.7	7.2	-0.01	0.21	48.00	0.013	0.44	0.03			308	44.3		-0.0050
13-Sep-88						0.03			0.021		0.02	-0.01					-0.0050
13-Sep-88						-0.05			-0.001		-0.10	-0.05					-0.0500
05-Oct-88						0.02			0.039		0.02	-0.01					-0.0050
05-Oct-88						-0.05			-0.001		-0.10	-0.05					-0.0100

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
VENT HOLE 19-2TRB

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
01-Apr-84	35		0.011		-0.03	0.03								-0.02				
23-Apr-85	36		-0.050	-0.5	-0.05	-0.02	0.3	0.33	350		10.3	180	0.09	-0.10	705	0.07	-0.1	1.9
22-Apr-86	46		-0.050	-0.5	-0.05	-0.03	0.2	0.04	300		10.5	155	0.04	0.20	662	0.05	0.2	
22-Apr-87	54		-0.010	-1.0	-0.03	0.02	0.2	-0.03	320		9.0	161	0.05	0.10	737	0.01	0.5	
26-Apr-88	41		0.010	-1.0	0.10	0.01	0.3	0.08	291		11.3	167	0.09	0.05	748	0.04		20.0
13-Sep-88		-0.01			0.10					-0.0002				0.05		0.06		
13-Sep-88		-0.01			-0.05					-0.0010				-0.10		-0.05		
05-Oct-88		-0.01			0.11					0.0005				0.05		0.06		
05-Oct-88		-0.01			-0.05					-0.0010				-0.10		-0.05		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
VENT HOLE 19-2TRB

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
01-Apr-84			0.072							2510	3900						
23-Apr-85			-0.001			1.1			-0.001	2630	4570		65		0.0167	-0.20	0.06
22-Apr-86			-0.001			2.5			-0.001	2480	4180		71		0.0145	0.30	0.02
22-Apr-87			-0.001			1.0			-0.002	2470	4150		94	64	0.0265	-0.20	0.02
26-Apr-88			-0.020			0.4			0.041	2770	4140	0.0	86		0.0153	0.04	-0.01
13-Sep-88			-0.020	0.7		2.3	7.5	0.01	0.036			1.1			0.0192		
13-Sep-88			-0.050	1.7		4.9	-1.0	-0.05	0.008			5.2			0.0153		
05-Oct-88			-0.020	0.2		0.9	5.4	0.02	0.100			0.5			0.0174		
05-Oct-88			-0.050	-1.0		3.0	6.3	-0.05	0.009			2.0			0.0250		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
VENT HOLE 19-5TRB

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
01-Apr-84			4800		7.7				-0.110		0.02						
22-Apr-86			3200		7.9	-0.01	0.20		-0.001	0.44	0.10			190		240	-0.0001
22-Apr-87			2810		7.7	-0.01	-0.10		0.004	0.20	-0.10			152			-0.0010
26-Apr-88			2750	23.0	7.4	-0.01	0.20	42.43	0.010	0.28	0.01			198	38.7		-0.0050

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
VENT HOLE 19-5TRB

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
01-Apr-84	98		0.022		0.03	0.04								0.02				
22-Apr-86	36		0.070	-0.5	-0.05	0.04	0.2	0.06	290		8.6	100	0.21	0.20	483	0.06	0.4	
22-Apr-87	38		-0.010	-1.0	-0.03	-0.01	0.2	-0.03	293		7.3	97	0.05	-0.10	552	0.01	0.2	
26-Apr-88	34		0.010	-1.0	0.08	0.01	0.3	0.06	272		8.9	106	0.10	0.03	455	0.03	0.6	-0.1

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
VENT HOLE 19-5TRB

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
01-Apr-84			0.160							3090	4760						
22-Apr-86			-0.001			1.8			-0.001	1590	2670		56		0.0004	0.30	0.01
22-Apr-87			-0.001			0.4			-0.002	1580	2620		84	10	0.0095	-0.20	0.03
26-Apr-88			-0.020			0.3			0.220	1730	2670	0.0	78		0.0004	0.03	-0.01

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
VENT HOLE 30-10TRB

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
01-Apr-84			4750		7.1				-0.110		0.02						
23-Apr-85			8080		7.5	0.00	-0.10		-0.001	0.20	-0.10			670		430	0.0007
22-Apr-86			6500		7.7	-0.01	0.10		-0.001	0.62	0.10			573		190	-0.0001
22-Apr-87			5520		7.2	-0.01	-0.10		0.006	0.22	-0.10			395			-0.0010
26-Apr-88			2610		7.2	-0.01	0.24		0.013	0.46	0.02			519			-0.0050

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
VENT HOLE 30-10IRB

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
01-Apr-84	810		0.014		0.04	0.04								-0.02				
23-Apr-85	740		-0.050	-0.5	-0.05	0.03	0.2	0.40	520		9.5	320	-0.01	-0.10	678	0.06	-0.1	4.5
22-Apr-86	810		0.110	-0.5	-0.05	0.05	0.1	0.06	230		8.5	283	0.09	-0.10	622	0.07	-0.1	
22-Apr-87	744		-0.010	-1.0	-0.03	0.02	0.4	-0.03	518		7.5	274	0.03	-0.10	953	0.01	0.5	
26-Apr-88	490		0.030	-1.0	0.15	0.02	0.5	0.11	392		10.3	269	0.24	0.07	585	0.08	-0.1	13.0

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
VENT HOLE 30-101RB

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
01-Apr-84			0.100							1950	4420						
23-Apr-85			-0.001			1.4			0.002	2810	6210		70		0.0371	-0.20	1.44
22-Apr-86			-0.001			1.1			0.022	2520	5520		100		0.0501	0.40	0.02
22-Apr-87			-0.001			1.6			-0.002	2530	5440		133	11700	0.0517	-0.20	0.03
26-Apr-88			-0.020			0.9			0.045	2790	5330	0.5	117		0.0500	0.07	-0.01

CORRECTION ACTION PLAN

APPENDIX J

Tres Hermanos A Monitor Well Data

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-01IR

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	$CaCO_3$ (mg/l)	Cd (mg/l)
06-Apr-84	174.4	208.6			9.0												
01-Jul-84	170.7	208.7															
01-Nov-84	168.9	208.7	1100	13.0	8.5												
02-Feb-85	167.9	208.6	1025	11.5													
25-Apr-85	166.9	208.6	1050	13.5	8.7												
08-Nov-85	164.4	208.6															
13-Jan-86	164.9	208.6															
21-Apr-86	164.8	208.6	1200	16.0													
09-Jul-86	165.3	208.6															
02-Oct-86	166.5	209.1															
30-Jan-87	168.2	202.3	1200	13.0													
06-May-87	164.3	202.3	1150	14.0													
10-Sep-87	162.0	206.6	1140	14.0	8.5												
28-Oct-87	163.1	206.6	1150	14.5	8.5												
03-Mar-88	165.4	208.4	1100	12.8	8.7												
08-Jun-88	166.3	208.4	1150	14.3	8.8												
05-Dec-88	166.0	208.4	1210	14.2	9.1												
06-Dec-89	166.8	208.4	1225	13.5	8.9												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-01TR

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	63																	
01-Jul-84	71																	
01-Nov-84	61																	
02-Feb-85	78																	
25-Apr-85	77																	
08-Nov-85																		
13-Jan-86																		
21-Apr-86																		
09-Jul-86																		
02-Oct-86																		
30-Jan-87																		
06-May-87																		
10-Sep-87	99																	
28-Oct-87																		
03-Mar-85																		
08-Jun-88																		
05-Dec-88	126																	
06-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-01TR

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										473	1141						
01-Jul-84										502	1152						
01-Nov-84										494	1140						
02-Feb-85										500	1200						
25-Apr-85										546	1170						
08-Nov-85																	
13-Jan-86																	
21-Apr-86																	
09-Jul-86																	
02-Oct-86																	
30-Jan-87																	
06-May-87																	
10-Sep-87										467	1130						
28-Oct-87																	
03-Mar-88																	
08-Jun-88																	
05-Dec-88										4	42						
06-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-01TRA

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
03-Feb-84	195.5	252.3	1920	11.5	7.4												
17-Apr-84	205.4	252.3	2400	14.5	7.0	0.03	0.06		-0.110	0.39	0.01			200			-0.0070
18-Jul-84	205.5	252.4	1440	16.0	7.4												
17-Oct-84	204.9	252.2	1880	12.5	5.4												
11-Jan-85	203.9	252.2	1870	11.5	7.4												
22-Apr-85	205.3	252.4	2100	12.5	7.6	-0.01	-0.10		-0.001	0.40	-0.10			228		150	-0.0002
08-Jul-85	206.1	253.3	1425	15.0	7.2												
07-Nov-85	204.1	259.2	1450	14.0	6.7												
13-Jan-86	204.5	252.2	3380	12.1	7.4												
10-Apr-86	204.8	252.4	3375	15.0	7.5	-0.01	0.50		-0.001	0.20	0.40			200		120	-0.0001
08-Jul-86	205.5		3500	17.0	8.0												
07-Oct-86	204.7	251.9	1500	15.0	7.6												
15-Jan-87	205.5	251.9	1350	13.0	7.6												
15-Apr-87	205.8	251.9	1210	14.0	7.6	-0.01	-0.10		0.002	0.20	-0.10			197			-0.0010
15-Apr-87	205.8	253.5	1210	14.0	7.5	-0.01	-0.10		0.004	0.28	-0.10			182			-0.0010
15-Jul-87	205.1	251.9	1750	13.0	6.1	-0.10	-0.10		-0.005	0.30	-0.10	-0.10		212			-0.0010
15-Jul-87	205.1	251.9	1750	18.0	6.9	0.05	0.18		0.002	0.40	0.02			202			-0.0050
19-Oct-87	203.1	252.4	1400	13.5	7.5												
20-Jan-88	204.4	251.9	1550	10.0	7.1			25.5				0.01		226	25.5		
25-May-88	204.7	251.9	1400	15.3	7.3	0.02	0.10	24.6	0.012	0.18	0.03			123	23.0		-0.0050
18-Jul-88	204.7	251.4	1400	15.0	7.3			23.2						205	22.3		
21-Sep-88						0.01			0.015		0.01	-0.01					-0.0050
28-Sep-88						0.02			0.022		0.02	-0.01					-0.0050
10-Oct-88						0.02			0.024		0.02	-0.01					-0.0050
13-Oct-88						0.02			0.025		0.02	-0.01					-0.0050
21-Oct-88	204.8	251.9	1425	15.2	7.1			22.8	0.001					207	22.9		
17-Nov-88						0.02			-0.001		0.02	-0.01					-0.0050

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-01TRA

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
03-Feb-84	17																	
17-Apr-84	80		-0.01		-0.03	-0.02	-1.0				6.8	79	0.08	-0.02	120	-0.04	-1.0	-1.0
18-Jul-84	52																	
17-Oct-84	12																	
11-Jan-85	13																	
22-Apr-85	14		0.00	-0.5	-0.05	-0.02	0.2	0.05	180		6.6	101	0.09	-0.10	127	0.10	-0.1	-0.1
08-Jul-85	14																	0.2
07-Nov-85	13																	2.5
13-Jan-86	20																	0.5
10-Apr-86	30		0.05	-0.5	-0.05	-0.02	0.2	0.04	150		7.1	80	0.10	0.10	153	0.04	1.9	3.5
08-Jul-86	53																	
07-Oct-86	14																	0.6
15-Jan-87	13																	0.2
15-Apr-87	13		-0.01	-1.0	-0.03	-0.01	0.2	-0.03	644		6.9	80	0.04	-0.10	406	0.01	0.1	
15-Apr-87	12		-0.01	-1.0	-0.03	-0.01	0.2	-0.03	126		5.0	70	0.17	-0.10	194	0.01	-0.1	
15-Jul-87	-5		-0.05		-0.10	-0.10	0.3	-0.10	138		5.1	78	0.17	-0.10	115	-0.10	0.4	0.1
15-Jul-87	13		-0.01		-0.01	-0.01	0.2	0.11	126	-0.0002	4.5	77	0.01	0.04	101	-0.01	0.3	-0.1
19-Oct-87	14																	0.4
20-Jan-88	13	-0.01		-1.0				0.07	111		6.3	99	0.02		137			-0.1
25-May-88	30		0.01	-1.0	0.06	-0.01	0.3	0.04	197		11.1	45	-0.01	0.03	296	0.02	-0.1	1.0
18-Jul-88	11			-1.0				0.10	110		6.4	82	0.13		118			-0.1
21-Sep-88		0.01			0.04					0.0004				-0.01		0.02		
28-Sep-88		-0.01			0.08					0.0005				0.03		0.07		
10-Oct-88		0.01			0.08					0.0005				0.03		0.04		
13-Oct-88		-0.01			0.09					0.0002				0.03		0.03		
21-Oct-88	13			-1.0				0.35	107		10.4	45	0.04	0.04	125			-0.1
17-Nov-88		-0.01			0.11					0.0003				0.04		0.05		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-01TRA

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
03-Feb-84										810	1550						
17-Apr-84			-0.068			0.7			-0.100	780	1500		14		0.0190	0.03	0.04
18-Jul-84										790	1380						
17-Oct-84										720	1550						
11-Jan-85										640	1480						
22-Apr-85			-0.001			0.7			-0.001	951	1590		24		0.0014	-0.20	0.02
08-Jul-85										984	1560						
07-Nov-85										1040	1620						
13-Jan-86										994	1660						
10-Apr-86			-0.001			1.7			-0.001	966	1630		2		0.0014	0.30	0.03
08-Jul-86										992	1670						
07-Oct-86										985	1560						
15-Jan-87										977	1550						
15-Apr-87			-0.001			0.4			-0.002	1010	1550		35		0.0100	-0.10	0.23
15-Apr-87			-0.001			0.5			-0.002	988	1630		19		0.0106	-0.10	0.15
15-Jul-87			-0.010					-0.10	-0.005	988	1638					-0.10	-0.10
15-Jul-87			-0.010						0.007	966	1580					0.06	-0.01
19-Oct-87										987	1570						
20-Jan-88										1100	1570	0.0					
25-May-88			-0.020			0.6			0.013	952	1670	0.0	54		0.0100	0.03	-0.01
18-Jul-88										992	1720						
21-Sep-88			-0.020	1.9		1.2	1.2	0.01	0.025			0.3			0.0031		
28-Sep-88			0.020	2.9		1.0	2.0	0.01	0.034			1.2			0.0037		
10-Oct-88			-0.020	8.4		1.8	3.0	0.03	0.005			2.1			0.0029		
13-Oct-88			0.020	3.7		0.5	2.5	0.03	0.018			0.6			0.0050		
21-Oct-88						0.2			0.024	975	1680	0.4			0.0051		
17-Nov-88			0.020	19.0		1.2	0.4	0.01	0.012			8.0			0.0263		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-44

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	$CaCO_3$ (mg/l)	Cd (mg/l)
08-Apr-84	105.7	164.0	2000														
07-Jul-84	106.5	164.2	1950														
09-Nov-84	106.2	164.2															
12-Feb-85																	
04-Jun-85					8.4												
25-Oct-85					8.1												
12-Dec-85					7.9												
13-Jan-86	106.4	164.2	2090	13.1													
12-Mar-86	108.9	164.2			6.1												
02-Apr-86	106.5	164.3			8.2												
03-Jul-86	106.5	164.1			8.3												
16-Oct-86		164.2			8.6												
19-Feb-87		163.9			7.1												
16-Apr-87	106.8	164.0															
08-Aug-87	107.0	164.2															
05-Oct-87																	
03-Feb-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-44

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
08-Apr-84	21																	
07-Jul-84	1																	
09-Nov-84	25																	
12-Feb-85	24																	
04-Jun-85	42																	
25-Oct-85	25																	
12-Dec-85	3																	
13-Jan-86																		
12-Mar-86	15																	
02-Apr-86	24																	
03-Jul-86	253																	
16-Oct-86	2																	
19-Feb-87	42																	
16-Apr-87	45																	
08-Aug-87	68																	
05-Oct-87	123																	
03-Feb-88	65																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-44

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
08-Apr-84										1219	2465						
07-Jul-84										1112	1811						
09-Nov-84										1269	1945						
12-Feb-85										1247	1871						
04-Jun-85						1.6				1242	2046				0.1600		
25-Oct-85						2.4				1699	2658				0.0500		
12-Dec-85						1.7				1592	2468				0.0600		
13-Jan-86																	
12-Mar-86						6.1				1420	2310				0.1600		
02-Apr-86						3.4				1435	2212				0.1700		
03-Jul-86						3.1				1492	2372				0.0500		
16-Oct-86						2.8				1403	2166				0.1700		
19-Feb-87						4.3				1380	2300				0.0045		
16-Apr-87						3.1				1360	2260				0.0066		
03-Aug-87						4.1				1210	1270				-0.0003		
05-Oct-87						5.3				1210	1850				0.0077		
03-Feb-88						1.9				1080	1660				0.0015		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 33-01TRA

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
03-Feb-84	169.3	171.0	1102	9.0	8.5												
17-Apr-84		171.0															
08-Jul-84		171.0															
17-Oct-84	175.5	179.1	3660	12.0	13.0												
11-Jan-85		180.5															
22-Apr-85		180.5															
08-Jul-85		180.5															
07-Nov-85	176.3	180.5	2210	13.1	6.9												
14-Jan-86	*174.1	180.5	2250	13.0	7.3												
10-Apr-86	173.3	180.5	3500	12.0	7.4	-0.01	0.90		0.200	0.60	0.20			243		160	-0.0001
08-Jul-86	172.8		2500	17.0	7.8												
07-Oct-86	170.2	180.9	2500	19.0	7.7												
17-Mar-87	161.2	180.9	2350	13.0	7.1												
15-Apr-87	161.3	180.9	2290	13.9	7.0	-0.01	-0.10		0.005	0.15	-0.10			131			-0.0010
15-Apr-87	161.3	181.8	2150	16.0	7.4	-0.01	-0.10		0.004	0.35	-0.10			193			-0.0010
21-Jul-87	168.7	180.9	2400	16.0	7.5									246			
21-Oct-87	169.9	180.3	2350	14.8	7.4												
20-Jan-88	173.8	180.1	2275	12.2	7.3			40.4				-0.01		249	39.4		
05-May-88	168.2	180.7	2450	15.8	7.3	0.01	0.13	42.5	0.018	0.40	0.01			255	40.8		-0.0050
20-Jul-88	164.6	181.7	2350	14.5	7.3			41.9						262	37.9		
13-Sep-88						0.02			0.015		0.01	-0.01					-0.0050
23-Sep-88						0.03			0.015		0.02	-0.01					-0.0050
03-Oct-88						0.02			0.015		0.02	-0.01					-0.0050
11-Oct-88						0.02			0.005		0.02	-0.01					-0.0050
26-Oct-88	175.0	181.7	2400	15.2	7.2			41.5	0.002					287	41.3		
17-Nov-88						0.02			0.005		0.02	-0.01					-0.0050

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 33-01TRA

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
03-Feb-84	9																	
17-Apr-84																		
08-Jul-84																		
17-Oct-84	20																	
11-Jan-85																		
22-Apr-85																		
08-Jul-85																		
07-Nov-85	30																	2.1
14-Jan-86	34																	0.2
10-Apr-86	27		0.05	-0.5	-0.05	0.02	0.5	0.04	190		8.3	77	0.32	0.10	580	0.06	1.6	3.2
08-Jul-86	130																	0.2
07-Oct-86	14																	0.3
17-Mar-87	29																	-0.1
15-Apr-87	35		-0.01	-1.0	-0.03	0.01	0.6	-0.03	180		6.6	65	0.15	-0.10	600	0.01	1.4	
15-Apr-87	28		-0.01	-1.0	-0.03	-0.01	0.6	0.11	186		5.5	58	0.26	-0.10	514	0.01	-0.1	
21-Jul-87	28							-0.01	195		7.7		0.02		442			-0.1
21-Oct-87	23																	0.3
20-Jan-88	29	-0.01		-1.0				0.07	188		6.8	89	0.07		493			-0.1
05-May-88	29		0.01	-1.0	0.09	0.01	0.5	0.07	208		7.9	86	0.16	0.04	477	0.03	0.9	0.6
20-Jul-88	26			-1.0				0.17	214		7.2	81	0.33		413			-0.1
13-Sep-88		-0.01			0.07					-0.0002				0.02		0.03		
23-Sep-88		-0.01			0.09					0.0004				0.03		0.05		
03-Oct-88		-0.01			0.09					-0.0002				0.03		0.04		
11-Oct-88		-0.01			0.10					0.0005				0.03		0.09		
26-Oct-88	32			-1.0				0.38	190		7.5	87	0.32	0.05	451			-0.1
17-Nov-88		-0.01			0.11					0.0003				0.04		0.04		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 33-01TFA

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
03-Feb-84										380	1540						
17-Apr-84																	
08-Jul-84																	
17-Oct-84										250	2980						
11-Jan-85																	
22-Apr-85																	
08-Jul-85																	
07-Nov-85										1740	2690						
14-Jan-86										1660	2690						
10-Apr-86			0.002			0.7			-0.001	1610	2590		30		0.0058	0.40	0.02
08-Jul-86										1630	2650						
07-Oct-86										1630	2470						
17-Mar-87										1610	2480						
15-Apr-87			-0.001			0.4			-0.002	1620	2460		50		0.0144	-0.10	0.01
15-Apr-87			-0.001			1.1			-0.002	1560	2530		39		0.0143	-0.10	0.20
21-Jul-87										1650	2590						
21-Oct-87										1690	2630						
20-Jan-88										1720	2710				0.2000		
05-May-88			-0.020			0.4			0.027	1800	2900	0.3	66		0.0040	0.04	-0.01
20-Jul-88										1770	2940						
13-Sep-88			-0.020	1.1		1.4	2.4	0.00	0.018			1.0			0.0052		
23-Sep-88			0.020	8.3		1.7	2.2	0.01	0.068			2.0			0.0071		
03-Oct-88			-0.020	3.1		1.9	1.7	0.02	0.038			1.7			0.0101		
11-Oct-88			0.090	3.3		0.8	2.8	0.04	0.009			14.0			0.0095		
26-Oct-88						1.1			0.012	1770	2760	0.5			0.0125		
17-Nov-88			-0.020	4.9		1.1	1.9	0.01	0.029			2.8			0.0164		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 25-02TR

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	188.7	385.4			9.4												
31-Oct-84	267.9	385.4	90	13.5	8.0												
25-Apr-85	268.4	385.4	92	14.0	8.1												
08-Nov-85	265.2	385.4															
13-Jan-86	270.1	385.4															
21-Apr-86	270.2	385.4	100	16.0													
09-Jul-86	266.9	385.4	130	27.0													
08-Oct-86	266.2	384.0	200	19.0													
30-Jan-87	265.2	385.0	800	12.0													
07-May-87	225.0	385.0	75	14.5													
11-Sep-87	250.0	383.1	82	15.8	8.7												
28-Oct-87	261.4	383.4	81	14.8	9.1												
04-Mar-88	259.5	384.9	90	14.0	8.6												
07-Jun-88	283.6	384.9	105	16.2	8.6												
01-Dec-88	291.7	384.9	140	15.2	8.5												
06-Dec-88	291.8	384.9	190	14.1	8.9												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 25-02TR

Date	Cl (mg/l)	CN (mg/l)	Ca (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
05-Apr-84	14																	
31-Oct-84	3																	
25-Apr-85	2																	
08-Nov-85																		
13-Jan-86																		
21-Apr-86																		
09-Jul-86	0																	
08-Oct-86																		
30-Jan-87																		
07-May-87																		
[illegible]-Sep-87	5																	
[illegible]ct-87																		
04-Mar-88																		
07-Jun-88																		
01-Dec-88	3																	
06-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 25-02IR

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										26	70						
31-Oct-84										9	86						
25-Apr-85										12	72						
08-Nov-85																	
13-Jan-86																	
21-Apr-86																	
09-Jul-86										22	132						
08-Oct-86																	
30-Jan-87																	
07-May-87																	
11-Sep-87										4	266						
28-Oct-87																	
04-Mar-88																	
07-Jun-88																	
01-Dec-88										475	1140						
06-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-05

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	89.1	137.5			8.8												
Oct-84	90.2	137.5	1900	13.0	8.5												
26-Jan-85	89.9	137.5	1525	12.2	8.4												
25-Apr-85	89.7	137.5	1425	13.0	73.0												
20-Nov-85	88.0	137.5															
14-Jan-86	87.7	137.5															
21-Apr-86	88.7	137.5	1550	16.0													
10-Jul-86	85.9	137.5	2200	27.0	7.4												
08-Oct-86	87.7	137.1	1875	16.0													
18-Mar-87	87.0	137.1	1590	12.0													
16-Apr-87	87.9	140.4	1750	16.0													
03-Sep-87	86.9	138.2	1780	15.8	8.3												
09-Oct-87	88.7	138.1	1690	14.0	8.7												
9-Mar-88	88.0	137.8	1610	15.5	8.5												
2-Jun-88	88.7	137.8	1750	14.5	8.5												
16-Aug-88	90.4	137.8	1675	13.9	8.3												
07-Dec-88	90.3	137.3	1675	12.9	7.9												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-05

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	592																	
30-Oct-84	451																	
28-Jan-85	147																	
25-Apr-85	511																	
20-Nov-85																		
14-Jan-86																		
21-Apr-86																		
10-Jul-86	497																	
08-Oct-86																		
18-Mar-87																		
16-Apr-87																		
03-Sep-87	604																	
09-Oct-87																		
10-Mar-88																		
02-Jun-88																		
16-Aug-88	675																	
07-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-05

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										541	2203						
30-Oct-84										519	2088						
28-Jan-85										379	1539						
25-Apr-85										390	1890						
20-Nov-85																	
14-Jan-86																	
21-Apr-86																	
10-Jul-86										291	1665						
08-Oct-86																	
18-Mar-87																	
16-Apr-87																	
03-Sep-87										194	1680						
09-Oct-87																	
10-Mar-88																	
02-Jun-88																	
16-Aug-88										198	1550						
07-Dec-88																	

CORRECTION ACTION PLAN

APPENDIX K

Dakota Monitor Well Data

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-01KD

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	199.3	229.3			6.9												
17-Jul-84	198.1	229.3															
30-Oct-84	197.6	229.3	1025	13.0													
28-Jan-85	198.6	229.4	900	11.5	7.9												
25-Apr-85	198.2	229.4	900	14.0	7.5												
22-Jul-85	199.2	229.4															
20-Nov-85	198.0	229.4															
14-Jan-86	194.8	229.4															
21-Apr-86	194.9	229.4	1000	16.0													
09-Jul-86	195.4	229.4	1050	27.0	8.3												
08-Oct-86	194.8	231.0	1050	16.0													
30-Jan-87	197.1	232.1	3000	11.0													
16-Apr-87	196.1	230.3	2790	12.0													
14-Sep-87	192.8	228.2	1260	14.0	6.8												
12-Oct-87	192.9	228.0	1200	13.5	5.9												
03-Mar-88	194.0	229.5	1125	12.8	7.0												
03-Jun-88	194.0	229.5	1690	14.9	6.7												
02-Dec-88	194.2	229.3	1150	15.0	6.7												
08-Dec-88	193.7	192.4	1175	11.8	7.8												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-01KD

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	6																	
17-Jul-84	11																	
30-Oct-84	3																	
28-Jan-85	1																	
25-Apr-85	6																	
22-Jul-85																		
20-Nov-85																		
14-Jan-86																		
21-Apr-86																		
09-Jul-86	0																	
08-Oct-86																		
30-Jan-87																		
16-Apr-87																		
14-Sep-87	9																	
12-Oct-87																		
03-Mar-88																		
03-Jun-88																		
02-Dec-88	9																	
08-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-01KD

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										762	1268						
17-Jul-84										761	1204						
30-Oct-84										706	1124						
28-Jan-85										315	1013						
25-Apr-85										780	1228						
22-Jul-85																	
20-Nov-85																	
14-Jan-86																	
21-Apr-86																	
09-Jul-86										535	824						
08-Oct-86																	
30-Jan-87																	
16-Apr-87																	
14-Sep-87										953	953						
12-Oct-87																	
03-Mar-88																	
03-Jun-88																	
02-Dec-88										776	1100						
08-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-02KD

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
08-Apr-84	193.9	194.2															
30-Oct-84	188.9	194.2	925	14.0	8.0												
02-Feb-85	188.0	194.2															
03-Apr-85	189.4	194.2															
12-Jul-85	188.4	194.2															
20-Nov-85	188.5	194.2															
14-Jan-86	188.7	194.2															
21-Apr-86	188.5	194.2	1500	16.0													
09-Jul-86	190.0	194.2	1450	28.0	9.3												
08-Oct-86	189.4	199.8	1500	16.0													
30-Jan-87	190.2	200.1	1580	12.0													
16-Apr-87	189.6	193.2	1480	17.0													
14-Sep-87	187.6	191.0	1425	16.0	7.4												
09-Oct-87	189.2	190.8	1550	17.0	7.6												
03-Mar-88	191.1	192.4	1525	13.0	7.5												
03-Jun-88	191.7	192.4	1775	19.9	7.3												
02-Dec-88	191.9	192.4															
08-Dec-88	192.0	192.4															

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-02KD

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
08-Apr-84																		
30-Oct-84	6																	
02-Feb-85																		
03-Apr-85																		
12-Jul-85																		
20-Nov-85																		
14-Jan-86																		
21-Apr-86																		
09-Jul-86	39																	
08-Oct-86																		
30-Jan-87																		
16-Apr-87																		
14-Sep-87	11																	
09-Oct-87																		
03-Mar-88																		
03-Jun-88																		
02-Dec-88																		
08-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 5-02KD

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
08-Apr-84																	
30-Oct-84										146	836						
02-Feb-85																	
03-Apr-85																	
12-Jul-85																	
20-Nov-85																	
14-Jan-86																	
21-Apr-86																	
09-Jul-86										83	1288						
08-Oct-86																	
30-Jan-87																	
16-Apr-87																	
14-Sep-87										37	968						
09-Oct-87																	
03-Mar-88																	
03-Jun-88																	
02-Dec-88																	
08-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 17-01KD

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84					11.0												
30-Oct-84	675.2	813.0	1590	21.5	10.6												
25-Apr-85	675.2	813.0	1500	21.0	9.6												
20-Nov-85	675.1	813.0															
14-Jan-86	674.7	813.0															
16-Apr-86	675.4	813.0	1500	16.0													
09-Jul-86	677.7	813.0	1850	27.0	10.9												
09-Oct-86	677.2	812.8	1650	19.0													
30-Jan-87	678.3	812.8	1690	13.0													
07-May-87	679.4	812.8	1510	19.5													
14-Sep-87	673.7	816.6	1700	20.0	10.8												
29-Oct-87	674.2	814.1	1660	20.5	10.8												
04-Mar-88	676.4	818.4	1525	22.0	10.4												
03-Jun-88	676.2	818.4	1600	22.0	10.5												
15-Sep-88						0.01			0.090		0.02	-0.01					-0.0050
15-Sep-88	677.2	818.4	1500	21.5	11.1												
28-Sep-88						0.01			0.145		0.08	-0.01					-0.0050
06-Oct-88						0.01			0.107		0.02	-0.01					-0.0050
14-Oct-88						0.01			0.105		0.01	-0.01					-0.0050
15-Nov-88						0.01			0.041		0.03	-0.01					-0.0050
06-Dec-88	677.0	818.4	1510	19.2	11.0												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 17-01KD

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	40																	
30-Oct-84	25																	
25-Apr-85	17																	
20-Nov-85																		
14-Jan-86																		
16-Apr-86																		
09-Jul-86	0																	
09-Oct-86																		
30-Jan-87																		
07-May-87																		
14-Sep-87	48																	
29-Oct-87																		
04-Mar-88																		
03-Jun-88																		
15-Sep-88		0.05			0.02					0.0004				0.06		0.02		
15-Sep-88	32																	
28-Sep-88		0.07			0.06					0.0002				0.08		0.05		
06-Oct-88		0.02			0.03					0.0005				0.07		0.02		
14-Oct-88		0.03			0.03					0.0002				0.07		0.02		
15-Nov-88		0.04			0.05					0.0002				0.01		0.05		
06-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 17-01KD

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										465	1249						
30-Oct-84										468	1256						
25-Apr-85										506	1294						
20-Nov-85																	
14-Jan-86																	
16-Apr-86																	
09-Jul-86										521	1298						
09-Oct-86																	
30-Jan-87																	
07-May-87																	
14-Sep-87										547	1210						
29-Oct-87																	
04-Mar-88																	
03-Jun-88																	
15-Sep-88			0.100	1.9		0.5	0.3	0.00	0.016			1.5			0.0041		
15-Sep-88										570	1140						
28-Sep-88			0.290	3.9		3.0	1.4	0.00	0.046			2.4			0.0162		
06-Oct-88			0.100	0.6		0.5	0.6	0.00	0.041			0.8			0.0037		
14-Oct-88			0.080	0.3		0.3	0.6	0.02	0.036			2.1			0.0038		
15-Nov-88			0.150	2.7		0.7	0.6	0.00	0.043			4.8			0.0531		
06-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-02KD

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	285.4	316.2			5.7												
17-Jul-84	286.8	316.2															
01-Nov-84	293.6	316.2	5000	15.0	5.3												
02-Feb-85	292.0	316.3	4400	13.0	5.4												
25-Apr-85	292.4	316.3	4225	14.0	5.8												
17-Jul-85	293.1	316.3															
08-Nov-85	283.7	316.3															
13-Jan-86	279.6	316.3															
21-Apr-86	277.3	316.3	5000	16.0													
09-Jul-86	279.5	316.3	6000	27.0	8.4												
02-Oct-86	279.3	315.8	5200	15.0													
30-Jan-87	280.1	312.2	5000	12.0													
06-May-87	280.4	312.2	6600	16.0													
10-Sep-87	278.0	313.4	6250	15.0	7.4												
28-Oct-87	278.0	313.1	6500	15.2	7.4												
03-Mar-88	280.9	314.8	5800	7.8	7.3												
08-Jun-88	286.7	314.8	5300	14.9	7.2												
15-Sep-88	293.3	314.8	4700	16.0	8.6												
15-Sep-88						0.02			0.016		0.03	-0.01					-0.0050
28-Sep-88						0.03			0.035		0.05	-0.01					-0.0050
10-Oct-88						0.02			0.040		0.03	-0.01					-0.0050
14-Oct-88						0.04			0.132		0.03	-0.01					0.0090
15-Nov-88						0.02			0.010		0.02	-0.01					-0.0050
06-Dec-88	309.8	314.8	5500	13.9	8.5												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-02KD

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	712																	
17-Jul-84	1108																	
01-Nov-84	1265																	
02-Feb-85	1370																	
25-Apr-85	1328																	
17-Jul-85																		
08-Nov-85																		
13-Jan-86																		
21-Apr-86																		
09-Jul-86	1150																	
02-Oct-86																		
30-Jan-87																		
06-May-87																		
10-Sep-87	1270																	
28-Oct-87																		
03-Mar-88																		
08-Jun-88																		
15-Sep-88	1370																	
15-Sep-88		0.02			0.12					0.0004				0.18		0.22		
28-Sep-88		0.02			0.15					0.0003				0.21		0.30		
10-Oct-88		-0.01			0.13					0.0003				0.20		0.27		
14-Oct-88		0.04			0.35					0.0013				0.35		0.42		
15-Nov-88		0.01			0.15					0.0004				0.33		0.25		
06-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-02KD

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										2261	5589						
17-Jul-84										2174	6164						
01-Nov-84										2400	6110						
02-Feb-85										2140	6030						
25-Apr-85										2134	6086						
17-Jul-85																	
08-Nov-85																	
13-Jan-86																	
21-Apr-86																	
09-Jul-86										2854	6904						
02-Oct-86																	
30-Jan-87																	
06-May-87																	
10-Sep-87										2400	7010						
28-Oct-87																	
03-Mar-88																	
08-Jun-88																	
15-Sep-88										1960	5680						
15-Sep-88			0.450	[illegible]		0.4	0.9	0.01	0.055			0.6			0.0052		
28-Sep-88			0.920	[illegible]		4.3	0.9	0.03	0.143			4.1			0.0219		
10-Oct-88			0.390	[illegible]		1.9	0.2	0.04	0.113			1.5			0.0079		
14-Oct-88			3.630	11		5.1	0.0	0.05	0.028			5.9			0.1830		
15-Nov-88			0.150	1.8		0.8	1.8	0.02	0.094			2.2			0.0115		
06-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-48KD

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
03-Feb-84	336.3	345.4	5650	11.5	6.7												
17-Apr-84	335.8																
17-Apr-84	335.8	345.3	7610	10.0	6.7	0.04	0.15		0.130	0.29	0.02			610			-0.0070
18-Jul-84	336.6	345.3	5770	18.0	6.6												
17-Oct-84	335.9	345.0	5310	13.0	6.8												
01-Jan-85	336.0	345.0	4680	13.0	6.6												
01-Feb-85	338.0																
22-Apr-85	335.9		7500	8.0	7.2	-0.01	-0.10		-0.001	0.40	-0.10			675		640	-0.0002
08-Jul-85	336.4	345.2	6000	15.0	7.0												
13-Nov-85	334.4	345.0	3000	13.8	6.6												
14-Jan-86	334.2	345.0	4000	13.0	6.7												
10-Apr-86	337.1	338.0	4000	12.0	7.2	-0.01	0.20		-0.001	0.70	0.30			178			-0.0001
01-Jul-86																	
08-Jul-86	339.3		4800	17.0	7.7												
07-Oct-86	338.1	345.2	4000	19.0	7.2												
17-Mar-87	337.4	345.2	4200	11.0	6.7												
16-Apr-87	338.4	345.2	5000	14.8	7.4	-0.01	-0.10		0.005	0.17	-0.10			331			-0.0010
21-Jul-87	336.0	345.2	5900	16.0	6.7									343			
21-Oct-87	334.1	344.5	6000	16.0	6.9												
20-Jan-88	335.4	344.5	4775	12.5	6.9			94.50				-0.01		408	92.2		
05-May-88	335.9	344.5	5500	16.6	6.8	0.02	0.54	75.97	0.012	0.39	0.02			401	73.4		-0.0050
19-Jul-88	335.7	344.5	4275	15.2	6.8			83.70						462	75.3		
15-Sep-88						0.04			0.016		0.02	-0.01					-0.0050
28-Sep-88						0.03			0.038		0.03	-0.01					-0.0050
06-Oct-88						0.03			0.041		0.03	-0.01					-0.0050
14-Oct-88						0.04			0.043		0.03	-0.01					-0.0050
21-Oct-88	335.6	344.5	5990	16.8	6.4			89.14	0.007					473	88.2		
15-Nov-88						0.04			0.007		0.03	-0.01					0.0050

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-48KD

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
03-Feb-84	810																	
17-Apr-84	870																	
17-Apr-84	810		0.02		0.04	0.03	-1.0				13.0	450	3.10	-0.02	420	0.06		
18-Jul-84	940																	
17-Oct-84	600																	
01-Jan-85	600																	
01-Feb-85	420																	
22-Apr-85	770		0.00	-0.5	-0.05	-0.02	0.2	0.05	786		13.6	480	3.19	-0.10	460	-0.04	-0.1	1.1
08-Jul-85	940																	0.1
13-Nov-85	450																	1.8
14-Jan-86	650																	-0.1
10-Apr-86	780		0.11	-0.5	0.05	0.03	0.2	0.09	130		15.1	457	1.90	0.10	431	0.12	0.6	2.5
01-Jul-86	817																	
08-Jul-86	630																	0.2
07-Oct-86	500																	0.2
17-Mar-87	750																	-0.1
16-Apr-87	846		-0.01	-1.0	-0.03	0.02	-0.1	0.04	814		14.1	526	1.14	-0.10	921	0.01	0.4	
21-Jul-87	817							-0.01	799		14.7		0.59		494			-0.1
21-Oct-87	954																	0.8
20-Jan-88	784	-0.01		-1.0				6.27	631		14.3	604	1.11		500			-0.1
05-May-88	670		0.03	-1.0	0.71	0.02	0.2	0.14	614		15.4	422	1.24	0.11	419	0.10	0.3	0.4
19-Jul-88	691			-1.0				0.17	534		15.6	366	0.92		499			-0.1
15-Sep-88		-0.01			0.17					0.0005				0.13		0.13		
28-Sep-88		-0.01			0.17					0.0006				0.15		0.18		
06-Oct-88		-0.01			0.18					0.0004				0.14		0.14		
14-Oct-88		-0.01			0.21					0.0002				0.17		0.16		
21-Oct-88	756			-1.0				0.33	433		15.2	532	1.23	0.18	470			-0.1
15-Nov-88		-0.01			0.23					0.0004				0.17		0.18		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-48KD

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
03-Feb-84										2620	5120						
17-Apr-84										2700	5510						
17-Apr-84			0.100			0.9			0.160	1700	5510		24		0.0450	0.04	0.18
18-Jul-84										2250	5500						
17-Oct-84										1810	4770						
01-Feb-85										1470	4020						
22-Apr-85			-0.001			0.4			-0.001	2630	5750				0.0130	-0.20	0.01
08-Jul-85										2950	6710						
13-Nov-85										2030	39[illegible]						
14-Jan-86										2210	4681						
10-Apr-86			-0.001			2.5			-0.001	2820	5770		8		0.0092	0.40	0.03
01-Jul-86										2570	6200						
08-Jul-86										1960	3960						
07-Oct-86										2670	5290						
17-Mar-87										2650	5580						
16-Apr-87			-0.001			0.7			-0.002	2890	6070		40		0.0221	-0.10	0.01
21-Jul-87										2570	6200						
21-Oct-87										3060	6700						
20-Jan-88										2870	5960	0.0					
05-May-88			-0.020			0.6			0.011	2150	5160	0.7	188		0.0221	0.08	-0.01
19-Jul-88										2570	5550						
15-Sep-88			0.030	3.0		1.4	5.[illegible]	0.01	0.009			0.7			[illegible].0209		
28-Sep-88			0.140	8.4		1.9	4.2	0.02	0.072			2.2			0.0466		
06-Oct-88			0.100	1.4		1.1	4.6	0.01	0.073			0.7			0.0385		
14-Oct-88			0.050	0.9		1.2	4.5	0.05	0.031			4.8			0.0520		
21-Oct-88						0.6			0.027	2840	6570	0.0			0.02		
15-Nov-88			0.220	2.0		1.3	5.3	0.02	0.080			4.9			0.03		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-03KD

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
03-Feb-84	338.3	344.9	2260	12.5	7.4												
17-Apr-84	337.2	344.9	2680	16.0	7.8	0.02	0.05		-0.110	0.18	0.02			150			-0.0070
18-Jul-84	338.2	344.8	1890	16.5	6.8												
17-Oct-84	337.9	344.9	2300	13.5	7.2												
11-Jan-85	338.1	345.0	2280	13.0	7.4												
22-Apr-85	338.2	344.8	2200	12.0	7.7	-0.01	-0.10		-0.001	0.40	-0.10			198		250	0.0056
08-Jul-85	337.8	344.9	1790	12.0	7.5												
07-Nov-85	336.2	345.0	1690	14.2	7.0												
13-Jan-86	336.4	345.0	1520	12.5	7.3												
10-Apr-86	336.9	344.8	1600	16.0	7.6	-0.01	0.20		-0.001	0.70	0.30			178		260	-0.0001
08-Jul-86	337.5		1800	16.5	7.9												
07-Oct-86	336.8	345.7	1750	15.0	8.0												
15-Jan-87	338.3	345.7	1650	13.0	7.2												
16-Apr-87	338.4	345.7	1500	13.8	7.5	-0.01	-0.10		0.002	0.20	-0.10			173			-0.0010
19-Oct-87	335.1	343.7	1750	14.5	7.1												
20-Jan-88	337.5	343.3	15[illegible]0	10.0	7.0			25.9				-0.01		159	24.8		
25-May-88	336.7	343.4	1650	15.3	6.9	0.02	0.10	25.4	0.012	0.18	0.02			122	22.7		-0.0050
18-Jul-88	336.9	343.4	1690	18.4	7.1			26.3						178	24.7		
21-Oct-88	336.9	343.4	1710	16.0	6.9			25.3	0.001					174	24.3		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-03KD

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
03-Feb-84	42																	
17-Apr-84	90		-0.01		-0.03	-0.02	-1.0				10.0	41	0.03	0.04	290	-0.04		
18-Jul-84	66																	
17-Oct-84	35																	
11-Jan-85	34																	
22-Apr-85	36		0.00	-0.5	-0.05	-0.02	0.3	-0.03	310		10.6	41	-0.01	-0.10	298	-0.04	-0.1	-0.1
08-Jul-85	32																	-0.1
07-Nov-85	29																	0.3
13-Jan-86	32																	0.1
10-Apr-86	55		0.06	-0.5	-0.05	0.03	0.3	0.07	310		11.4	43	0.02	0.10	314	-0.04	2.9	2.2
08-Jul-86	70																	0.2
07-Oct-86	20																	0.2
15-Jan-87	28																	-0.1
16-Apr-87	28		-0.01	-1.0	-0.03	0.01	0.2	-0.03	270		10.3	44	-0.01	-0.10	356	0.01	0.1	
19-Oct-87	38																	0.3
20-Jan-88	25	-0.01		-1.0				0.04	269		10.4	51	0.01		284			-0.1
25-May-88	29		0.02	-1.0	0.06	-0.01	0.3	0.04	239		10.8	45	-0.01	0.03	291	0.02	-0.1	-0.1
18-Jul-88	23			-1.0				0.05	278		10.9	45	0.52		272			-0.1
21-Oct-88	22			-1.0				0.05	295		10.4	45	-0.01	0.04	266			-0.1

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-03KD

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
03-Feb-84										920	1600						
17-Apr-84			-0.068			1.2			0.130	810	1640		30		0.0260	0.03	0.02
18-Jul-84										830	1560						
17-Oct-84										790	1630						
11-Jan-85										750	1650						
22-Apr-85			-0.001			3.3			-0.001	926	1670		24		0.0066	-0.20	0.01
08-Jul-85										1050	1810						
07-Nov-85										1030	1840						
13-Jan-86										954	1750						
10-Apr-86			0.001			1.3			-0.001	949	1730		4		0.0106	0.30	0.01
08-Jul-86										986	1760						
07-Oct-86										766	1390						
15-Jan-87										996	1680						
16-Apr-87			-0.001			1.3			-0.002	1050	1740		40		0.0360	-0.10	0.01
19-Oct-87										981	1740						
20-Jan-88										953	1680	0.1					
25-May-88			-0.020			0.7			0.013	952	1660	0.0	52		0.0109	0.03	-0.01
18-Jul-88										964	1770						
21-Oct-88						0.3			0.016	899	1760	2.2			0.0056		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-45KD

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	2[illegible].9	281.6			11.2												
07-Jul-84	253.3	281.6															
31-Oct-84	253.3	281.6	1225	15.3	10.7										173.0		
21-Feb-85	252.0	281.6	1100	14.0	11.2												
25-Apr-85	252.4	281.6	1175	15.0	8.6												
02-Jul-85	251.4	281.6															
07-Nov-85	251.7	281.6															
14-Jan-86	251.6	281.6															
21-Apr-86	251.8	281.6	1100	15.0													
09-Jul-86	253.4	281.6	1200	27.0	11.0												
07-Oct-86	252.3	282.1	1150	17.0													
30-Jan-87	251.8	283.0	1200	12.0													
15-Apr-87	253.5	283.0	1050	15.0													
27-Aug-87	252.5	279.9	1100	17.0	10.7												
28-Oct-87	251.2	279.9	1250	15.0	10.5												
24-Feb-88	252.6	281.8	1100	14.8	10.3												
07-Jun-88	253.0	281.8	1180	15.3	10.7												
21-Sep-88						0.01			0.014		0.11	-0.01					-0.0050
21-Sep-88	252.7	281.8	1180	14.2	11.0												
28-Sep-88						0.02			0.016		0.10	-0.01					-0.0050
10-Oct-88						0.01			0.018		0.09	-0.01					-0.0050
14-Oct-88						0.02			0.026		0.10	-0.01					-0.0050
21-Nov-88						0.02			0.007		0.09	-0.01					-0.0050
06-Dec-88	253.9	281.8	1375	12.3	10.9												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-45KD

Date	[illegible] (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	169																	
07-Jul-84	199																	
31-Oct-84																		
21-Feb-85	170																	
25-Apr-85	189																	
02-Jul-85																		
07-Nov-85																		
14-Jan-86																		
21-Apr-86																		
09-Jul-86	133																	
07-Oct-86																		
30-Jan-87																		
15-Apr-87																		
27-Aug-87	215																	
28-Oct-87																		
24-Feb-88																		
07-Jun-88																		
21-Sep-88		-0.01			0.06					0.0005				0.07		0.03		
21-Sep-88	197																	
28-Sep-88		0.01			0.07					0.0007				0.08		0.03		
10-Oct-88		-0.01			0.06					0.0004				0.07		0.02		
14-Oct-88		-0.01			0.09					0.0003				0.07		0.04		
21-Nov-88		0.01			0.10					0.0003				0.07		0.04		
06-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-45KD

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										261	831						
07-Jul-84										258	824						
31-Oct-84										233	786						
21-Feb-85										220	850						
25-Apr-85										176	858						
02-Jul-85																	
07-Nov-85																	
14-Jan-86																	
21-Apr-86																	
09-Jul-86										576	878						
07-Oct-86																	
30-Jan-87																	
15-Apr-87																	
27-Aug-87										300	846						
31-Oct-87																	
24-Feb-88																	
07-Jun-88																	
21-Sep-88			0.290	7.0		3.4	0.4	0.01	0.006			2.9			0.0315		
21-Sep-88										373	466						
28-Sep-88			0.240	7.0		2.8	1.4	0.00	0.032			2.8			0.0223		
10-Oct-88			0.260	7.4		3.1	0.8	0.02	0.034			1.5			0.0137		
14-Oct-88			0.510	7.1		1.8	2.4	0.03	0.017			2.4			0.0314		
21-Nov-88			0.400	6.3		3.2	0.8	0.01	0.015			3.4			0.0256		
06-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-50KD

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84					6.1												
30-Oct-84	257.2	303.3	5900	14.5	5.7												
19-Feb-85	256.5	303.3	5000	12.5													
25-Apr-85	257.2	303.3	4520	12.7	6.8												
13-Nov-85	255.7	303.3															
14-Jan-86	254.2	303.3															
15-Apr-86	253.9	303.3	4800	16.0													
10-Jul-86	256.1	303.3	4000	27.0	7.8												
09-Oct-86	257.1	304.7	4400	17.0													
30-Jan-87	261.4	305.0	4500	12.0													
07-May-87	258.4	305.0	3480	13.9													
15-Sep-87	255.9	301.5	3625	12.3	7.2												
28-Oct-87	256.0	301.3	3750	14.0	7.1												
04-Mar-88	258.3	303.2	3600	14.0	7.3												
03-Jun-88	259.0	303.2	3700	15.1	6.9												
05-Dec-88	259.8	303.2	3525	13.9	7.2												
06-Dec-88	259.8	303.2	3550	13.8	7.2												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-50KD

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	1183																	
30-Oct-84	1267																	
19-Feb-85																		
25-Apr-85	1326																	
13-Nov-85																		
14-Jan-86																		
15-Apr-86																		
10-Jul-86	516																	
09-Oct-86																		
30-Jan-87																		
07-May-87																		
15-Sep-87	579																	
28-Oct-87																		
04-Mar-88																		
03-Jun-88																		
05-Dec-88	550																	
06-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-50KD

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										2629	6955						
30-Oct-84										3091	6826						
19-Feb-85																	
25-Apr-85										2995	6684						
13-Nov-85																	
14-Jan-86																	
15-Apr-86																	
10-Jul-86										2469	4834						
09-Oct-86																	
30-Jan-87																	
07-May-87																	
15-Sep-87										2190	4020						
23-Oct-87																	
04-Mar-88																	
03-Jun-88																	
05-Dec-88										2230	4060						
06-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-51KD

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	256.6	287.3			8.1												
13-Jul-84	256.7	287.3															
31-Oct-84	256.4	287.3	410	15.0	8.5												
12-Feb-85	255.6	287.3															
25-Apr-85	256.0	287.4	390	13.0	8.6												
22-Jul-85	254.7	287.4															
13-Nov-85	254.4	287.4															
1[illegible]-Jan-86	254.2	287.4															
15-Apr-86	254.2	287.4	3359	15.0													
09-Jul-86	254.6	287.4	500	28.0	8.3												
08-Oct-86	253.5	288.1	1900	20.0													
30-Jan-87	254.1	289.6	2000	13.0													
06-May-87																	
14-Sep-87	251.6	282.6	670	16.0	8.4												
09-Oct-87	251.2	282.1	675	16.5	8.8												
03-Mar-88	252.8	284.3	600	13.0	8.6												
03-Jun-88	253.2	284.3	680	15.8	8.7												
05-Dec-88	253.4	284.3	1175	14.1	9.2												
06-Dec-88	253.1	284.3	675	14.2	9.0												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-51KD

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	6																	
13-Jul-84	14																	
31-Oct-84	3																	
12-Feb-85	6																	
25-Apr-85	12																	
22-Jul-85																		
13-Nov-[illegible]																		
14-Jan-[illegible]																		
15-Apr-[illegible]	7																	
09-Jul-86	0																	
08-Oct-[illegible]																		
30-Jan-87																		
06-[illegible]																		
14-Sep-87	9																	
09-Oct-87																		
03-Mar-88																		
[illegible]-Jun-88																		
05-Dec-88	9																	
06-[illegible]																		

[illegible] MINING COMPANY
[illegible]MBROSIA LAKE FACILITY
WELL [illegible]

Date	OH (mg/l)	Phenols (mg/l)	PH (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										9	3[illegible]						
13-Jul-84										7[illegible]	318						
31-Oct-84										23	334						
12-Feb-85										65	340						
25-Apr-85										35	378						
22-Jul-85																	
13-Nov-85																	
14-Jan-86																	
15-Apr-86																	
09-Jul-86										165	[illegible]						
08-Oct-86																	
30-Jan-87																	
06-May-87																	
17-Sep-87										171	470						
09-Oct-87																	
03-Mar-88																	
03-Jun-88																	
05-Dec-88										16[illegible]	478						
06-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-52KD

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	232.6	268.6			7.8												
17-Jul-84	231.6	268.6															
30-Oct-84	232.8	268.6	1300	15.0	6.8												
19-Feb-85	231.4	268.6	1025	12.7													
25-Apr-85	232.1	268.6	1030	13.0	7.6												
22-Jul-85	230.7	268.6															
13-Nov-85	230.2	268.6															
14-Jan-86	229.0	268.6															
15-Apr-86	230.5	268.6	1150	17.0													
09-Jul-86	231.6	268.6	1400	27.0	7.5												
08-Oct-86	230.2	267.7	1100	17.0													
30-Jan-87	227.9	268.1	1400	14.0													
07-May-87	231.2	268.1	1000	14.5													
09-Sep-87	228.8	267.4	975	16.3	9.3												
06-Oct-87	228.5	267.2	1000	18.0	9.6												
03-Mar-88	230.1	268.9	900	13.0	9.4												
03-Jun-88	230.5	268.9	1050	16.0	10.0												
05-Dec-88	230.6	268.9	990	13.9	10.1												
06-Dec-88	230.6	268.9	1010	13.8	10.0												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 32-52KD

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	26																	
17-Jul-84	37																	
30-Oct-84	14																	
19-Feb-85																		
25-Apr-85	28																	
22-Jul-85																		
13-Nov-85																		
14-Jan-86																		
15-Apr-86	[illegible]																	
09-Jul-86	0																	
08-Oct-86																		
30-Jan-87																		
07-May-87																		
09-Sep-87	41																	
06-Oct-87	41																	
03-Mar-88																		
03-Jun-88																		
05-Dec-88	50																	
06-Dec-88																		

QUIVIRA MINING COMPANY

AMBROSIA LAKE FACILITY

WELL 32-52KD

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										772	1197						
17-Jul-84										739	1258						
30-Oct-84										1026	1586						
19-Feb-85																	
25-Apr-85										794	1290						
22-Jul-85																	
13-Nov-85																	
14-Jan-86																	
15-Apr-86																	
09-Jul-86										774	1196						
08-Oct-86																	
30-Jan-87																	
07-May-87																	
09-Sep-87										558	900						
06-Oct-87										558	900						
03-Mar-88																	
03-Jun-88																	
05-Dec-88										557	880						
06-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 25-01KD

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	416.4	461.5			10.0												
17-Jul-84	417.7	461.5															
31-Oct-84	415.1	461.5	1225	15.0	8.6												
12-Feb-85																	
25-Apr-85	413.8	462.5	1275	16.0	8.6												
17-Jul-85	414.8	462.5															
20-Nov-85	423.0	462.5															
13-Jan-86	423.0	462.5															
21-Apr-86	423.1	462.5	1000	16.0													
10-Jul-86	419.3	462.5	2100	27.0													
08-Oct-86	421.0	462.5	1600	18.5													
30-Jan-87	422.6	463.3	1800	12.0													
07-May-87	418.0	463.3	1710	16.1													
11-Sep-87	415.6	463.3	2225	17.5	9.4												
29-Oct-87	415.1	461.0	2000	16.0	9.5												
04-Mar-88	419.8	462.5	2080	16.5	9.4												
07-Jun-88	420.1	462.5	2275	17.9	9.5												
01-Dec-88	421.5	462.5	2610	16.0	9.8												
06-Dec-88	423.8	462.5	2550	15.1	9.6												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 25-01KD

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	82																	
17-Jul-84	75																	
31-Oct-84	86																	
12-Feb-85	93																	
25-Apr-85	100																	
17-Jul-85																		
20-Nov-85																		
13-Jan-86																		
21-Apr-86																		
10-Jul-86																		
08-Oct-86																		
30-Jan-87																		
07-May-87																		
11-Sep-87	353																	
28-Oct-87																		
04-Mar-88																		
07-Jun-88																		
01-Dec-88	485																	
06-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 25-01KD

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										591	1071						
17-Jul-84										584	1099						
31-Oct-84										589	1124						
12-Feb-85										570	1120						
25-Apr-85										611	1192						
17-Jul-85																	
20-Nov-85																	
13-Jan-86																	
21-Apr-86																	
10-Jul-86																	
08-Oct-86																	
30-Jan-87																	
07-May-87																	
11-Sep-87										943	1970						
28-Oct-87																	
04-Mar-88																	
07-Jun-88																	
01-Dec-88										997	2800						
06-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 36-01KD

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	$CaCO_3$ (mg/l)	Cd (mg/l)
06-Apr-84	318.4	338.2			7.9												
09-Jul-84	321.6	338.2															
30-Oct-84	321.4	338.2	12000	14.0													
29-Jan-85	322.3	338.2	9900	12.7	7.9												
25-Apr-85	323.1	338.2	9000	14.0	7.9												
14-Jul-85	321.6	338.2															
08-Nov-85	319.9	338.2															
13-Jan-86	320.2	338.2															
01-Apr-86	321.0	338.2	10000	15.0													
10-Jul-86	322.6																
02-Oct-86	320.7	322.7															
30-Jan-87	321.7	324.1															
07-May-87	322.6	324.1	12000	16.9													
09-Sep-87		333.8															
12-Oct-87	319.6	334.0	11300	16.0	6.8												
01-Mar-88	321.1	335.2	10500	15.1	6.9												
07-Jun-88	321.3	335.2	10500	15.6	6.6												
01-Dec-88	321.5	335.2	11200	15.8	6.7												
06-Dec-88	323.3	335.2	11200	13.5	6.5												

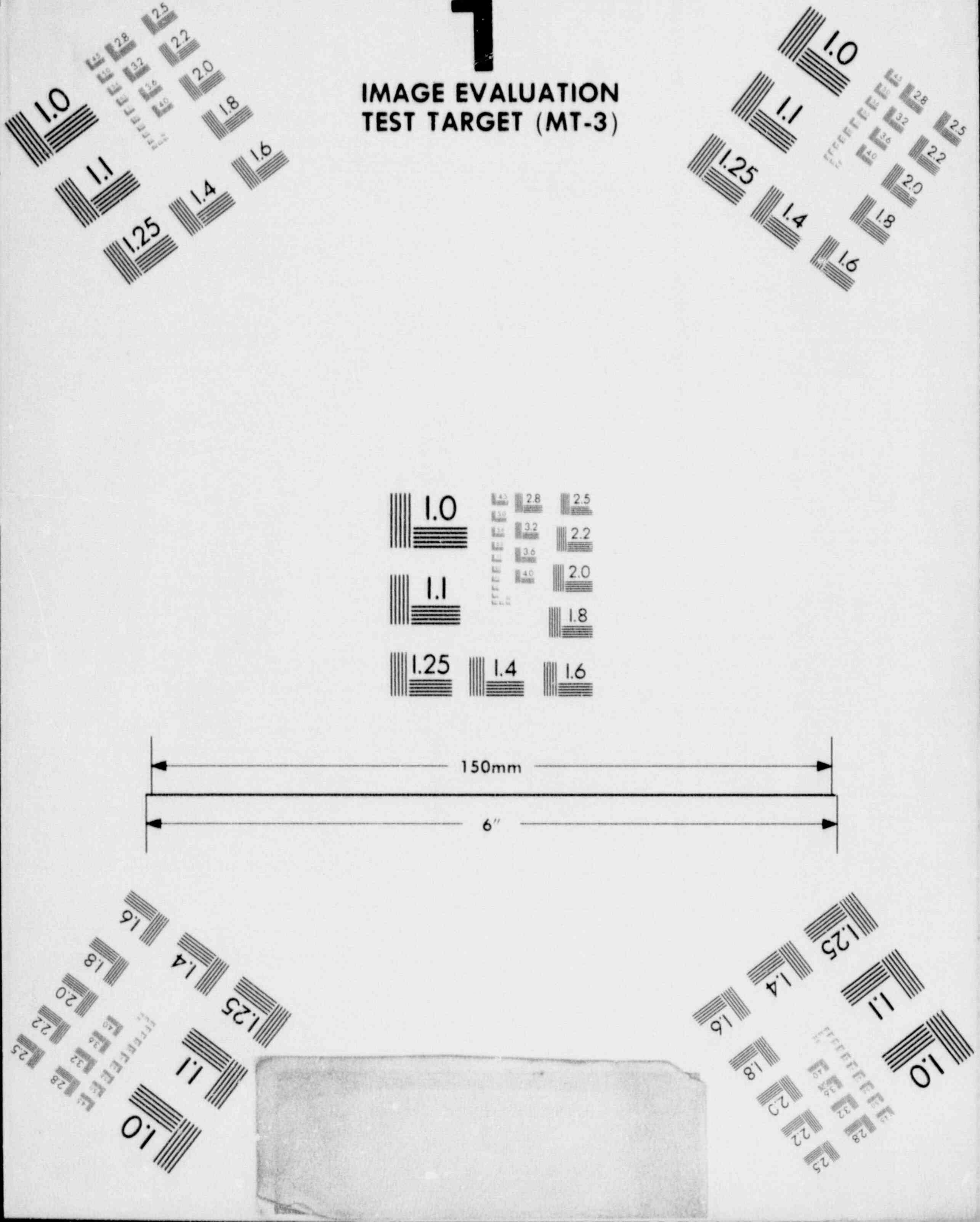
1

IMAGE EVALUATION TEST TARGET (MT-3)

150mm

6"

1
IMAGE EVALUATION TEST TARGET (MT-3)



1

IMAGE EVALUATION TEST TARGET (MT-3)

150mm

6″

1

IMAGE EVALUATION TEST TARGET (MT-3)

150mm

6″

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 36-01KD

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
06-Apr-84	2272																	
09-Jul-84	2465																	
30-Oct-84	2723																	
29-Jan-85	2773																	
25-Apr-85	1551																	
14-Jul-85																		
08-Nov-85																		
13-Jan-86																		
01-Apr-86																		
10-Jul-86																		
02-Oct-86																		
30-Jan-87																		
07-May-87																		
09-Sep-87																		
12-Oct-87																		
01-Mar-88																		
07-Jun-88																		
01-Dec-88	3270																	
06-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 36-01KD

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
06-Apr-84										4553	12865						
09-Jul-84										4079	12540						
30-Oct-84										4679	12106						
29-Jan-85										3775	11538						
25-Apr-85										5716	12514						
14-Jul-85																	
08-Nov-85																	
13-Jan-86																	
01-Apr-86																	
10-Jul-86																	
02-Oct-86																	
30-Jan-87																	
07-May-87																	
09-Sep-87																	
12-Oct-87																	
01-Mar-88																	
07-Jun-88																	
01-Dec-88										4470	11400						
06-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 36-04KD

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
03-Feb-84	306.3	341.8	12200	11.5	5.0												
17-Apr-84	305.8	341.6	11700	14.0	4.2	0.02	0.31		0.130	1.40	-0.01			550			0.0200
18-Jul-84	305.4	341.9	11600	18.0	4.9												
17-Oct-84	304.9	341.9	12000	12.0	5.4												
11-Jan-85	304.9	341.9	12300	13.0	4.6												
22-Apr-85	305.4	341.9	13300	11.0	4.3	-0.01	-0.10		-0.001	0.30	-0.10			594		-1	0.0035
08-Jul-85	306.4	341.9	10500	15.0	3.9												
08-Nov-85	304.1	341.9	9900	14.5	6.4												
13-Jan-86	304.5	341.9	10000	16.0	5.2												
10-Apr-86	305.4	341.9	10050	16.0	5.0	-0.01	0.30		-0.001	0.40	0.30			501		0	-0.0001
08-Jul-86	306.7		11000	16.5	5.0												
07-Oct-86	305.7	341.0	8000	16.0	6.5												
15-Jan-87	306.4	341.0	10000	11.0	7.1												
15-Apr-87	306.9	341.0	9900	17.0	7.9	-0.01	-0.10		0.005	0.19	-0.10			273			-0.0010
21-Jul-87	305.9	341.0	11000	17.0	6.3									477			
12-Oct-87	304.1	341.0	11250	17.0	6.9												
20-Jan-88	305.8	340.6	9900	12.5	7.1			184.0				-0.01		400	178.0		
05-May-88	306.2	340.6	9800	15.8	6.9	0.02	0.79	158.3	0.023	0.31	0.02			356	151.4		-0.0050
18-Jul-88	306.1	340.3	9800	15.9	6.6			182.6						435	164.3		
26-Oct-88	307.3	340.6	12000	13.5	6.7			180.1	0.014					219	158.7		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 36-04KD

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
03-Feb-84	3220																	
17-Apr-84	3220		0.02		0.07	0.03	13.0				29.0	680	7.80	0.03	1300	0.08		
18-Jul-84	2280																	
17-Oct-84	2710																	
11-Jan-85	2480																	
22-Apr-85	2600		0.00	-0.5	-0.05	-0.02	-0.1	522.00	-1		30.1	639	5.97	-0.10	1130	0.38	65	1.2
08-Jul-85	2600																	0.2
08-Nov-85	2600																	0.3
13-Jan-86	2700																	0.4
10-Apr-86	2500		0.11	-0.5	0.06	0.04	-0.1	62.30	-1		39.0	740	2.27	0.10	1250	0.12	2	75.0
08-Jul-86	3100																	14.0
07-Oct-86	1600																	-0.1
15-Jan-87	2300																	2.7
15-Apr-87	2410		-0.01	-1.0	-0.03	0.03	-0.1	-0.03	239		38.4	888	2.06	-0.10	1830	0.01	97	
21-Jul-87	2570							0.10	340		43.5		6.70		1693			4.1
12-Oct-87	2560																	0.4
20-Jan-88	2540	-0.01		-1.0				3.37	253		39.6	1000	2.01		1710			-0.1
05-May-88	2470		0.03	1.0	0.20	0.02	-0.1	0.19	453		49.4	803	2.19	0.18	1358	0.15	130	0.9
18-Jul-88	2660			-1.0				2.11	513		46.9	841	3.82		1660			-0.1
26-Oct-88	2360			-1.0				4.19	584		46.5	898	1.82	0.25	1672			-0.1

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
~~WELL 31-04ND~~

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
03-Feb-84										4320	9360						
17-Apr-84			-0.068			0.5			0.170	3630	9830		60		0.03	0.04	0.21
18-Jul-84										3460	9320						
17-Oct-84										4100	10100						
11-Jan-85										3160	9190						
22-Apr-85			-0.001			0.9			-0.001	3920	10200		18		0.00	-0.20	0.04
08-Jul-85										4070	9960						
08-Nov-85										4250	10000						
13-Jan-86										4130	10600						
10-Apr-86			-0.001			2.2			-0.001	3350	10700		5		0.00	-0.20	0.10
08-Jul-86										4680	10800						
07-Oct-86										4580	10100						
15-Jan-87										4480	10400						
15-Apr-87			-0.001			0.7			0.005	4880	10500		48		0.01	-0.10	0.04
21-Jul-87										5160	12000						
12-Oct-87										5130	11900						
20-Jan-88										5170	11600	0.5					
05-May-88			-0.020			0.6			0.137	3820	11600	0.0	164		0.00	0.01	0.01
18-Jul-88										4670	12600						
26-Oct-88						0.4			0.037	4890	11200	1.4			0.01		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 36-06

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
25-Oct-88	166.4	199.4	19800	3.3	15.0	0.15			0.872		0.03	0.03					0.0330
28-Oct-88	166.8	199.5	21750	3.3	13.9	0.18			1.050		0.03	0.24					0.0520
02-Nov-88	167.4	199.3	20500	3.4	13.8	0.16			0.775		0.03	0.23					0.0460
04-Nov-88	167.5	199.1	20100	3.3	14.5	0.16			1.150		0.02	0.21					0.0470
15-Nov-88	165.0	199.2	17900	3.3	12.1	0.16			1.600		0.03	0.68					0.0430

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 36-06

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
25-Oct-88		0.20			1.32					0.0003				0.78		2.35		
28-Oct-88		0.01			1.47					-0.0002				0.89		2.61		
02-Nov-88		0.01			1.40					0.0015				0.84		2.45		
04-Nov-88		-0.01			1.33					0.0006				0.80		2.31		
15-Nov-88		-0.01			1.31					0.0005				0.63		2.25		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 36-06

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
25-Oct-88			0.380	27.0		85.0	27.0	0.25	0.336			11200.0			7.8700		
28-Oct-88			0.470	42.0		117.0	18.0	0.16	0.405			12200.0			9.2700		
02-Nov-88			0.460	22.0		105.0	27.0	0.20	0.582			15300.0			9.0900		
04-Nov-88			0.360	18.0		99.0	24.0	0.09	0.346			15200.0			6.2000		
15-Nov-88			0.300	11.0		94.0	22.0	0.18	1.330			11000.0			7.8800		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
VENT HOLE 19-2KD

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
23-Apr-85			4470		7.9	0.00	-0.10		-0.001	0.20	-0.10			284		260	-0.0001
22-Apr-86			3400		7.9	-0.01	0.20		-0.001	0.54	0.20			270		260	-0.0001
22-Apr-87			3450		7.5	-0.01	-0.10		0.004	0.15	-0.10			226			-0.0010
26-Apr-88			2210	9.8	7.7	-0.01	0.20		0.012	0.27	0.02			274			-0.0050

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
VENT HOLE 19-2KD

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
23-Apr-85	26		-0.050	-0.5	-0.05	-0.02	0.2	0.03	320		9.5	135	0.10	0.29	490	0.05	-0.1	0.7
22-Apr-86	33		0.080	-0.5	0.06	0.04	0.2	0.04	260		9.7	113	0.13	0.30	465	0.06	-0.1	
22-Apr-87	25		-0.010	-1.0	-0.03	0.01	0.2	-0.03	279		8.5	112	0.02	0.40	533	0.01	0.4	
26-Apr-88	29		0.010	-1.0	0.09	0.01	0.3	0.06	260		10.0	120	0.05	0.24	471	0.04	-0.1	7.2

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
VENT HOLE 19-2KD

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
23-Apr-85			-0.001			0.6			-0.001	1930	3440		55		0.0090	-0.20	0.01
22-Apr-86			-0.001			1.2			-0.001	1830	3070		63		0.0075	0.30	0.01
22-Apr-87			-0.001			0.7			-0.002	1810	3000		86	189	0.0186	-0.20	0.06
26-Apr-88			-0.020			0.4			0.026	2770	3070	0.0	71		0.0089	0.04	-0.01

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
VENT HOLE 19-5KD

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
01-Apr-84			3360		7.2				-0.110		0.02						
24-Apr-85			4740		7.6	0.00	-0.10		-0.001	-0.10	-0.10			416		270	-0.0001
22-Apr-86			3500		7.9	-0.01	0.30		-0.001	0.64	0.10			407		280	-0.0001
22-Apr-87			3510		7.3	-0.01	-0.10		0.004	0.18	-0.10			339			-0.0010
27-Apr-88			3125		6.9	-0.01	0.21		0.012	0.26	0.02			395			-0.0050

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
VENT HOLE 19-5KD

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
01-Apr-84	100		0.012		-0.03	0.03								0.14				
24-Apr-85	83		-0.050	-0.5	-0.05	-0.02	0.3	0.10	330		9.5	168	0.58	0.40	312	0.04	-0.1	-0.1
22-Apr-86	92		0.080	-0.5	-0.05	0.06	0.3	0.04	340		9.4	150	0.57	0.30	366	0.05	0.1	
22-Apr-87	96		-0.010	-1.0	-0.03	0.01	0.3	-0.03	311		8.6	162	0.28	0.30	4465	0.01	0.4	
27-Apr-88	100		0.020	-1.0	0.13	0.02	0.3	0.09	285		12.1	160	0.38	0.15	270	0.05	-0.1	-0.1

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
VENT HOLE 19-5KD

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
01-Apr-84			0.100							1880	3200						
24-Apr-85			-0.001			1.4			-0.001	1990	3560		56		0.5680	-0.20	0.08
22-Apr-86			-0.001			2.3			-0.001	1950	3350		56		0.0064	0.20	0.01
22-Apr-87			-0.001			0.2			-0.002	1970	3410		90	13	0.0517	0.20	0.01
27-Apr-88			-0.020			0.5			0.005	1950	3420	0.2	85		0.0100	0.06	-0.01

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
VENT HOLE 30-12KD

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
01-Apr-84			3840		6.9				-0.110		0.02						
23-Apr-85			5030		7.7	0.00	-0.10		-0.001	0.30	-0.10			496			-0.0001
22-Apr-86			3550		7.6	-0.01	0.30		-0.001	0.58	0.10			360		180	-0.0001
22-Apr-87			3920		8.0	-0.01	-0.10		0.005	0.17	-0.10			382			-0.0010
26-Apr-88			2610	9.5	7.2	-0.01	0.22		0.011	0.20	0.02			467			-0.0050

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
VENT HOLE 30-12KD

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
01-Apr-84	370		0.019		-0.03	0.04								0.02				
23-Apr-85	360		-0.050	-0.5	-0.05	-0.02	0.2	0.02	240		12.1	160	0.06	-0.10	374	0.05	-0.1	3.3
22-Apr-86	260		0.080	-0.5	-0.05	0.04	0.3	0.04	220		10.4	105	0.19	0.30	318	-0.04	-0.1	
22-Apr-87	380		-0.010	-1.0	-0.03	0.01	0.2	0.03	228		11.0	142	0.02	-0.10	517	0.01	0.5	
26-Apr-88	430		0.020	-1.0	0.13	0.02	0.3	0.09	217		10.7	142	0.04	0.06	345	0.04	-1.0	-0.1

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-12KD

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
01-Apr-84			0.100							1760	3400						
23-Apr-85			-0.001			0.7			-0.001	1860	3780		39		0.0021	-0.20	0.01
22-Apr-86			-0.001			1.0			-0.001	1430	2790		48		0.1950	0.20	0.01
22-Apr-87			-0.001			0.3			-0.002	1840	3510		5390	18	0.0421	-0.20	0.03
26-Apr-88			-0.020			0.2			0.007	1850	3680	0.0	63		0.0167	0.06	-0.01

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
MINE SHAFT 30W-KD

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
01-Apr-84			3480		7.8				-0.110		0.02						
22-Apr-85			6140		7.4	0.00	-0.10		-0.001	0.30	-0.10			544		360	-0.0001
22-Apr-86			3960		7.7	-0.01	0.40		-0.001	0.72	0.10			475		240	-0.0001
27-Apr-88			2950		7.7	-0.01	0.21	55.56	0.012	0.45	0.02			466	53.4		-0.0050

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
MINE SHAFT 30W-KD

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
01-Apr-84	160		-0.011		-0.03	0.03								0.03				
22-Apr-85	300		-0.050	-0.5	-0.05	-0.02	0.3	0.04	440		11.9	0	0.17	0.30	355	0.06	-0.1	3.5
22-Apr-86	140		0.080	-0.5	-0.05	0.06	0.2	0.06	300		7.4	211	0.01	0.10	306	0.06	-0.1	
27-Apr-88	180		0.020	-1.0	0.14	0.02	0.3	0.10	311		7.6	223	0.03	0.06	266	0.06	0.2	-0.1

QUIVIRA MINING COMPANY

AMBROSIA LAKE FACILITY

MINE SHAFT 30W-KD

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
01-Apr-84			0.100							2160	3650						
22-Apr-85			-0.001			5.1			-0.001	2470	4720		60		0.0795	-0.20	0.01
22-Apr-86			-0.001			4.4			-0.001	2200	3860		55		0.0304	-0.20	0.01
27-Apr-88			-0.020			1.4			0.009	2130	4140	0.8	70		0.0257	0.07	0.01

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
MINE SHAFT 30W 1-3

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
22-Apr-85			6980		7.4	0.00	-0.10		-0.001	0.20	-0.10			592		390	-0.0001
22-Apr-86			4500		7.6	-0.01	0.30		-0.001	0.57	0.20			512		330	-0.0001
22-Apr-87			4790		7.2	-0.01	-0.10		0.005	0.20	-0.10			429			-0.0010
27-Apr-88			3500	16.2	7.1	-0.01	0.21	66.53	0.015	0.36	0.03			483	61.2		-0.0050

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
MINE SHAFT 30W 1-3

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
22-Apr-85	390		-0.050	-0.5	-0.05	0.02	0.2	0.05	480		13.6	355	0.42	0.40	375	0.10	-0.1	4.0
22-Apr-86	300		0.100	-0.5	-0.05	0.04	0.2	0.06	400		11.7	246	0.64	0.40	383	0.06	-0.1	
22-Apr-87	314		-0.010	-1.0	-0.03	0.02	0.2	-0.03	416		10.5	261	0.58	0.30	535	0.01	0.5	
27-Apr-88	350		0.020	-1.0	0.14	0.02	0.3	0.10	375		13.1	261	0.28	0.27	350	0.09	0.4	-0.1

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
MINE SHAFT 30W 1-3

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
22-Apr-85			-0.001			2.1			-0.001	2650	5250		71		0.1670	-0.20	0.01
22-Apr-86			-0.001			1.5			-0.001	2290	4300		85		0.0421	0.30	0.01
22-Apr-87			-0.001			0.7			-0.002	2370	4360		115	33	0.0663	-0.20	0.08
27-Apr-88			-0.020			1.6			0.011	2360	4430	0.2	91		0.0503	0.07	0.01

CORRECTIVE ACTION PLAN

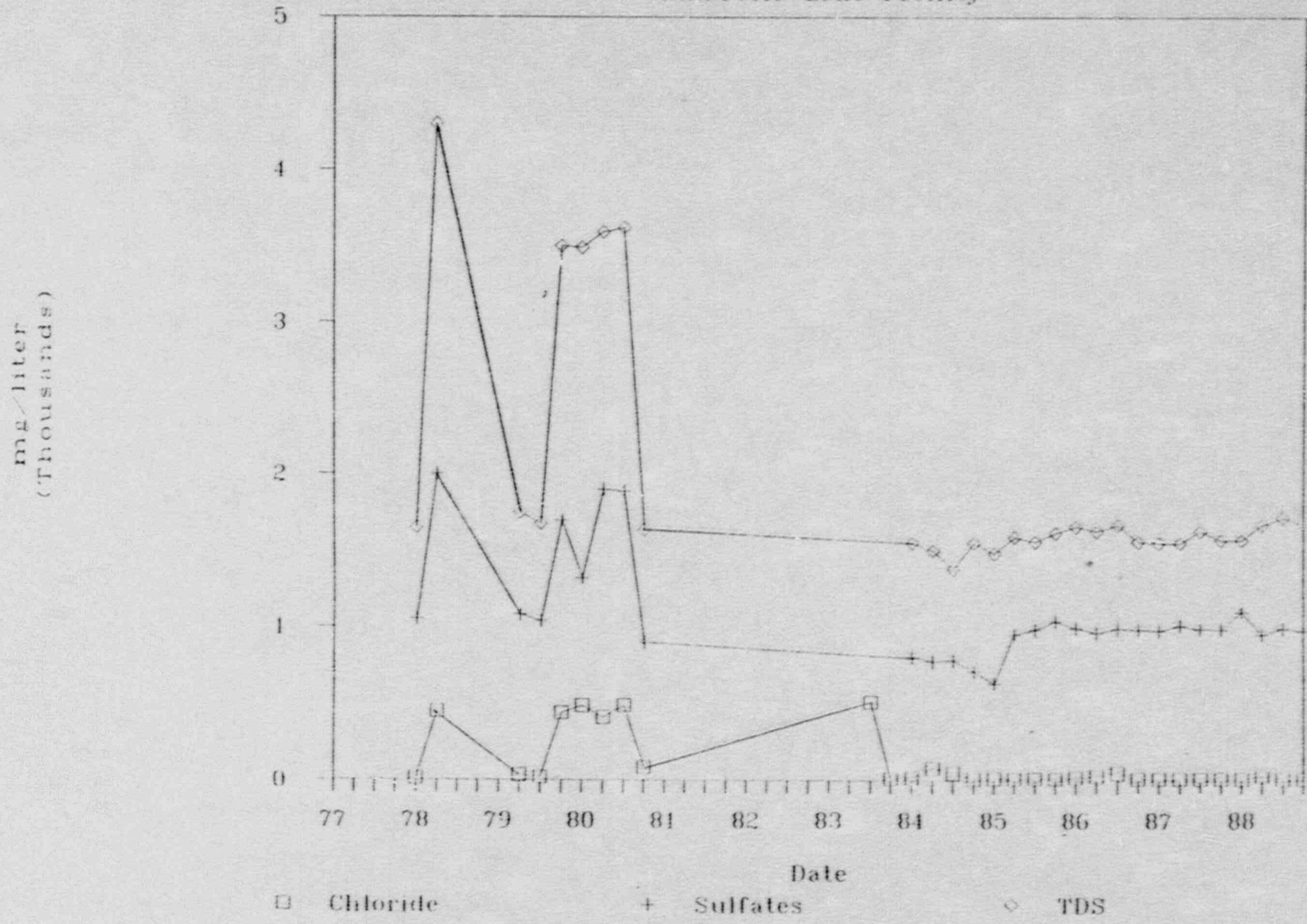
APPENDIX L

31-01Tra

Depth To Water and Analytical Graphs

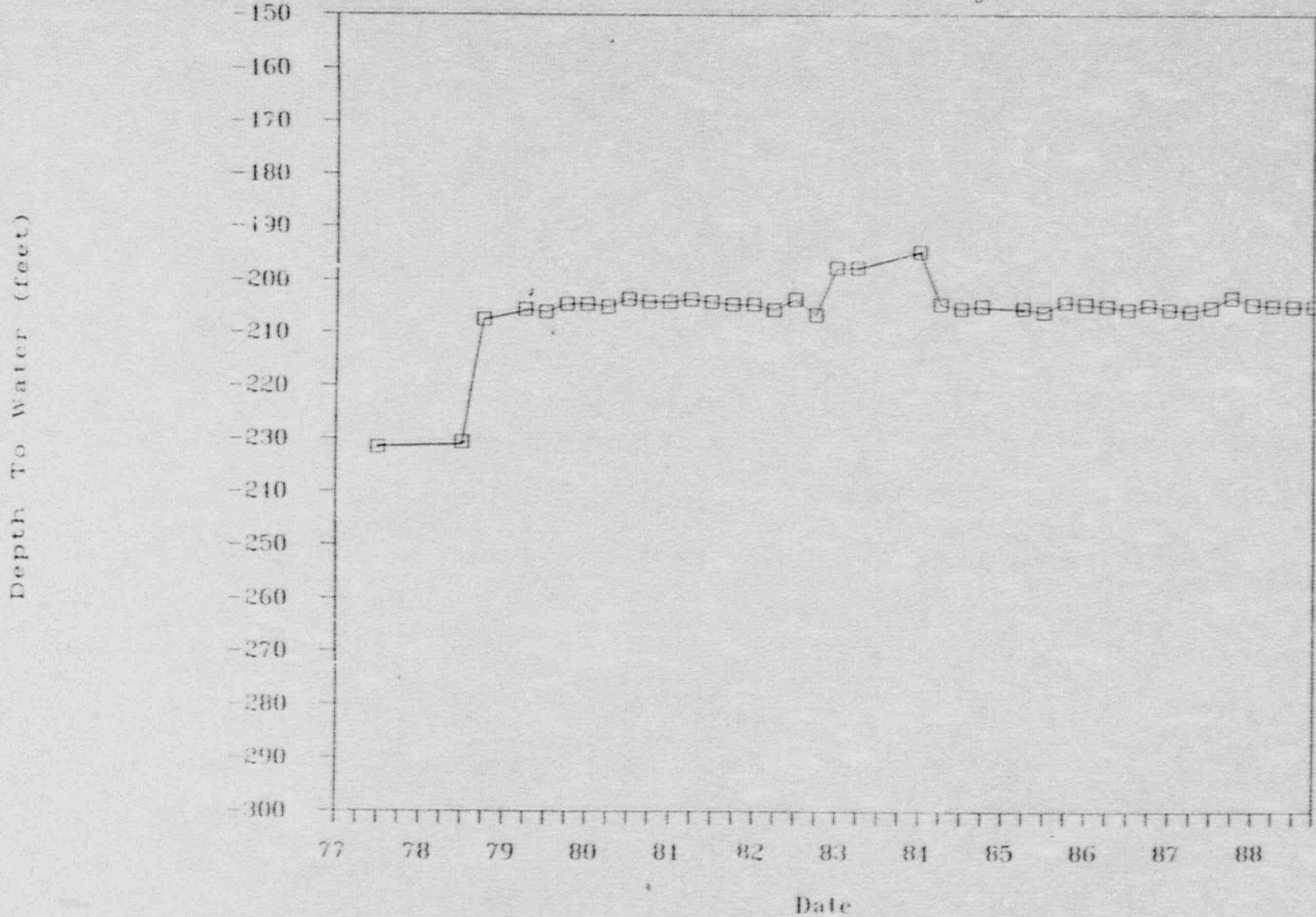
MONITOR WELL 31-01Tra

Ambrosia Lake Facility



MONITOR WELL 31-01Tra

Ambrosia Lake Facility



CORRECTIVE ACTION PLAN

APPENDIX M

31-01Tra and 30-01

Depth To Water - Formation Correlation

and Historical Depth To Water Readings

Note - A Negative Number On the Historical Analytical Data Represents a Less Than Value.

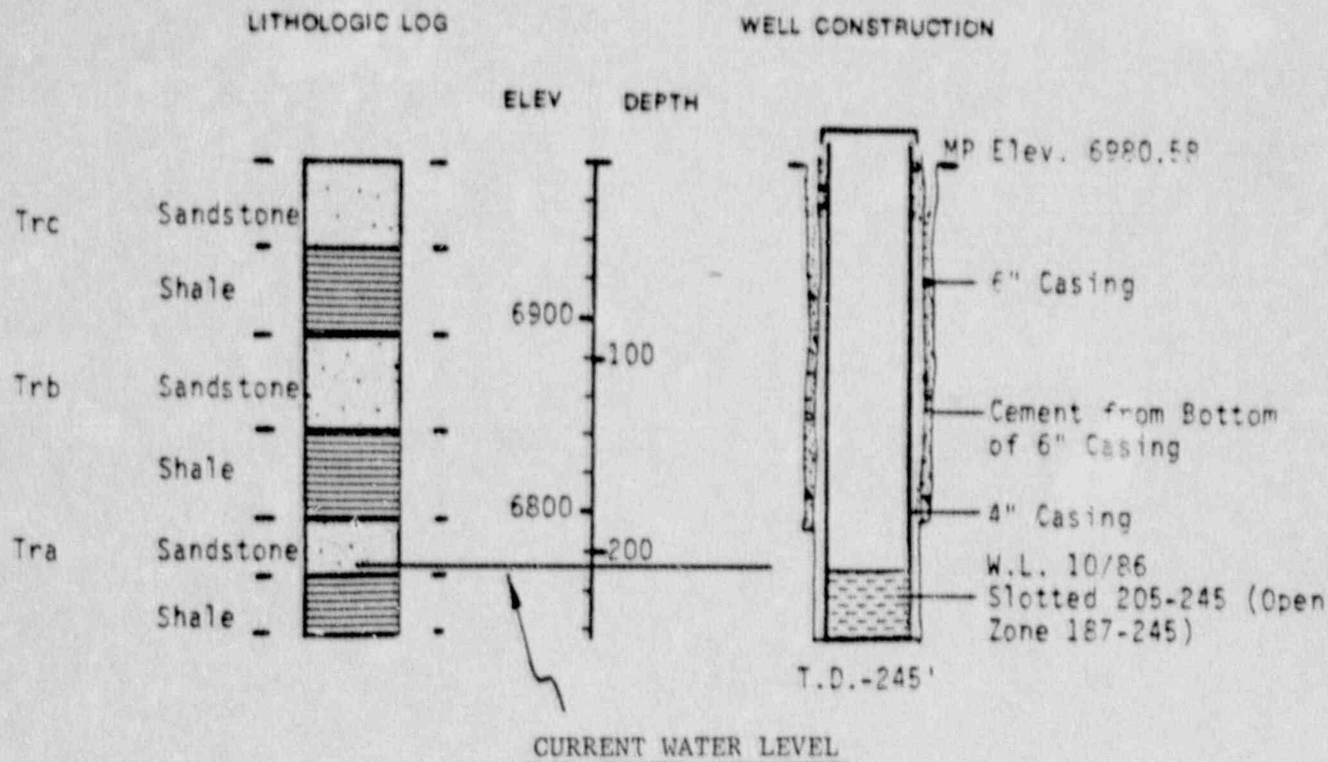
QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-01TRA

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
03-Feb-84	195.5	252.3	1920	11.5	7.4												
17-Apr-84	205.4	252.3	2400	14.5	7.9	0.03	0.06		-0.110	0.39	0.01			200			-0.0070
18-Jul-84	205.5	252.4	1440	16.0	7.4												
17-Oct-84	204.9	252.2	1880	12.5	5.4												
11-Jan-85	203.9	252.2	1370	11.5	7.4												
22-Apr-85	205.3	252.4	2100	12.5	7.6	-0.01	-0.10		-0.001	0.40	-0.10			228		150	-0.0002
08-Jul-85	206.1	253.3	1425	15.0	7.2												
07-Nov-85	204.1	259.2	1450	14.0	6.7												
13-Jan-85	204.5	252.2	3380	12.1	7.4												
10-Apr-86	204.8	252.4	3375	15.0	7.5	-0.01	0.50		-0.001	0.20	0.40			200		120	-0.0001
08-Jul-86	205.5		3500	17.0	8.0												
07-Oct-86	204.7	251.9	1500	15.0	7.6												
15-Jan-87	205.5	251.9	1350	13.0	7.6												
15-Apr-87	205.8	251.9	1210	14.0	7.6	-0.01	-0.10		0.002	0.20	-0.10			197			-0.0010
15-Apr-87	205.8	253.5	1210	14.0	7.5	-0.01	-0.10		0.004	0.28	-0.10			182			-0.0010
15-Jul-87	205.1	251.9	1750	13.0	6.1	-0.10	-0.10		-0.005	0.30	-0.10	-0.10		212			-0.0010
15-Jul-87	205.1	251.9	1750	18.0	6.9	0.05	0.18		0.002	0.40	0.02			202			-0.0050
19-Oct-87	203.1	252.4	1400	13.5	7.5												
20-Jan-88	204.4	251.9	1550	10.0	7.1			25.5				0.01		226	25.5		
25-May-88	204.7	251.9	1400	15.3	7.3	0.02	0.10	24.6	0.012	0.18	0.03			123	23.0		-0.0050
18-Jul-88	204.7	251.4	1400	15.0	7.3			23.2						205	22.3		
21-Sep-88						0.01			0.015		0.01	-0.01					-0.0050
23-Sep-88						0.02			0.022		0.02	-0.01					-0.0050
10-Oct-88						0.02			0.024		0.02	-0.01					-0.0050
13-Oct-88						0.02			0.025		0.02	-0.01					-0.0050
21-Oct-88	204.8	251.9	1425	15.2	7.1			22.8	0.001					207	22.9		
17-Nov-88						0.02			-0.001		0.02	-0.01					-0.0050

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-01TR

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	174.4	208.6			9.0												
01-Jul-84	170.7	208.7															
01-Nov-84	168.9	208.7	1100	13.0	8.5												
02-Feb-85	167.9	208.6	1025	11.5													
25-Apr-85	165.9	208.6	1050	13.5	8.7												
08-Nov-85	164.4	208.6															
13-Jan-86	164.9	208.6															
21-Apr-86	154.8	208.6	1200	16.0													
09-Jul-86	165.3	208.6															
02-Oct-86	166.5	209.1															
30-Jan-87	163.2	202.3	1200	13.0													
06-May-87	164.3	202.3	1150	14.0													
10-Sep-87	162.0	206.6	1140	14.0	8.5												
28-Oct-87	163.1	206.6	1150	14.5	8.5												
03-Mar-88	165.4	206.4	1100	12.8	8.7												
08-Jun-88	166.3	208.4	1150	14.3	8.8												
05-Dec-88	166.0	208.4	1210	14.2	9.1												
06-Dec-89	166.8	208.4	1225	13.5	8.9												

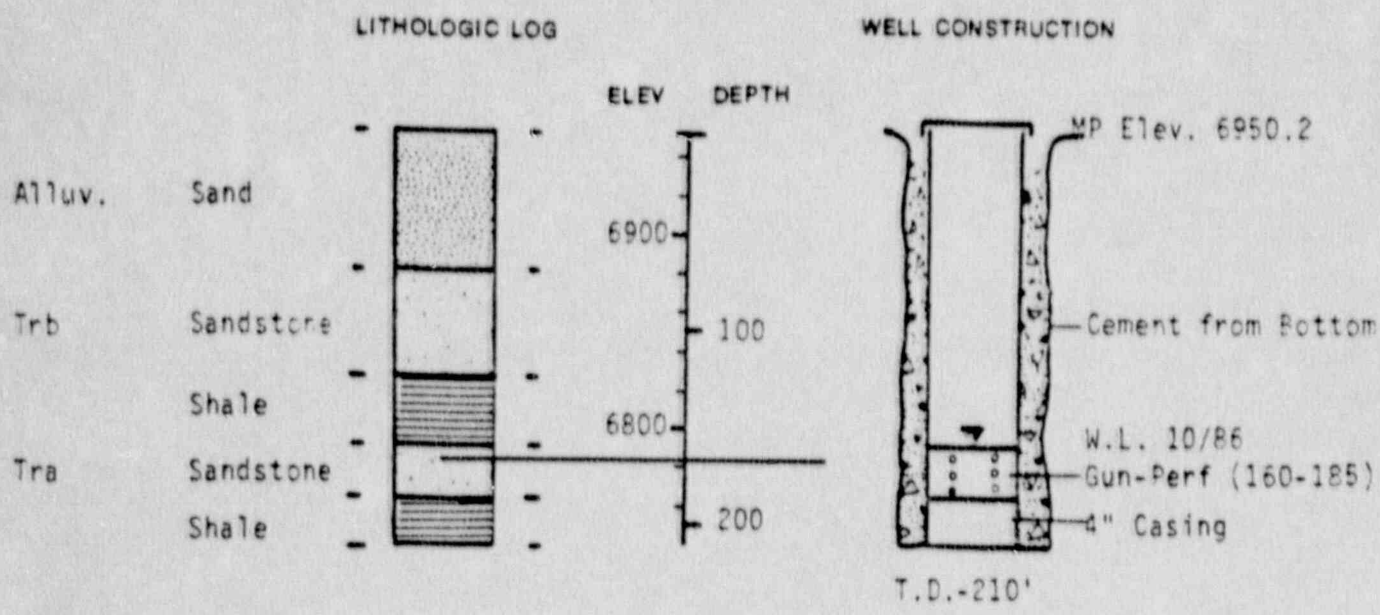
WELL 31-01
(Tra)



Well drilled 6/77

September 11, 1989

WELL 30-01
(Tra)



Well drilled 2/76

CURRENT WATER LEVEL

August 21, 1989

CORRECTIVE ACTION PLAN

APPENDIX N

Historical Data and Well Logs

Tres Hermanos B Wells

31-66 and 31-67

Note - A Negative Number On the Historical Analytical Data Represents a Less Than Value.

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-66

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
18-Feb-88	109.3	123.2	12500	10.5	6.1	0.04	0.48		0.007	0.54	0.01			444			-0.0100
31-May-88	109.6	123.2	7500	13.8	6.0												
15-Aug-88	110.7	123.2	11400	15.8	6.2												
20-Sep-88						0.04			0.013		0.03	-0.01					-0.0050
26-Sep-88						0.04			0.040		0.04	-0.01					-0.0050
05-Oct-88						0.03			0.012		0.03	-0.01					-0.0050
11-Oct-88						0.04			0.019		0.04	-0.01					-0.0050
21-Nov-88						0.04			0.029		0.03	-0.01					-0.0050
08-Dec-88	109.8	123.2	11900	13.0	5.9												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-66

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
18-Feb-88	4960		0.12	-1.0	0.20	0.03	0.1	0.20	1100		30.4	1750	8.04	0.48	2750	0.37	23.0	-0.1
31-May-88																		
15-Aug-88	4530																	
20-Sep-88		-0.01			^ 21					0.0006				0.22		0.36		
26-Sep-88		-0.01			0.21					0.0004				0.21		0.32		
03-Oct-88		-0.01			0.22					-0.0002				0.24		0.33		
11-Oct-88		-0.01			0.25					0.0008				0.26		0.35		
21-Nov-88		-0.01								0.0012				0.25		0.32		
08-Dec-88																		

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-66

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
18-Feb-88			0.050			1.3			0.065	3640	16100	0.4	90		0.2650	0.12	9.02
31-May-88																	
15-Aug-88										4030	15400						
20-Sep-88			0.030	7.7		1.1	4.9	0.02	0.339			9.5			0.1940		
26-Sep-88			0.050	5.0		1.0	4.5	0.01	0.245			1.3			0.2060		
05-Oct-88			0.030	4.5		0.7	5.2	0.02	0.384			0.7			0.2020		
11-Oct-88			0.060	5.6		0.3	4.5	0.14	0.025			1.0			0.2600		
21-Nov-88			0.040	9.5		1.2	5.4	0.02	0.031			1.1			0.3670		
05-Dec-88																	

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-67

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
18-Feb-88	19.1	96.5	4620	10.0	6.4	0.03	0.35		0.009	0.47	-0.01			509			-0.0100
31-May-88	19.2	96.5	4225	10.9	6.2												
15-Aug-88	19.7	96.5	4375	12.0	6.2												
20-Sep-88						0.03			0.017		0.02	-0.01					-0.0050
26-Sep-88						0.03			0.017		0.01	-0.01					-0.0050
04-Oct-88						0.03			0.018		0.01	-0.01					-0.0050
11-Oct-88						0.03			0.007		0.01	-0.01					-0.0050
21-Nov-88						0.04			0.004		0.05	-0.01					-0.0050
07-Dec-88	19.9	96.5	4350	11.2	6.5												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-67

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
18-Feb-88	920		0.03	-1.0	0.16	0.03	0.3	0.14	751		14.9	552	1.07	0.30	575	0.13	1.4	0.3
31-May-88																		
15-Aug-88	872																	
20-Sep-88		-0.01			0.18					0.0004				0.13		0.15		
25-Sep-88		-0.01			0.17					0.0003				0.12		0.13		
04-Oct-88		-0.01			0.21					0.0004				0.13		0.13		
11-Oct-88		-0.01			0.20					0.0007				0.13		0.13		
21-Nov-88		-0.01			0.24					0.0011				0.15		0.14		
07-Dec-88																		

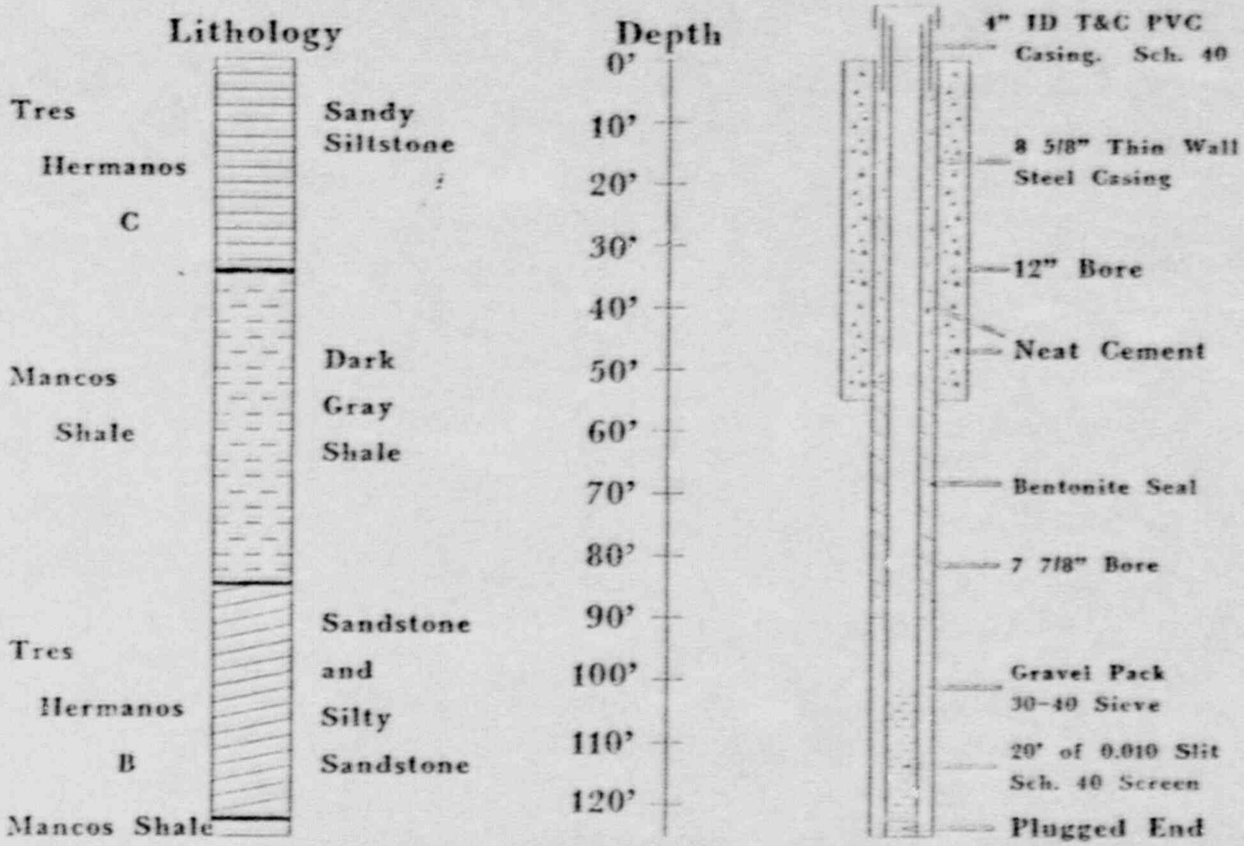
QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 31-67

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra 226 (pCi/l)	Ra-228 (pCi/l)	Sb (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
18-Feb-88			0.020			0.2			0.039	2900	5020	0.3	128		0.0074	0.08	0.02
31-May-88																	
15-Aug-88										2930	6330						
20-Sep-88			0.040	14.0		2.0	11.0	0.02	0.154			9.0			0.0040		
26-Sep-88			0.040	7.0		1.0	9.8	0.01	0.067			2.6			0.0045		
04-Oct-88			0.020	7.1		0.9	8.8	0.02	0.110			2.0			0.0036		
11-Oct-88			0.020	4.5		0.7	8.4	0.05	0.020			2.5			0.0035		
21-Nov-88			0.020	27.0		3.3	9.9	0.01	0.024			7.2			0.0069		
07-Dec-88																	

MONITOR WELL 31-66

Measuring Elevation - 7006.4'

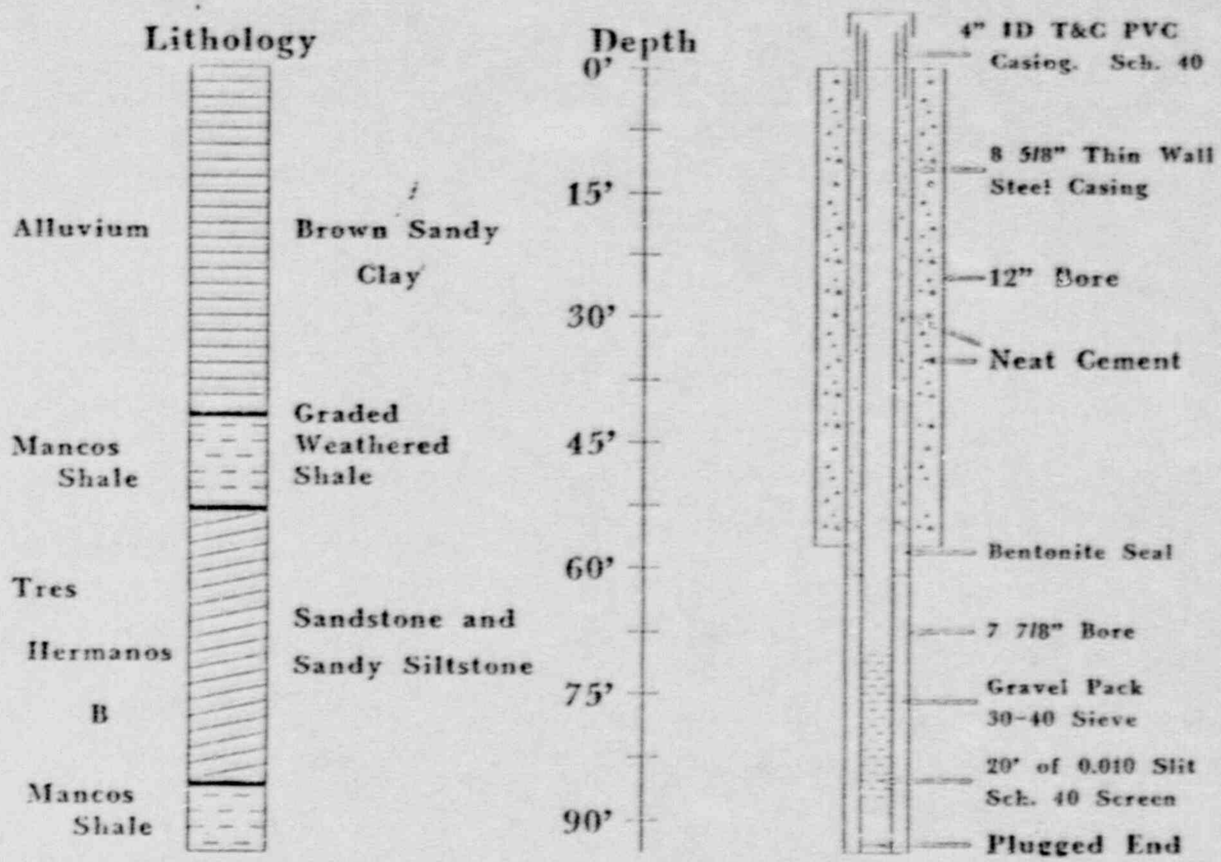
Completed 12/7/88



MONITOR WELL 31-67

Measuring Elevation - 6931.4'

Completed 12/7/88



CORRECTIVE ACTION PLAN

APPENDIX O

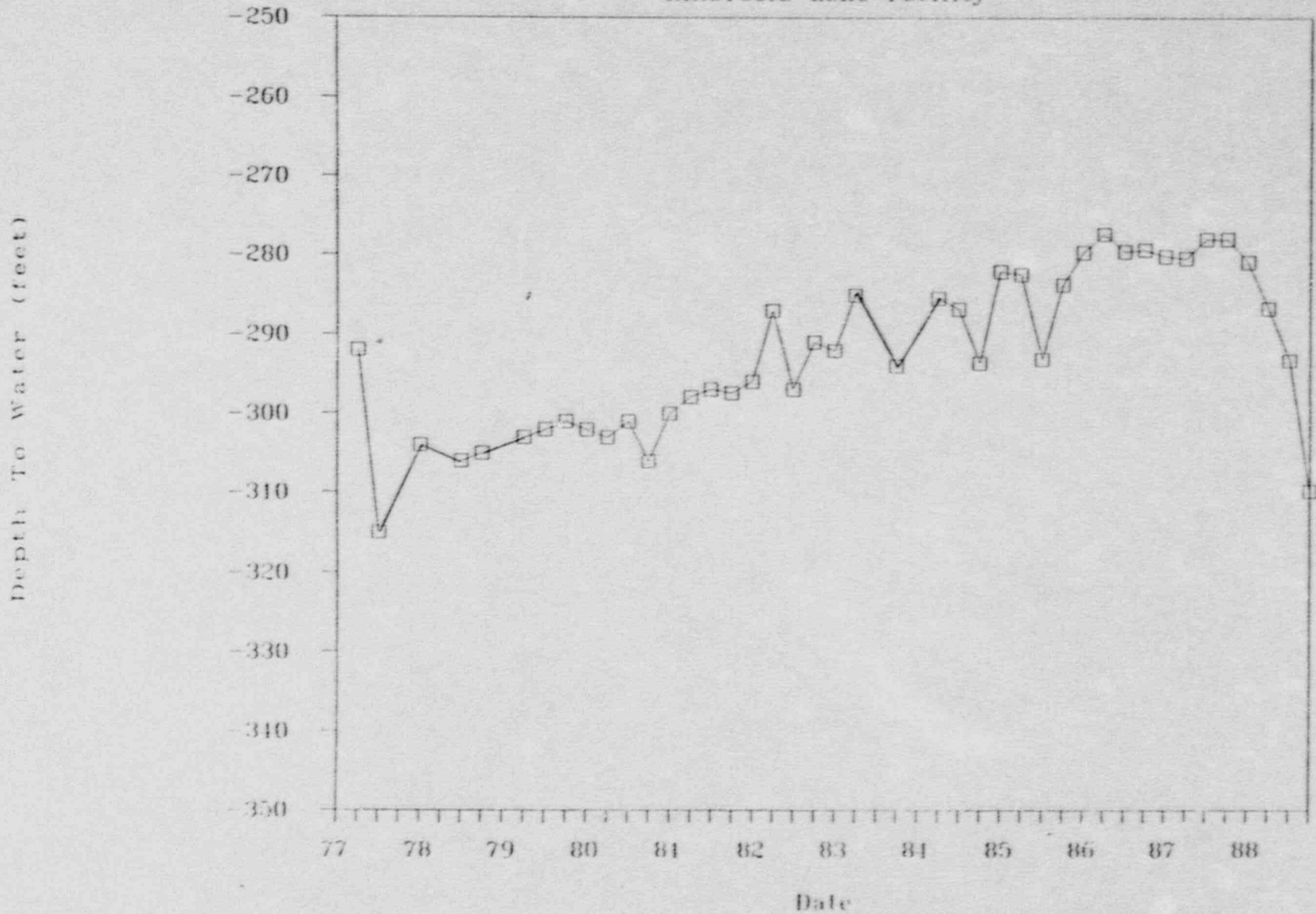
Depth To Water and Historical Analytical Graphs and Data

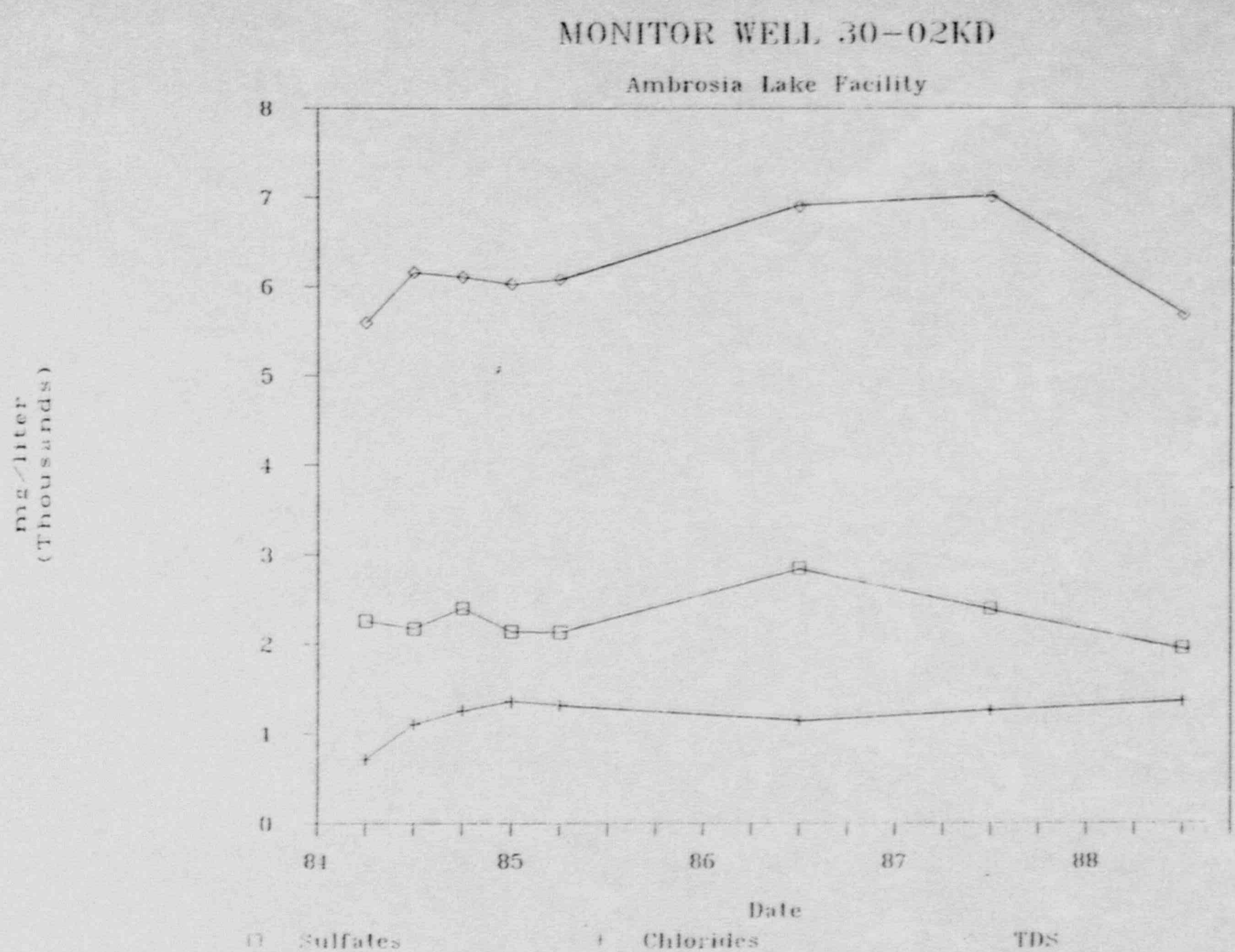
Monitor Well 30-02

Note - A Negative Number On the Historical Analytical Data Represents a Less Than Value.

MONITOR WELL 30-02KD

Ambrosia Lake Facility




MONITOR WELL 30-02KD
Ambrosia Lake Facility
mg/liter (Thousands)
8
7
6
5
4
3
2
1
0
84
85
86
87
88
Date
Sulfates
Chlorides
TDS

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-02KD

Date	Depth To Water (ft)	Total Depth (ft)	Spec. Conduct.	Temp. (c)	pH	Ag (mg/l)	Al (mg/l)	Anions (mg/l)	As (mg/l)	B (mg/l)	Ba (mg/l)	Be (mg/l)	Benzene (mg/l)	Ca (mg/l)	Cations (mg/l)	CaCO3 (mg/l)	Cd (mg/l)
06-Apr-84	285.4	316.2			5.7												
17-Jul-84	286.8	316.2															
07-Nov-84	293.6	316.2	5000	15.0	5.3												
02-Feb-85	292.0	316.3	4400	13.0	5.4												
25-Apr-85	292.4	316.3	4225	14.0	5.8												
17-Jul-85	293.1	316.3															
08-Nov-85	285.7	316.3															
13-Jan-86	279.6	316.3															
21-Apr-86	277.3	316.3	5000	16.0													
09-Jul-86	279.5	316.3	6000	27.0	8.4												
02-Oct-86	279.3	315.8	5200	15.0													
30-Jan-87	280.1	312.2	5600	12.0													
05-May-87	280.4	312.2	6600	16.0													
10-Sep-87	278.0	313.4	6250	15.0	7.4												
28-Oct-87	278.0	313.1	6500	15.2	7.4												
03-Mar-88	280.9	314.8	5800	7.8	7.3												
08-Jun-88	286.7	314.8	5300	14.9	7.2												
15-Sep-88	293.3	314.8	4700	16.0	8.6												
15-Sep-88						0.02			0.016		0.05	-0.01					-0.0050
28-Sep-88						0.03			0.035		0.05	-0.01					-0.0050
10-Oct-88						0.02			0.040		0.05	-0.01					-0.0050
14-Oct-88						0.04			0.132		0.05	-0.01					0.0050
15-Nov-88						0.02			0.010		0.02	-0.01					-0.0050
05-Dec-88	309.8	314.8	5500	13.9	8.5												

QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-02KD

Date	Cl (mg/l)	CN (mg/l)	Co (mg/l)	CO3 (mg/l)	Cr (mg/l)	Cu (mg/l)	F (mg/l)	Fe (mg/l)	HCO3 (mg/l)	Hg (mg/l)	K (mg/l)	Mg (mg/l)	Mn (mg/l)	Mo (mg/l)	Na (mg/l)	Ni (mg/l)	NH3 (mg/l)	NO3 (mg/l)
05-Apr-84	712																	
17-Jul-84	1168																	
01-Nov-84	1265																	
02-Feb-85	1370																	
25-Apr-85	1328																	
17-Jul-85																		
08-Nov-85																		
13-Jan-86																		
21-Apr-86																		
07-Jul-86	1150																	
02-Oct-86																		
30-Jan-87																		
06-May-87																		
10-Sep-87	1270																	
28-Oct-87																		
03-Mar-88																		
08-Jun-88																		
15-Sep-88	1370																	
15-Sep-88		0.02			0.12					0.0004				0.18		0.22		
28-Sep-88		0.02			0.15					0.0003				0.21		0.30		
10-Oct-88		-0.01			0.13					0.0003				0.20		0.27		
14-Oct-88		0.04			0.35					0.0013				0.35		0.42		
15-Nov-88		0.01			0.15					0.0004				0.33		0.25		
02-Dec-88																		

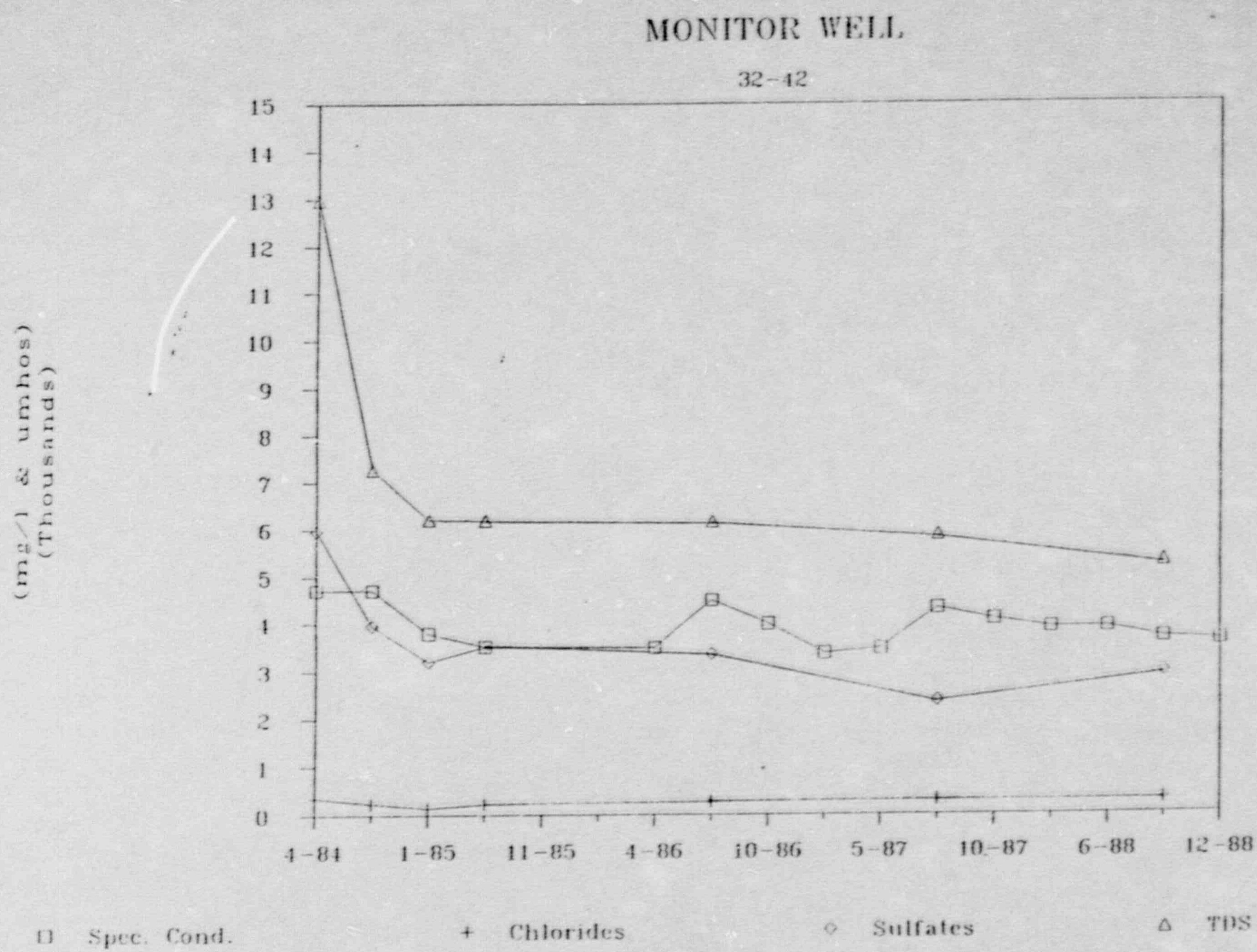
QUIVIRA MINING COMPANY
AMBROSIA LAKE FACILITY
WELL 30-02KD

Date	OH (mg/l)	Phenols (mg/l)	Pb (mg/l)	Pb-210 (pCi/l)	Po-210 (pCi/l)	Ra-226 (pCi/l)	Ra-228 (pCi/l)	SL (mg/l)	Se (mg/l)	SO4 (mg/l)	TDS (mg/l)	Th-230 (pCi/l)	TOC (mg/l)	TSS (mg/l)	Unat (mg/l)	V (mg/l)	Zn (mg/l)
05-Apr-84										2261	5589						
17-Jul-84										2174	6164						
01-Nov-84										2400	6110						
02-Feb-85										2140	6030						
25-Apr-85										2134	6036						
17-Jul-85																	
08-Nov-85																	
13-Jan-86																	
21-Apr-86																	
09-Jul-86										2854	6904						
02-Oct-86																	
30-Jan-87																	
05-May-87																	
10-Sep-87										2400	7010						
28-Oct-87																	
03-Mar-88																	
08-Jun-88																	
15-Sep-88										1960	5680						
15-Sep-88			0.450	2.1		0.4	0.9	0.01	0.055			0.6			0.0052		
29-Sep-88			0.920	13.0		4.3	0.9	0.03	0.143			4.1			0.0219		
10-Oct-88			0.390	3.2		1.9	0.2	0.04	0.113			1.5			0.0079		
14-Oct-88			3.650	11.0		5.1	0.0	0.05	0.028			5.9			0.1850		
15-Nov-88			0.150	1.8		0.8	1.8	0.02	0.094			2.2			0.0115		
06-Dec-88																	

CORRECTIVE ACTION PLAN

APPENDIX P

Well 32-42 Analytical Result Graph


MONITOR WELL
32-42
(mg/l & umhos)
(Thousands)
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
4-84
1-85
11-85
4-86
10-86
5-87
10-87
6-88
12-88
□ Spec. Cond.
+ Chlorides
◇ Sulfates
△ TDS