

L-Area Reactor - 1993 Annual - Groundwater Monitoring Report (U)

by

J. A. Chase

Westinghouse Savannah River Company

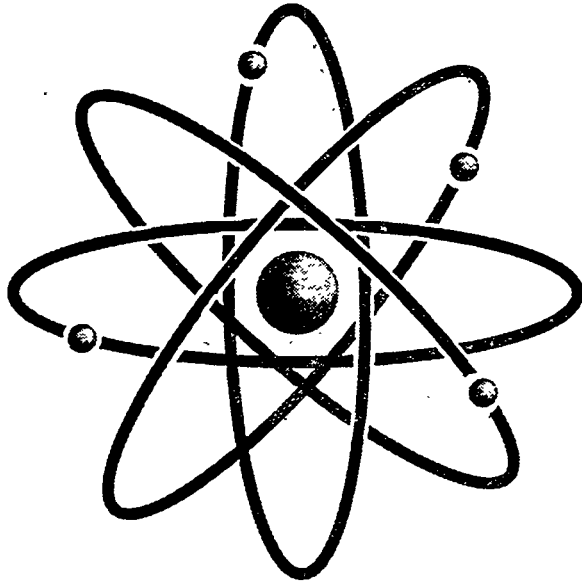
Savannah River Site

Aiken, South Carolina 29808

Exploration Resources

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L-Area Reactor 1993 Annual Groundwater Monitoring Report

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Savannah River Site
Aiken, SC 29808



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Executive Summary

Groundwater was sampled and analyzed during 1993 from wells monitoring the water table at the following locations in L Area: the L-Area Acid/Caustic Basin (four LAC wells), L-Area Research Wells in the southern portion of the area (outside the fence; three LAW wells), the L-Area Oil and Chemical Basin (four LCO wells), the L-Area Disassembly Basin (two LDB wells), the L-Area Burning/Rubble Pit (four LRP wells), and the L-Area Seepage Basin (four LSB wells).

During 1993, tetrachloroethylene was detected above its drinking water standard (DWS) in the LAC, LAW, LCO, and LDB well series. Lead exceeded its 50 µg/L standard in the LAW, LDB, and LRP series, and tritium was above its DWS in the LAW, LCO, and LSB series. Apparently anomalous elevated levels of the common laboratory contaminant bis(2-ethylhexyl) phthalate were reported during first quarter in one well each in the LAC series and LCO series, and during third quarter in a different LCO well.

Extensive radionuclide analyses were performed during 1993 in the LAC, LAW, and LCO well series. No radionuclides other than tritium were reported above DWS or Flag 2 criteria.

L-Area Reactor

Savannah River Site History

In September 1949, the Soviet Union completed successful testing of its first atomic weapon. In response to this development, the United States Department of Defense began planning for a more diversified stockpile of nuclear armaments. In January 1950, President Harry Truman directed the United States Atomic Energy Commission (AEC) to increase research on all forms of nuclear defense, particularly the "super" or hydrogen weapon.

On June 12, 1950, the AEC contracted with E.I. du Pont de Nemours and Company to design, construct, and operate the Savannah River Plant for the purpose of producing materials for use in nuclear and thermonuclear weapons. Site surveys began in July 1950. The plant is located in Aiken, Barnwell, and Allendale counties in South Carolina, southeast of Augusta, Georgia (Figure 1).

Construction of the complex began in February 1951, and the heavy water processing plant became the first facility in operation in August 1952. R Reactor was the first production unit to achieve criticality (December 28, 1953) and was followed by P, L, K, and C Reactors, respectively.

In 1975, the duties of the AEC were transferred to the newly established Energy Research and Development Administration and the Nuclear Regulatory Commission. In 1976, these two agencies evolved into the Department of Energy (DOE), which has overseen all functions of the facility since that year. Du Pont operated the complex through March 1989. On April 1, 1989, Westinghouse Savannah River Company (WSRC) became the operating contractor, and the Savannah River Plant was renamed the Savannah River Site (SRS).

During the period of weapons-grade material production, the SRS complex consisted of a heavy water production and rework facility, a fuel and target fabrication plant, five reactors, two chemical separations plants, and a number of waste management facilities. As of August 1994, all SRS production reactors are inactive. C, L, P, and R Reactors are in shutdown status, and K Reactor remains in cold standby.

Recent functions of the SRS complex have included the recycling of nuclear components and the production of isotopes for medical applications and nonweapons use in the nation's space program. In addition to these tasks, SRS' environmental restoration and waste management activities have been expanded.

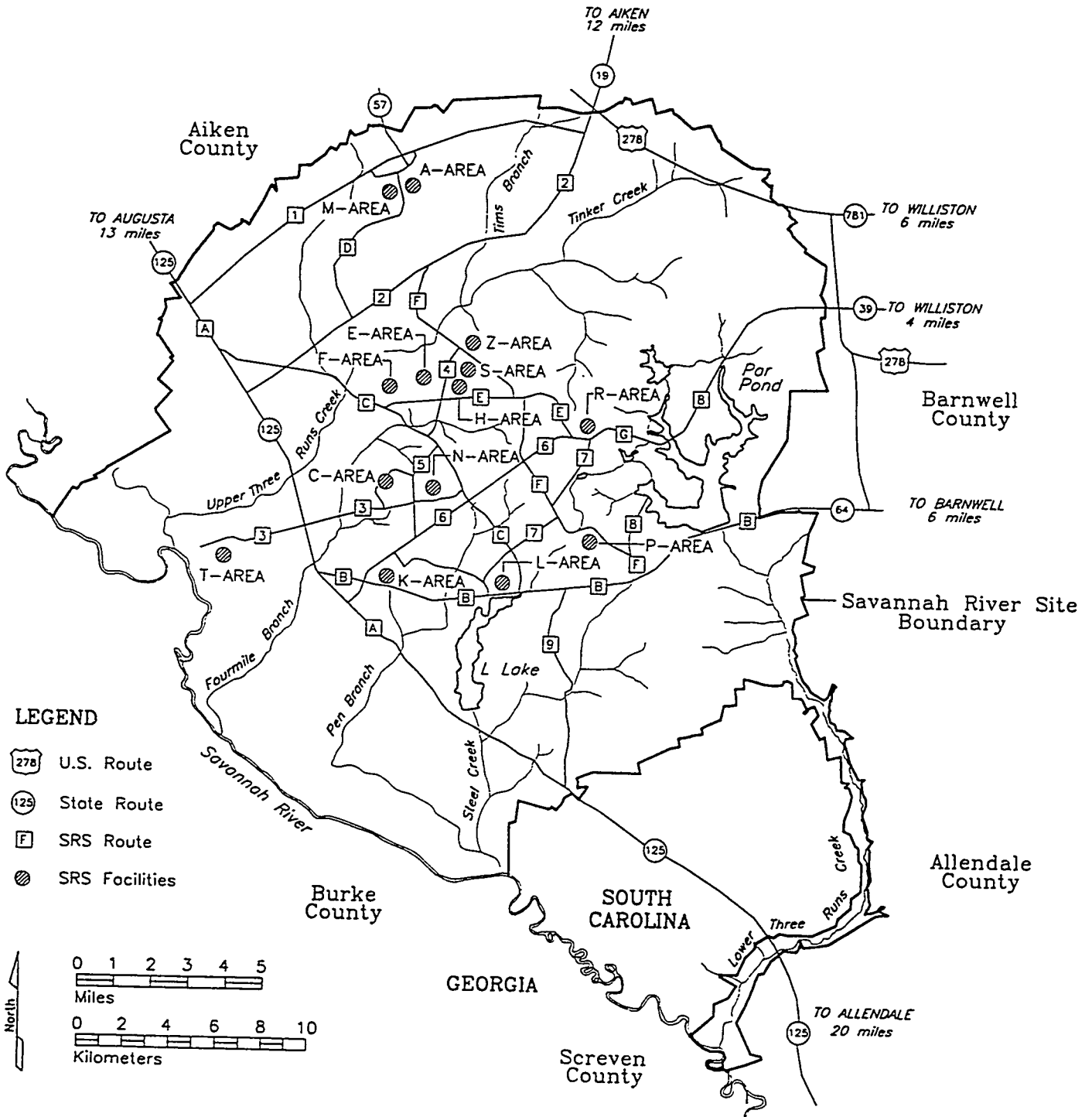


Figure 1. Savannah River Site and Its Environs

Process Overview

The primary materials produced at the Savannah River Site during operation were plutonium (Pu-238 and Pu-239) and tritium (H-3). These products were produced by absorption of neutrons in neptunium (Np-237), uranium (U-238), and lithium (Li-6).

The production process consisted of

- Fabrication of fuel and target materials into elements/assemblies
- Irradiation of these assemblies in the reactors
- Separation of transuranic elements, tritium, and residual uranium from waste byproducts produced by irradiation
- Recovery and purification of heavy water used as a coolant and neutron moderator
- Storage, processing, and disposal of waste

Figure 2 provides an overview of the production process.

During reactor operation, neutrons caused uranium-235 atoms to split into lighter atoms (fission). In addition, each fissioned uranium-235 atom released two to three neutrons. This surge of released neutrons, which split more uranium-235 atoms, resulted in a chain reaction that generated enormous amounts of energy.

Some neutrons from the chain reaction were captured by uranium-238 atoms. When a uranium atom captured a neutron, the atom became an artificial and unstable isotope known as uranium-239. The uranium-239 emitted a beta particle to form neptunium-239, which in turn emitted another beta particle to form plutonium-239.

Reactors were moderated and heat generated by fissioning was cooled by recirculating heavy water (deuterium oxide or D₂O). The combination of high moderating ability and low neutron absorption provided by heavy water permitted flexibility in designing different charges to produce different products. Heat was removed from the heavy water in the reactor coolant system's heat exchangers by a once-through flow of "light" water (H₂O) from either the Savannah River or one of two man-made reservoirs, Par Pond or L Lake. Figure 3 illustrates the site-wide flow of cooling water from its surface water sources to the reactor buildings and back to surface water.

At the conclusion of controlled fissioning, fuel and target assemblies were moved from the reactor core to a large pool of water in the reactor building to permit decay of short-lived fission products before the assemblies were delivered to one of the chemical separations plants within the SRS complex.

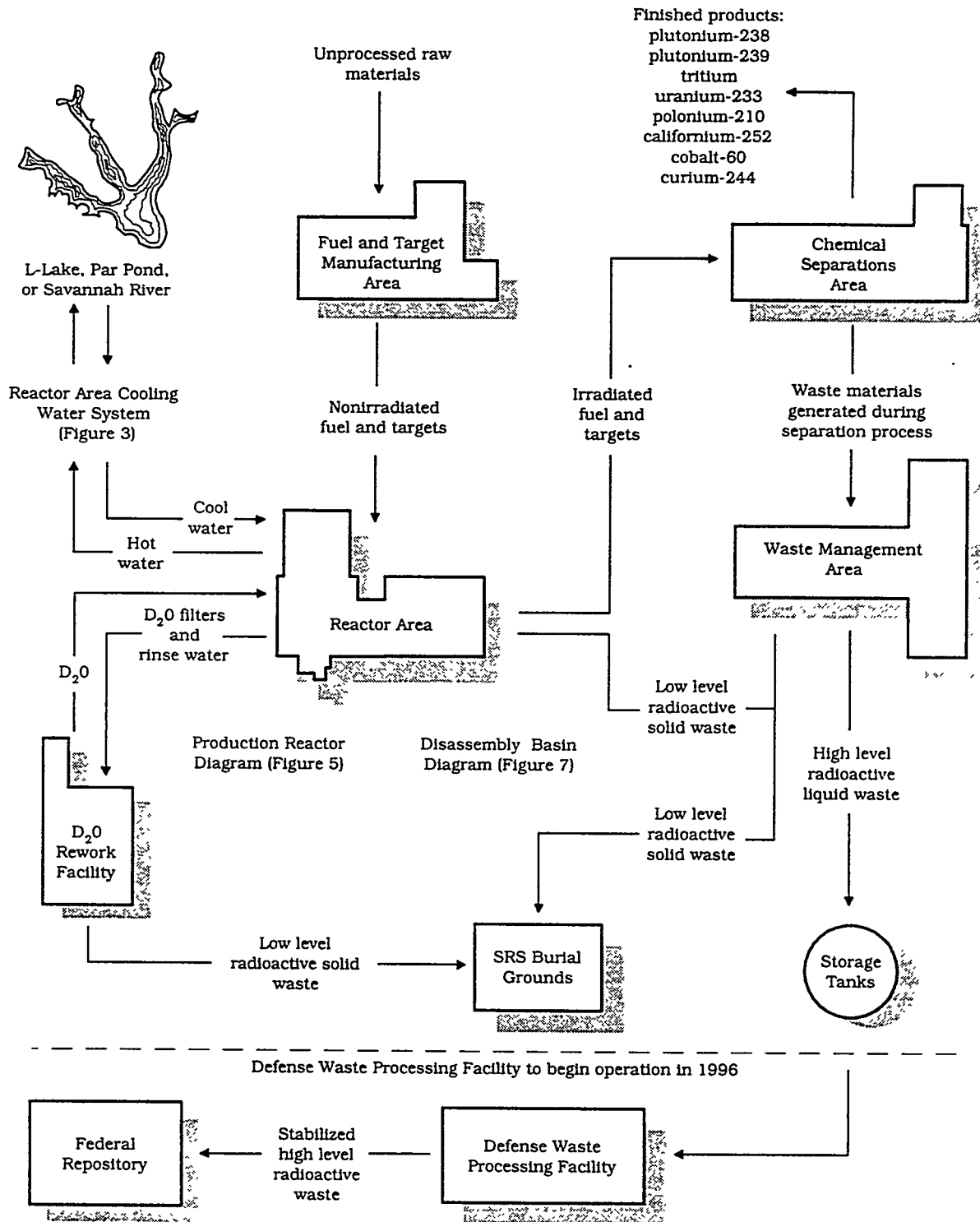


Figure 2. Production Process Diagram

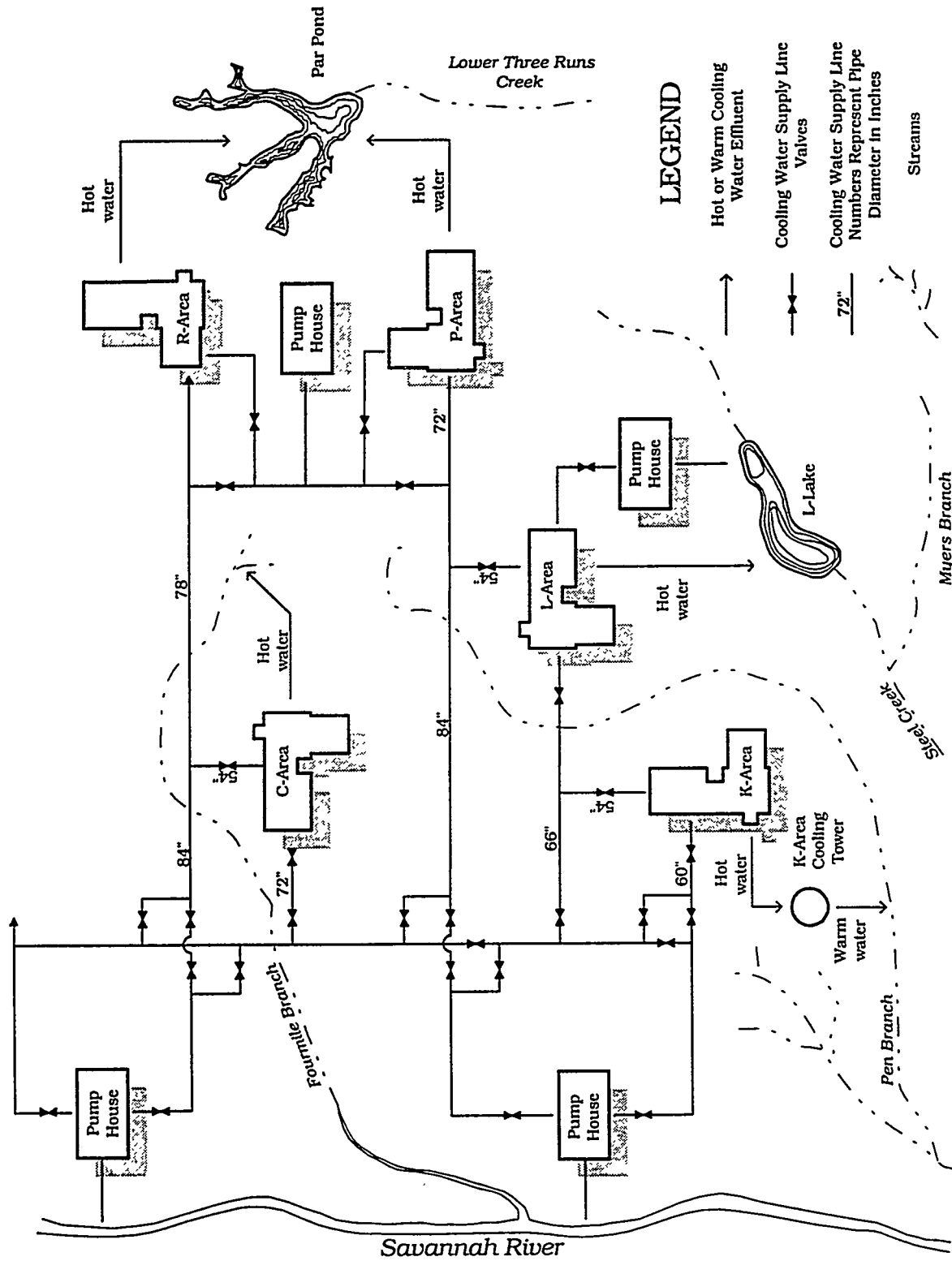


Figure 3. Cooling Water Supply Diagram

Reactor-produced materials were processed in the Separations Area. Target rods were processed to obtain the desired radioactive products, which were compressed in cylinders (tritium) or converted into solids (plutonium) for shipment to other DOE facilities. Gases were extracted from irradiated reactor elements in an electric furnace in the tritium facilities. Several purification steps produced high-purity tritium.

Aluminum cladding on the uranium target slugs was dissolved in sodium hydroxide solution, followed by dissolution of the target material in nitric acid. Spent uranium fuel also was dissolved in nitric acid. After this dissolution, the subsequent nitric acid solution was treated by a solvent extraction process to yield solutions of plutonium, uranium, or neptunium. This method also produced both high- and low-heat liquid wastes containing fission products. Additional processing transformed plutonium, uranium, and other higher Z (atomic number) products from solution to solid for shipment, recycling, or processing.

Liquid radioactive wastes produced by the chemical processing were partially concentrated and stored in large underground tanks in the Separations Area, and low-level radioactive solid wastes were disposed of in the centrally located burial grounds.

Reactor Area Processes

All five SRS reactors were production reactors used to fabricate nuclear materials for both government and civilian uses. They were designed to produce thermal neutrons that could be used to create a large amount of isotopes.

The two main products were plutonium (produced by the absorption of neutrons in the uranium-238 isotope) and tritium (produced by the absorption of neutrons in the lithium-6 isotope). Other products manufactured at SRS included uranium-233, plutonium-238, curium-244, polonium-210, cobalt-60, and californium-252.

The reactor buildings are large, reinforced concrete structures designed to be blast-resistant and reinforced for seismic activity. Heavy concrete shielding and a confinement system were used within each building to protect personnel from radiation and to minimize atmospheric radioactive releases. A cross section of a reactor building is provided in Figure 4. Each building contained four major process areas:

- The assembly area containing the fuel and target receiving areas, assembly and testing areas, and fuel storage areas
- The production reactor and its supporting operational and safety systems
- The disassembly area consisting of a pool (basin) for the storage and disassembly of irradiated fuel and target elements
- A purification-system area containing heavy-water moderator/coolant (D₂O) purification facilities

Assembly

New fuel for use in the reactor process was received, assembled, inspected, tested, and stored in the reactor building's assembly area. The fuel and target fabrication facility manufactured fuel, target, control, and safety rods for use in the production reactors. Fuel and target materials were organized into the proper operating configurations in the assembly area.

During the production process, fuel assemblies produced neutrons for the target assemblies, causing nuclear reactions that eventually produced the desired materials. Fuel rods consisted of extruded enriched-uranium fuel slugs arrayed in aluminum casing. Target rods usually consisted of uranium or lithium (depending on the product to be produced) inside a lithium-aluminum alloy jacket. Aluminum was used because of its low neutron absorption rate, good heat transfer ability, and ability to be easily processed.

Control rods were used to regulate neutron exchange, and safety rods provided immediate shutdown in case of adverse conditions. Control rods were composed of either cadmium or lithium-aluminum depending on the desired product to be manufactured. Safety rods were fabricated from cadmium and were designed as

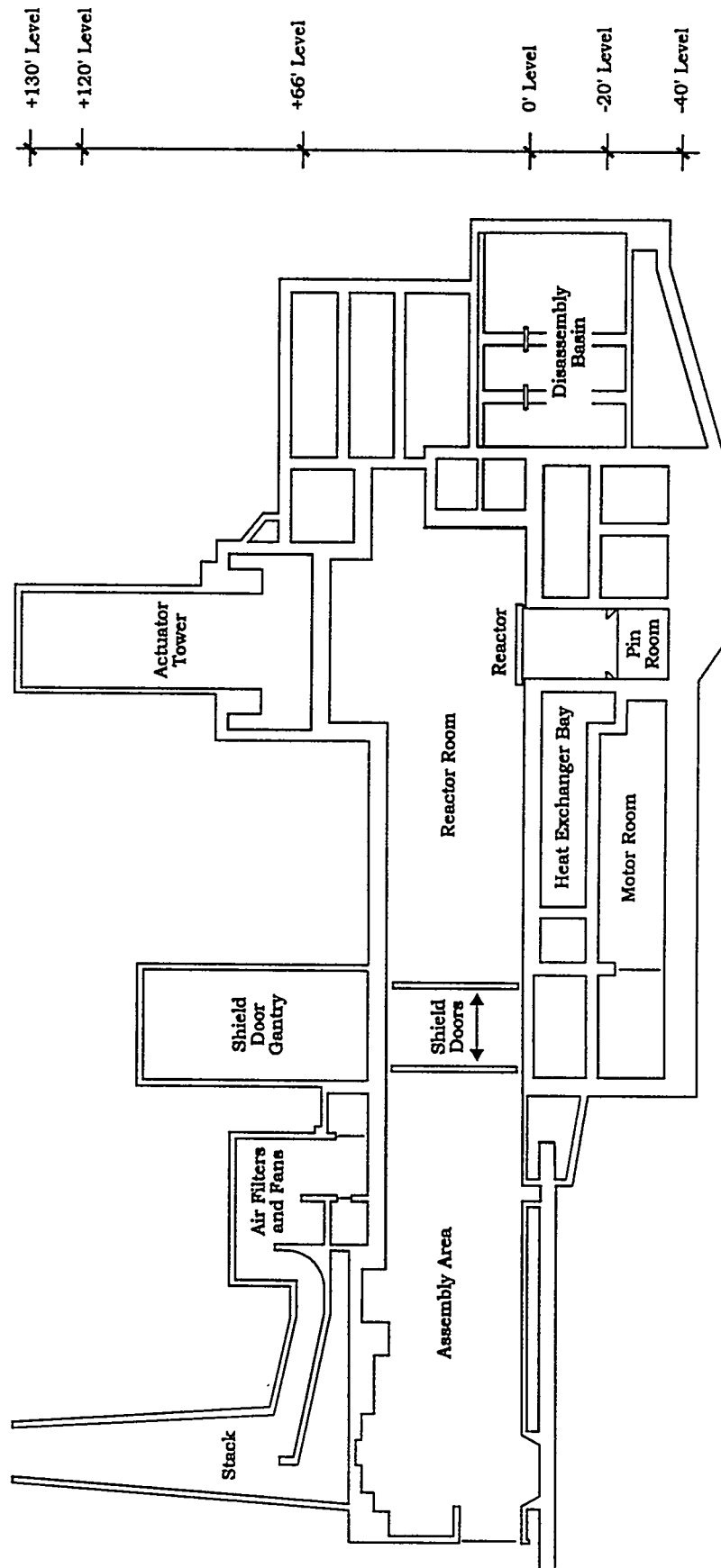


Figure 4. Schematic Cross Section of Reactor

safeguards against reactor core damage. Cadmium was used in safety and control rods because of its high neutron absorption rate.

Equipment in the assembly area included an inlet conveyor, a charge machine, a discharge machine, and a deposit-and-exit conveyor. The charge and discharge machines were cranes that could perform similar functions, but only the discharge machine could supply heavy- or light-water cooling to an irradiated assembly as it was being removed from the reactor vessel. The charge machine transported assemblies from the assembly area to the reactor.

Inside the Reactor

The reactor area was located in the central portion of the reactor building and housed the reactor, actuator system, heat exchangers, process pumps and piping, motors, crane and reactor control rooms, crane wash and maintenance areas, and auxiliary equipment and service facilities.

Process monitoring and control of the reactor was accomplished in the central control room. Reactivity instruments, controls, and assembly flow and temperature monitors were grouped together at one end of the control room, and instruments for hydraulic and auxiliary systems were at the opposite end.

The nuclear fission process took place within reactor vessels, 4.5 m x 5 m cylinders composed of 1/2-in. stainless steel plate and containing a lattice of fuel and target assemblies, control rods, and instrumentation submerged in the primary heavy-water moderator/coolant. Figure 5 illustrates the process.

The reactor vessels were designed so that D₂O coolant entered through six nozzles at the top of the reactor into a plenum, flowed down coolant channels in the fuel and target assemblies, and discharged into the bulk moderator. Coolant then left through six nozzles at the bottom of the reactor vessel. A gas plenum and top radiation shield were located between the inlet water plenum and the reactor vessel. A radiation shield located under each reactor vessel provided flow and temperature monitoring for each fuel and target position. Figure 6 illustrates a reactor tank.

The assemblies and rods were arranged within a lattice framework to provide the most effective nuclear fission environment. Reactor lattices consisted of approximately 600 fuel and target rods and additional safety rod and control rod clusters that were housed in the reactor tank. Fuel and target rods were arranged in various loading patterns within the reactor to form a charge to initiate the nuclear process. As charging began, the fuel and targets were lifted by the charging machine and inserted into holes in the reactor tank lattice. The flow of D₂O and H₂O was raised to operating levels to moderate the reaction and cool the fuel rods. Safety rods were then extracted by the discharging crane in a predetermined order, followed by the control rods.

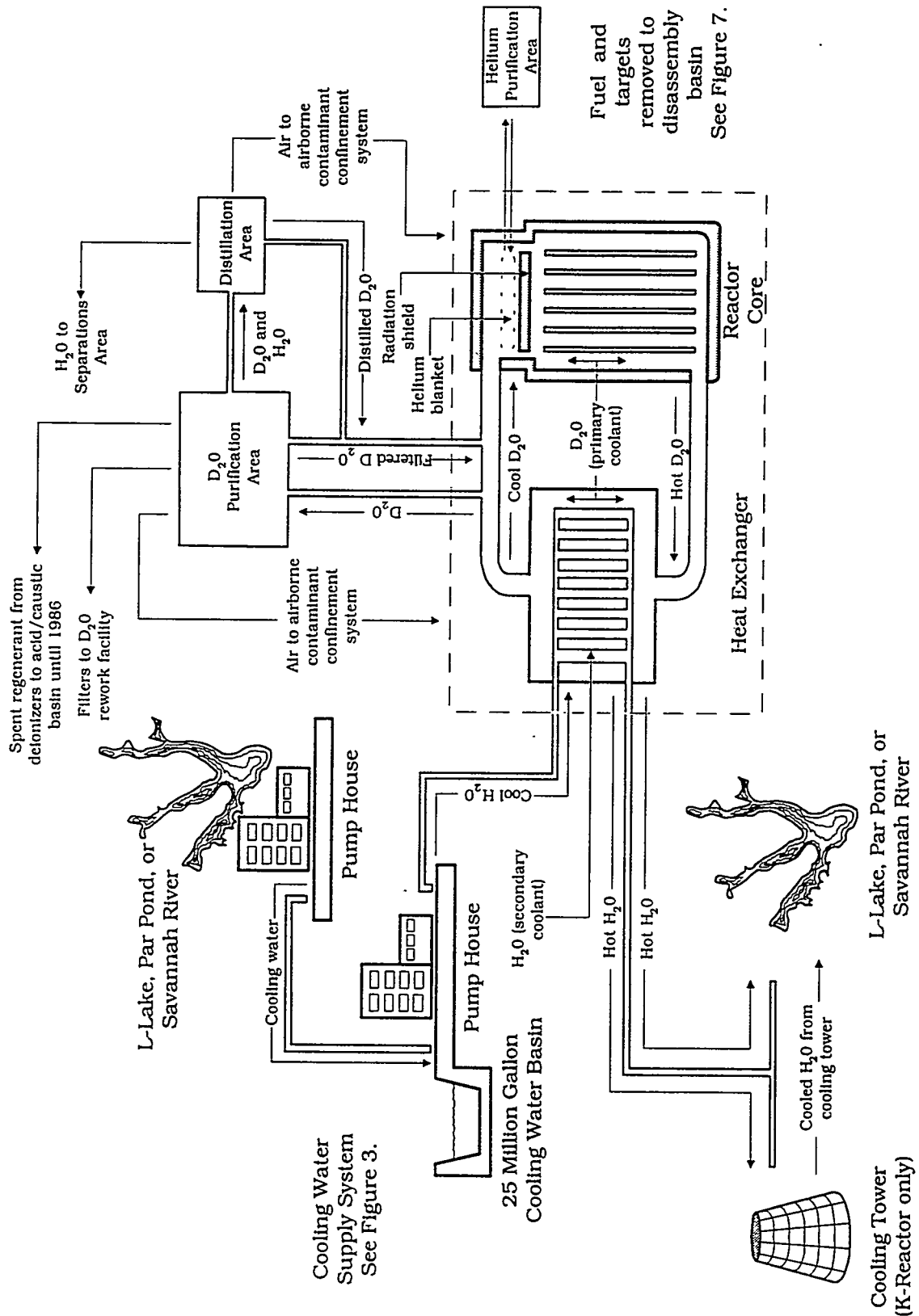


Figure 5. Reactor Cooling System Diagram

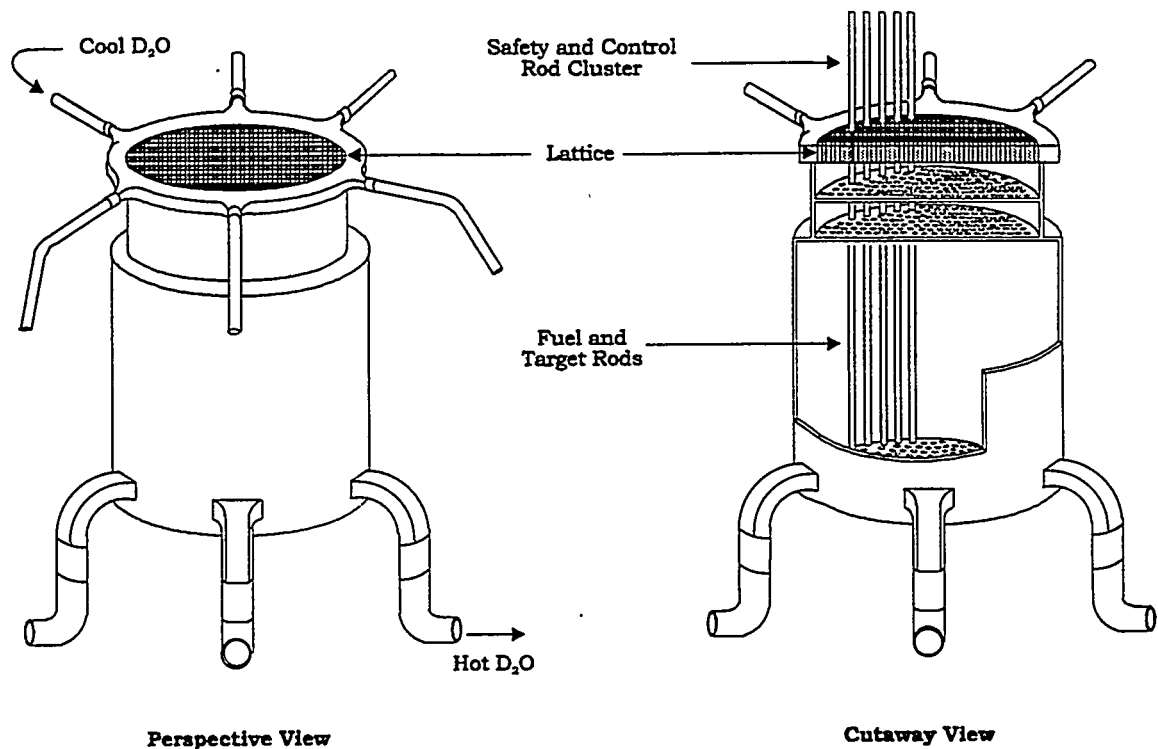


Figure 6. Reactor Tank

When the safety and control rod clusters were lifted by the discharging machine, the nuclear reaction began. The number and rate at which the rods were removed were closely specified. After the achievement of criticality, the rate of the reaction was raised by adjusting the control rod pattern.

Neutron-absorbing control rods were inserted into the core to regulate power levels by controlling flux, or flow of neutrons, in the reactor. Each fuel and target position contained control rods that could be moved individually or in groups. Two half-length rods in each position controlled the vertical flux distribution, and full-length rods controlled power and radial flux distribution.

Safety rods provided a primary rapid-shutdown system to prevent core damage to the reactor. They were designed to drop into the reactor core within one second upon indication of adverse conditions. Each reactor had a supply of 66 neutron-absorbing cadmium safety rods.

Post-Irradiation Cooling

Following irradiation, fuel and target assemblies were allowed to decay to a specified heat-generation rate prior to assembly discharge. After sufficient heat-generation-rate decay, the discharge machine removed all assemblies from the

reactor vessel and rinsed all fuel and target rods with light water. The rinsing process allowed heavy water reclamation from the discharged assemblies and minimum carryover of tritiated water to the disassembly basin. The rinse water was collected in a discharge machine water pan and sent to a rinse collection tank. The rinse water was periodically removed from the tank, placed in drums, and transported to the heavy-water rework facility for removal of light water.

Cooling began automatically when an irradiated assembly was completely withdrawn from the reactor. Cooling could also be enacted if an assembly stuck during withdrawal. Both heavy and light cooling water were available on the discharge machine during the discharge operation.

The discharge machine transported irradiated assemblies to the deposit-and-exit conveyor, housed in a water-filled canal, which transported them beneath the reactor-room wall to a water-filled disassembly basin for temporary storage.

Disassembly

The disassembly basin was used to cool and disassemble all components used in the reaction process. Figure 7 illustrates the flow of cooling water and contaminants associated with activities at the disassembly basin.

The irradiated assemblies were held in the disassembly basin to permit decay of unwanted radionuclides generated by the fission process. Assemblies and components were cooled by natural convection during storage in the disassembly basin. In addition to cooling functions, the water within the basin served to shield personnel from radiation.

After sufficient heat-level decay, the assemblies were disassembled underwater, using submerged power tools. Disassembled components were stored in the basin and allowed to decay until their heat levels were acceptable for movement to the Separations Area.

The disassembled components were then moved from the basin to a transfer bay where they were deposited in shielded shipping casks. These casks were transported to the Separations Area by rail or tractor-trailer.

Discharged assemblies were often covered by a thin liquid film from the reactor vessel. This liquid film contained activated corrosion products, particulate activities, tritium, and other radioisotopes that could escape from irradiated assemblies. Assembly corrosion, cooling, and disassembly of the components added to the contamination of the disassembly basin water.

Due to the transfer of radiation from the irradiated materials to the disassembly basin water, biannual purging of the basin water was necessary to reduce the accumulation of tritium and any other radioactive substances. During disassembly basin purging, basin cooling water was passed through two deionizer beds, monitored, and discharged to a low-level seepage basin.

Immediately after discharge, the fuel tubes were temporarily stored in a vertical array under water in the disassembly basin. The fuel tubes were subsequently emptied, collected, and stored in buckets.

Heavy-Water Purification

The function of the reactor building purification system area was to purify and recirculate the heavy water used as reactor coolant throughout the entire irradiation process.

During production, heavy-water moderator/coolant was subjected to several impurities, including the corrosion of aluminum cladding on fuel and target rods, the massing of neutron-absorbing substances that would otherwise be used in nuclear materials production, molecular decomposition of the heavy water into deuterium and oxygen as a result of radiation, neutron activation of component or suspended corrosion products and impurities, and accumulation of light water in the moderator.

During the production phase, heavy-water moderator/coolant was continuously purified through a system of filters in the reactor area. A side stream of heavy water was continuously diverted from the reactor circulating system and sent through a purification system, which circulated the primary coolant/moderator through a prefilter, a deionizer, and an afterfilter located in a shielded purification area. Most of the side stream was returned to the reactor system; the remainder was transported to a distillation area for light water removal.

The deionizer contained mixed-bed ion exchange resin for removal of both cations and anions. The filters retained particles larger than 10 micrometers in diameter. The prefilter removed suspended solids, and the afterfilter retained any resin that might have passed through the deionizer.

Storage and Disposal of Waste

SRS stores or disposes of six categories of waste:

- High-level waste
- Transuranic waste
- Low-level waste
- Hazardous waste
- Mixed waste
- Sanitary waste

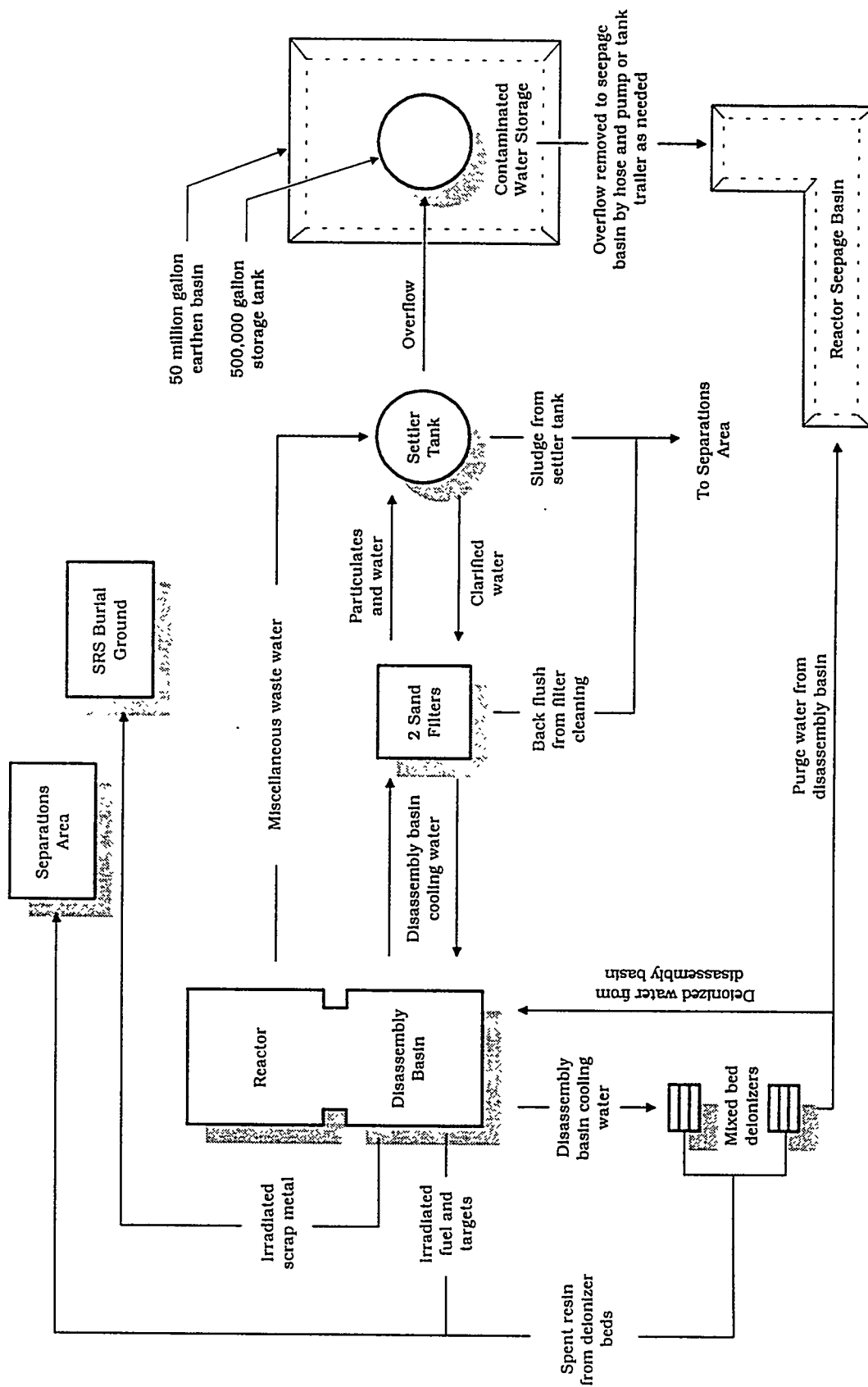


Figure 7. Disassembly Basin Diagram

High-Level Waste

The reactor areas did not produce or store high-level waste.

Transuranic Waste

Transuranic waste (TRU) is produced in radiological materials areas (RMAs) such as the reactor areas. TRU is defined as radioactive waste containing transuranic elements above specified concentrations. It decays slowly, thus requiring isolation for thousands of years. TRU waste comprises a variety of materials including miscellaneous trash and equipment. It is stored in the Separations Area.

Low-Level Waste

Low-level waste is any radioactive waste not classified as high-level or transuranic waste. It was generated by reactor operations, isotope production, and research and development projects.

Low-level reactor-produced waste includes contaminated equipment such as resins contaminated with carbon-14, irradiated reactor hardware that does not contain spent fuel, and spent lithium-aluminum targets. Other examples of low-level waste include pipe, rags, paper, filters, tools, protective clothing, and suspect materials used within a radiological materials area that cannot be proven to be uncontaminated.

Low-level radioactive solid wastes were disposed of in the centrally located Separations Areas' burial grounds.

Hazardous Waste

Hazardous waste is defined as any toxic, corrosive, reactive, or ignitable solid material that could damage the environment or pose a risk to human health.

Procedures to screen for radioactivity have been approved at SRS for liquids and solids originating either inside or outside an RMA. If approved for shipment, these wastes may be transported offsite for treatment and disposal. Wastes that fail the screening process must be recategorized as mixed waste.

Mixed Waste

Mixed waste is a combination of radioactive and hazardous wastes and is produced both inside and outside an RMA. Disposal in the Separations Area burial grounds of mixed wastes from reactor operations, including tritiated pump oil, lead used for shielding, and cadmium from control rods, safety rods, and shielding, was discontinued in March 1986. Mixed waste storage buildings within the boundaries of the burial grounds have been receiving such waste since March 1987.

Sanitary Waste

Sanitary waste is neither radioactive nor hazardous. Solid sanitary waste from throughout SRS is disposed of in the landfill; liquid sanitary waste, including sewage and industrial waste, is treated in SRS sewage treatment plants.

L-Area History

L Area (Figure 8) is in the south-central portion of the Savannah River Site. Figure 9 is a timeline of activities at L Area from 1965 through 1993.

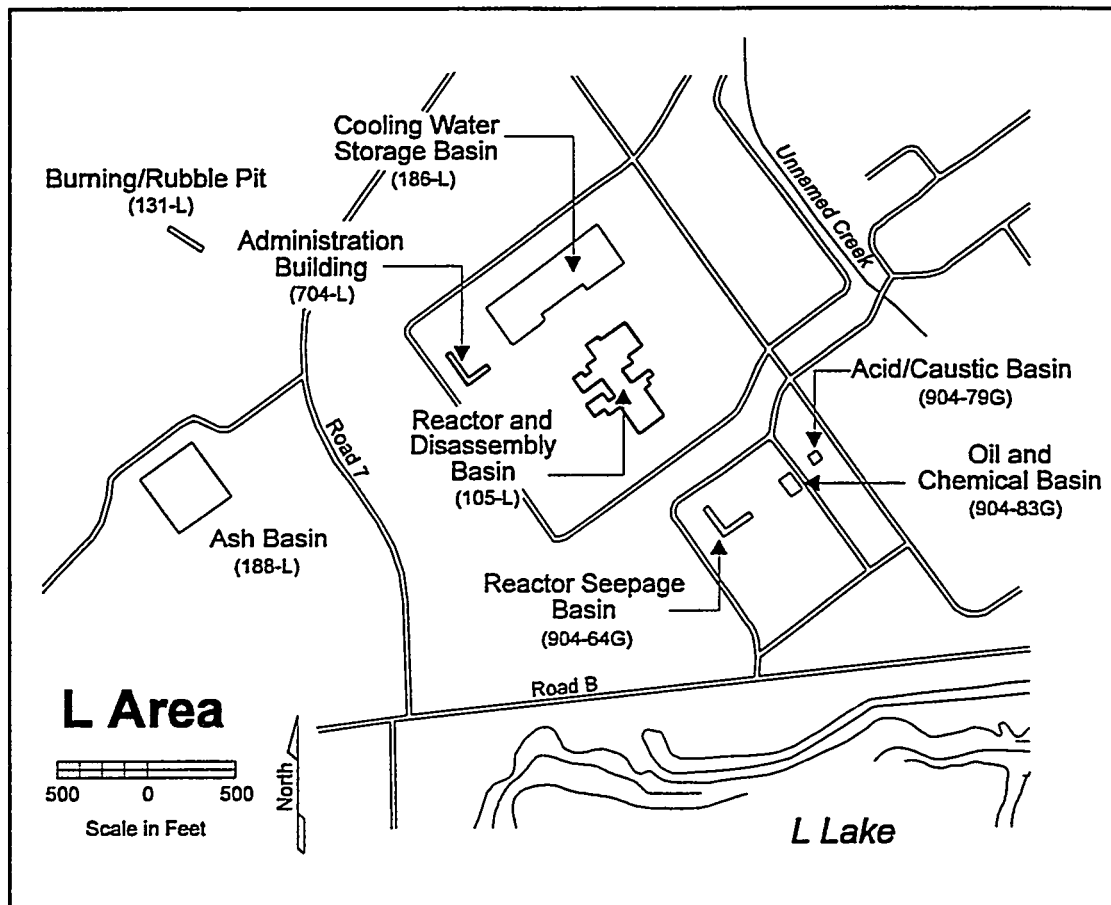


Figure 8. L Area

L Reactor

L Reactor achieved criticality in July 1954. Production continued until 1968, when L Reactor was placed in warm standby due to a decrease in demand for plutonium and tritium. It was restarted in 1985 and remained on-line for the next three years. After it received safety and maintenance upgrades in 1988, it was not placed on-line again. In 1992, L Reactor was placed in warm standby and the following year was placed in shutdown status.

1950 through 1965

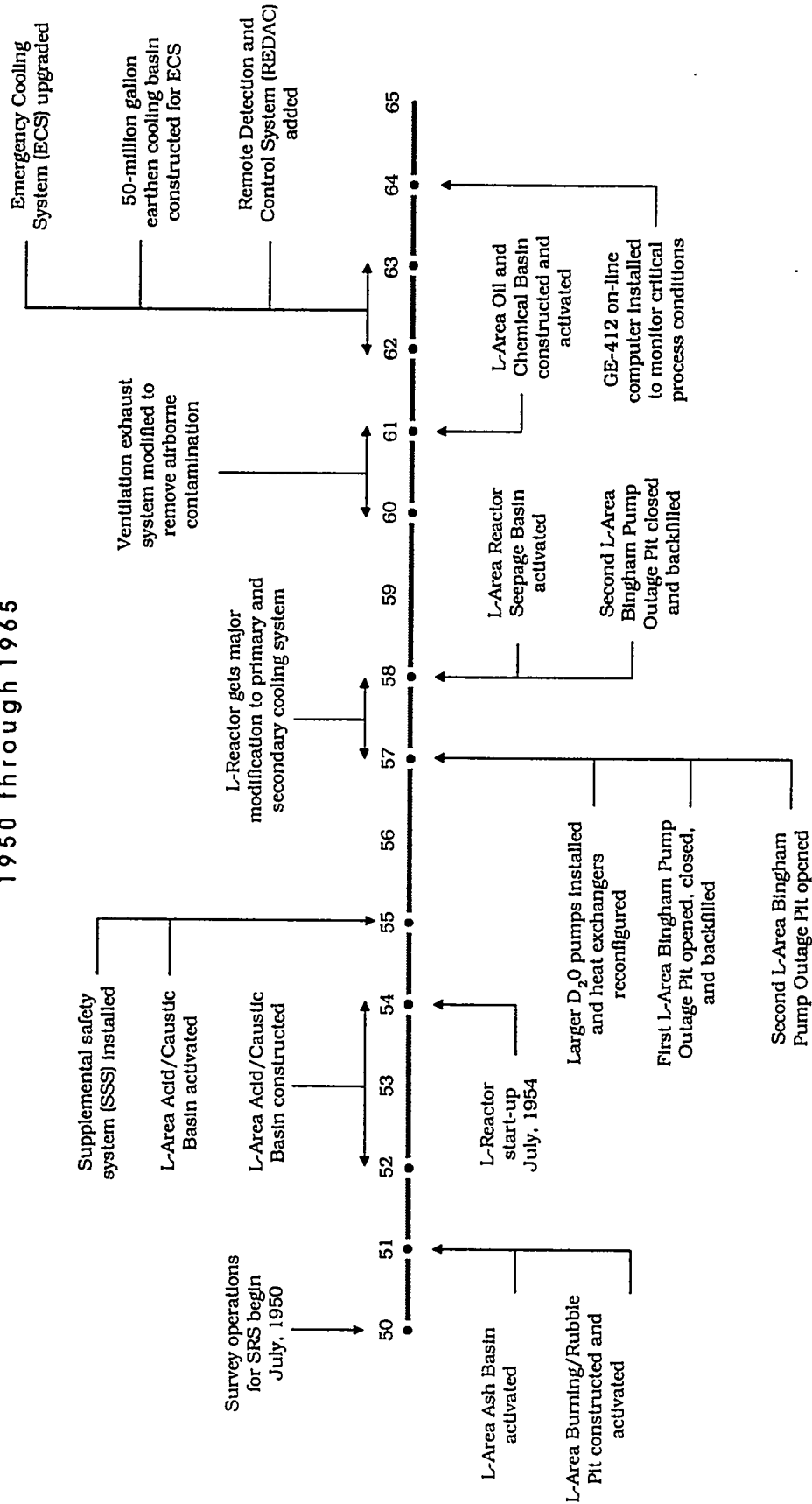


Figure 9. Time Line for L Area

1966 through 1980

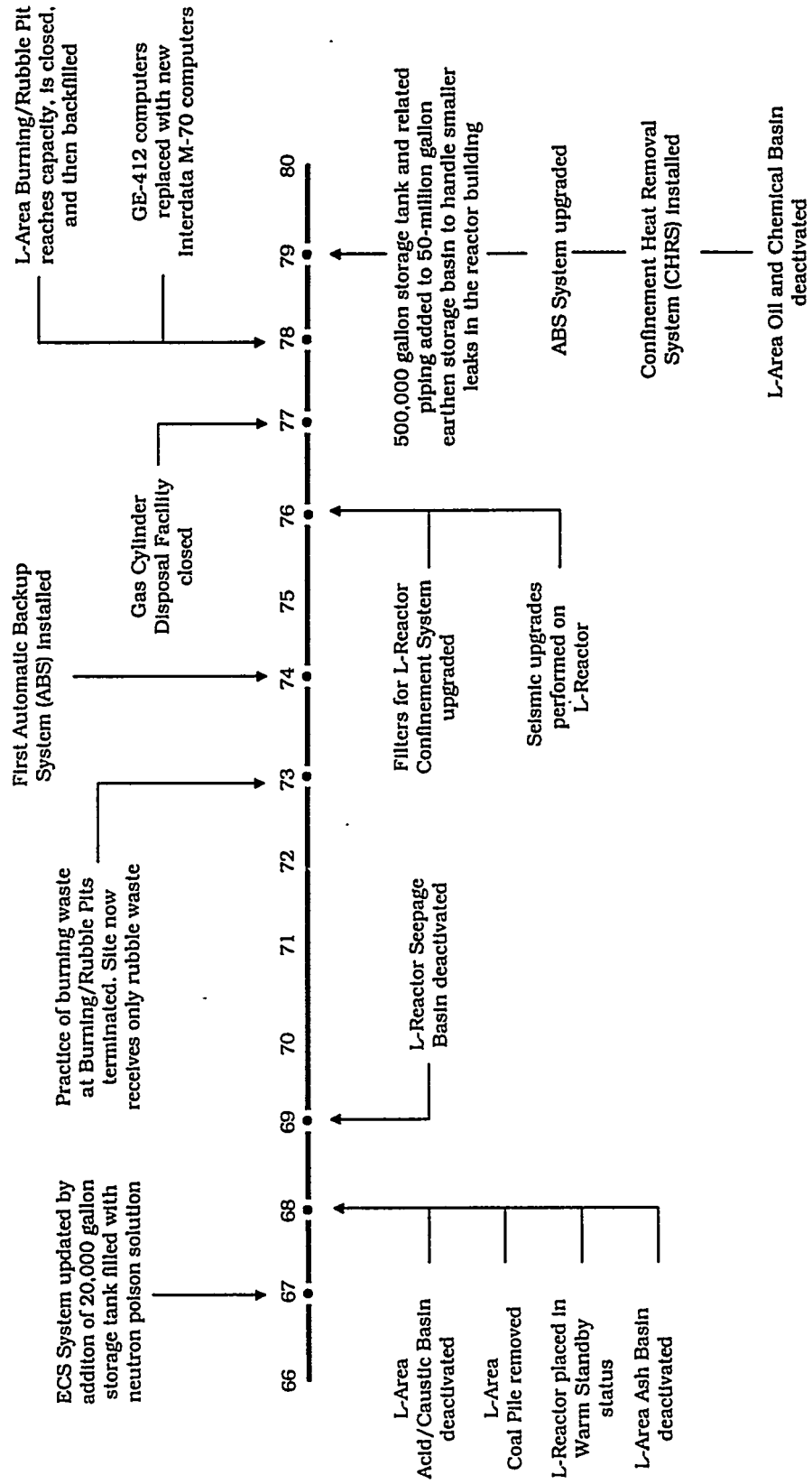


Figure 9. Time Line for L Area, Continued

1981 through 1994

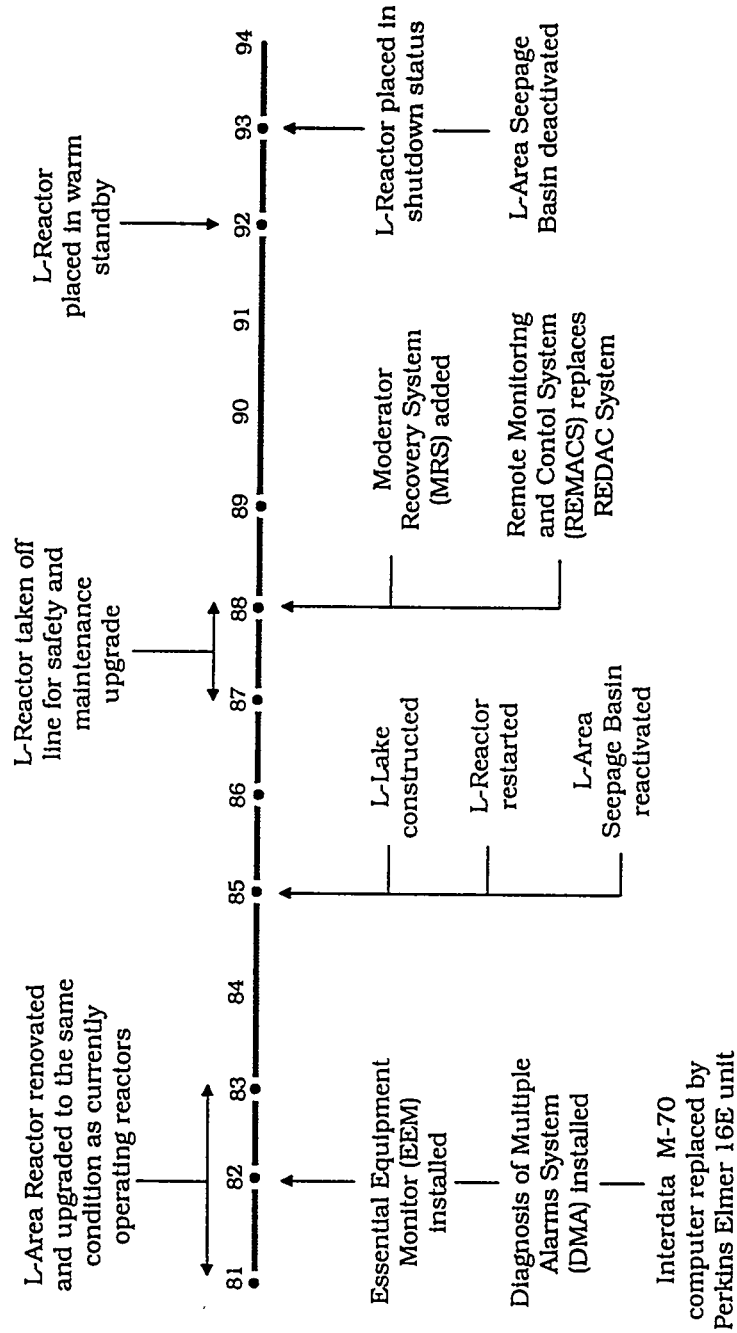


Figure 9. Time Line for L Area, Continued

Reactor Modifications

Supplementary Safety System (SSS)

A supplementary safety system was installed in 1955 to provide for manual reactor shutdown via the injection of a liquid neutron absorber, or "poison," should the safety rods fail to drop on demand.

Cooling Systems

Each SRS reactor received major modifications to primary and secondary cooling systems beginning in 1957. Heat exchangers and larger heavy-water pumps (Bingham pumps) were installed at each production facility.

Ventilation Exhaust System

The ventilation exhaust system was modified in 1960–61 to remove airborne contaminants, particularly iodine-131, by providing moisture separators, particulate filters, and halogen adsorbers (carbon) in process area ventilation exhaust. The filter system was upgraded in 1976.

Emergency Cooling System

The emergency cooling system (ECS) received upgrades during 1962-63. A 50-million-gallon earthen cooling basin was constructed for ECS usage. The basin was designed to contain contaminated water that would accumulate in the event of a loss of cooling or loss of circulation accident followed by ECS activation.

The system was updated in 1967 by adding a 20,000-gallon storage tank filled with neutron-absorbing solution.

Remote Detection and Control System (REDAC)

L Reactor received a remote detection and control system (REDAC) in 1962-63 to provide the capability to monitor system parameters remotely and to add light water if necessary after an area evacuation.

GE-412 Computer System

GE-412 computers were installed in all reactor-area control rooms in 1964 to provide improved reactor temperature monitoring and better operating analysis. The computers were provided with control-rod reversal capability if assembly coolant temperatures increased to 1° Celsius above prescribed limits. This reversal capability prevented minor incidents from reaching a point where emergency circuits were involved.

Automatic Backup Shutdown (ABS)

The first of the automatic backup shutdown (ABS) systems was installed in 1974 and was called the gang temperature monitor (GTM). The GTM was completely independent of the safety-rod shutdown system and had its own power supply. It was designed to activate the supplementary safety system to inject gadolinium nitrate into the reactor tank when the coolant effluent temperatures of assemblies exceeded prescribed limits.

Seismic Upgrades

In 1976, improvements were made to all reactor areas to increase resistance to earthquakes. Upgrades included strengthening the base of the actuator towers and eliminating the spring action of the supporting girders to decrease the tower's response to dynamic forces. Other improvements included strengthening the building exhaust stack and improving lateral support for the emergency cooling system and supplementary safety system piping.

Interdata M-70 Computers

The GE-412 process control computers in each reactor area were replaced in 1978 with two Interdata M-70 computers. These computers were installed to monitor data and perform control operations. Only one of the M-70 computers performed the primary functions at any given time. The other provided secondary data-processing functions while in standby status. Both possessed the same capacity, and either computer was able to perform all required functions in case one became unavailable.

Contaminated-Water Storage Facilities

In 1979, a 500,000-gallon storage tank was added to the 50-million-gallon contaminated water earthen storage basin. Following D₂O or H₂O leaks where water flow was designed to drain to the -40 ft sumps, the first 60,000 gallons were to be pumped to Building 106 (the process-water storage tank). The next 500,000 gallons were to be pumped to the new storage tank, which was vented back through the reactor building ventilation/confinement system. Any additional flow was diverted to the 50-million-gallon basin. Water from leaks originating in the reactor room zero level or from pump operation was to go directly to the 50-million-gallon basin.

Automatic Backup System

By 1979, faster response time and more comprehensive protection were desired in the reactor facilities. Capability was added that year to back up the safety computer scram relays and supplement the safety-rod scram action with automatic injection of the SSS poison if certain emergency conditions were recognized.

Diagnosis of Multiple Alarms (DMA)

The Diagnosis of Multiple Alarms (DMA) system was intended to aid operators in managing abnormal reactor conditions by automatically analyzing patterns of alarms and sensor inputs. Installation was completed in 1982, and the system was placed on-line in 1984.

Essential Equipment Monitor (EEM)

Essential Equipment Monitors were installed in all reactor areas in 1983 to provide continuous monitoring of the emergency control system equipment and its essential functions that were expected to operate if the incident switch was activated.

Moderator Recovery System (MRS)

A moderator recovery system (MRS) was installed in 1987-88 to handle small D₂O leaks. When the MRS was activated, spilled D₂O that accumulated in the -40 ft level sumps was to return to the reactor gas space, where it flowed down into the bulk moderator.

Current Status

L Reactor was taken off-line in 1988 for maintenance and safety upgrades. Following these procedures, L Reactor was placed in warm standby in 1992 and placed in shutdown status the next year. Currently, no emergency electrical power is available, the reactor fluid systems have been drained, and the habitability systems are operable. There are 120 metric tons of spent nuclear material remaining in the disassembly basin, 186 cadmium rods in the reactor vessel, and 60,000 gallons of moderator in storage tanks.

Burning/Rubble Pit

An abundance of construction debris necessitated the construction and activation of the L-Area Burning/Rubble Pit in 1951. The pit received burnable waste material such as paper, plastics, wood, rubber, rags, cardboard, oil, degreasers, and drummed solvents. The collected waste materials were incinerated monthly.

Incineration of waste materials in all burning/rubble pits throughout the SRS complex was discontinued in October 1973. A layer of soil was placed over the remainder of the burning pit waste, and the pits were converted to receive only rubble, including paper, lumber, cans, empty galvanized steel drums, scrap metal, and batteries.

As each SRS burning/rubble pit reached its capacity, it was closed to additional rubble and covered with soil to grade level. The L-Area Burning/Rubble Pit reached capacity in 1978.

Ash Basin

The L-Area Ash Basin was constructed and activated in 1951 to receive fly and bottom ash from the L-Area powerhouse, a coal-operated facility that supplied electrical power to the reactor area. The L-Area Ash Basin was deactivated in 1968.

Acid/Caustic Basin

The L-Area Acid/Caustic Basin was constructed in 1955 to receive spent regenerant solutions from the water treatment facilities. Wastes discharged to the acid/caustic basin included dilute sulfuric acid and sodium hydroxide used to regenerate ion exchange units, water rinses of the ion exchange units both before and after regeneration, steam condensate from the heater in sodium hydroxide storage tanks, and rainfall runoff from storage tank spill containment enclosures. The spent dilute solutions were transported to the acid/caustic basin through acid-resistant sewers.

The basin discharged into local surface streams, and the daily discharges normally equaled the daily influent flows. The L-Area Acid/Caustic Basin was deactivated in 1968.

Bingham Pump Outage Pits

Normally, all radioactive solid waste generated in the reactor areas was sent to the solid-waste burial ground, but an exception to this practice was made in 1957 and 1958 during the cooling-system modifications. Two Bingham pump outage pits were installed in L Area for disposal of debris contaminated with low-level radioactivity. The pits were filled with miscellaneous construction equipment such as pipes, cables, ladders, drums, and boxes of miscellaneous hardware. All waste materials with high levels of contamination were sent to the radioactive solid-waste burial ground.

The first L-Area Bingham Pump Outage Pit was opened, closed, and backfilled with clean soil in 1957, the second in 1958.

Seepage Basin

The L-Area Seepage Basin was constructed and activated in 1958 to receive low-level radioactive purge water from the L-Area Disassembly Basin. The waste purge was necessary to keep the tritium concentration in the disassembly basin below the level that ensures safe working conditions.

The L-Area Seepage Basin was deactivated in 1968 when L Reactor was placed in warm standby, reactivated in 1984 when L Reactor was placed on-line, and

intermittently active from 1992 to 1993 because the reactor was in standby status until shutdown in 1993.

Oil and Chemical Basin

The L-Area Oil and Chemical Basin was constructed in 1961 to receive low-level radioactive oil and chemical wastes from throughout the SRS complex. The basin received all wastewater that could not be discharged to effluent streams, regular seepage basins, or the 200-Area's waste management systems. The waste materials came from production and research areas throughout the plant and contained tritium, activation products, mixed fission products, decontamination wastewater, and spent degreasing solvents.

The L-Area Oil and Chemical Basin continued to receive waste products until it was deactivated in 1979.

Gas-Cylinder Disposal Facility

The L-Area Gas-Cylinder Disposal Facility was an excavated earthen pit containing 28 gas cylinders covered with concrete. It is unknown when it began operation. All cylinders were vented prior to burial, and there are no records of hazardous wastes or constituents disposed of in this area. The gas cylinder disposal facility was closed in 1977.

L-Lake Construction

To comply with South Carolina Department of Health and Environmental Control and Environmental Protection Agency requirements, a 1,000-acre, 7-billion-gallon lake was constructed during 1985 to cool discharged hot cooling-water effluent from L Reactor.

Environmental Data

The purpose of this report is to consolidate the existing groundwater monitoring data to determine the potential contaminants of concern and the potential extent of contamination.

This report examines data from 1989 to 1993. Although there are data for the wells in this area prior to 1989, the data sets are spotty. In addition, the flagging system (see Appendix B) that assures follow-up analysis of constituents that appear above predetermined levels was refined in 1989. Data prior to 1989 can be found in the SRS annual reports (see references).

There are a number of difficulties in characterizing the groundwater data for this area:

- Data for the monitoring wells in L Area are inconsistent.
- Constituents of concern have not been identified and tracked.
- Constituents have not been regularly sampled in all wells in a series.
- Constituents have not been sampled at regular intervals.
- All wells in L Area are screened in the water table.

Despite these difficulties, there are some patterns that can be discovered from the data for the past 5 years. In order to determine constituents of concern, we present four ways of viewing the groundwater monitoring data:

- Tables of constituents that have appeared above the primary drinking water standard (DWS) or indicator parameters from 1989 to 1993
- Tables of constituents that have appeared above Flag 2 criteria from 1989 to 1993
- Time series plots (Appendix D) for potential constituents of concern
- Results for all constituents analyzed for individual wells for all four quarters of 1993 (Appendix C)

In the tables of constituents that have appeared above the DWS or indicator parameters, there are two sets of standards: the primary drinking water standards applicable during the year under discussion and the indicator parameters (values for indicator constituents above those usually found in background wells at SRS).

The DWS for 1993 are presented in Appendix A. The parameters for the indicator analytes are the following:

- Specific conductance equal to or greater than 100 $\mu\text{S}/\text{cm}$
- Alkalinity (as CaCO_3) at values equal to or greater than 100 mg/L
- Total dissolved solids (TDS) at values equal to or greater than 200 mg/L
- pH at values equal to or below 4.0 or equal to or above 8.5

The selection of these values as standards for comparison is somewhat arbitrary; however, these values exceed levels usually found in background wells at SRS. The occurrence of elevated alkalinity (as CaCO₃), specific conductance, pH, and TDS within a single well may indicate leaching of the grouting material used in well construction rather than degradation of the groundwater.

In the tables of analytes that have appeared above Flag 2 criteria, the standards are those that were applicable during the year under discussion. Flag 2 criteria have changed frequently during the years and can be found in the individual Environmental Protection Department/Environmental Monitoring Section (EPD/EMS) quarterly reports. Flag 2 criteria for 1993 are presented in Appendix B. Despite the problems presented by the changing flagging criteria and the lack of focus on individual wells, the benefits of looking at the Flag 2 criteria summaries are twofold:

- First, once a constituent appears above Flag 2, it is scheduled for regular sampling according to predetermined rules. Therefore, if a constituent appears once in the Flag 2 tables below and then does not reappear, the single appearance in the table may be an anomaly. It is the pattern of appearances above Flag 2 that is the focus of these tables and not the specific analyte levels or wells.
- Second, unlike the DWS tables below, the Flag 2 tables focus on the quarterly schedule of analyses.

Time series plots (Appendix D) provide another way of looking at the data for selected constituents. Some of these include data prior to 1989. Trends in the plots are discussed in the sections below.

Finally, Table 1 at the end of this section presents maximum results for constituents exceeding the DWS in individual L-Area wells during 1993.

Water-elevation measurements in L Area show a downward vertical gradient from the water table into the Congaree-Fourmile zone, indicating the potential for downward migration of groundwater into the lower zone. Horizontal flow in the Congaree-Fourmile zone is to the southwest toward the Savannah River.

Acid/Caustic Basin (LAC Well Series)

Basin soil/sediments at the L-Area Acid/Caustic Basin were sampled in August 1985. Concentrations of tested soil/sediment parameters, including sulfate and sodium, were generally consistent with background levels.

Groundwater beneath the L-Area Acid/Caustic Basin has been monitored by the four LAC series wells since 1983 (Figure 8 and Maps 1 through 10). Horizontal flow in the upper saturated zone appears to be to the south toward L Lake.

DWS and Indicator Parameters

Analytes Over DWS or Indicator Parameters in Well Series LAC

Analyte	1989	1990	1991	1992	1993
Alkalinity	
Bis(2-ethylhexyl) phthalate					.
Cadmium				.	
Dichloromethane					.
Gross alpha				.	
Lead	
pH	.	.			
Specific conductance	
Sulfate	.				
Tetrachloroethylene
Trichloroethylene	.	.	.		

Indicator constituents exceeding standards for several years include alkalinity and specific conductance. Analytes frequently exceeding DWS during that time period include lead, tetrachloroethylene, and trichloroethylene.

Flag 2 Criteria

Analytes Over Flag 2 Criteria in Well Series LAC

Analyte	1q89	2q89	3q89	4q89	1q90	2q90	3q90	4q90	1q91	2q91
Aluminum										
Bis(2-ethylhexyl) phthalate										
Cadmium										
Copper	.						.			
Dichloromethane										
Gross alpha										
Iron									.	
Lead			
pH		
Sodium									.	
Tetrachloroethylene	
Total organic halogens		.	.							
Trichloroethylene	

3q91	4q91	1q92	2q92	3q92	4q92	1q93	2q93	3q93	4q93	Analyte
						.		.		Aluminum
						.				Bis(2-ethylhexyl) phthalate
		.								Cadmium
										Copper
								.		Dichloromethane
		.								Gross alpha
.	Iron
										Lead
										pH
										Sodium
.						.	.	.		Tetrachloroethylene
										Total organic halogens
.										Trichloroethylene

Results for pH in the LAC wells stopped receiving Flag 2 designation when the upper (basic) standard for pH was changed in 1991 from pH 8 to pH 10.

Time Series Plots

The time series plots (Appendix D) indicate the following.

Conductivity has been measured consistently below 50 $\mu\text{S}/\text{cm}$ in wells LAC 1 and LAC 2 since sampling began. Conductivity concentration in LAC 3 has ranged from approximately 150 to 350 $\mu\text{S}/\text{cm}$, and LAC 4 results have been measured between approximately 60 and 240 $\mu\text{S}/\text{cm}$ during sampling.

Lead occasionally exceeded the 50 $\mu\text{g}/\text{L}$ DWS criterion in LAC 2 during the reporting period. First and second quarter 1989 sampling in LAC 2 showed levels of 72 $\mu\text{g}/\text{L}$ and 78 $\mu\text{g}/\text{L}$.

Nonvolatile beta activity in all LAC wells has been consistently below the DWS criterion of 50 pCi/L since sampling began.

Field pH values for LAC wells have ranged from approximately 4 to 10 pH units since sampling began.

1993 Data

Comprehensive analyses were scheduled for the LAC wells during the first quarter of 1993 only. Cadmium, gross alpha, lead, total organic halogens, and tritium analyses were scheduled for sampling during first quarter due to earlier Flag 1 or 2 designation. GC VOA (gas chromatographic volatile analyses) was also scheduled during second quarter due to earlier Flag 2 designation, as were aluminum, GC VOA, and lead during third quarter.

Radionuclides, semivolatiles, and GCMS (gas chromatographic/mass spectrophotometric) VOA analyses were requested for each quarter in compliance with the RCRA Facility Investigation/Remedial Investigation (RFI/RI) Plan and for baseline information prior to characterization.

According to field notes, a leak in well LAC 1 caused water to flow over the sample nipple and into the sample during third quarter. During fourth quarter, samplers were unable to fill VOA and total organic halogens bottles without bubbles because of strong aeration in LAC 2 and LAC 3. Surges also were noted in LAC 2.

Data from the first quarter of 1993 indicate that bis(2-ethylhexyl) phthalate greatly exceeded the drinking water standard in well LAC 2. Because this compound is a common laboratory contaminant, this result does not appear to be representative of the groundwater beneath the basin. Tetrachloroethylene was found to be above the DWS in well LAC 3 for the first three quarters of 1993. (See Table 1 at the end of this section.)

L-Area Research Wells (LAW Well Series)

The LAW series research wells were installed in and around the L-Area Acid/Caustic Basin and L-Area Oil and Chemical Basin in 1985 to provide additional hydrologic data. LAW 1D, 2B, and 3B were added to the groundwater monitoring program during fourth quarter 1991, and LAW 3C was added during first quarter 1992. For 1993, sampling was discontinued for LAW 1D, 2B, and 3B, and LAW 1F and 2C were added to the groundwater monitoring program.

DWS and Indicator Parameters

Analytes Over DWS or Indicator Parameters in Well Series LAW

Analyte	1989	1990	1991	1992	1993
Alkalinity			•	•	
Lead				•	•
pH			•	•	
Specific conductance			•	•	
Tetrachloroethylene					•
Tritium					•

During 1991-1993, lead, tetrachloroethylene, and tritium exceeded applicable standards. Indicator parameters alkalinity, pH, and specific conductance were found to be over standards.

Flag 2 Criteria

Analytes Over Flag 2 Criteria in Well Series LAW

Analyte	1q89	2q89	3q89	4q89	1q90	2q90	3q90	4q90	1q91	2q91
Aluminum										
Iron										
Lead										
pH										
Specific conductance										
Tetrachloroethylene										
Tritium										

3q91	4q91	1q92	2q92	3q92	4q92	1q93	2q93	3q93	4q93	Analyte
								•		Aluminum
	•	•	•	•						Iron
		•	•	•		•	•	•	•	Lead
	•	•	•	•	•					pH
	•	•			•					Specific conductance
									•	Tetrachloroethylene
						•	•	•	•	Tritium

Analytes without DWS that exceeded Flag 2 criteria during the period included iron and aluminum.

Time Series Plots

The time series plots (Appendix D) indicate the following:

Conductivity ranged from approximately 0 $\mu\text{S}/\text{cm}$ in LAW 1F to 2300 $\mu\text{S}/\text{cm}$ in LAW 2A during fourth quarter 1986 sampling. Wells LAW 1B, 1D, 1F, 2C, and 3C remained below 500 $\mu\text{S}/\text{cm}$ during the entire reporting period.

Lead concentrations in all LAW wells ordinarily were below the DWS criterion of 50 $\mu\text{g}/\text{L}$. LAW 1F had the highest measured lead concentrations, ranging between 54 and 62 $\mu\text{g}/\text{L}$ during 1993.

Nonvolatile beta activity in LAW 3B was measured above DWS criterion (50 pCi/L) during fourth quarter 1986 sampling, and decreased to 10 pCi/L during first and third quarter 1992 sampling. All other wells remained below the DWS criterion during the reporting period.

Levels of pH in the LAW well series ranged from approximately 4 to 12 pH units during the reporting period.

1993 Data

Comprehensive analyses were scheduled for the LAW wells during the first quarter of 1993. Aluminum, GC VOA, iron, lead, and tritium were scheduled during third quarter due to earlier Flag 1 or 2 designation. Radionuclide analyses were requested each quarter in compliance with the RFI/RI Program.

During first quarter sampling, LAW 1F and LAW 3C were aerated, and LAW 1F and 2C had no well identification signs. A well identification sign was also missing from LAW 1F during third quarter. LAW 3C was aerated during fourth quarter sampling.

Lead exceeded DWS in well LAW 1F for all four quarters of 1993. Tritium was consistently above the DWS in well LAW 2C during the same time period. (See Table 1 at the end of this section.)

L-Area Oil and Chemical Basin (LCO Well Series)

Basin soil/sediments at the L-Area Oil and Chemical Basin (904-83G) were sampled in 1984 and 1985. Extraction Procedure (EP) toxicity test results for metals and pesticides indicated that the concentrations in the basin sediment were less than the Resource Conservation and Recovery Act (RCRA) hazardous waste classification criteria. Radionuclide analyses performed on these samples did not conform to existing data quality objectives. The 1984-85 samples were to be reanalyzed for radionuclides and metals during 1994, when new samples also were scheduled to be taken as part of a RCRA/CERCLA investigation.

L-Area Oil and Chemical Basin groundwater has been monitored by the four wells of the LCO well series since 1981. Horizontal flow in the upper saturated zone appears to be to the south toward L Lake.

DWS and Indicator Parameters

Analytes Over DWS or Indicator Parameters in Well Series LCO

Analyte	1989	1990	1991	1992	1993
Alkalinity	•	•	•	•	
Bis(2-ethylhexyl) phthalate					•
Cadmium				•	
Lead			•		
Nonvolatile beta	•	•	•	•	
pH	•	•	•	•	
Specific conductance	•	•	•	•	•
Sulfate	•		•		
Technetium-99				•	
Tetrachloroethylene	•	•	•	•	•
Total dissolved solids	•		•	•	
Total radium			•		
Trichloroethylene	•	•	•		
Tritium	•	•	•	•	•

Analytes consistently exceeding the DWS from 1989 to 1993 were tetrachloroethylene, specific conductance, and tritium. Other indicators above standards during that time were alkalinity and pH.

Flag 2 Criteria

Analytes Over Flag 2 Criteria in Well Series LCO

Analyte	1q89	2q89	3q89	4q89	1q90	2q90	3q90	4q90	1q91	2q91
Aluminum										
Bis(2-ethylhexyl) phthalate										
Cadmium										
Iron									•	
Manganese	•	•	•		•		•		•	
Mercury			•		•		•			
Nonvolatile beta		•	•		•		•			
pH	•	•	•	•	•	•	•	•		
Sodium									•	
Specific conductance									•	•
Sulfate	•	•	•		•		•			
Technetium-99										
Tetrachloroethylene	•		•		•	•	•	•	•	•
Total alpha-emitting radium										
Total organic halogens	•	•	•		•		•			
Trichloroethylene	•		•		•	•	•	•	•	
Trichlorofluoromethane										
Tritium	•	•	•		•	•	•	•	•	•

3q91	4q91	1q92	2q92	3q92	4q92	1q93	2q93	3q93	4q93	Analyte
						•		•		Aluminum
						•		•		Bis(2-ethylhexyl) phthalate
			•							Cadmium
			•		•	•	•	•		Iron
•	•	•								Manganese
	•	•								Mercury
										Nonvolatile beta
										pH
										Sodium
•	•	•	•	•	•			•	•	Specific conductance
	•									Sulfate
			•	•	•					Technetium-99
•	•	•	•	•	•	•	•	•	•	Tetrachloroethylene
	•									Total alpha-emitting radium
										Total organic halogens
	•									Trichloroethylene
	•									Trichlorofluoromethane
•	•	•	•	•	•	•	•	•	•	Tritium

No constituents without DWS have been consistently above Flag 2 criteria during the reporting period.

Time Series Plots

The time series plots (Appendix D) indicate the following.

Conductivity remained relatively constant in wells LCO 1 and LCO 2 during the reporting period. Concentration in LCO 4 fluctuated, ranging from approximately 40 $\mu\text{S}/\text{cm}$ during first quarter 1986 sampling to more than 1200 $\mu\text{S}/\text{cm}$ during second quarter 1986 sampling. Fluctuations in later quarters were not as great, however.

No gross alpha activity in the LCO well series was detected above the 15 pCi/L DWS. Gross alpha activity in LCO 4 increased from approximately 1 pCi/L during first quarter 1988 to approximately 12 pCi/L during first quarter 1989.

Lead concentrations in LCO wells were consistently measured below the DWS criterion of 50 $\mu\text{g}/\text{L}$ except that well LCO 4 was observed at 70 $\mu\text{g}/\text{L}$ during second quarter 1987 sampling.

Mercury concentrations in LCO 4 have exceeded the DWS criterion of 2 $\mu\text{g}/\text{L}$ approximately four times since sampling began. Mercury concentration was almost twice the DWS during two samplings in fourth quarter 1986.

Nonvolatile beta activity exceeded the DWS criterion of 50 pCi/L approximately nine times during sampling in well LCO 1. The highest observed value of nonvolatile beta activity was approximately 300 pCi/L during third quarter 1990. Well LCO 4 exceeded the DWS during first quarter 1992 sampling, measuring approximately 100 pCi/L.

LCO 3 pH levels were consistently higher than the remaining wells during sampling, ranging from approximately 7 to 10.

Tritium levels exceeded the DWS (20 pCi/mL) in wells LCO 1 and 4 during most of the reporting period. Exceptions were during first quarter 1986 when the data for all four wells decreased by 3 orders of magnitude, probably indicating an error in reported units.

1993 Data

Comprehensive analyses were scheduled for the LCO wells during the first quarter of 1993. During second quarter, GC VOA was scheduled due to earlier Flag 2 designation, and aluminum and GC VOA were scheduled for that reason during third quarter. Certain analyses, including alpha spectroscopy americium, plutonium, and uranium, gamma PHA, and technetium-99 were requested each quarter to comply with the RFI/RI Phase II Plan for the L-Area.

During first quarter sampling, LCO 1 ran dry after 29 gallons of water were purged and water in LCO 3 was aerated. During second quarter, LCO 1 and LCO 4 had an oily film on the sample surface, and LCO 1 was aerated so that turbidity did not stabilize. Turbidity in LCO 1 varied again in the third quarter, and an oily film was noted on the LCO 4 sample surface.

During fourth quarter, slight surges in LCO 1 and a thin, oily film on the sample surface were noted. Field notes indicate that the well identification sign for LCO 4 reads "LOC 4."

Quarterly data indicate that tritium consistently exceeded its criterion in wells LCO 1 and LCO 4 during 1993, as did tetrachloroethylene in well LCO 3 for all four quarters. (See Table 1 at the end of this section.)

L-Area Cooling Pond Dam Piezometers (LCP Series)

The LCP wells were installed in 1984 as piezometers; they are not monitored.

Disassembly Basin (LDB Well Series)

L-Area Disassembly Basin groundwater has been monitored by the LDB well series since 1985. The two wells are located near an apparent water-table divide between Pen Branch and L Lake. Horizontal flow direction is difficult to determine at this site.

DWS and Indicator Parameters

Analytes Over DWS or Indicator Parameters in Well Series LDB

Analyte	1989	1990	1991	1992	1993
Dichloromethane		.			
Lead	
pH	.			.	
Specific conductance					.
Tetrachloroethylene

Groundwater monitoring data show lead and tetrachloroethylene to be above the applicable standards for four of five years from .

Flag 2 Criteria

Analytes Over Flag 2 Criteria in Well Series LDB

Analyte	1q89	2q89	3q89	4q89	1q90	2q90	3q90	4q90	1q91	2q91
Aluminum										
Lead	
Tetrachloroethylene	
Total organic halogens			
Trichlorofluoromethane										

3q91	4q91	1q92	2q92	3q92	4q92	1q93	2q93	3q93	4q93	Analyte
						.		.		Aluminum
.			Lead
	.						.	.		Tetrachloroethylene
		.		.				.		Total organic halogens
.										Trichlorofluoromethane

Analytes found to be over Flag 2 criteria during 1989 to 1993 included total organic halogens.

Time Series Plots

The time series plots in Appendix D indicate the following.

Conductivity remained relatively stable throughout the reporting period in LDB 1, with the exception of first quarter 1989, fourth quarter 1991, and an increase to approximately 170 μ S/cm during second quarter 1993. Well LDB 2 was measured in the 60-70 μ S/cm range, with an increase to 80 μ S/cm during third quarter 1986, and a progressive increase from approximately 80 to 110 μ S/cm during second quarter 1993 to fourth quarter 1993.

Lead concentrations in LDB wells have exceeded the DWS criterion of 50 μ g/L on several occasions. Lead in LDB 2, which ordinarily measures just below the standard, was measured at approximately 720 μ g/L during fourth quarter 1986 sampling, and LDB 1 lead concentration, which ordinarily is at or just above the

standard, greatly exceeded the DWS during fourth quarter 1986, third quarter 1987, and first quarter 1991 sampling.

No nonvolatile beta levels were detected over the DWS criterion of 50 pCi/L.

Field pH values for both LDB 1 and LDB 2 have ranged from approximately 4 to 6 pH units since sampling began.

1993 Data

Comprehensive analyses for the LDB wells were scheduled during the first quarter of 1993. GC VOA was scheduled during second quarter due to earlier Flag 2 designation. Aluminum, GC VOA, lead, and total organic halogens were scheduled during third quarter for the same reason. Tritium analysis was requested during third quarter.

The LDB wells ran dry during each quarter's sampling. During first quarter, LDB 1 ran dry after 19 gallons of water were purged and LDB 2 after 23 gallons. During second quarter, LDB 1 ran dry after 20 gallons and LDB 2 after 16 gallons. LDB 1 and 2 ran dry after 18 gallons during third quarter, and during fourth quarter LDB 1 ran dry after 16 gallons and LDB 2 after 17 gallons.

Data for 1993 show that tetrachloroethylene exceeded the DWS in well LDB 1 for the second and third quarters. (See Table 1 at the end of this section.)

Burning/Rubble Pit (LRP Well Series)

Groundwater below the L-Area Burning/Rubble Pits has been monitored by the four wells of the LRP well series since 1983. Horizontal groundwater flow in the upper saturated zone is generally to the west toward Pen Branch.

DWS and Indicator Parameters

Analytes Over DWS or Indicator Parameters in Well Series LRP

Analyte	1989	1990	1991	1992	1993
Lead	•	•	•	•	•
Tetrachloroethylene	•	•			
Trichloroethylene		•			

During 1989-1993, lead was detected above the applicable standard in the LRP well series. Other analytes exceeding DWS were trichloroethylene in 1990 and trichloroethylene in 1989 and 1990.

Flag 2 Criteria

Analytes Over Flag 2 Criteria in Well Series LRP

Analyte	1q89	2q89	3q89	4q89	1q90	2q90	3q90	4q90	1q91	2q91
Aluminum										
Carbon Tetrachloride							•			
Iron		•								
Lead	•	•	•				•		•	
Manganese										
Tetrachloroethylene	•					•	•			
Trichloroethylene						•	•			

3q91	4q91	1q92	2q92	3q92	4q92	1q93	2q93	3q93	4q93	Analyte
						•				Aluminum
										Carbon Tetrachloride
										Iron
•		•		•		•				Lead
										Manganese
										Tetrachloroethylene
										Trichloroethylene

Lead exceeded Flag 2 criteria at least once a year.

Time Series Plots

The time series plots in Appendix D indicate the following.

Conductivity in LRP wells increased significantly during fourth quarter 1985. Conductivity in well LRP 3 fluctuated throughout the reporting period, increasing most notably during fourth quarter 1987. Conductivity in all wells increased during the first quarter 1989 reporting period.

Lead concentrations in LRP 2 has been measured over the DWS of 50 µg/L, with concentrations measuring as high as 140 µg/L during first quarter 1991. LRP 3 has ranged between approximately 8 and 50 µg/L, and LRP 4 has been measured as high as 44 µg/L during third quarter 1990.

No nonvolatile beta activity was measured above the DWS of 50 pCi/L.

Levels of pH in LRP wells ranged from approximately 3 to 6 pH units. All pH in LRP wells increased during second quarter 1987 sampling.

1993 Data

Comprehensive analyses of LRP wells were scheduled during the first quarter of 1993. Due to earlier Flag 2 designation, GC VOA was scheduled during the second quarter, and aluminum, GC VOA, and lead during the third quarter. Water in LRP 2 was aerated during first and third quarter sampling. Data for 1993 show that lead exceeded the DWS in well LRP 1 during first quarter 1993. See Table 1 at the end of this section.

Seepage Basin (LSB Well Series)

Four soil cores were augered in the L-Area Reactor Seepage Basin in 1978 and analyzed for strontium-90 and gamma emitters. The major radionuclide in the soil was cobalt-60, and the majority of the radioactivity was contained in the top foot of soil.

L-Area Seepage Basin groundwater has been monitored by the four wells of the LSB well series since 1983. Horizontal flow in the upper saturated zone directly beneath the basin is to the southeast.

DWS and Indicator Parameters

Analytes Over DWS or Indicator Parameters in Well Series LSB

Analyte	1989	1990	1991	1992	1993
Gross alpha			•		
Nonvolatile beta			•		
Lead			•	•	
pH	•				
Tritium	•		•	•	•

Analytes exceeding applicable standards during groundwater monitoring in recent years were tritium in 1989 and 1991–1993 and lead from 1991 to 1992.

Flag 2 Criteria

Analytes Over Flag 2 Criteria in Well Series LSB

Analyte	1q89	2q89	3q89	4q89	1q90	2q90	3q90	4q90	1q91	2q91
Aluminum										
Gross alpha										•
Iron										
Lead	•	•	•			•		•		•
Nonvolatile beta										•
Tritium	•	•	•	•	•	•	•	•	•	•

3q91	4q91	1q92	2q92	3q92	4q92	1q93	2q93	3q93	4q93	Analyte
	•					•		•		Aluminum
										Gross alpha
		•				•				Iron
•		•								Lead
										Nonvolatile beta
•	•	•	•	•	•	•	•	•	•	Tritium

No analytes without DWS have consistently exceeded Flag 2 criteria during the reporting period.

Time Series Plots

The time series plots in Appendix D indicate the following.

Conductivity in all LSB wells fluctuated during the reporting period. Higher levels in all wells were detected during second quarter 1985, measuring between 30 and 60 $\mu\text{S}/\text{cm}$.

No gross alpha activity in the LSB well series was measured above the 15 pCi/L DWS except for LSB 4, which was measured at approximately 90 pCi/L during second quarter 1991 sampling.

High concentrations of lead were detected in LSB 2 and LSB 4 during fourth quarter 1984 sampling. LSB 1 showed an increase in lead concentration during first quarter 1992 sampling, measuring approximately 50 $\mu\text{g}/\text{L}$.

Nonvolatile beta activity in all LSB wells remained consistently below the DWS criterion of 50 pCi/L with the exception of second quarter 1991 sampling, when activity was measured at approximately 440 pCi/L in LSB 4.

LSB pH levels were consistently measured between approximately 3.5 and 5 pH units except for LSB 4, which measured approximately 6.5 during third quarter 1987 sampling.

1993 Data

Comprehensive analyses of the LSB wells were scheduled during the first quarter of 1993. Aluminum, iron, lead, and tritium analyses were scheduled during third quarter due to earlier Flag 2 designation. Gross alpha, nonvolatile beta, and tritium analyses were requested each quarter in compliance with the L-Area Environmental Impact Statement, DOS-EIS-0108 Section 6.2.3.

During first quarter sampling, water in LSB 2 and LSB 3 was aerated. During second quarter, turbidity was unstable in LSB 3, and a film was noted on the surface sample. Water level measurement of LSB 4 was taken near the bottom of the standpipe that quarter.

The volume of LSB 3 was estimated during third quarter sampling because the flowmeter was not working properly. Surges were noted in LSB 3 during fourth quarter sampling.

Quarterly data for 1993 show that tritium exceeded the DWS consistently in wells LSB 1 and LSB 4 and during the third quarter in well LSB 3. (See Table 1 at the end of this section.)

Table 1. Maximum Results for Constituents Exceeding Drinking Water Standards for 1993

<u>Well</u>	<u>Constituent</u>	<u>Unit</u>	<u>1Q93</u>	<u>2Q93</u>	<u>3Q93</u>	<u>4Q93</u>	<u>DWS</u>
LAC 2	Bis(2-ethylhexyl) phthalate	µg/L	108	—	—	—	6
LAC 3	Tetrachloroethylene	µg/L	11	8.6	7.1	—	5
LAC 4	Dichloromethane (Methylene chloride)	µg/L	—	—	5.5	—	5
LAW 1F	Lead	µg/L	62	57	54	54	50
LAW 2C	Tetrachloroethylene Tritium	µg/L pCi/mL	— 7.6E+01	— 6.1E+01	— 1.3E+02	6.0 2.0E+02	5 2E+01
LCO 1	Bis(2-ethylhexyl) phthalate Tritium	µg/L pCi/mL	14 5.4E+02	— 4.1E+02	— 1.5E+03	— 3.4E+02	6 2E+01
LCO 3	Tetrachloroethylene	µg/L	7.9	12	8.0	8.0	5
LCO 4	Bis(2-ethylhexyl) phthalate Tetrachloroethylene Tritium	µg/L µg/L pCi/mL	— 13 6.3E+01	— 6.6 4.4E+01	858 19 3.5E+01	— 12 4.6E+01	6 5 2E+01
LDB 1	Lead Tetrachloroethylene	µg/L µg/L	64 —	— 6.3	— 6.2	— —	50 5
LRP 2	Lead	µg/L	54	—	—	—	50
LSB 1	Tritium	pCi/mL	1.9E+03	1.5E+03	2.5E+03	1.9E+03	2E+01
LSB 3	Tritium	pCi/mL	—	—	1.3E+04	—	2E+01
LSB 4	Tritium	pCi/mL	1.7E+03	1.4E+03	3.7E+02	1.5E+03	2E+01

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Glossary

ANION - ion or group of ions having a negative charge and characteristically moving toward a positive electrode.

BOTTOM ASH - Mineral matter in fossil fuels such as coal or lignite that is converted during combustion to a fused, glassy ash that does not contribute to air pollution.

CATION - ion or group of ions having a positive charge and characteristically moving toward a negative electrode.

CLADDING - protective metal layer covering fuel, target, control, and safety rods.

CONTROL ROD - neutron-absorbing cadmium or lithium-aluminum rod used to regulate the nuclear fission process within the reactor vessel.

CRITICALITY - point at which a nuclear reactor is self-sustaining.

DISCHARGING MACHINE - Remotely or automatically operated device that withdraws fuel and target assemblies from a reactor, cools them, and conveys them to the deposit-and-exit conveyor.

FISSION - nuclear reaction in which an atomic nucleus, especially a heavy nucleus, splits into fragments (usually two fragments of comparable mass) with the release of energy.

FLUX - rate of neutron flow.

FLY ASH - Mineral matter from fossil fuels such as coal or lignite, converted during combustion to a fused, glassy ash small enough to enter the furnace flue, escape through the stack, and enter the atmosphere.

FUEL ROD - protective metal rod containing pellets of fuel for a nuclear reactor.

HEAVY WATER - deuterium oxide (D₂O).

HIGH-LEVEL WASTE - The highly radioactive waste material resulting from the reprocessing of spent nuclear fuel. This includes any solid waste derived from the liquid waste produced directly in reprocessing. High-level waste contains a combination of transuranic waste and fission products in concentrations requiring permanent isolation.

LATTICE - spatial arrangement of fissionable and nonfissionable materials in a nuclear reactor.

LOW-LEVEL WASTE - includes low-activity waste (solid waste radiating <200 mrem/hr at 5 cm from an unshielded container), intermediate-level waste (solid waste radiating >200 mrem/hr at 5 cm), intermediate-level tritium waste (solid waste containing 10 Curies of tritium per container and radiating <200 mrem/hr at 5 cm), long-lived waste, and soil suspected of being contaminated.

MODERATOR - substance used in a nuclear reactor to slow down fast neutrons and increase the likelihood of fission.

PLENUM - enclosure in which water, air, or other gas is at a pressure greater than that of the outside atmosphere.

POISON - substance that absorbs neutrons without any fission resulting and thereby lowers the reactivity of a nuclear reactor.

PRIMARY COOLANT - deuterium oxide (D₂O), or heavy water, used as a cooling source and neutron moderator throughout the production process.

REACTIVITY INSTRUMENTS - instrumentation that monitors the deviation of a nuclear reactor from the critical state.

REWORK - to recycle or reprocess; refers here to heavy water (D₂O).

SAFETY ROD - neutron-absorbing cadmium rod used as a safeguard against reactor core damage.

SCRAM - a sudden shutting down of a nuclear reactor, usually by dropping safety rods, when a predetermined neutron flux or other dangerous condition occurs.

SECONDARY COOLANT - water drawn from the Savannah River, Par Pond, or L Lake and used to receive heat from the primary coolant.

TARGET ROD - lithium-aluminum rod containing materials to be irradiated by the fuel rod.

TRANSURANIC WASTE - waste contaminated with alpha-emitting transuranic radionuclides (having an atomic number greater than 92; e.g., plutonium-239) with half lives greater than 20 years in concentrations greater than 200 nC/g. TRU waste may also contain RCRA-regulated materials.

Appendix A. Final Primary Drinking Water Standards

<u>Analyte</u>	<u>Unit</u>	<u>Level</u>	<u>Status</u>	<u>Source</u>
Antimony	µg/L	6	Final	EPA, 1993
Arsenic	µg/L	50	Final	EPA, 1993
Asbestos	fibers/L	7,000,000	Final	EPA, 1993
Barium	µg/L	2,000	Final	EPA, 1993
Benzene	µg/L	5	Final	EPA, 1993
Benzo[a]pyrene	µg/L	0.2	Final	EPA, 1993
Beryllium	µg/L	4	Final	EPA, 1993
Bis(2-ethylhexyl) phthalate	µg/L	6	Final	EPA, 1993
Bromodichloromethane	µg/L	100	Final	EPA, 1993
Bromoform	µg/L	100	Final	EPA, 1993
2-sec-Butyl-4,6-dinitrophenol	µg/L	7	Final	EPA, 1993
Cadmium	µg/L	5	Final	EPA, 1993
Carbon tetrachloride	µg/L	5	Final	EPA, 1993
Chlordane	µg/L	2	Final	EPA, 1993
Chlorobenzene	µg/L	100	Final	EPA, 1993
Chloroethene (Vinyl chloride)	µg/L	2	Final	EPA, 1993
Chloroform	µg/L	100	Final	EPA, 1993
Chromium	µg/L	100	Final	EPA, 1993
Copper	µg/L	1,300	Final	EPA, 1993
Cyanide	µg/L	200	Final	EPA, 1993
Dibromochloromethane	µg/L	100	Final	EPA, 1993
1,2-Dibromo-3-chloropropane	µg/L	0.2	Final	EPA, 1993
1,2-Dibromoethane	µg/L	0.05	Final	EPA, 1993
1,2-Dichlorobenzene	µg/L	600	Final	EPA, 1993
1,4-Dichlorobenzene	µg/L	75	Final	EPA, 1993
1,2-Dichloroethane	µg/L	5	Final	EPA, 1993
1,1-Dichloroethylene	µg/L	7	Final	EPA, 1993
1,2-Dichloroethylene	µg/L	50	Final	EPA, 1993
cis-1,2-Dichloroethylene	µg/L	70	Final	EPA, 1993
trans-1,2-Dichloroethylene	µg/L	100	Final	EPA, 1993
Dichloromethane (Methylene chloride)	µg/L	5	Final	EPA, 1993
2,4-Dichlorophenoxyacetic acid	µg/L	70	Final	EPA, 1993
1,2-Dichloropropane	µg/L	5	Final	EPA, 1993
Endrin	µg/L	2	Final	EPA, 1993
Ethylbenzene	µg/L	700	Final	EPA, 1993
Fluoride	µg/L	4,000	Final	EPA, 1993
Gross alpha ¹	pCi/L	1.5E+01	Final	EPA, 1993
Heptachlor	µg/L	0.4	Final	EPA, 1993

¹ The standard given is for gross alpha including radium-226 but excluding radon and uranium.

<u>Analyte</u>	<u>Unit</u>	<u>Level</u>	<u>Status</u>	<u>Source</u>
Heptachlor epoxide	µg/L	0.2	Final	EPA, 1993
Hexachlorobenzene	µg/L	1	Final	EPA, 1993
Hexachlorocyclopentadiene	µg/L	50	Final	EPA, 1993
Lead	µg/L	50	Final	SCDHEC, 1981
Lindane	µg/L	0.2	Final	EPA, 1993
Mercury	µg/L	2	Final	EPA, 1993
Methoxychlor	µg/L	40	Final	EPA, 1993
Nickel	µg/L	100	Final	EPA, 1993
Nitrate as nitrogen	µg/L	10,000	Final	EPA, 1993
Nitrate-nitrite as nitrogen	µg/L	10,000	Final	EPA, 1993
Nitrite as nitrogen	µg/L	1,000	Final	EPA, 1993
Nonvolatile beta	pCi/L	5E+01	Interim final	EPA, 1977
PCB 1016	µg/L	0.5	Final	EPA, 1993
PCB 1221	µg/L	0.5	Final	EPA, 1993
PCB 1232	µg/L	0.5	Final	EPA, 1993
PCB 1242	µg/L	0.5	Final	EPA, 1993
PCB 1248	µg/L	0.5	Final	EPA, 1993
PCB 1254	µg/L	0.5	Final	EPA, 1993
PCB 1260	µg/L	0.5	Final	EPA, 1993
PCB 1262	µg/L	0.5	Final	EPA, 1993
Pentachlorophenol	µg/L	1	Final	EPA, 1993
Selenium	µg/L	50	Final	EPA, 1993
Strontium-89/90 ²	pCi/L	8E+00	Final	EPA, 1993
Strontium-90	pCi/L	8E+00	Final	EPA, 1993
Styrene	µg/L	100	Final	EPA, 1993
2,3,7,8-TCDD	µg/L	0.00003	Final	EPA, 1993
Tetrachloroethylene	µg/L	5	Final	EPA, 1993
Thallium	µg/L	2	Final	EPA, 1993
Toluene	µg/L	1,000	Final	EPA, 1993
Toxaphene	µg/L	3	Final	EPA, 1993
2,4,5-TP (Silvex)	µg/L	50	Final	EPA, 1993
1,2,4-Trichlorobenzene	µg/L	70	Final	EPA, 1993
1,1,1-Trichloroethane	µg/L	200	Final	EPA, 1993
1,1,2-Trichloroethane	µg/L	5	Final	EPA, 1993
Trichloroethylene	µg/L	5	Final	EPA, 1993
Tritium	pCi/mL	2E+01	Final	EPA, 1993
Xylenes	µg/L	10,000	Final	EPA, 1993

References

EPA (U.S. Environmental Protection Agency), 1977. *National Interim Primary Drinking Water Regulations*, EPA-570/9-76-003. Washington, DC.

² When the laboratories report results for strontium-89/90, the drinking water standard for strontium-90 is applied.

EPA (U.S. Environmental Protection Agency), 1993. *National Primary Drinking Water Regulations, Code of Federal Regulations*, Section 40, Part 141, pp. 592-732. Washington, DC.

SCDHEC (South Carolina Department of Health and Environmental Control), 1981. *State Primary Drinking Water Regulations*, R.61-58.5. Columbia, SC.

Appendix B. Flagging Criteria

The Savannah River Site Environmental Protection Department/Environmental Monitoring Section (EPD/EMS) flagging criteria are as follows:

- Flag 2 criteria for constituents equal the Safe Drinking Water Act (SDWA) final Primary Drinking Water Standard (PDWS), the SDWA proposed PDWS, or the SDWA Secondary Drinking Water Standard (SDWS). If a constituent does not have a drinking water standard, the Flag 2 criterion equals 10 times the method detection limit (MDL) calculated as the 90th percentile detection limit obtained recently by one of the primary analytical laboratories.
- Flag 1 criteria for constituents equal one-half of the final PDWS, one-half the proposed PDWS, or one-half the SDWS. If a constituent does not have a drinking water standard, the Flag 1 criterion equals 5 times the MDL calculated as the 90th percentile detection limit obtained recently by one of the primary analytical laboratories.
- Flag 0 criteria are assigned to constituent levels below Flag 1 criteria, constituent levels below the sample detection limits, or constituents having no flagging criteria.

The following parameters are exceptions to the flagging rules:

- EPD/EMS sets flagging criteria for specific conductance and pH. No flags are set for alkalinity, calcium, carbonate, magnesium, potassium, silica, sodium, total dissolved solids, total phosphates (as P), and total phosphorus. Analyses for these parameters are conducted as part of the biennial comprehensive analyses or by special request.
- Aesthetic parameters such as color, corrosivity, Eh, odor, surfactants, and turbidity are not assigned flagging criteria but are analyzed by special request.
- Common laboratory contaminants and cleaners such as dichloromethane (methylene chloride), ketones, phthalates, and toluene are not assigned flagging criteria unless they have primary drinking water standards. These constituents are analyzed by special request.

Analyte	Unit	Flag 1	Flag 2	Source ^a
Acenaphthene	µg/L	50	100	EPA Method 8270
Acenaphthylene	µg/L	50	100	EPA Method 8270
Acetone	µg/L	500	1,000	EPA Method 8240
Acetonitrile (Methyl cyanide)	µg/L	500	1,000	EPA Method 8240
Acetophenone	µg/L	50	100	EPA Method 8270
2-Acetylaminofluorene	µg/L	50	100	EPA Method 8270

<u>Analyte</u>	<u>Unit</u>	<u>Flag 1</u>	<u>Flag 2</u>	<u>Source^a</u>
Acrolein	µg/L	100	200	EPA Method 8240
Acrylonitrile	µg/L	100	200	EPA Method 8240
Actinium-228	pCi/L	1.64E+03	3.27E+03	Proposed PDWS (EPA, 1991)
Alachlor	µg/L	1	2	Final PDWS (EPA, 1993a)
Aldicarb ^b	µg/L	1.5	3	Final PDWS (EPA, 1993a)
Aldicarb sulfone ^b	µg/L	1	2	Final PDWS (EPA, 1993a)
Aldicarb sulfoxide ^b	µg/L	2	4	Final PDWS (EPA, 1993a)
Aldrin	µg/L	0.25	0.5	EPA Method 8080
Alkalinity (as CaCO ₃)		No flag	No flag	Set by EPD/EMS
Allyl chloride	µg/L	250	500	EPA Method 8240
Aluminum	µg/L	25	50	SDWS (EPA, 1993b)
Aluminum, dissolved	µg/L	25	50	SDWS (EPA, 1993b)
Aluminum, total recoverable	µg/L	25	50	SDWS (EPA, 1993b)
Americium-241	pCi/L	3.17E+00	6.34E+00	Proposed PDWS (EPA, 1991)
Americium-243	pCi/L	3.19E+00	6.37E+00	Proposed PDWS (EPA, 1991)
4-Aminobiphenyl	µg/L	50	100	EPA Method 8270
Ammonia	µg/L	500	1,000	APHA Method 417B
Ammonia nitrogen	µg/L	500	1,000	EPA Method 350.1
Aniline	µg/L	50	100	EPA Method 8270
Anthracene	µg/L	50	100	EPA Method 8270
Antimony	µg/L	3	6	Final PDWS (EPA, 1993a)
Antimony, dissolved	µg/L	3	6	Final PDWS (EPA, 1993a)
Antimony, total recoverable	µg/L	3	6	Final PDWS (EPA, 1993a)
Antimony-125	pCi/L	1.5E+02	3E+02	Interim Final PDWS (EPA, 1977)
Aramite	µg/L	50	100	EPA Method 8270
Arsenic	µg/L	25	50	Final PDWS (EPA, 1993a)
Arsenic, dissolved	µg/L	25	50	Final PDWS (EPA, 1993a)
Arsenic, total recoverable	µg/L	25	50	Final PDWS (EPA, 1993a)
Asbestos	Fibers/L	3,500,000	7,000,000	Final PDWS (EPA, 1993a)
Atrazine	µg/L	1.5	3	Final PDWS (EPA, 1993a)
Azobenzene	µg/L	50	100	EPA Method 625
Barium	µg/L	1,000	2,000	Final PDWS (EPA, 1993a)
Barium, dissolved	µg/L	1,000	2,000	Final PDWS (EPA, 1993a)
Barium, total recoverable	µg/L	1,000	2,000	Final PDWS (EPA, 1993a)
Barium-140 ^c	pCi/L	4.5E+01	9E+01	Interim Final PDWS (EPA, 1977)
Benzene	µg/L	2.5	5	Final PDWS (EPA, 1993a)
alpha-Benzene hexachloride	µg/L	0.25	0.5	EPA Method 8080
beta-Benzene hexachloride	µg/L	0.25	0.5	EPA Method 8080
delta-Benzene hexachloride	µg/L	0.25	0.5	EPA Method 8080
Benzidine	µg/L	250	500	EPA Method 8270
Benzo[a]anthracene	µg/L	0.05	0.1	Proposed PDWS (EPA, 1990)
Benzo[b]fluoranthene	µg/L	0.1	0.2	Proposed PDWS (EPA, 1990)
Benzo[k]fluoranthene	µg/L	0.1	0.2	Proposed PDWS (EPA, 1990)
Benzoic acid	µg/L	250	500	EPA Method 8270
Benzo[g,h,i]perylene	µg/L	50	100	EPA Method 8270
Benzo[a]pyrene	µg/L	0.1	0.2	Final PDWS (EPA, 1993a)
1,4-Benzoquinone	µg/L	50	100	EPA Method 8270
Benzyl alcohol	µg/L	50	100	EPA Method 8270
Beryllium	µg/L	2	4	Final PDWS (EPA, 1993a)
Beryllium, dissolved	µg/L	2	4	Final PDWS (EPA, 1993a)
Beryllium, total recoverable	µg/L	2	4	Final PDWS (EPA, 1993a)
Beryllium-7	pCi/L	3E+03	6E+03	Interim Final PDWS (EPA, 1977)
Bis(2-chloroethoxy) methane	µg/L	50	100	EPA Method 8270
Bis(2-chloroethyl) ether	µg/L	50	100	EPA Method 8270
Bis(2-chloroisopropyl) ether	µg/L	50	100	EPA Method 8270
Bis(chloromethyl) ether	µg/L	50	100	EPA Method 8270
Bis(2-ethylhexyl) phthalate	µg/L	3	6	Final PDWS (EPA, 1993a)
Bismuth-214	pCi/L	9.4E+03	1.89E+04	Proposed PDWS (EPA, 1991)
Boron	µg/L	150	300	EPA Method 6010
Boron, dissolved	µg/L	150	300	EPA Method 6010

<u>Analyte</u>	<u>Unit</u>	<u>Flag 1</u>	<u>Flag 2</u>	<u>Source*</u>
Boron, total recoverable	µg/L	150	300	EPA Method 6010
Bromide	µg/L	5,000	10,000	EPA Method 800.0
Bromodichloromethane	µg/L	50	100	Final PDWS (EPA, 1993a)
Bromoform	µg/L	50	100	Final PDWS (EPA, 1993a)
Bromomethane (Methyl bromide)	µg/L	5	10	EPA Method 8240
4-Bromophenyl phenyl ether	µg/L	50	100	EPA Method 8270
2-sec-Butyl-4,6-dinitrophenol	µg/L	3.5	7	Final PDWS (EPA, 1993a)
Butylbenzyl phthalate		No flag	No flag	Set by EPD/EMS
Cadmium	µg/L	2.5	5	Final PDWS (EPA, 1993a)
Cadmium, dissolved	µg/L	2.5	5	Final PDWS (EPA, 1993a)
Cadmium, total recoverable	µg/L	2.5	5	Final PDWS (EPA, 1993a)
Calcium		No flag	No flag	Set by EPD/EMS
Calcium, dissolved		No flag	No flag	Set by EPD/EMS
Calcium, total recoverable		No flag	No flag	Set by EPD/EMS
Carbon disulfide	µg/L	5	10	EPA Method 8240
Carbofuran	µg/L	20	40	Final PDWS (EPA, 1993a)
Carbon tetrachloride	µg/L	2.5	5	Final PDWS (EPA, 1993a)
Carbon-14	pCi/L	1E+03	2E+03	Interim Final PDWS (EPA, 1977)
Carbonate		No flag	No flag	Set by EPD/EMS
Cerium-141 ^c	pCi/L	1.5E+02	3E+02	Interim Final PDWS (EPA, 1977)
Cerium-144	pCi/L	1.31E+02	2.61E+02	Proposed PDWS (EPA, 1991)
Cesium-134 ^d	pCi/L	4.07E+01	8.13E+01	Proposed PDWS (EPA, 1991)
Cesium-137	pCi/L	1E+02	2E+02	Interim Final PDWS (EPA, 1977)
Chlordane	µg/L	1	2	Final PDWS (EPA, 1993a)
Chloride	µg/L	125,000	250,000	SDWS (EPA, 1993b)
4-Chloroaniline	µg/L	50	100	EPA Method 8270
Chlorobenzene	µg/L	50	100	Final PDWS (EPA, 1993a)
Chlorobenzilate	µg/L	50	100	EPA Method 8270
Chloroethane	µg/L	5	10	EPA Method 8240
Chloroethene (Vinyl chloride)	µg/L	1	2	Final PDWS (EPA, 1993a)
Chloroethyl vinyl ether	µg/L	5	10	EPA Method 8240
2-Chloroethyl vinyl ether	µg/L	5	10	EPA Method 8240
Chloroform	µg/L	50	100	Final PDWS (EPA, 1993a)
4-Chloro-m-cresol	µg/L	50	100	EPA Method 8270
Chloromethane (Methyl chloride)	µg/L	5	10	EPA Method 8240
2-Chloronaphthalene	µg/L	50	100	EPA Method 8240
2-Chlorophenol	µg/L	50	100	EPA Method 8270
4-Chlorophenyl phenyl ether	µg/L	50	100	EPA Method 8270
Chloroprene	µg/L	1,000	2,000	EPA Method 8240
Chromium	µg/L	50	100	Final PDWS (EPA, 1993a)
Chromium, dissolved	µg/L	50	100	Final PDWS (EPA, 1993a)
Chromium, total recoverable	µg/L	50	100	Final PDWS (EPA, 1993a)
Chromium-51 ^c	pCi/L	3E+03	6E+03	Interim Final PDWS (EPA, 1977)
Chrysene	µg/L	0.1	0.2	Proposed PDWS (EPA, 1990)
Cobalt	µg/L	20	40	EPA Method 6010
Cobalt, dissolved	µg/L	20	40	EPA Method 6010
Cobalt, total recoverable	µg/L	20	40	EPA Method 6010
Cobalt-57	pCi/L	5E+02	1E+03	Interim Final PDWS (EPA, 1977)
Cobalt-58 ^d	pCi/L	4.5E+03	9E+03	Interim Final PDWS (EPA, 1977)
Cobalt-60	pCi/L	5E+01	1E+02	Interim Final PDWS (EPA, 1977)
Color		No flag	No flag	Set by EPD/EMS
Copper	µg/L	500	1,000	Final PDWS (SCDHEC, 1981)
Copper, dissolved	µg/L	500	1,000	Final PDWS (SCDHEC, 1981)
Copper, total recoverable	µg/L	500	1,000	Final PDWS (SCDHEC, 1981)
Corrosivity		No flag	No flag	Set by EPD/EMS
m-Cresol (3-Methylphenol)	µg/L	50	100	EPA Method 8270
o-Cresol (2-Methylphenol)	µg/L	50	100	EPA Method 8270
p-Cresol (4-Methylphenol)	µg/L	50	100	EPA Method 8270
Curium-242	pCi/L	6.65E+01	1.33E+02	Proposed PDWS (EPA, 1991)
Curium-243	pCi/L	4.15E+00	8.3E+00	Proposed PDWS (EPA, 1991)
Curium-243/244 ^c	pCi/L	4.15E+00	8.3E+00	Proposed PDWS (EPA, 1991)

Analyte	Unit	Flag 1	Flag 2	Source ^a
Curium-244	pCi/L	4.92E+00	9.84E+00	Proposed PDWS (EPA, 1991)
Curium-245/246 ^e	pCi/L	3.12E+00	6.23E+00	Proposed PDWS (EPA, 1991)
Curium-246	pCi/L	3.14E+00	6.27E+00	Proposed PDWS (EPA, 1991)
Cyanide	µg/L	100	200	Final PDWS (EPA, 1993a)
Dalapon ^b	µg/L	100	200	Final PDWS (EPA, 1993a)
p,p'-DDD	µg/L	0.5	1	EPA Method 8080
p,p'-DDE	µg/L	0.5	1	EPA Method 8080
p,p'-DDT	µg/L	0.5	1	EPA Method 8080
Di-n-butyl phthalate		No flag	No flag	Set by EPD/EMS
Di-n-octyl phthalate		No flag	No flag	Set by EPD/EMS
Diallate	µg/L	50	100	EPA Method 8270
Dibenz[a,h]anthracene	µg/L	0.15	0.3	Proposed PDWS (EPA, 1990)
Dibenzofuran	µg/L	50	100	EPA Method 8270
Dibromochloromethane	µg/L	50	100	Final PDWS (EPA, 1993a)
1,2-Dibromo-3-chloropropane	µg/L	0.1	0.2	Final PDWS (EPA, 1993a)
1,2-Dibromoethane	µg/L	0.025	0.05	Final PDWS (EPA, 1993a)
Dibromomethane (Methylene bromide)	µg/L	5	10	EPA Method 8240
1,2-Dichlorobenzene	µg/L	300	600	Final PDWS (EPA, 1993a)
1,3-Dichlorobenzene	µg/L	50	100	EPA Method 8270
1,4-Dichlorobenzene	µg/L	37.5	75	Final PDWS (EPA, 1993a)
3,3'-Dichlorobenzidine	µg/L	50	100	EPA Method 8270
trans-1,4-Dichloro-2-butene	µg/L	150	300	EPA Method 8240
Dichlorodifluoromethane	µg/L	5	10	EPA Method 8240
1,1-Dichloroethane	µg/L	5	10	EPA Method 8240
1,2-Dichloroethane	µg/L	2.5	5	Final PDWS (EPA, 1993a)
1,1-Dichloroethylene	µg/L	3.5	7	Final PDWS (EPA, 1993a)
1,2-Dichloroethylene	µg/L	25	50	Final PDWS (EPA, 1993a)
cis-1,2-Dichloroethylene	µg/L	35	70	Final PDWS (EPA, 1993a)
trans-1,2-Dichloroethylene	µg/L	50	100	Final PDWS (EPA, 1993a)
Dichloromethane (Methylene chloride)	µg/L	2.5	5	Final PDWS (EPA, 1993a)
2,4-Dichlorophenol	µg/L	50	100	EPA Method 8270
2,6-Dichlorophenol	µg/L	50	100	EPA Method 8270
2,4-Dichlorophenoxyacetic acid	µg/L	35	70	Final PDWS (EPA, 1993a)
1,2-Dichloropropane	µg/L	2.5	5	Final PDWS (EPA, 1993a)
cis-1,3-Dichloropropene	µg/L	5	10	EPA Method 8240
trans-1,3-Dichloropropene	µg/L	5	10	EPA Method 8240
Di(2-ethylhexyl) adipate	µg/L	200	400	Final PDWS (EPA, 1993a)
Dieldrin	µg/L	2.5	5	EPA Method 8080
Diethyl phthalate		No flag	No flag	Set by EPD/EMS
Dimethoate	µg/L	50	100	EPA Method 8270
p-Dimethylaminoazobenzene	µg/L	50	100	EPA Method 8270
p-(Dimethylamino)ethylbenzene	µg/L	50	100	EPA Method 8270
7,12-Dimethylbenz[a]anthracene	µg/L	50	100	EPA Method 8270
3,3'-Dimethylbenzidine	µg/L	50	100	EPA Method 8270
a,a-Dimethylphenethylamine	µg/L	50	100	EPA Method 8270
2,4-Dimethyl phenol	µg/L	50	100	EPA Method 8270
Dimethyl phthalate		No flag	No flag	Set by EPD/EMS
1,3-Dinitrobenzene	µg/L	50	100	EPA Method 8270
2,4-Dinitrophenol	µg/L	250	500	EPA Method 8270
2,4-Dinitrotoluene	µg/L	50	100	EPA Method 8270
2,6-Dinitrotoluene	µg/L	50	100	EPA Method 8270
Diquat dibromide ^b	µg/L	10	20	Final PDWS (EPA, 1993a)
1,4-Dioxane	µg/L	50	100	EPA Method 8270
Diphenylamine	µg/L	50	100	EPA Method 8270
1,2-Diphenylhydrazine	µg/L	50	100	EPA Method 8270
Dissolved organic carbon	µg/L	5,000	10,000	EPA Method 9060
Disulfoton	µg/L	50	100	EPA Method 8270
Eh		No flag	No flag	Set by EPD/EMS

<u>Analyte</u>	<u>Unit</u>	<u>Flag 1</u>	<u>Flag 2</u>	<u>Source^a</u>
Endosulfan I	µg/L	0.5	1	EPA Method 8080
Endosulfan II	µg/L	0.5	1	EPA Method 8080
Endosulfan sulfate	µg/L	0.5	1	EPA Method 8080
Endothall ^b	µg/L	50	100	Final PDWS (EPA, 1993a)
Endrin	µg/L	1	2	Final PDWS (EPA, 1993a)
Endrin aldehyde	µg/L	0.5	1	EPA Method 8080
Endrin ketone		No flag	No flag	Set by EPD/EMS
Ethylbenzene	µg/L	350	700	Final PDWS (EPA, 1993a)
Ethyl methacrylate	µg/L	50	100	EPA Method 8270
Ethyl methanesulfonate	µg/L	50	100	EPA Method 8270
Europium-152	pCi/L	3E+01	6E+01	Interim Final PDWS (EPA, 1977)
Europium-154	pCi/L	1E+02	2E+02	Interim Final PDWS (EPA, 1977)
Europium-155	pCi/L	3E+02	6E+02	Interim Final PDWS (EPA, 1977)
Famphur	µg/L	50	100	EPA Method 8270
Fluoranthene	µg/L	50	100	EPA Method 8270
Fluorene	µg/L	50	100	EPA Method 8270
Fluoride	µg/L	2,000	4,000	Final PDWS (EPA, 1993a)
Glyphosate ^b	µg/L	350	700	Final PDWS (EPA, 1993a)
Gross alpha	pCi/L	7.5E+00	1.5E+01	Final PDWS (EPA, 1993a)
Heptachlor	µg/L	0.2	0.4	Final PDWS (EPA, 1993a)
Heptachlor epoxide	µg/L	0.1	0.2	Final PDWS (EPA, 1993a)
Heptachlorodibenzo-p-dioxin isomers	µg/L	0.00325	0.0065	EPA Method 8280
1,2,3,4,6,7,8-HPCDD	µg/L	0.00325	0.0065	EPA Method 8280
Heptachlorodibenzo-p-furan isomers	µg/L	0.00225	0.0045	EPA Method 8280
1,2,3,4,6,7,8-HPCDF	µg/L	0.00225	0.0045	EPA Method 8280
Hexachlorobenzene	µg/L	0.5	1	Final PDWS (EPA, 1993a)
Hexachlorobutadiene	µg/L	50	100	EPA Method 8270
Hexachlorocyclopentadiene	µg/L	25	50	Final PDWS (EPA, 1993a)
Hexachlorodibenzo-p-dioxin isomers	µg/L	0.00225	0.0045	EPA Method 8280
1,2,3,4,7,8-HXCCD	µg/L	0.00225	0.0045	EPA Method 8280
Hexachlorodibenzo-p-furan isomers	µg/L	0.002	0.004	EPA Method 8280
1,2,3,4,7,8-HXCDF	µg/L	0.002	0.004	EPA Method 8280
Hexachloroethane	µg/L	50	100	EPA Method 8270
Hexachlorophene	µg/L	250	500	EPA Method 8270
Hexachloropropene	µg/L	50	100	EPA Method 8270
2-Hexanone	µg/L	50	100	EPA Method 8240
Indeno[1,2,3-c,d]pyrene	µg/L	50	100	EPA Method 8270
Iodine	µg/L	250	500	APHA Method 415A
Iodine-129	pCi/L	5E-01	1E+00	Interim Final PDWS (EPA, 1977)
Iodine-131 ^c	pCi/L	1.5E+00	3E+00	Interim Final PDWS (EPA, 1977)
Iodomethane (Methyl iodide)	µg/L	75	150	EPA Method 8240
Iron	µg/L	150	300	SDWS (EPA, 1993b)
Iron, dissolved	µg/L	150	300	SDWS (EPA, 1993b)
Iron, total recoverable	µg/L	150	300	SDWS (EPA, 1993b)
Iron-55 ^c	pCi/L	1E+03	2E+03	Interim Final PDWS (EPA, 1977)
Iron-59 ^c	pCi/L	1E+02	2E+02	Interim Final PDWS (EPA, 1977)
Isobutyl alcohol	µg/L	500	1,000	EPA Method 8240
Isodrin	µg/L	50	100	EPA Method 8270
Isophorone	µg/L	50	100	EPA Method 8270
Isosafrole	µg/L	50	100	EPA Method 8270
Kepone	µg/L	50	100	EPA Method 8270
Lanthanum-140 ^c	pCi/L	3E+01	6E+01	Interim Final PDWS (EPA, 1977)
Lead	µg/L	25	50	Final PDWS (SCDHEC, 1981)
Lead, dissolved	µg/L	25	50	Final PDWS (SCDHEC, 1981)
Lead, total recoverable	µg/L	25	50	Final PDWS (SCDHEC, 1981)
Lead-212	pCi/L	6.2E+01	1.23E+02	Proposed PDWS (EPA, 1991)
Lindane	µg/L	0.1	0.2	Final PDWS (EPA, 1993a)

Analyte	Unit	Flag 1	Flag 2	Source ^a
Lithium	µg/L	25	50	EPA Method 6010
Lithium, dissolved	µg/L	25	50	EPA Method 6010
Lithium, total recoverable	µg/L	25	50	EPA Method 6010
Magnesium		No flag	No flag	Set by EPD/EMS
Magnesium, dissolved		No flag	No flag	Set by EPD/EMS
Magnesium, total recoverable		No flag	No flag	Set by EPD/EMS
Manganese	µg/L	25	50	SDWS (EPA, 1993b)
Manganese, dissolved	µg/L	25	50	SDWS (EPA, 1993b)
Manganese, total recoverable	µg/L	25	50	SDWS (EPA, 1993b)
Manganese-54	pCi/L	1.5E+02	3E+02	Interim Final PDWS (EPA, 1977)
Mercury	µg/L	1	2	Final PDWS (EPA, 1993a)
Mercury, dissolved	µg/L	1	2	Final PDWS (EPA, 1993a)
Mercury, total recoverable	µg/L	1	2	Final PDWS (EPA, 1993a)
Methacrylonitrile	µg/L	250	500	EPA Method 8240
Methapyrilene	µg/L	50	100	EPA Method 8270
Methoxychlor	µg/L	20	40	Final PDWS (EPA, 1993a)
3-Methylcholanthrene	µg/L	50	100	EPA Method 8270
2-Methyl-4,6-dinitrophenol	µg/L	250	500	EPA Method 8270
Methyl ethyl ketone		No flag	No flag	Set by EPD/EMS
Methyl isobutyl ketone		No flag	No flag	Set by EPD/EMS
Methyl methacrylate	µg/L	50	100	EPA Method 8270
Methyl methanesulfonate	µg/L	50	100	EPA Method 8270
2-Methylnaphthalene	µg/L	50	100	EPA Method 8270
Molybdenum	µg/L	250	500	EPA Method 6010
Molybdenum, dissolved	µg/L	250	500	EPA Method 6010
Molybdenum, total recoverable	µg/L	250	500	EPA Method 6010
Naphthalene	µg/L	50	100	EPA Method 8270
1,4-Naphthoquinone	µg/L	50	100	EPA Method 8270
1-Naphthylamine	µg/L	50	100	EPA Method 8270
2-Naphthylamine	µg/L	50	100	EPA Method 8270
Neptunium-237	pCi/L	3.53E+00	7.06E+00	Proposed PDWS (EPA, 1991)
Nickel	µg/L	50	100	Final PDWS (EPA, 1993a)
Nickel, dissolved	µg/L	50	100	Final PDWS (EPA, 1993a)
Nickel, total recoverable	µg/L	50	100	Final PDWS (EPA, 1993a)
Nickel-59 ^c	pCi/L	1.5E+02	3E+02	Interim Final PDWS (EPA, 1977)
Nickel-63 ^c	pCi/L	2.5E+01	5E+01	Interim Final PDWS (EPA, 1977)
Niobium-95 ^c	pCi/L	1.5E+02	3.E+02	Interim Final PDWS (EPA, 1977)
Nitrate as nitrogen	µg/L	5,000	10,000	Final PDWS (EPA, 1993a)
Nitrate-nitrite as nitrogen	µg/L	5,000	10,000	Final PDWS (EPA, 1993a)
Nitrite as nitrogen	µg/L	500	1,000	Final PDWS (EPA, 1993a)
m-Nitroaniline	µg/L	50	100	EPA Method 8270
o-Nitroaniline	µg/L	50	100	EPA Method 8270
p-Nitroaniline	µg/L	50	100	EPA Method 8270
Nitrobenzene	µg/L	50	100	EPA Method 8270
Nitrogen by Kjeldahl method	µg/L	500	1,000	EPA Method 351.2
2-Nitrophenol	µg/L	50	100	EPA Method 8270
4-Nitrophenol	µg/L	50	100	EPA Method 8270
4-Nitroquinoline-1-oxide	µg/L	50	100	EPA Method 8270
N-Nitrosodi-n-butylamine	µg/L	50	100	EPA Method 8270
N-Nitrosodiethylamine	µg/L	50	100	EPA Method 8270
N-Nitrosodimethylamine	µg/L	50	100	EPA Method 8270
N-Nitrosodiphenylamine	µg/L	50	100	EPA Method 8270
N-Nitrosodipropylamine	µg/L	50	100	EPA Method 8270
N-Nitrosomethylethylamine	µg/L	50	100	EPA Method 8270
N-Nitrosomorpholine	µg/L	50	100	EPA Method 8270
N-Nitrosopiperidine	µg/L	50	100	EPA Method 8270
N-Nitrosopyrrolidine	µg/L	50	100	EPA Method 8270
5-Nitro-o-toluidine	µg/L	50	100	EPA Method 8270
Nonvolatile beta	pCi/L	2.5E+01	5E+01	Interim Final PDWS (EPA, 1977)

<u>Analvte</u>	<u>Unit</u>	<u>Flag 1</u>	<u>Flag 2</u>	<u>Source^a</u>
Octachlorodibenzo-p-dioxin isomers	µg/L	0.005	0.01	EPA Method 8280
Octachlorodibenzo-p-furan isomers	µg/L	0.005	0.01	EPA Method 8280
Odor		No flag	No flag	Set by EPD/EMS
Oil & Grease	µg/L	5,000	10,000	EPA Method 413.1
Oxamyl ^b	µg/L	100	200	Final PDWS (EPA, 1993a)
Parathion	µg/L	0.25	0.5	EPA Method 8080
Parathion methyl	µg/L	0.25	0.5	EPA Method 8080
PCB 1016	µg/L	0.25	0.5	Final PDWS (EPA, 1993a)
PCB 1221	µg/L	0.25	0.5	Final PDWS (EPA, 1993a)
PCB 1232	µg/L	0.25	0.5	Final PDWS (EPA, 1993a)
PCB 1242	µg/L	0.25	0.5	Final PDWS (EPA, 1993a)
PCB 1248	µg/L	0.25	0.5	Final PDWS (EPA, 1993a)
PCB 1254	µg/L	0.25	0.5	Final PDWS (EPA, 1993a)
PCB 1260	µg/L	0.25	0.5	Final PDWS (EPA, 1993a)
PCB 1262	µg/L	0.25	0.5	Final PDWS (EPA, 1993a)
Pentachlorobenzene	µg/L	50	100	EPA Method 8270
Pentachlorodibenzo-p-dioxin isomers	µg/L	0.00275	0.0055	EPA Method 8280
1,2,3,7,8-PCDD	µg/L	0.00275	0.0055	EPA Method 8280
Pentachlorodibenzo-p-furan isomers	µg/L	0.00275	0.0055	EPA Method 8280
1,2,3,7,8-PCDF	µg/L	0.00275	0.0055	EPA Method 8280
Pentachloroethane	µg/L	50	100	EPA Method 8270
Pentachloronitrobenzene	µg/L	50	100	EPA Method 8270
Pentachlorophenol	µg/L	0.5	1	Final PDWS (EPA, 1993a)
pH	pH	8	10	Set by EPD/EMS
pH	pH	4	3	Set by EPD/EMS
Phenacetin	µg/L	50	100	EPA Method 8270
Phenanthrene	µg/L	50	100	EPA Method 8270
Phenol	µg/L	50	100	EPA Method 8270
Phenols	µg/L	25	50	EPA Method 420.1
p-Phenylenediamine	µg/L	50	100	EPA Method 8270
Phorate	µg/L	0.5	1	EPA Method 8080
Picloram ^b	µg/L	250	500	Final PDWS (EPA, 1993a)
2-Picoline	µg/L	50	100	EPA Method 8270
Plutonium-238	pCi/L	3.51E+00	7.02E+00	Proposed PDWS (EPA, 1991)
Plutonium-239	pCi/L	3.11E+01	6.21E+01	Proposed PDWS (EPA, 1991)
Plutonium-239/240 ^e	pCi/L	3.11E+01	6.21E+01	Proposed PDWS (EPA, 1991)
Plutonium-240	pCi/L	3.11E+01	6.22E+01	Proposed PDWS (EPA, 1991)
Plutonium-241 ^c	pCi/L	3.13E+01	6.26E+01	Proposed PDWS (EPA, 1991)
Plutonium-242 ^c	pCi/L	3.27E+01	6.54E+01	Proposed PDWS (EPA, 1991)
Potassium		No flag	No flag	Set by EPD/EMS
Potassium, dissolved		No flag	No flag	Set by EPD/EMS
Potassium, total recoverable		No flag	No flag	Set by EPD/EMS
Potassium-40	pCi/L	1.5E+02	3E+02	Proposed PDWS (EPA, 1986)
Promethium-144	pCi/L	5E+01	1E+02	EPA Method 901.1
Promethium-146	pCi/L	5E+01	1E+02	EPA Method 901.1
Promethium-147	pCi/L	5.24E+03	5.24E+03	Proposed PDWS (EPA, 1991)
Pronamid	µg/L	50	100	EPA Method 8270
Propionitrile	µg/L	1,000	2,000	EPA Method 8240
Pyrene	µg/L	50	100	EPA Method 8270
Pyridine	µg/L	50	100	EPA Method 8270
Radium (alpha-emitting) ^f	pCi/L	1E+01	2E+01	Proposed PDWS (EPA, 1991)
Radium-226	pCi/L	1E+01	2E+01	Proposed PDWS (EPA, 1991)
Radium-228	pCi/L	1E+01	2E+01	Proposed PDWS (EPA, 1991)
Radon-222	pCi/L	1.5E+02	3E+02	Proposed PDWS (EPA, 1991)
Ruthenium-103 ^c	pCi/L	1E+02	2E+02	Interim Final PDWS (EPA, 1977)
Ruthenium-106	pCi/L	1.5E+01	3E+01	Interim Final PDWS (EPA, 1977)
Safrole	µg/L	50	100	EPA Method 8270
Selenium	µg/L	25	50	Final PDWS (EPA, 1993a)

<u>Analvte</u>	<u>Unit</u>	<u>Flag 1</u>	<u>Flag 2</u>	<u>Source^a</u>
Selenium, dissolved	µg/L	25	50	Final PDWS (EPA, 1993a)
Selenium, total recoverable	µg/L	25	50	Final PDWS (EPA, 1993a)
Silica		No flag	No flag	Set by EPD/EMS
Silica, dissolved		No flag	No flag	Set by EPD/EMS
Silica, total recoverable		No flag	No flag	Set by EPD/EMS
Silver	µg/L	50	100	SDWS (EPA, 1993b)
Silver, dissolved	µg/L	50	100	SDWS (EPA, 1993b)
Silver, total recoverable	µg/L	50	100	SDWS (EPA, 1993b)
Simazine ^b	µg/L	2	4	Final PDWS (EPA, 1993a)
Sodium		No flag	No flag	Set by EPD/EMS
Sodium, dissolved		No flag	No flag	Set by EPD/EMS
Sodium, total recoverable		No flag	No flag	Set by EPD/EMS
Sodium-22	pCi/L	2.33E+02	4.66E+02	Proposed PDWS (EPA, 1991)
Specific conductance	µS/cm	250	500	Set by EPD/EMS
Strontium-89	pCi/L	1E+01	2E+01	Interim Final PDWS (EPA, 1977)
Strontium-89/90 ^e	pCi/L	4E+00	8E+00	Final PDWS (EPA, 1993a)
Strontium-90	pCi/L	4E+00	8E+00	Final PDWS (EPA, 1993a)
Styrene	µg/L	50	100	Final PDWS (EPA, 1993a)
Sulfate	µg/L	200,000	400,000	Proposed PDWS (EPA, 1990)
Sulfide	µg/L	5,000	10,000	EPA Method 9030
Sulfotep	µg/L	50	100	EPA Method 8270
Surfactants		No flag	No flag	Set by EPD/EMS
2,3,7,8-TCDD	µg/L	0.000015	0.00003	Final PDWS (EPA, 1993a)
2,3,7,8-TCDF	µg/L	0.002	0.004	EPA Method 8280
Technetium-99	pCi/L	4.5E+02	9E+02	Interim Final PDWS (EPA, 1977)
1,2,4,5-Tetrachlorobenzene	µg/L	50	100	EPA Method 8270
Tetrachlorodibenzo-p-dioxin isomers	µg/L	0.00225	0.0045	EPA Method 8280
Tetrachlorodibenzo-p-furan isomers	µg/L	0.002	0.004	EPA Method 8280
1,1,1,2-Tetrachloroethane	µg/L	5	10	EPA Method 8240
1,1,2,2-Tetrachloroethane	µg/L	5	10	EPA Method 8240
Tetrachloroethylene	µg/L	2.5	5	Final PDWS (EPA, 1993a)
2,3,4,6-Tetrachlorophenol	µg/L	50	100	EPA Method 8270
Thallium	µg/L	1	2	Final PDWS (EPA, 1993a)
Thallium, dissolved	µg/L	1	2	Final PDWS (EPA, 1993a)
Thallium, total recoverable	µg/L	1	2	Final PDWS (EPA, 1993a)
Thionazin	µg/L	50	100	EPA Method 8270
Thorium-228	pCi/L	6.25E+01	1.25E+02	Proposed PDWS (EPA, 1991)
Thorium-230	pCi/L	3.96E+01	7.92E+01	Proposed PDWS (EPA, 1991)
Thorium-232	pCi/L	4.4E+01	8.8E+01	Proposed PDWS (EPA, 1991)
Thorium-234	pCi/L	2E+02	4.01E+02	Proposed PDWS (EPA, 1991)
Tin	µg/L	10	20	EPA Method 282.2
Tin, dissolved	µg/L	10	20	EPA Method 282.2
Tin, total recoverable	µg/L	10	20	EPA Method 282.2
Tin-113 ^c	pCi/L	1.5E+02	3E+02	Interim Final PDWS (EPA, 1977)
Toluene	µg/L	500	1,000	Final PDWS (EPA, 1993a)
o-Toluidine	µg/L	50	100	EPA Method 8270
Total carbon	µg/L	5,000	10,000	EPA Method 9060
Total coliform		0	0	Final PDWS (EPA, 1993a)
Total dissolved solids		No flag	No flag	Set by EPD/EMS
Total hydrocarbons	µg/L	5,000	10,000	EPA Method 418.1
Total inorganic carbon	µg/L	5,000	10,000	EPA Method 9060
Total organic carbon	µg/L	5,000	10,000	EPA Method 9060
Total organic halogens	µg/L	25	50	EPA Method 9020
Total organic nitrogen	µg/L	500	1,000	APHA Method 420
Total petroleum hydrocarbons	µg/L	5,000	10,000	EPA Method 418.1
Total phosphates (as P)		No flag	No flag	Set by EPD/EMS
Total phosphorus		No flag	No flag	Set by EPD/EMS
Toxaphene	µg/L	1.5	3	Final PDWS (EPA, 1993a)
2,4,5-TP (Silvex)	µg/L	25	50	Final PDWS (EPA, 1993a)

Analyte	Unit	Flag 1	Flag 2	Source ^a
Tributyl phosphate	µg/L	50	100	EPA Method 8270
1,2,4-Trichlorobenzene	µg/L	35	70	Final PDWS (EPA, 1993a)
1,1,1-Trichloroethane	µg/L	100	200	Final PDWS (EPA, 1993a)
1,1,2-Trichloroethane	µg/L	2.5	5	Final PDWS (EPA, 1993a)
Trichloroethylene	µg/L	2.5	5	Final PDWS (EPA, 1993a)
Trichlorofluoromethane	µg/L	5	10	EPA Method 8240
2,4,5-Trichlorophenol	µg/L	50	100	EPA Method 8270
2,4,6-Trichlorophenol	µg/L	50	100	EPA Method 8270
2,4,5-Trichlorophenoxyacetic acid	µg/L	2.5	5	EPA Method 8150
1,2,3-Trichloropropane	µg/L	5	10	EPA Method 8240
O,O,O-Triethyl phosphorothioate	µg/L	50	100	EPA Method 8270
1,3,5-Trinitrobenzene	µg/L	50	100	EPA Method 8270
Tritium	pCi/mL	1E+01	2E+01	Final PDWS (EPA, 1993a)
Turbidity ^g		No flag	No flag	Set by EPD/EMS
Uranium	µg/L	10	20	Proposed PDWS (EPA, 1991)
Uranium, dissolved	µg/L	10	20	Proposed PDWS (EPA, 1991)
Uranium, total recoverable	µg/L	10	20	Proposed PDWS (EPA, 1991)
Uranium alpha activity	pCi/L	1.5E+01	3E+01	Proposed PDWS (EPA, 1991)
Uranium-233/234 ^e	pCi/L	6.9E+00	1.38E+01	Proposed PDWS (EPA, 1991)
Uranium-234	pCi/L	6.95E+00	1.39E+01	Proposed PDWS (EPA, 1991)
Uranium-235	pCi/L	7.25E+00	1.45E+01	Proposed PDWS (EPA, 1991)
Uranium-238	pCi/L	7.3E+00	1.46E+01	Proposed PDWS (EPA, 1991)
Vanadium	µg/L	40	80	EPA Method 6010
Vanadium, dissolved	µg/L	40	80	EPA Method 6010
Vanadium, total recoverable	µg/L	40	80	EPA Method 6010
Vinyl acetate	µg/L	5	10	EPA Method 8240
Xylenes	µg/L	5,000	10,000	Final PDWS (EPA, 1993a)
Yttrium-88	pCi/L	5E+01	1E+02	EPA Method 901.1
Zinc	µg/L	2,500	5,000	SDWS (EPA, 1993b)
Zinc, dissolved	µg/L	2,500	5,000	SDWS (EPA, 1993b)
Zinc, total recoverable	µg/L	2,500	5,000	SDWS (EPA, 1993b)
Zinc-65	pCi/L	1.5E+02	3E+02	Interim Final PDWS (EPA, 1977)
Zirconium-95 ^e	pCi/L	1E+02	2E+02	Interim Final PDWS (EPA, 1977)
Zirconium/Niobium-95 ^e	pCi/L	1E+02	2E+02	Interim Final PDWS (EPA, 1977)

^a References for dated sources are at the end of this appendix.

^b EMS is currently unable to perform this analysis.

^c EMS discontinued monitoring this radionuclide because it is inappropriate for the SRS groundwater monitoring program.

^d EPD/EMS set this flagging criterion using the 1991 proposed PDWS because the final PDWS in 1977 may have been in error.

^e For double radionuclide analyses where each separate radionuclide has its own standard, the more stringent standard is used.

^f The applied standard is for radium-226.

^g The primary maximum contaminant level range for turbidity is 1-5 TU, which is inappropriate for the SRS groundwater monitoring program.

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EPA (U.S. Environmental Protection Agency), 1993b. *National Secondary Drinking Water Regulations*. **Code of Federal Regulations**, Section 40, Part 143, pp. 774-777. Washington, DC.

SCDHEC (South Carolina Department of Health and Environmental Control), 1981. *State Primary Drinking Water Regulations*, R.61-58.5. Columbia, SC.

Appendix C. Groundwater Monitoring Results for Individual Wells during 1993

WELL LAC 1

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N45238.8 E51318.8	33.209552 °N 81.619578 °W	221.1-191.1 ft msl	238.2 ft msl	4" PVC	S	Water Table

SAMPLE DATE	03/09/93	05/02/93	08/21/93	11/13/93
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FIELD DATA

Analyte	1Q93	2Q93	3Q93	4Q93	Unit
Water elevation	220.7	221.6	216.9	215.4	ft msl
Depth to water	17.5	16.6	21.3	22.8	ft
pH	5.0	5.0	4.6	4.7	pH
Sp. conductance	27	26	27	28	µS/cm
Water temperature	20.8	21.2	21.2	21.6	°C
Alkalinity as CaCO ₃	0	0	0	0	mg/L
Turbidity	2	2	2	1	NTU
Volume purged	8.5	16.6	9.9	5.3	Well vol.
Sampling code					

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Acenaphthene	<10	<10	<10	<10		µg/L	GE	0
		Acenaphthylene	<10	<10	<10	<10		µg/L	GE	0
		Actinium-228		<3.0E+01		<8.4E+01		pCi/L	CN	0
		Aldrin	<10	<10	<10	<10		µg/L	GE	0
		Aluminum, total recoverable	46		23			µg/L		
		Americium-241	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Anthracene	<10	<10	<10	<10		µg/L	GE	0
		Antimony-125	<2.5E+01	<2.0E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Arsenic, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Barium, total recoverable	<3.0	3.5	<3.0	<3.0		µg/L	GE	0
		Benzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		alpha-Benzene hexachloride	<10	<10	<10	<10		µg/L	GE	0
		beta-Benzene hexachloride	<10	<10	<10	<10		µg/L	GE	0
		delta-Benzene hexachloride	<10	<10	<10	<10		µg/L	GE	0
		Benzidine	<10	<10	<10	<10		µg/L	GE	0
		Benzo[a]anthracene	<10	<10	<10	<10		µg/L	GE	0
		Benzo[b]fluoranthene	<10	<10	<10	<10		µg/L	GE	0
		Benzo[k]fluoranthene	<10	<10	<10	<10		µg/L	GE	0
		Benzo[g,h,i]perylene	<10	<10	<10	<10		µg/L	GE	0
		Benzo[a]pyrene	<10	<10	<10	<10		µg/L	GE	0
		Bis(2-chloroethoxy) methane	<10	<10	<10	<10		µg/L	GE	0
		Bis(2-chloroisopropyl) ether	<10	<10	<10	<10		µg/L	GE	0
		Bis(2-chloroisopropyl) ether	<10	<10	<10	<10		µg/L	GE	0
		Bis(2-ethylhexyl) phthalate	<10	<10	<10	<10		µg/L	GE	0
		Bromodichloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromoform	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromomethane (Methyl bromide)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		4-Bromophenyl phenyl ether	<10	<10	<10	<10		µg/L	GE	0
		Butylbenzyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		Cadmium, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Calcium, total recoverable	326					µg/L		
		Carbon tetrachloride	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Cerium-144	<5.0E+01	<5.0E+01	<5.0E+01	<5.0E+01		pCi/L	CN	0
		Cesium-134	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Cesium-137	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Chlordane	<10	<10	<10	<10		µg/L	GE	0
		Chloride	2,910	3,280	3,450	3,310		µg/L	GE	0
		Chlorobenzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		4-Chloro-m-cresol	<10	<10	<10	<10		µg/L	GE	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

■ = exceeded screening level or final primary drinking water standard for 4th quarter 1993.

WSRC-TR-94-0353
Unclassified

Well LAC 1 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Chloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroethene (Vinyl chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2-Chloroethyl vinyl ether	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroform	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloromethane (Methyl chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2-Chloronaphthalene	<10	<10	<10	<10		µg/L	GE	0
		2-Chlorophenol	<10	<10	<10	<10		µg/L	GE	0
		4-Chlorophenyl phenyl ether	<10	<10	<10	<10		µg/L	GE	0
		Chromium, total recoverable	<4.0	<4.0	<4.0	<4.0		µg/L	GE	0
		Chrysene	<10	<10	<10	<10		µg/L	GE	0
		Cobalt-57	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Cobalt-60	<1.2E+01	<1.0E+01	<1.2E+01	<1.2E+01		pCi/L	CN	0
		p,p'-DDD	<10	<10	<10	<10		µg/L	GE	0
		p,p'-DDE	<10	<10	<10	<10		µg/L	GE	0
		p,p'-DDT	<10	<10	<10	<10		µg/L	GE	0
		Dibenz[a,h]anthracene	<10	<10	<10	<10		µg/L	GE	0
		Dibenzofuran	<11	<11	<11	<11		µg/L	GE	0
		Dibromochloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Di-n-butyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		1,2-Dichlorobenzene	<11	<11	<11	<11		µg/L	GE	0
		1,3-Dichlorobenzene	<11	<11	<11	<11		µg/L	GE	0
		1,4-Dichlorobenzene	<11	<11	<11	<11		µg/L	GE	0
		3,3'-Dichlorobenzidine	<10	<10	<10	<10		µg/L	GE	0
		1,1-Dichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,2-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Dichloromethane (Methylene chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2,4-Dichlorophenol	<10	<10	<10	<10		µg/L	GE	0
		2,4-Dichlorophenoxyacetic acid	<0.30	<0.30	<0.30	<0.30		µg/L	GE	0
		1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Dieldrin	<10	<10	<10	<10		µg/L	GE	0
		Diethyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		2,4-Dimethyl phenol	<10	<10	<10	<10		µg/L	GE	0
		Dimethyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		2,4-Dinitrophenol	<45	<45	<45	<45		µg/L	GE	0
		2,4-Dinitrotoluene	<10	<10	<10	<10		µg/L	GE	0
		2,6-Dinitrotoluene	<10	<10	<10	<10		µg/L	GE	0
		Di-n-octyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		1,2-Diphenylhydrazine	<10	<10	<10	<10		µg/L	GE	0
		Dissolved organic carbon	<1,000	<1,000	1,030	<1,000		µg/L	GE	0
		Endosulfan I	<10	<10	<10	<10		µg/L	GE	0
		Endosulfan II	<10	<10	<10	<10		µg/L	GE	0
		Endosulfan sulfate	<10	<10	<10	<10		µg/L	GE	0
		Endrin	<0.0060	<10	<10	<10		µg/L	GE	0
		Endrin aldehyde	<10	<10	<10	<10		µg/L	GE	0
		Ethylbenzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Europium-152	<5.0E+01	<4.0E+01	<5.0E+01	<5.0E+01		pCi/L	CN	0
		Europium-154	<2.5E+01	<2.0E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Europium-155	<2.5E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Fluoranthene	<10	<10	<10	<10		µg/L	GE	0
		Fluorene	<10	<10	<10	<10		µg/L	GE	0
		Fluoride	<100	<100	<100	<100		µg/L	GE	0
		Gross alpha	<2.0E+00	9.0E-01	<2.0E+00	<2.0E+00		pCi/L	GE	0
		Heptachlor	<10	<10	<10	<10		µg/L	GE	0
		Heptachlor epoxide	<10	<10	<10	<10		µg/L	GE	0
		Hexachlorobenzene	<10	<10	<10	<10		µg/L	GE	0
		Hexachlorobutadiene	<10	<10	<10	<10		µg/L	GE	0
		Hexachlorocyclopentadiene	<10	<10	<10	<10		µg/L	GE	0
		Hexachloroethane	<10	<10	<10	<10		µg/L	GE	0
		Indeno[1,2,3-c,d]pyrene	<10	<10	<10	<10		µg/L	GE	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

■ = exceeded screening level or final primary drinking water standard for 4th quarter 1993.

Well LAC 1 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Iron, total recoverable	43	86	42	1,000		µg/L	GE	2
		Isophorone	<10	<10	<10	<10		µg/L	GE	0
		Lead, total recoverable	3.7	3.4	<3.0	3.8		µg/L	GE	0
		Lead-212		<1.5E+01		<2.5E+01		pCi/L	CN	0
		Lindane	<0.0050	<10	<10	<10		µg/L	GE	0
		Magnesium, total recoverable	498					µg/L		
		Manganese, total recoverable	<2.0	<2.0	<2.0	4.4		µg/L	GE	0
		Manganese-54	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Mercury, total recoverable	<0.20	<0.20	<0.20	<0.20		µg/L	GE	0
		Methoxychlor	<0.50					µg/L		
		2-Methyl-4,6-dinitrophenol	<10	<10	<10	<10		µg/L	GE	0
		Naphthalene	<10	<10	<10	<10		µg/L	GE	0
		Nitrate as nitrogen		476				µg/L		
		Nitrate-nitrite as nitrogen	400	440	360	300		µg/L	GE	0
		Nitrobenzene	<10	<10	<10	<10		µg/L	GE	0
		2-Nitrophenol	<10	<10	<10	<10		µg/L	GE	0
		4-Nitrophenol	<10	<10	<10	<10		µg/L	GE	0
		N-Nitrosodimethylamine	<10	<10	<10	<10		µg/L	GE	0
		N-Nitrosodiphenylamine	<10	<10	<10	<10		µg/L	GE	0
		N-Nitrosodipropylamine	<10	<10	<10	<10		µg/L	GE	0
		Nonvolatile beta	<2.0E+00	1.8E+00	<2.0E+00	<2.0E+00		pCi/L	GE	0
		PCB 1016	<150	<150	<150	<150		µg/L	GE	0
		PCB 1221	<150	<150	<150	<150		µg/L	GE	0
		PCB 1232	<150	<150	<150	<150		µg/L	GE	0
		PCB 1242	<150	<150	<150	<150		µg/L	GE	0
		PCB 1248	<150	<150	<150	<150		µg/L	GE	0
		PCB 1254	<150	<150	<150	<150		µg/L	GE	0
		PCB 1260	<150	<150	<150	<150		µg/L	GE	0
		Pentachlorophenol	<10	<10	<10	<10		µg/L	GE	0
		pH	5.0	5.1	5.2	5.2	J	pH	GE	0
		Phenanthrene	<10	<10	<10	<10		µg/L	GE	0
		Phenol	<10	<10	<10	<10		µg/L	GE	0
		Phenols	<5.0					µg/L		
		Plutonium-238	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Plutonium-239/240	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Potassium, total recoverable	<500					µg/L		
		Potassium-40	<2.5E+02	<1.1E+02	<2.5E+02	<2.5E+02		pCi/L	CN	0
		Promethium-144	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Promethium-146	<2.3E+01	<1.0E+01	<2.3E+01	<2.3E+01		pCi/L	CN	0
		Pyrene	<10	<10	<10	<10		µg/L	GE	0
		Radium-226		<1.6E-01				pCi/L		
		Radium-228		1.2E+00				pCi/L		
		Radium, total alpha-emitting	1.2E+00	1.4E+00	1.0E+00	<1.0E+00		pCi/L	GE	0
		Ruthenium-106	<8.0E+01	<8.0E+01	<8.0E+01	<8.0E+01		pCi/L	CN	0
		Selenium, total recoverable	<2.0	<2.0	<2.0	<2.0	J1	µg/L	GE	0
		Silica, total recoverable	6,810					µg/L		
		Silver, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Sodium, total recoverable	2,390					µg/L		
		Sodium-22	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Specific conductance	22	33	22	26		µS/cm	GE	0
		Sulfate	<1,000	<1,000	<1,000	<1,000		µg/L	GE	0
		Technetium-99	<3.0E+02	<3.0E+02	<3.0E+02	<3.0E+02		pCi/L	CN	0
		1,1,2,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Tetrachloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Thorium-234		<3.5E+02		<1.3E+03		pCi/L	CN	0
		Toluene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Total dissolved solids	10,000	37,000	23,000	25,000	JV	µg/L	GE	0
		Total organic carbon	1,490	<1,000	1,120	<1,000		µg/L	GE	0
		Total organic halogens	<5.0	5.3	41	<5.0		µg/L	GE	0
		Total phosphates (as P)	<50					µg/L		
		Toxaphene	<0.24	<10	<10	<10		µg/L	GE	0
		2,4,5-TP (Silvex)	<0.090					µg/L		

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

■ = exceeded screening level or final primary drinking water standard for 4th quarter 1993.

WSRC-TR-94-0353
Unclassified

Well LAC 1 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		1,2,4-Trichlorobenzene	<10	<10	<10	<10		µg/L	GE	0
		1,1,1-Trichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1,2-Trichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Trichloroethylene	2.5	4.2	2.0	<1.0		µg/L	GE	0
		Trichlorofluoromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2,4,6-Trichlorophenol	<10	<10	<10	<10		µg/L	GE	0
		Tritium	4.3E+00	6.1E+00	4.4E+00	4.5E+00		pCi/mL	GE	0
		Uranium, total recoverable	<20	1.1	<20	<20		µg/L	GE	0
		Uranium-233/234	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Uranium-235	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Uranium-238	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Yttrium-88	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Zinc-65	<2.3E+01	<2.0E+01	<2.3E+01	<2.3E+01		pCi/L	CN	0

WELL LAC 2

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N45330.4 E51270.2	33.209676 °N 81.619884 °W	223.4-193.4 ft msl	240.2 ft msl	4" PVC	S	Water Table

SAMPLE DATE	03/09/93	05/01/93	08/21/93	11/13/93
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FIELD DATA

Analyte	1Q93	2Q93	3Q93	4Q93	Unit
Water elevation	221.1	202.6	217.5	215.6	ft msl
Depth to water	19.1	37.6	22.7	24.6	ft
pH	5.0	4.8	4.5	4.7	pH
Sp. conductance	27	27	30	27	µS/cm
Water temperature	21.3	20.2	21.5	21.9	°C
Alkalinity as CaCO ₃	0	0	0	0	mg/L
Turbidity	2	2	1	1	NTU
Volume purged	17.6	50.6	29.2	14.9	Well vol.
Sampling code					

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Acenaphthene	<10	<10	<10	<10	J1	µg/L	GE	0
		Acenaphthylene	<10	<10	<10	<10	J1	µg/L	GE	0
		Actinium-228	<3.0E+01			<8.4E+01		pCi/L	CN	0
		Aldrin	<10	<10	<10	<10	J1	µg/L	GE	0
		Aluminum, total recoverable	29	27	27	27		µg/L	GE	0
		Americium-241	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Anthracene	<10	<10	<10	<10	J1	µg/L	GE	0
		Antimony-125	<2.0E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Arsenic, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Barium, total recoverable	9.0	8.5	9.1	11		µg/L	GE	0
		Benzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		alpha-Benzene hexachloride	<10	<10	<10	<10	J1	µg/L	GE	0
		beta-Benzene hexachloride	<10	<10	<10	<10	J1	µg/L	GE	0
		delta-Benzene hexachloride	<10	<10	<10	<10	J1	µg/L	GE	0
		Benzidine	<10	<10	<10	<10	J1	µg/L	GE	0
		Benzo(a)anthracene	<10	<10	<10	<10	J1	µg/L	GE	0
		Benzo(b)fluoranthene	<10	<10	<10	<10	J1	µg/L	GE	0
		Benzo(k)fluoranthene	<10	<10	<10	<10	J1	µg/L	GE	0
		Benzo(g,h,i)perylene	<10	<10	<10	<10	J1	µg/L	GE	0
		Benzo(a)pyrene	<10	<10	<10	<10	J1	µg/L	GE	0
		Bis(2-chloroethoxy) methane	<10	<10	<10	<10	J1	µg/L	GE	0
		Bis(2-chloroisopropyl) ether	<10	<10	<10	<10	J1	µg/L	GE	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

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Well LAC 2 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Bis(2-chloroisopropyl) ether				<10	J1	µg/L	GE	0
		Bis(2-ethylhexyl) phthalate	108	<10	<10	<10	J1	µg/L	GE	0
		Bromodichloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromoform	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromomethane (Methyl bromide)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		4-Bromophenyl phenyl ether	<10	<10	<10	<10	J1	µg/L	GE	0
		Butylbenzyl phthalate	<10	<10	<10	<10	J1	µg/L	GE	0
		Cadmium, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Calcium, total recoverable	495					µg/L		
		Carbon tetrachloride	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Cerium-144	<5.0E+01	<5.0E+01	<5.0E+01	<5.0E+01		pCi/L	CN	0
		Cesium-134	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Cesium-137	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Chlordane	<10	<10	<10	<10	J1	µg/L	GE	0
		Chloride	1,720	1,780	1,950	1,690		µg/L	GE	0
		Chlorobenzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		4-Chloro-m-cresol	<10	<10	<10	<10		µg/L	GE	0
		Chloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroethene (Vinyl chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2-Chloroethyl vinyl ether	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroform	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloromethane (Methyl chloride)	2.2	<1.0	<1.0	<1.0		µg/L	GE	0
		2-Chloronaphthalene	<10	<10	<10	<10	J1	µg/L	GE	0
		2-Chlorophenol	<10	<10	<10	<10		µg/L	GE	0
		4-Chlorophenyl phenyl ether	<10	<10	<10	<10	J1	µg/L	GE	0
		Chromium, total recoverable	<4.0	<4.0	<4.0	<4.0		µg/L	GE	0
		Chrysene	<10	<10	<10	<10	J1	µg/L	GE	0
		Cobalt-57	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Cobalt-60	<1.0E+01	<1.2E+01	<1.2E+01	<1.2E+01		pCi/L	CN	0
		p,p'-DDD	<10	<10	<10	<10	J1	µg/L	GE	0
		p,p'-DDE	<10	<10	<10	<10	J1	µg/L	GE	0
		p,p'-DDT	<10	<10	<10	<10	J1	µg/L	GE	0
		Dibenz(a,h)anthracene	<10	<10	<10	<10	J1	µg/L	GE	0
		Dibenzofuran	<11					µg/L		
		Dibromochloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Di-n-butyl phthalate	<10	<10	<10	<10	J1	µg/L	GE	0
		1,2-Dichlorobenzene	<11					µg/L		
		1,3-Dichlorobenzene	<11					µg/L		
		1,4-Dichlorobenzene	<11					µg/L		
		3,3'-Dichlorobenzidine	<10	<10	<10	<10	J1	µg/L	GE	0
		1,1-Dichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,2-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Dichloromethane (Methylene chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2,4-Dichlorophenol	<10	<10	<10	<10		µg/L	GE	0
		2,4-Dichlorophenoxyacetic acid	<0.30					µg/L		
		1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Dieldrin	<10	<10	<10	<10	J1	µg/L	GE	0
		Diethyl phthalate	<10	<10	<10	<10	J1	µg/L	GE	0
		2,4-Dimethyl phenol	<10	<10	<10	<10		µg/L	GE	0
		Dimethyl phthalate	<10	<10	<10	<10	J1	µg/L	GE	0
		2,4-Dinitrophenol	<45	<45	<45	<45		µg/L	GE	0
		2,4-Dinitrotoluene	<10	<10	<10	<10	J1	µg/L	GE	0
		2,6-Dinitrotoluene	<10	<10	<10	<10	J1	µg/L	GE	0
		Di-n-octyl phthalate	<10	<10	<10	<10	J1	µg/L	GE	0
		1,2-Diphenylhydrazine	<10	<10	<10	<10	J1	µg/L	GE	0
		Dissolved organic carbon	<1,000	<1,000	<1,000	<1,000		µg/L	GE	0
		Endosulfan I	<10	<10	<10	<10	J1	µg/L	GE	0
		Endosulfan II	<10	<10	<10	<10	J1	µg/L	GE	0

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Well LAC 2 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Endosulfan sulfate	<10	<10	<10	<10	J1	µg/L	GE	0
		Endrin	<0.0060	<10	<10	<10	J1	µg/L	GE	0
		Endrin aldehyde	<10	<10	<10	<10	J1	µg/L	GE	0
		Ethylbenzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Europium-152	<4.0E+01	<6.0E+01	<5.0E+01	<5.0E+01		pCi/L	CN	0
		Europium-154	<2.0E+01	<3.3E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Europium-155	<2.5E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Fluoranthene	<10	<10	<10	<10	J1	µg/L	GE	0
		Fluorene	<10	<10	<10	<10	J1	µg/L	GE	0
		Fluoride	<100					µg/L		
		Gross alpha	<4.0E-01	<2.0E+00	<2.0E+00	<2.0E+00		pCi/L	GE	0
		Heptachlor	<10	<10	<10	<10	J1	µg/L	GE	0
		Heptachlor epoxide	<10	<10	<10	<10	J1	µg/L	GE	0
		Hexachlorobenzene	<10	<10	<10	<10	J1	µg/L	GE	0
		Hexachlorobutadiene	<10	<10	<10	<10	J1	µg/L	GE	0
		Hexachlorocyclopentadiene	<10	<10	<10	<10	J1	µg/L	GE	0
		Hexachloroethane	<10	<10	<10	<10	J1	µg/L	GE	0
		Indeno[1,2,3-c,d]pyrene	<10	<10	<10	<10	J1	µg/L	GE	0
		Iron, total recoverable	36	10	18	<4.0		µg/L	GE	0
		Isophorone	<10	<10	<10	<10	J1	µg/L	GE	0
		Lead, total recoverable	15	12	13	22		µg/L	GE	2
		Lead-212	<1.5E+01			<2.5E+01		pCi/L	CN	0
		Lindane	<0.0050	<10	<10	<10	J1	µg/L	GE	0
		Magnesium, total recoverable	693					µg/L		
		Manganese, total recoverable	2.3	<2.0	<2.0	<2.0		µg/L	GE	0
		Manganese-54	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Mercury, total recoverable	<0.20	<0.20	<0.20	<0.20		µg/L	GE	0
		Methoxychlor	<0.50					µg/L		
		2-Methyl-4,6-dinitrophenol	<10	<10	<10	<10		µg/L	GE	0
		Naphthalene	<10	<10	<10	<10	J1	µg/L	GE	0
		Nitrate as nitrogen	1,130					µg/L		
		Nitrate-nitrite as nitrogen	1,260	1,210	1,440	1,410		µg/L	GE	0
		Nitrobenzene	<10	<10	<10	<10	J1	µg/L	GE	0
		2-Nitrophenol	<10	<10	<10	<10		µg/L	GE	0
		4-Nitrophenol	<10	<10	<10	<10		µg/L	GE	0
		N-Nitrosodimethylamine	<10	<10	<10	<10	J1	µg/L	GE	0
		N-Nitrosodiphenylamine	<10	<10	<10	<10	J1	µg/L	GE	0
		N-Nitrosodipropylamine	<10	<10	<10	<10	J1	µg/L	GE	0
		Nonvolatile beta	1.8E+00	<2.0E+00	<2.0E+00	<2.0E+00		pCi/L	GE	0
		PCB 1016	<150	<150	<150	<150	J1	µg/L	GE	0
		PCB 1221	<150	<150	<150	<150	J1	µg/L	GE	0
		PCB 1232	<150	<150	<150	<150	J1	µg/L	GE	0
		PCB 1242	<150	<150	<150	<150	J1	µg/L	GE	0
		PCB 1248	<150	<150	<150	<150	J1	µg/L	GE	0
		PCB 1254	<150	<150	<150	<150	J1	µg/L	GE	0
		PCB 1260	<150	<150	<150	<150	J1	µg/L	GE	0
		Pentachlorophenol	<10	<10	<10	<10		µg/L	GE	0
		pH	5.0	5.0	5.4	5.0	J	pH	GE	0
		Phenanthrene	<10	<10	<10	<10	J1	µg/L	GE	0
		Phenol	<10	<10	<10	<10		µg/L	GE	0
		Phenols	<5.0					µg/L		
		Plutonium-238	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Plutonium-239/240	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Potassium, total recoverable	<500					µg/L		
		Potassium-40	<1.1E+02	<2.5E+02	<2.5E+02	<2.5E+02		pCi/L	CN	0
		Promethium-144	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Promethium-146	<1.0E+01	<2.7E+01	<2.3E+01	<2.3E+01		pCi/L	CN	0
		Pyrene	<10	<10	<10	<10	J1	µg/L	GE	0
		Radium-226	4.0E-01					pCi/L		
		Radium-228	1.8E+00					pCi/L		
		Radium, total alpha-emitting	1.3E+00	1.3E+00	1.1E+00	<1.0E+00		pCi/L	GE	0
		Ruthenium-106	<8.0E+01	<8.0E+01	<8.0E+01	<8.0E+01		pCi/L	CN	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

■ = exceeded screening level or final primary drinking water standard for 4th quarter 1993.

Well LAC 3 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Aluminum, total recoverable	55		51			µg/L		
		Americium-241	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Anthracene	<10	<10	<10	<10		µg/L	GE	0
		Antimony-125	<2.5E+01	<2.5E+01	<2.5E+01	<2.0E+01		pCi/L	GP	0
		Arsenic, total recoverable	<2.0	<2.0	<2.0	2.2	J3	µg/L	WA	0
		Barium, total recoverable	<3.0	<3.0	<3.0	<3.0		µg/L	GE	0
		Benzene	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		alpha-Benzene hexachloride	<10	<10	<10	<10		µg/L	GE	0
		beta-Benzene hexachloride	<10	<10	<10	<10		µg/L	GE	0
		delta-Benzene hexachloride	<10	<10	<10	<10		µg/L	GE	0
		Benzidine	<10	<10	<10	<10		µg/L	GE	0
		Benzo[a]anthracene	<10	<10	<10	<10		µg/L	GE	0
		Benzo[b]fluoranthene	<10	<10	<10	<10		µg/L	GE	0
		Benzo[k]fluoranthene	<10	<10	<10	<10		µg/L	GE	0
		Benzo[g,h,i]perylene	<10	<10	<10	<10		µg/L	GE	0
		Benzo[a]pyrene	<10	<10	<10	<10		µg/L	GE	0
		Bis(2-chloroethoxy) methane	<10	<10	<10	<10		µg/L	GE	0
		Bis(2-chloroisopropyl) ether	<10	<10	<10	<10		µg/L	GE	0
		Bis(2-chloroisopropyl) ether	<10	<10	<10	<10		µg/L	GE	0
		Bis(2-ethylhexyl) phthalate	<10	<10	<10	<10		µg/L	GE	0
		Bromodichloromethane	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		Bromoform	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		Bromomethane (Methyl bromide)	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		4-Bromophenyl phenyl ether	<10	<10	<10	<10		µg/L	GE	0
		Butylbenzyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		Cadmium, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Calcium, total recoverable	106					µg/L		
		Carbon tetrachloride	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		Cerium-144	<5.0E+01	<5.0E+01	<8.0E+01	<5.0E+01		pCi/L	CN	0
		Cesium-134	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Cesium-137	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Chlordane	<10	<10	<10	<10		µg/L	GE	0
		Chloride	2,430	2,600	2,230	2,100		µg/L	WA	0
		Chlorobenzene	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		4-Chloro-m-cresol	<10	<10	<10	<10		µg/L	GE	0
		Chloroethane	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		Chloroethene (Vinyl chloride)	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		2-Chloroethyl vinyl ether	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		Chloroform	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		Chloromethane (Methyl chloride)	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		2-Chloronaphthalene	<10	<10	<10	<10		µg/L	GE	0
		2-Chlorophenol	<10	<10	<10	<10		µg/L	GE	0
		4-Chlorophenyl phenyl ether	<10	<10	<10	<10		µg/L	GE	0
		Chromium, total recoverable	<4.0	<4.0	<4.0	9.8		µg/L	WA	0
		Chrysene	<10	<10	<10	<10		µg/L	GE	0
		Cobalt-57	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Cobalt-60	<1.2E+01	<1.2E+01	<1.2E+01	<1.0E+01		pCi/L	GP	0
		p,p'-DDD	<10	<10	<10	<10		µg/L	GE	0
		p,p'-DDE	<10	<10	<10	<10		µg/L	GE	0
		p,p'-DDT	<10	<10	<10	<10		µg/L	GE	0
		Dibenz[a,h]anthracene	<10	<10	<10	<10		µg/L	GE	0
		Dibenzofuran				<11		µg/L	WA	0
		Dibromochloromethane	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		Di-n-butyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		1,2-Dichlorobenzene				<11		µg/L	WA	0
		1,3-Dichlorobenzene				<11		µg/L	WA	0
		1,4-Dichlorobenzene				<11		µg/L	WA	0
		3,3'-Dichlorobenzidine	<10	<10	<10	<10		µg/L	GE	0
		1,1-Dichloroethane	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		1,1-Dichloroethylene	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		trans-1,2-Dichloroethylene	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0

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● = exceeded holding time for 4th quarter 1993.

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Well LAC 3 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Dichloromethane (Methylene chloride)	<1.0	<1.0	<1.0	3.2	Y	µg/L	GE	1
		2,4-Dichlorophenol	<10	<10	<10	<10		µg/L	GE	0
		2,4-Dichlorophenoxyacetic acid	<0.30					µg/L		
		1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		Dieldrin	<10	<10	<10	<10		µg/L	GE	0
		Diethyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		2,4-Dimethyl phenol	<10	<10	<10	<10		µg/L	GE	0
		Dimethyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		2,4-Dinitrophenol	<45	<45	<45	<45		µg/L	GE	0
		2,4-Dinitrotoluene	<10	<10	<10	<10		µg/L	GE	0
		2,6-Dinitrotoluene	<10	<10	<10	<10		µg/L	GE	0
		Di-n-octyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		1,2-Diphenylhydrazine	<10	<10	<10	<10		µg/L	GE	0
		Dissolved organic carbon	<1,000	<1,000	1,300	<1,000		µg/L	GE	0
		Endosulfan I	<10	<10	<10	<10		µg/L	GE	0
		Endosulfan II	<10	<10	<10	<10		µg/L	GE	0
		Endosulfan sulfate	<10	<10	<10	<10		µg/L	GE	0
		Endrin	<0.0060	<10	<10	<10		µg/L	GE	0
		Endrin aldehyde	<10	<10	<10	<10		µg/L	GE	0
		Ethylbenzene	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		Europium-152	<5.0E+01	<5.0E+01	<5.0E+01	<4.0E+01		pCi/L	GP	0
		Europium-154	<2.5E+01	<2.5E+01	<2.5E+01	<2.0E+01		pCi/L	GP	0
		Europium-155	<2.5E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Fluoranthene	<10	<10	<10	<10		µg/L	GE	0
		Fluorene	<10	<10	<10	<10		µg/L	GE	0
		Fluoride	<100					µg/L		
		Gross alpha	<2.0E+00	<2.0E+00	<2.0E+00	1.0E+00		pCi/L	TM	0
		Heptachlor	<10	<10	<10	<10		µg/L	GE	0
		Heptachlor epoxide	<10	<10	<10	<10		µg/L	GE	0
		Hexachlorobenzene	<10	<10	<10	<10		µg/L	GE	0
		Hexachlorobutadiene	<10	<10	<10	<10		µg/L	GE	0
		Hexachlorocyclopentadiene	<10	<10	<10	<10		µg/L	GE	0
		Hexachloroethane	<10	<10	<10	<10		µg/L	GE	0
		Indeno[1,2,3-c,d]pyrene	<10	<10	<10	<10		µg/L	GE	0
		Iron, total recoverable	41	115	498	282	V	µg/L	WA	1
		Isophorone	<10	<10	<10	<10		µg/L	GE	0
		Lead, total recoverable	<3.0	<3.0	10	11		µg/L	GE	1
		Lead-212				<1.5E+01		pCi/L	GP	0
		Lindane	<0.0050	<10	<10	<10		µg/L	GE	0
		Magnesium, total recoverable	60					µg/L		
		Manganese, total recoverable	4.3	2.5	10	9.1		µg/L	GE	0
		Manganese-54	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Mercury, total recoverable	<0.20	<0.20	<0.20	<0.20		µg/L	GE	0
		Methoxychlor	<0.50					µg/L		
		2-Methyl-4,6-dinitrophenol	<10	<10	<10	<10		µg/L	GE	0
		Naphthalene	<10	<10	<10	<10		µg/L	GE	0
		Nitrate as nitrogen				1,100		µg/L	WA	0
		Nitrate-nitrite as nitrogen	780	890	900	1,270		µg/L	GE	0
		Nitrobenzene	<10	<10	<10	<10		µg/L	GE	0
		2-Nitrophenol	<10	<10	<10	<10		µg/L	GE	0
		4-Nitrophenol	<10	<10	<10	<10		µg/L	GE	0
		N-Nitrosodimethylamine	<10	<10	<10	<10		µg/L	GE	0
		N-Nitrosodiphenylamine	<10	<10	<10	<10		µg/L	GE	0
		N-Nitrosodipropylamine	<10	<10	<10	<10		µg/L	GE	0
		Nonvolatile beta	<2.0E+00	<2.0E+00	<2.0E+00	4.9E+00	JV	pCi/L	TM	0
		PCB 1016	<150	<150	<150	<150		µg/L	GE	0
		PCB 1221	<150	<150	<150	<150		µg/L	GE	0
		PCB 1232	<150	<150	<150	<150		µg/L	GE	0
		PCB 1242	<150	<150	<150	<150		µg/L	GE	0
		PCB 1248	<150	<150	<150	<150		µg/L	GE	0

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WSRC-TR-94-0353
Unclassified

Well LAC 3 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		PCB 1254	<150	<150	<150	<150		µg/L	GE	0
		PCB 1260	<150	<150	<150	<150		µg/L	GE	0
•		Pentachlorophenol	<10	<10	<10	<10		µg/L	GE	0
		pH	6.7	6.7	7.4	9.0	J	pH	WA	1
		Phenanthrene	<10	<10	<10	<10		µg/L	GE	0
		Phenol	<10	<10	<10	<10		µg/L	GE	0
		Phenols	<5.0					µg/L		
		Plutonium-238	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Plutonium-239/240	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Potassium, total recoverable	<500					µg/L		
		Potassium-40	<2.5E+02	<2.5E+02	<2.5E+02	<1.1E+02		pCi/L	GP	0
		Promethium-144	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Promethium-146	<2.3E+01	<2.3E+01	<2.3E+01	<1.0E+01		pCi/L	GP	0
		Pyrene	<10	<10	<10	<10		µg/L	GE	0
		Radium-226				7.7E-01		pCi/L	TM	0
		Radium-228				7.0E-01		pCi/L	TM	0
		Radium, total alpha-emitting	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	GE	0
		Ruthenium-106	<8.0E+01	<8.0E+01	<8.0E+01	<8.0E+01		pCi/L	CN	0
		Selenium, total recoverable	<2.0	<2.0	<2.0	<2.0	J1	µg/L	GE	0
		Silica, total recoverable	7,970					µg/L		
		Silver, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Sodium, total recoverable	39,900					µg/L		
		Sodium-22	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Specific conductance	161	159	234	174		µS/cm	GE	0
		Sulfate	24,000	19,300	22,600	8,220		µg/L	WA	0
		Technetium-99	<3.0E+02	3.0E+02	<3.0E+02	<3.0E+02		pCi/L	CN	0
		1,1,2,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		Tetrachloroethylene	11	8.6	7.1	1.2		µg/L	GE	0
		Thorium-234				<3.5E+02		pCi/L	GP	0
		Toluene	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		Total dissolved solids	100,000	109,000	143,000	166,000		µg/L	WA	0
		Total organic carbon	<1,000	<1,000	<1,000	<1,000		µg/L	GE	0
		Total organic halogens	12	<5.0	<5.0	<5.0		µg/L	GE	0
		Total phosphates (as P)	<50					µg/L		
		Toxaphene	<0.24	<10	<10	<10		µg/L	GE	0
		2,4,5-TP (Silvex)	<0.090					µg/L		
		1,2,4-Trichlorobenzene	<10	<10	<10	<10		µg/L	GE	0
		1,1,1-Trichloroethane	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		1,1,2-Trichloroethane	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		Trichloroethylene	<1.0	<1.0	1.3	1.7	J	µg/L	WA	0
		Trichlorofluoromethane	<1.0	<1.0	<1.0	<1.0	Y	µg/L	GE	0
		2,4,6-Trichlorophenol	<10	<10	<10	<10		µg/L	GE	0
		Tritium	3.9E+00	3.9E+00	5.0E+00	6.5E+00		pCi/mL	TM	0
		Uranium, total recoverable	<20	<20	<20	<0.030		µg/L	TM	0
		Uranium-233/234	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Uranium-235	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Uranium-238	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Yttrium-88	<1.0E+01	<1.0E+01	<2.9E+01	<1.0E+01		pCi/L	CN	0
		Zinc-65	<2.3E+01	<2.3E+01	<2.3E+01	<2.0E+01		pCi/L	GP	0

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WELL LAC 4

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N45213.1 E51270.4	33.209416 °N 81.619656 °W	215.3-185.3 ft msl	237.1 ft msl	4" PVC	S	Water Table

SAMPLE DATE	03/09/93	05/01/93	08/21/93	11/13/93
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FIELD DATA

Analyte	1Q93	2Q93	3Q93	4Q93	Unit
Water elevation	221.0	193.2	217.0	215.5	ft msl
Depth to water	16.1	43.9	20.1	21.6	ft
pH	6.5	6.4	6.1	6.2	pH
Sp. conductance	119	132	133	159	µS/cm
Water temperature	19.9	19.3	21.3	22.5	°C
Alkalinity as CaCO ₃	30	27	2	40	mg/L
Turbidity	2	3	1	3	NTU
Volume purged	19.4	133	17.1	6.4	Well vol.
Sampling code					

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Acenaphthene	<10	<10	<10	<10		µg/L	GE	0
		Acenaphthylene	<10	<10	<10	<10		µg/L	GE	0
		Actinium-228				<8.4E+01		pCi/L	CN	0
		Aldrin	<10	<10	<10	<10		µg/L	GE	0
		Aluminum, total recoverable	<20		39			µg/L		
		Americium-241	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Anthracene	<10	<10	<10	<10		µg/L	GE	0
		Antimony-125	<2.5E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Arsenic, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Barium, total recoverable	<3.0	<3.0	<3.0	<3.0		µg/L	GE	0
		Benzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		alpha-Benzene hexachloride	<10	<10	<10	<10		µg/L	GE	0
		beta-Benzene hexachloride	<10	<10	<10	<10		µg/L	GE	0
		delta-Benzene hexachloride	<10	<10	<10	<10		µg/L	GE	0
		Benzidine	<10	<10	<10	<10		µg/L	GE	0
		Benzo[a]anthracene	<10	<10	<10	<10		µg/L	GE	0
		Benzo[b]fluoranthene	<10	<10	<10	<10		µg/L	GE	0
		Benzo[k]fluoranthene	<10	<10	<10	<10		µg/L	GE	0
		Benzo[g,h,i]perylene	<10	<10	<10	<10		µg/L	GE	0
		Benzo[a]pyrene	<10	<10	<10	<10		µg/L	GE	0
		Bis(2-chloroethoxy) methane	<10	<10	<10	<10		µg/L	GE	0
		Bis(2-chloroisopropyl) ether	<10	<10	<10	<10		µg/L	GE	0
		Bis(2-chloroisopropyl) ether	<10	<10	<10	<10		µg/L	GE	0
		Bis(2-ethylhexyl) phthalate	<10	<10	<10	<10		µg/L	GE	0
		Bromodichloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromoform	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromomethane (Methyl bromide)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		4-Bromophenyl phenyl ether	<10	<10	<10	<10		µg/L	GE	0
		Butylbenzyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		Cadmium, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Calcium, total recoverable	6,020					µg/L		
		Carbon tetrachloride	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Cerium-144	<5.0E+01	<5.0E+01	<5.0E+01	<5.0E+01		pCi/L	CN	0
		Cesium-134	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Cesium-137	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Chlordane	<10	<10	<10	<10		µg/L	GE	0
		Chloride	1,850	2,090	1,970	2,220		µg/L	GE	0
		Chlorobenzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		4-Chloro-m-cresol	<10	<10	<10	<10		µg/L	GE	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

■ = exceeded screening level or final primary drinking water standard for 4th quarter 1993.

WSRC-TR-94-0353
Unclassified

Well LAC 4 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Chloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroethene (Vinyl chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2-Chloroethyl vinyl ether	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroform	2.5	1.8	<1.0	<1.0		µg/L	GE	0
		Chloromethane (Methyl chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2-Chloronaphthalene	<10	<10	<10	<10		µg/L	GE	0
		2-Chlorophenol	<10	<10	<10	<10		µg/L	GE	0
		4-Chlorophenyl phenyl ether	<10	<10	<10	<10		µg/L	GE	0
		Chromium, total recoverable	<4.0	<4.0	<4.0	<4.0		µg/L	GE	0
		Chrysene	<10	<10	<10	<10		µg/L	GE	0
		Cobalt-57	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Cobalt-60	<1.2E+01	<1.2E+01	<1.2E+01	<1.2E+01		pCi/L	CN	0
		p,p'-DDD	<10	<10	<10	<10		µg/L	GE	0
		p,p'-DDE	<10	<10	<10	<10		µg/L	GE	0
		p,p'-DDT	<10	<10	<10	<10		µg/L	GE	0
		Dibenz[a,h]anthracene	<10	<10	<10	<10		µg/L	GE	0
		Dibenzofuran			<11	<10		µg/L	GE	0
		Dibromochloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Di-n-butyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		1,2-Dichlorobenzene			<11			µg/L		
		1,3-Dichlorobenzene			<11			µg/L		
		1,4-Dichlorobenzene			<11			µg/L		
		3,3'-Dichlorobenzidine	<10	<10	<10	<10		µg/L	GE	0
		1,1-Dichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,2-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Dichloromethane (Methylene chloride)	<1.0	<1.0	5.5	3.1		µg/L	GE	1
		2,4-Dichlorophenol	<10	<10	<10	<10		µg/L	GE	0
		2,4-Dichlorophenoxyacetic acid	<0.30					µg/L	GE	0
		1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Dieldrin	<10	<10	<10	<10		µg/L	GE	0
		Diethyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		2,4-Dimethyl phenol	<10	<10	<10	<10		µg/L	GE	0
		Dimethyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		2,4-Dinitrophenol	<45	<45	<45	<45		µg/L	GE	0
		2,4-Dinitrotoluene	<10	<10	<10	<10		µg/L	GE	0
		2,6-Dinitrotoluene	<10	<10	<10	<10		µg/L	GE	0
		Di-n-octyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		1,2-Diphenylhydrazine	<10	<10	<10	<10		µg/L	GE	0
		Dissolved organic carbon	<1,000	<1,000	<1,000	1,110		µg/L	GE	0
		Endosulfan I	<10	<10	<10	<10		µg/L	GE	0
		Endosulfan II	<10	<10	<10	<10		µg/L	GE	0
		Endosulfan sulfate	<10	<10	<10	<10		µg/L	GE	0
		Endrin	<0.0060	<10	<10	<10		µg/L	GE	0
		Endrin aldehyde	<10	<10	<10	<10		µg/L	GE	0
		Ethylbenzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Europium-152	<5.0E+01	<5.0E+01	<5.0E+01	<5.0E+01		pCi/L	CN	0
		Europium-154	<2.5E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Europium-155	<2.5E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Fluoranthene	<10	<10	<10	<10		µg/L	GE	0
		Fluorene	<10	<10	<10	<10		µg/L	GE	0
		Fluoride	<100					µg/L	GE	0
		Gross alpha	<2.0E+00	<2.0E+00	<2.0E+00	<2.0E+00		pCi/L	GE	0
		Heptachlor	<10	<10	<10	<10		µg/L	GE	0
		Heptachlor epoxide	<10	<10	<10	<10		µg/L	GE	0
		Hexachlorobenzene	<10	<10	<10	<10		µg/L	GE	0
		Hexachlorobutadiene	<10	<10	<10	<10		µg/L	GE	0
		Hexachlorocyclopentadiene	<10	<10	<10	<10		µg/L	GE	0
		Hexachloroethane	<10	<10	<10	<10		µg/L	GE	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

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Well LAC 4 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Indeno[1,2,3-c,d]pyrene	<10	<10	<10	<10		µg/L	GE	0
		Iron, total recoverable	<4.0	<4.0	47	9.3		µg/L	GE	0
		Isophorone	<10	<10	<10	<10		µg/L	GE	0
		Lead, total recoverable	<3.0	<3.0	<3.0	<3.0		µg/L	GE	0
		Lead-212				<2.5E+01		pCi/L	CN	0
		Lindane	<0.0050	<10	<10	<10		µg/L	GE	0
		Magnesium, total recoverable	1,240					µg/L		
		Manganese, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Manganese-54	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Mercury, total recoverable	<0.20	<0.20	<0.20	<0.20		µg/L	GE	0
		Methoxychlor	<0.50					µg/L		
		2-Methyl-4,6-dinitrophenol	<10	<10	<10	<10		µg/L	GE	0
		Naphthalene	<10	<10	<10	<10		µg/L	GE	0
		Nitrate as nitrogen			664			µg/L		
		Nitrate-nitrite as nitrogen	250	200	640	700		µg/L	GE	0
		Nitrobenzene	<10	<10	<10	<10		µg/L	GE	0
		2-Nitrophenol	<10	<10	<10	<10		µg/L	GE	0
		4-Nitrophenol	<10	<10	<10	<10		µg/L	GE	0
		N-Nitrosodimethylamine	<10	<10	<10	<10		µg/L	GE	0
		N-Nitrosodiphenylamine	<10	<10	<10	<10		µg/L	GE	0
		N-Nitrosodipropylamine	<10	<10	<10	<10		µg/L	GE	0
		Nonvolatile beta	<2.0E+00	<2.0E+00	2.3E+00	<2.0E+00		pCi/L	GE	0
		PCB 1016	<150	<150	<150	<150		µg/L	GE	0
		PCB 1221	<150	<150	<150	<150		µg/L	GE	0
		PCB 1232	<150	<150	<150	<150		µg/L	GE	0
		PCB 1242	<150	<150	<150	<150		µg/L	GE	0
		PCB 1248	<150	<150	<150	<150		µg/L	GE	0
		PCB 1254	<150	<150	<150	<150		µg/L	GE	0
		PCB 1260	<150	<150	<150	<150		µg/L	GE	0
		Pentachlorophenol	<10	<10	<10	<10		µg/L	GE	0
		pH	6.3	6.5	6.6	6.4	J	pH	GE	0
		Phenanthrene	<10	<10	<10	<10		µg/L	GE	0
		Phenol	<10	<10	<10	<10		µg/L	GE	0
		Phenols	<5.0					µg/L		
		Plutonium-238	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Plutonium-239/240	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Potassium, total recoverable	722					µg/L		
		Potassium-40	<2.5E+02	<2.5E+02	<2.5E+02	<2.5E+02		pCi/L	CN	0
		Promethium-144	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Promethium-146	<2.3E+01	<2.3E+01	<2.3E+01	<2.3E+01		pCi/L	CN	0
		Pyrene	<10	<10	<10	<10		µg/L	GE	0
		Radium, total alpha-emitting	1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	GE	0
		Ruthenium-106	<8.0E+01	<8.0E+01	<8.0E+01	<8.0E+01		pCi/L	CN	0
		Selenium, total recoverable	<2.0	<2.0	2.4	<2.0	J1	µg/L	GE	0
		Silica, total recoverable	6,640					µg/L		
		Silver, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Sodium, total recoverable	16,100					µg/L		
		Sodium-22	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Specific conductance	109	124	126	146		µS/cm	GE	0
		Sulfate	17,100	20,300	17,900	16,400		µg/L	GE	0
		Technetium-99	<3.0E+02	<3.0E+02	<3.0E+02	<3.0E+02		pCi/L	CN	0
		1,1,2,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Tetrachloroethylene	1.9	2.3	2.8	4.9		µg/L	GE	1
		Thorium-234				<1.3E+03		pCi/L	CN	0
		Toluene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Total dissolved solids	63,000	74,000	88,000	96,000	JV6	µg/L	GE	0
		Total organic carbon	<1,000	<1,000	<1,000	<1,000		µg/L	GE	0
		Total organic halogens	<5.0	<5.0	11	<5.0		µg/L	GE	0
		Total phosphates (as P)	<50					µg/L		
		Toxaphene	<0.24	<10	<10	<10		µg/L	GE	0
		2,4,5-TP (Silvex)	<0.090					µg/L		
		1,2,4-Trichlorobenzene	<10	<10	<10	<10		µg/L	GE	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

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Well LAC 4 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		1,1,1-Trichloroethane	<1.0	<1.0	<1.0	<1.0				
		1,1,2-Trichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Trichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE.	0
		Trichlorofluoromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2,4,6-Trichlorophenol	<10	<10	<10	<10		µg/L	GE	0
		Tritium	1.8E+00	1.8E+00	4.3E+00	3.6E+00		µg/L	GE	0
		Uranium, total recoverable	<20	<20	<20	<20		pCi/mL	GE	0
		Uranium-233/234	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		µg/L	GE	0
		Uranium-235	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Uranium-238	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Yttrium-88	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Zinc-65	<2.3E+01	<2.3E+01	<2.3E+01	<2.3E+01		pCi/L	CN	0

WELL LAW 1F

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N44562.1 E50567.1	33.206829 °N 81.620244 °W	185.9-165.9 ft msl	217.3 ft msl	4" PVC	S	Water Table

SAMPLE DATE	03/10/93	06/01/93	08/28/93	12/05/93
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FIELD DATA

Analyte	1Q93	2Q93	3Q93	4Q93	Unit
Water elevation	207.5	202.7	200.0	200.4	ft msl
Depth to water	9.8	14.6	17.3	16.9	ft
pH	5.1	4.9	5.1	5.0	pH
Sp. conductance	25	25	28	27	µS/cm
Water temperature	19.7	20.4	21.0	20.3	°C
Alkalinity as CaCO ₃	0	1	1	1	mg/L
Turbidity	2	2	10	2	NTU
Volume purged	2.9	3.3	4.2	3.4	Well vol.

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Actinium-228				<3.0E+01		pCi/L	GP	0
		Aluminum, total recoverable	40	31	113	33	J3	µg/L	WA	1
		Americium-241	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Antimony-125	<2.5E+01	<2.5E+01	<2.5E+01	<2.0E+01		pCi/L	GP	0
		Arsenic, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Barium, total recoverable	<3.0	<3.0	<3.0	<3.0		µg/L	GE	0
		Benzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Boron, total recoverable			<30	<30		µg/L	GE	0
		Bromodichloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromoform	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromomethane (Methyl bromide)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Cadmium, total recoverable	<2.0	<2.0	<2.0	2.3	J3	µg/L	WA	0
		Calcium, total recoverable	225	233	257	278		µg/L	WA	0
		Carbon tetrachloride	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Cerium-144	<5.0E+01	<5.0E+01	<8.3E+01	<5.0E+01		pCi/L	CN	0
		Cesium-134	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Cesium-137	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Chloride	2,630	3,180	3,340	4,000		µg/L	WA	0
		Chlorobenzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroethene (Vinyl chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2-Chloroethyl vinyl ether	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroform	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.
 ● = exceeded holding time for 4th quarter 1993.
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Well LAW 1F continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Chloromethane (Methyl chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chromium, total recoverable	<4.0	<4.0	<4.0	<4.0		µg/L	GE	0
		Cobalt-57	<1.0E+01	<1.0E+01	<1.2E+01	<1.0E+01		pCi/L	CN	0
		Cobalt-60	<1.2E+01	<1.2E+01	<1.2E+01	<1.0E+01		pCi/L	GP	0
		Dibromochloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1-Dichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,2-Dichloroethane	<1.0	1.3	<1.0	<1.0		µg/L	GE	0
		1,1-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,2-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Dichloromethane (Methylene chloride)	1.3	1.5	<1.0			µg/L	GE	1
		2,4-Dichlorophenoxyacetic acid	<0.30			2.8		µg/L		
		1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Endrin	<0.0060					µg/L		
		Ethylbenzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Europium-152	<5.0E+01	<5.0E+01	<5.0E+01	<4.0E+01		pCi/L	GP	0
		Europium-154	<2.5E+01	<2.5E+01	<2.5E+01	<2.0E+01		pCi/L	GP	0
		Europium-155	<2.5E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Fluoride	<100	<100	<100	<100		µg/L	GE	0
		Gross alpha	<2.0E+00	<2.0E+00	<2.0E+00	<2.0E+00		pCi/L	GE	0
		Iron, total recoverable	114	101	70	62		µg/L	WA	0
■		Lead, total recoverable	62	57	54	54		µg/L	WA	2
		Lead-212				<1.5E+01		pCi/L	GP	0
		Lindane	<0.0050					µg/L		
		Lithium, total recoverable			<5.0	<5.0		µg/L	GE	0
		Magnesium, total recoverable	272	276	316	329		µg/L	WA	0
		Manganese, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Manganese-54	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Mercury, total recoverable	<0.20	<0.20	<0.20	<0.20		µg/L	GE	0
		Methoxychlor	<0.50					µg/L		
●		Nitrate as nitrogen				430		µg/L	WA	0
		Nitrate-nitrite as nitrogen	300	230	300	320	J	µg/L	GE	0
		Nonvolatile beta	<2.0E+00	<2.0E+00	<2.0E+00	<2.0E+00		pCi/L	GE	0
●		pH	5.2	5.2	5.3	5.2	J	pH	GE	0
		Phenols	<5.0	<5.0	<5.0	<5.0		µg/L	GE	0
		Plutonium-238	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Plutonium-239/240	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Potassium, total recoverable	<500	<500	<500	<500		µg/L	GE	0
		Potassium-40	<2.5E+02	<2.5E+02	<2.5E+02	<1.1E+02		pCi/L	GP	0
		Promethium-144	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Promethium-146	<2.3E+01	<2.3E+01	<2.3E+01	<1.0E+01		pCi/L	GP	0
		Radium, total alpha-emitting	<1.0E+00	1.2E+00	<1.0E+00	<1.0E+00		pCi/L	GE	0
		Ruthenium-106	<8.0E+01	<8.0E+01	<8.0E+01	<8.0E+01		pCi/L	CN	0
		Selenium, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Silica, total recoverable	6,190	5,530	5,770	5,580		µg/L	GE	0
		Silver, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Sodium, total recoverable	3,120	2,770	2,930	2,820	V	µg/L	WA	0
		Sodium-22	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Specific conductance	20	22	25	29		µS/cm	GE	0
		Sulfate	1,150	1,210	<1,000	<1,000		µg/L	GE	0
		Technetium-99	<3.0E+02	<3.0E+02	<3.0E+02	<3.0E+02		pCi/L	CN	0
		1,1,2,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Tetrachloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Thorium-234				<3.5E+02		pCi/L	GP	0
		Toluene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Total activity	3.5E+03	4.7E+03				pCi/L		
		Total dissolved solids	18,000	8,000	9,000	20,000		µg/L	GE	0
		Total organic carbon	<1,000	<1,000	1,850	1,160		µg/L	WA	0
		Total organic halogens	<5.0	<5.0	7.7	5.7		µg/L	WA	0
		Total phosphates (as P)	<50	<50	300	121		µg/L	WA	0
		Toxaphene	<0.24					µg/L		

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

■ = exceeded screening level or final primary drinking water standard for 4th quarter 1993.

Well LAW 1F continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		2,4,5-TP (Silvex)	<0.090					µg/L		
		1,1,1-Trichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1,2-Trichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Trichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Trichlorofluoromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Tritium	1.4E+00	1.8E+00	3.6E+00	3.2E+00		pCi/mL	GE	0
		Uranium-233/234	<1.0E+00	<1.0E+00	<1.0E+00	2.9E+00		pCi/L	GP	0
		Uranium-235	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Uranium-238	<1.0E+00	<1.0E+00	<1.0E+00	4.0E+00		pCi/L	GP	0
		Yttrium-88	<1.0E+01	<1.0E+01	<2.2E+01	<1.0E+01		pCi/L	CN	0
		Zinc-65	<2.3E+01	<2.3E+01	<2.4E+01	<2.0E+01		pCi/L	GP	0

WELL LAW 2C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N45610.9 E49638.7	33.207636 °N 81.624722 °W	191.2-171.2 ft msl	224 ft msl	4" PVC	S	Water Table

SAMPLE DATE	03/10/93	06/01/93	08/28/93	12/05/93
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FIELD DATA

Analyte	1Q93	2Q93	3Q93	4Q93	Unit
Water elevation	211.9	209.9	207.8	207.4	ft msl
Depth to water	12.1	14.1	16.2	16.6	ft
pH	4.9	4.5	4.6	4.7	pH
Sp. conductance	40	41	42	42	µS/cm
Water temperature	20.2	20.6	20.6	20.0	°C
Alkalinity as CaCO ₃	0	0	0	0	mg/L
Turbidity	1	0	1	1	NTU
Volume purged	5.8	9.1	8.5	7.5	Well vol.
Sampling code					

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Actinium-228		<3.0E+01		<8.4E+01		pCi/L	CN	0
		Aluminum, total recoverable	25	26	26	21		µg/L	GE	0
		Americium-241	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Antimony-125	<2.5E+01	<2.0E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Arsenic, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Barium, total recoverable	6.2	6.4	6.6	6.2		µg/L	GE	0
		Benzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Boron, total recoverable			<30	<30		µg/L	GE	0
		Bromodichloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromoform	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromomethane (Methyl bromide)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Cadmium, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Calcium, total recoverable	1,280	1,320	1,220	1,240		µg/L	GE	0
		Carbon tetrachloride	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Cerium-144	<5.0E+01	<5.0E+01	<5.0E+01	<5.0E+01		µg/L	GE	0
		Cesium-134	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Cesium-137	<1.0E+01	<1.0E+01	1.1E+01	<1.0E+01		pCi/L	CN	0
		Chloride	3,350	4,370	4,020	3,590		µg/L	GE	0
		Chlorobenzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroethene (Vinyl chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2-Chloroethyl vinyl ether	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroform	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloromethane (Methyl chloride)	<1.0	4.9	<1.0	<1.0		µg/L	GE	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

■ = exceeded screening level or final primary drinking water standard for 4th quarter 1993.

Well LAW 2C continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Chromium, total recoverable	<4.0	<4.0	<4.0	<4.0		µg/L	GE	0
		Cobalt-57	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Cobalt-60	<1.2E+01	<1.0E+01	<1.4E+01	<1.2E+01		pCi/L	CN	0
		Dibromochloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1-Dichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,2-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Dichloromethane (Methylene chloride)	<1.0	1.7	<1.0	2.0		µg/L	GE	0
		2,4-Dichlorophenoxyacetic acid	<0.30					µg/L		
		1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Endrin	<0.0060					µg/L		
		Ethylbenzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Europium-152	<5.0E+01	<4.0E+01	<5.0E+01	<5.0E+01		pCi/L	CN	0
		Europium-154	<2.5E+01	<2.0E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Europium-155	<2.5E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Fluoride	<100	<100	<100	<100		µg/L	GE	0
		Gross alpha	<2.0E+00	<2.0E+00	2.9E+00	<2.0E+00		pCi/L	GE	0
		Iron, total recoverable	11	7.3	4.4	4.6		µg/L	GE	0
		Lead, total recoverable	33	28	19	16		µg/L	GE	2
		Lead-212		<1.5E+01		<2.5E+01		pCi/L	CN	0
		Lindane	<0.0050					µg/L		
		Lithium, total recoverable			<5.0	<5.0		µg/L	GE	0
		Magnesium, total recoverable	749	740	737	712		µg/L	GE	0
		Manganese, total recoverable	19	20	20	19		µg/L	GE	0
		Manganese-54	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Mercury, total recoverable	<0.20	0.76	0.96	0.92		µg/L	GE	0
		Methoxychlor	<0.50					µg/L		
		Nitrate as nitrogen		1,770				µg/L		
		Nitrate-nitrite as nitrogen	1,090	1,120	980	1,050		µg/L	GE	0
		Nonvolatile beta	<2.0E+00	<2.0E+00	<2.0E+00	<2.0E+00		pCi/L	GE	0
		pH	5.0	5.1	4.9	5.0	J	pH	GE	0
		Phenols	<5.0	<5.0	<5.0	<5.0		µg/L	GE	0
		Plutonium-238	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Plutonium-239/240	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Potassium, total recoverable	<500	<500	<500	<500		µg/L	GE	0
		Potassium-40	<2.5E+02	<1.1E+02	<2.5E+02	<2.5E+02		pCi/L	CN	0
		Promethium-144	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Promethium-146	<2.3E+01	<1.0E+01	<2.3E+01	<2.3E+01		pCi/L	CN	0
		Radium, total alpha-emitting	2.5E+00	2.4E+00	<1.0E+00	1.0E+00		pCi/L	GE	0
		Ruthenium-106	<8.0E+01	<8.0E+01	<8.0E+01	<8.0E+01		pCi/L	CN	0
		Selenium, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Silica, total recoverable	9,270	8,850	8,910	8,640		µg/L	GE	0
		Silver, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Sodium, total recoverable	3,250	3,270	3,240	3,160		µg/L	GE	0
		Sodium-22	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Specific conductance	30	36	35	37		µS/cm	GE	0
		Sulfate	<1,000	<1,000	<1,000	<1,000		µg/L	GE	0
		Technetium-99	<3.0E+02	<3.0E+02	<3.0E+02	<3.0E+02		pCi/L	CN	0
		1,1,2,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Tetrachloroethylene	2.7	3.2	3.5	6.0		µg/L	GE	2
		Thorium-234		<3.5E+02		<1.3E+03		pCi/L	CN	0
		Toluene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Total activity	8.4E+04	7.0E+04				pCi/L		
		Total dissolved solids	30,000	24,000	17,000	24,000		µg/L	GE	0
		Total organic carbon	<1,000	<1,000	<1,000	1,670		µg/L	GE	0
		Total organic halogens	6.1	21	13	11		µg/L	GE	0
		Total phosphates (as P)	<50	<50	<50	<50		µg/L	GE	0
		Toxaphene	<0.24					µg/L		
		2,4,5-TP (Silvex)	<0.090					µg/L		

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

■ = exceeded screening level or final primary drinking water standard for 4th quarter 1993.

Well LAW 2C continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		1,1,1-Trichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1,2-Trichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Trichloroethylene	<1.0	1.6	3.0	3.5		µg/L	GE	1
		Trichlorofluoromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
■		Tritium	7.6E+01	6.1E+01	1.3E+02	2.0E+02		pCi/mL	GE	2
		Uranium-233/234	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Uranium-235	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Uranium-238	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Yttrium-88	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Zinc-65	<2.3E+01	<2.0E+01	<2.3E+01	<2.3E+01		pCi/L	CN	0

WELL LAW 3C

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N45616.1 E52272.9	33.211943 °N 81.617799 °W	214.9-194.9 ft msl	248 ft msl	4" PVC	S	Water Table

SAMPLE DATE	03/10/93	06/01/93	08/28/93	12/05/93
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FIELD DATA

Analyte	1Q93	2Q93	3Q93	4Q93	Unit
Water elevation	238.6	235.9	231.7	232.2	ft msl
Depth to water	9.4	12.1	16.3	15.8	ft
pH	5.0	4.7	4.7	4.7	pH
Sp. conductance	30	30	31	31	µS/cm
Water temperature	20.0	20.3	20.4	19.7	°C
Alkalinity as CaCO ₃	0	0	0	0	mg/L
Turbidity	1	1	2	1	NTU
Volume purged	7.8	7.3	8.9	7.3	Well vol.
Sampling code					

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Actinium-228	<3.0E+01			<8.4E+01		pCi/L	CN	0
		Aluminum, total recoverable	43		56			µg/L		
		Americium-241	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Antimony-125	<2.0E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Arsenic, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Barium, total recoverable	29	28	28	28		µg/L	GE	0
		Benzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromodichloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromoform	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromomethane (Methyl bromide)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Cadmium, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Calcium, total recoverable	1,550					µg/L		
		Carbon tetrachloride	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Cerium-144	<5.0E+01	<5.0E+01	<7.9E+01	<5.0E+01		pCi/L	CN	0
		Cesium-134	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Cesium-137	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Chloride	2,870					µg/L		
		Chlorobenzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroethene (Vinyl chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2-Chloroethyl vinyl ether	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroform	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloromethane (Methyl chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chromium, total recoverable	<4.0	<4.0	<4.0	<4.0		µg/L	GE	0
		Cobalt-57	<1.0E+01	<1.0E+01	<1.2E+01	<1.0E+01		pCi/L	CN	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

■ = exceeded screening level or final primary drinking water standard for 4th quarter 1993.

Well LAW 3C continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Cobalt-60	<1.0E+01	<1.2E+01	<1.2E+01	<1.2E+01		pCi/L	CN	0
		Dibromochloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1-Dichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,2-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Dichloromethane (Methylene chloride)	1.1	<1.0	<1.0	<1.0		µg/L	GE	0
		2,4-Dichlorophenoxyacetic acid	<0.30					µg/L		
		1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Endrin	<0.0060					µg/L		
		Ethylbenzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Europium-152	<4.0E+01	<5.0E+01	<5.0E+01	<5.0E+01		pCi/L	CN	0
		Europium-154	<2.0E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Europium-155	<2.5E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Fluoride	<100					µg/L		
		Gross alpha	2.5E+00	<2.0E+00	<2.0E+00	<2.0E+00		pCi/L	GE	0
		Iron, total recoverable	96		96			µg/L		
		Lead, total recoverable	34	18	14	12		µg/L	GE	1
		Lead-212	<1.5E+01			<2.5E+01		pCi/L	CN	0
		Lindane	<0.0050					µg/L		
		Magnesium, total recoverable	610					µg/L		
		Manganese, total recoverable	12					µg/L		
		Manganese-54	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Mercury, total recoverable	<0.20	<0.20	<0.20	<0.20		µg/L	GE	0
		Methoxychlor	<0.50					µg/L		
		Nitrate as nitrogen	<20					µg/L		
		Nitrate-nitrite as nitrogen	220	<50	<50	100		µg/L	GE	0
		Nonvolatile beta	2.8E+00	<2.0E+00	<2.0E+00	<2.0E+00		pCi/L	GE	0
		pH	5.1	5.1	5.2	5.1	J	pH	GE	0
		Phenols	<5.0					µg/L		
		Plutonium-238	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Plutonium-239/240	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Potassium, total recoverable	<500					µg/L		
		Potassium-40	<1.1E+02	<2.5E+02	<2.5E+02	<2.5E+02		pCi/L	CN	0
		Promethium-144	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Promethium-146	<1.0E+01	<2.3E+01	<2.3E+01	<2.3E+01		pCi/L	CN	0
		Radium-226	<1.9E-01					pCi/L		
		Radium-228	1.2E+00					pCi/L		
		Radium, total alpha-emitting	<1.0E+00	1.4E+00	<1.0E+00	<1.0E+00		pCi/L	GE	0
		Ruthenium-106	<8.0E+01	<8.0E+01	<8.0E+01	<8.0E+01		pCi/L	CN	0
		Selenium, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Silica, total recoverable	7,820					µg/L		
		Silver, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Sodium, total recoverable	2,160					µg/L		
		Sodium-22	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Specific conductance	36	28	26	28		µS/cm	GE	0
		Sulfate	<1,000					µg/L		
		Technetium-99	<3.0E+02	<3.0E+02	<3.0E+02	<3.0E+02		pCi/L	CN	0
		1,1,2,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Tetrachloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Thorium-234	<3.5E+02			<1.3E+03		pCi/L	CN	0
		Toluene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Total dissolved solids	23,000	32,000	12,000	12,000		µg/L	GE	0
		Total organic carbon	<1,000					µg/L		
		Total organic halogens	40					µg/L		
		Total phosphates (as P)	<50					µg/L		
		Toxaphene	<0.24					µg/L		
		2,4,5-TP (Silvex)	<0.090					µg/L		
		1,1,1-Trichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1,2-Trichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0

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● = exceeded holding time for 4th quarter 1993.

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WSRC-TR-94-0353
Unclassified

Well LAW 3C continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Trichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Trichlorofluoromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Tritium	3.6E+00	2.6E+00	2.8E+00	2.8E+00		pCi/mL	GE	0
		Uranium-233/234	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Uranium-235	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Uranium-238	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Yttrium-88	<1.0E+01	<1.0E+01	<3.8E+01	<1.0E+01		pCi/L	CN	0
		Zinc-65	<2.0E+01	<2.3E+01	<2.3E+01	<2.3E+01		pCi/L	CN	0

WELL LCO 1

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N45198.2 E50957.7	33.208874 °N 81.620450 °W	225.8-195.8 ft msl	240.7 ft msl	4" PVC	S	Water Table

SAMPLE DATE	03/08/93	05/02/93	09/11/93	10/24/93
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FIELD DATA

Analyte	1Q93	2Q93	3Q93	4Q93	Unit
Water elevation	219.7	219.8	214.5	213.8	ft msl
Depth to water	21.0	20.9	26.2	26.9	ft
pH	5.8	5.9	5.6	5.6	pH
Sp. conductance	79	83	69	66	µS/cm
Water temperature	19.4	23.0	22.2	20.8	°C
Alkalinity as CaCO ₃	15	13	9	8	mg/L
Turbidity	3	10	23	1	NTU
Volume purged	2.3	4.9	3.3	3.0	Well vol.
Sampling code	X				

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Acenaphthene	<10	<10	<10	<10	J1	µg/L	GE	0
		Acenaphthylene	<10	<10	<10	<10	J1	µg/L	GE	0
		Actinium-228				<8.4E+01		pCi/L	CN	0
		Aldrin	<10	<10	<10	<10	J1	µg/L	GE	0
		Aluminum, total recoverable	163		53			µg/L	GE	0
		Americium-241	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Anthracene	<10	<10	<10	<10	J1	µg/L	GE	0
		Antimony-125	<2.5E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Arsenic, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Barium, total recoverable	<3.0	<3.0	<3.0	<3.0		µg/L	GE	0
		Benzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		alpha-Benzene hexachloride	<10	<10	<10	<10	J1	µg/L	GE	0
		beta-Benzene hexachloride	<10	<10	<10	<10	J1	µg/L	GE	0
		delta-Benzene hexachloride	<10	<10	<10	<10	J1	µg/L	GE	0
		Benzidine	<10	<10	<10	<10	J1	µg/L	GE	0
		Benzol[a]anthracene	<10	<10	<10	<10	J1	µg/L	GE	0
		Benzo[b]fluoranthene	<10	<10	<10	<10	J1	µg/L	GE	0
		Benzo[k]fluoranthene	<10	<10	<10	<10	J1	µg/L	GE	0
		Benzo[g,h,i]perylene	<10	<10	<10	<10	J1	µg/L	GE	0
		Benzo[a]pyrene	<10	<10	<10	<10	J1	µg/L	GE	0
		Bis(2-chloroethoxy) methane	<10	<10	<10	<10	J1	µg/L	GE	0
		Bis(2-chloroisopropyl) ether	<10	<10	<10	<10	J1	µg/L	GE	0
		Bis(2-chloroisopropyl) ether				<10	J1	µg/L	GE	0
		Bis(2-ethylhexyl) phthalate	14	<10	<10	<10	J1	µg/L	GE	0
		Bromodichloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromoform	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromomethane (Methyl bromide)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0

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Well LCO 1 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		4-Bromophenyl phenyl ether	<10	<10	<10	<10	J1	µg/L	GE	0
		Butylbenzyl phthalate	<10	<10	<10	<10	J1	µg/L	GE	0
		Cadmium, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Calcium, total recoverable	37					µg/L		
		Carbon tetrachloride	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Cerium-144	<5.0E+01	<5.0E+01	<5.0E+01	<5.0E+01		pCi/L	CN	0
		Cesium-134	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Cesium-137	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Chlordane	<10	<10	<10	<10	J1	µg/L	GE	0
		Chloride	2,330	2,550	2,420	2,300		µg/L	GE	0
		Chlorobenzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		4-Chloro-m-cresol	<10	<10	<10	<10		µg/L	GE	0
		Chloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroethene (Vinyl chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2-Chloroethyl vinyl ether	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroform	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloromethane (Methyl chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2-Chloronaphthalene	<10	<10	<10	<10	J1	µg/L	GE	0
		2-Chlorophenol	<10	<10	<10	<10		µg/L	GE	0
		4-Chlorophenyl phenyl ether	<10	<10	<10	<10	J1	µg/L	GE	0
		Chromium, total recoverable	<4.0	<4.0	<4.0	<4.0		µg/L	GE	0
		Chrysene	<10	<10	<10	<10	J1	µg/L	GE	0
		Cobalt-57	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Cobalt-60	<1.2E+01	<1.2E+01	<1.2E+01	<1.2E+01		pCi/L	CN	0
		p,p'-DDD	<10	<10	<10	<10	J1	µg/L	GE	0
		p,p'-DDE	<10	<10	<10	<10	J1	µg/L	GE	0
		p,p'-DDT	<10	<10	<10	<10	J1	µg/L	GE	0
		Dibenz[a,h]anthracene	<10	<10	<10	<10	J1	µg/L	GE	0
		Dibromochloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Di-n-butyl phthalate	<10	<10	<10	<10	J1	µg/L	GE	0
		3,3'-Dichlorobenzidine	<10	<10	<10	<10	J1	µg/L	GE	0
		1,1-Dichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,2-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Dichloromethane (Methylene chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2,4-Dichlorophenol	<10	<10	<10	<10		µg/L	GE	0
		2,4-Dichlorophenoxyacetic acid	<0.30					µg/L		
		1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Dieldrin	<10	<10	<10	<10	J1	µg/L	GE	0
		Diethyl phthalate	<10	<10	<10	<10	J1	µg/L	GE	0
		2,4-Dimethyl phenol	<10	<10	<10	<10		µg/L	GE	0
		Dimethyl phthalate	<10	<10	<10	<10	J1	µg/L	GE	0
		2,4-Dinitrophenol	<45	<45	<45	<45		µg/L	GE	0
		2,4-Dinitrotoluene	<10	<10	<10	<10	J1	µg/L	GE	0
		2,6-Dinitrotoluene	<10	<10	<10	<10	J1	µg/L	GE	0
		Di-n-octyl phthalate	<10	<10	<10	<10	J1	µg/L	GE	0
		1,2-Diphenylhydrazine	<10	<10	<10	<10	J1	µg/L	GE	0
		Dissolved organic carbon	1,440	<1,000	3,270	1,660		µg/L	GE	0
		Endosulfan I	<10	<10	<10	<10	J1	µg/L	GE	0
		Endosulfan II	<10	<10	<10	<10	J1	µg/L	GE	0
		Endosulfan sulfate	<10	<10	<10	<10	J1	µg/L	GE	0
		Endrin	<0.0060	<10	<10	<10	J1	µg/L	GE	0
		Endrin aldehyde	<10	<10	<10	<10	J1	µg/L	GE	0
		Ethylbenzene	<1.0	2.9	3.4	<1.0		µg/L	GE	0
		Europium-152	<5.0E+01	<5.0E+01	<5.0E+01	<5.0E+01		pCi/L	CN	0
		Europium-154	<2.5E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Europium-155	<2.5E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Fluoranthene	<10	<10	<10	<10	J1	µg/L	GE	0
		Fluorene	<10	<10	<10	<10	J1	µg/L	GE	0

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Well LCO 1 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Fluoride	<100							
		Gross alpha	3.0E+00	<2.0E+00	<2.0E+00	<2.0E+00		µg/L	GE	0
		Heptachlor	<10	<10	<10	<10	J1	pCi/L	GE	0
		Heptachlor epoxide	<10	<10	<10	<10	J1	µg/L	GE	0
		Hexachlorobenzene	<10	<10	<10	<10	J1	µg/L	GE	0
		Hexachlorobutadiene	<10	<10	<10	<10	J1	µg/L	GE	0
		Hexachlorocyclopentadiene	<10	<10	<10	<10	J1	µg/L	GE	0
		Hexachloroethane	<10	<10	<10	<10	J1	µg/L	GE	0
		Indenol 1,2,3-c,d]pyrene	<10	<10	<10	<10	J1	µg/L	GE	0
		Iron, total recoverable	478	111	127	79	J1	µg/L	GE	0
		Isophorone	<10	<10	<10	<10	J1	µg/L	GE	0
		Lead, total recoverable	4.4	<3.0	4.5	4.9	J1	µg/L	GE	0
		Lead-212						µg/L	GE	0
		Lindane	<0.0050	<10	<10	<2.5E+01	J1	pCi/L	CN	0
		Magnesium, total recoverable	296					µg/L	GE	0
		Manganese, total recoverable	5.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Manganese-54	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		µg/L	GE	0
		Mercury, total recoverable	<0.20	<0.20	<0.20	<0.20		pCi/L	CN	0
		Methoxychlor	<0.50					µg/L	GE	0
		2-Methyl-4,6-dinitrophenol	<10	<10	<10	<10		µg/L	GE	0
		Naphthalene	<10	<10	<10	<10	J1	µg/L	GE	0
		Nitrate-nitrite as nitrogen	2,080	2,160	2,380	1,880		µg/L	GE	0
		Nitrobenzene	<10	<10	<10	<10	J1	µg/L	GE	0
		2-Nitrophenol	<10	<10	<10	<10		µg/L	GE	0
		4-Nitrophenol	<10	<10	<10	<10		µg/L	GE	0
		N-Nitrosodimethylamine	<10	<10	<10	<10	J1	µg/L	GE	0
		N-Nitrosodiphenylamine	<10	<10	<10	<10	J1	µg/L	GE	0
		N-Nitrosodipropylamine	<10	<10	<10	<10	J1	µg/L	GE	0
		Nonvolatile beta	1.7E+01	1.7E+01	1.4E+01	1.5E+01		pCi/L	GE	0
		PCB 1016	<150	<150	<150	<150	J1	µg/L	GE	0
		PCB 1221	<150	<150	<150	<150	J1	µg/L	GE	0
		PCB 1232	<150	<150	<150	<150	J1	µg/L	GE	0
		PCB 1242	<150	<150	<150	<150	J1	µg/L	GE	0
		PCB 1248	<150	<150	<150	<150	J1	µg/L	GE	0
		PCB 1254	<150	<150	<150	<150	J1	µg/L	GE	0
		PCB 1260	<150	<150	<150	<150	J1	µg/L	GE	0
		Pentachlorophenol	<10	<10	<10	<10	J1	µg/L	GE	0
		pH	6.0	6.1	6.2	5.8	J	pH	GE	0
		Phenanthrene	<10	<10	<10	<10	J1	µg/L	GE	0
		Phenol	<10	<10	<10	<10		µg/L	GE	0
		Phenols	<5.0					µg/L	GE	0
		Plutonium-238	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		µg/L	GE	0
		Plutonium-239/240	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Potassium, total recoverable	14,400					pCi/L	CN	0
		Potassium-40	<2.5E+02	<2.5E+02	<2.5E+02	<2.5E+02		µg/L	GE	0
		Promethium-144	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Promethium-146	<2.3E+01	<2.3E+01	<2.3E+01	<2.3E+01		pCi/L	CN	0
		Pyrene	<10	<10	<10	<10	J1	µg/L	GE	0
		Radium, total alpha-emitting	3.5E+00	1.6E+00	2.0E+00	<1.0E+00		µg/L	GE	0
		Ruthenium-106	<8.0E+01	<8.0E+01	<8.0E+01	<8.0E+01		pCi/L	CN	0
		Selenium, total recoverable	<2.0	<2.0	<2.0	<2.0	J1	µg/L	GE	0
		Silica, total recoverable	4,460					µg/L	GE	0
		Silver, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Sodium, total recoverable	4,920					µg/L	GE	0
		Sodium-22	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Specific conductance	70	78	85	61		µS/cm	GE	0
		Sulfate	4,220	4,430	5,240	3,460		µg/L	GE	0
		Technetium-99	3.9E+02	4.8E+02	4.7E+02	<3.0E+02		pCi/L	CN	0
		1,1,2,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Tetrachloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Thorium-234						µg/L	GE	0
		Toluene	<1.0	<1.0	<1.0	<1.0		pCi/L	CN	0
								µg/L	GE	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

■ = exceeded screening level or final primary drinking water standard for 4th quarter 1993.

Well LCO 1 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Total activity	5.8E+05	4.7E+05	6.5E+05	3.9E+05		pCi/L	EM	0
		Total dissolved solids	47,000	62,000	76,000	33,000		µg/L	GE	0
		Total organic carbon	2,060	1,240	2,440	2,020		µg/L	GE	0
		Total organic halogens	9.5					µg/L		
		Total phosphates (as P)	240					µg/L		
		Toxaphene	<0.24	<10	<10	<10	J1	µg/L	GE	0
		2,4,5-TP (Silvex)	<0.090					µg/L		
		1,2,4-Trichlorobenzene	<10	<10	<10	<10	J1	µg/L	GE	0
		1,1,1-Trichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1,2-Trichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Trichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Trichlorofluoromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2,4,6-Trichlorophenol	<10	<10	<10	<10		µg/L	GE	0
■		Tritium	5.4E+02	4.1E+02	1.5E+03	3.4E+02		pCi/mL	GE	2
		Uranium-233/234	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Uranium-235	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Uranium-238	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Yttrium-88	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Zinc-65	<2.3E+01	<2.3E+01	<2.3E+01	<2.3E+01		pCi/L	CN	0

WELL LCO 2

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N45317.8 E51043.4	33.209278 °N 81.620456 °W	226.6-196.6 ft msl	241.6 ft msl	4" PVC	S	Water Table

SAMPLE DATE	03/08/93	05/01/93	09/11/93	10/24/93
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FIELD DATA

Analyte	1Q93	2Q93	3Q93	4Q93	Unit
Water elevation	220.8	207.7	216.8	216.0	ft msl
Depth to water	20.8	33.9	24.8	25.6	ft
pH	4.7	5.1	4.5	4.4	pH
Sp. conductance	30	30	34	34	µS/cm
Water temperature	21.3	22.0	21.7	21.4	°C
Alkalinity as CaCO ₃	0	0	0	0	mg/L
Turbidity	0	1	1	1	NTU
Volume purged	9.6	42.6	12.0	19.0	Well vol.
Sampling code					

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Acenaphthene	<10	<10	<10	<10		µg/L	GE	0
		Acenaphthylene	<10	<10	<10	<10		µg/L	GE	0
		Actinium-228		<3.0E+01		<8.4E+01		pCi/L	CN	0
		Aldrin	<10	<10	<10	<10		µg/L	GE	0
		Aluminum, total recoverable	55		105			µg/L		
		Americium-241	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Anthracene	<10	<10	<10	<10		µg/L	GE	0
		Antimony-125	<2.5E+01	<2.0E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Arsenic, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Barium, total recoverable	3.9	4.1	4.1	4.2		µg/L	GE	0
		Benzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		alpha-Benzene hexachloride	<10	<10	<10	<10		µg/L	GE	0
		beta-Benzene hexachloride	<10	<10	<10	<10		µg/L	GE	0
		delta-Benzene hexachloride	<10	<10	<10	<10		µg/L	GE	0
		Benzidine	<10	<10	<10	<10		µg/L	GE	0
		Benzo[a]anthracene	<10	<10	<10	<10		µg/L	GE	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

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Well LCO 2 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Benzo[b]fluoranthene	<10	<10	<10	<10		µg/L	GE	0
		Benzo[k]fluoranthene	<10	<10	<10	<10		µg/L	GE	0
		Benzo[g,h,i]perylene	<10	<10	<10	<10		µg/L	GE	0
		Benzo[a]pyrene	<10	<10	<10	<10		µg/L	GE	0
		Bis(2-chloroethoxy) methane	<10	<10	<10	<10		µg/L	GE	0
		Bis(2-chloroisopropyl) ether	<10	<10	<10	<10		µg/L	GE	0
		Bis(2-chloroisopropyl) ether	<10	<10	<10	<10		µg/L	GE	0
		Bis(2-ethylhexyl) phthalate	<10	<10	<10	<10		µg/L	GE	0
		Bromodichloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromoform	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromomethane (Methyl bromide)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		4-Bromophenyl phenyl ether	<10	<10	<10	<10		µg/L	GE	0
		Butylbenzyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		Cadmium, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Calcium, total recoverable	386					µg/L	GE	0
		Carbon tetrachloride	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Cerium-144	<5.0E+01	<5.0E+01	<5.0E+01	<5.0E+01		pCi/L	CN	0
		Cesium-134	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Cesium-137	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Chlordane	<10	<10	<10	<10		µg/L	GE	0
		Chloride	1,700	1,900	1,810	1,970		µg/L	GE	0
		Chlorobenzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		4-Chloro-m-cresol	<10	<10	<10	<10		µg/L	GE	0
		Chloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroethene (Vinyl chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2-Chloroethyl vinyl ether	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroform	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloromethane (Methyl chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2-Chloronaphthalene	<10	<10	<10	<10		µg/L	GE	0
		2-Chlorophenol	<10	<10	<10	<10		µg/L	GE	0
		4-Chlorophenyl phenyl ether	<10	<10	<10	<10		µg/L	GE	0
		Chromium, total recoverable	<4.0	<4.0	<4.0	<4.0		µg/L	GE	0
		Chrysene	<10	<10	<10	<10		µg/L	GE	0
		Cobalt-57	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Cobalt-60	<1.2E+01	<1.0E+01	<1.2E+01	<1.2E+01		pCi/L	CN	0
		p,p'-DDD	<10	<10	<10	<10		µg/L	GE	0
		p,p'-DDE	<10	<10	<10	<10		µg/L	GE	0
		p,p'-DDT	<10	<10	<10	<10		µg/L	GE	0
		Dibenz[a,h]anthracene	<10	<10	<10	<10		µg/L	GE	0
		Dibenzofuran	<10	<11	<10	<10		µg/L	GE	0
		Dibromochloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Di-n-butyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		1,2-Dichlorobenzene	<10	<11	<10	<10		µg/L	GE	0
		1,3-Dichlorobenzene	<10	<11	<10	<10		µg/L	GE	0
		1,4-Dichlorobenzene	<10	<11	<10	<10		µg/L	GE	0
		3,3'-Dichlorobenzidine	<10	<10	<10	<10		µg/L	GE	0
		1,1-Dichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,2-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Dichloromethane (Methylene chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2,4-Dichlorophenol	<10	<10	<10	<10		µg/L	GE	1
		2,4-Dichlorophenoxyacetic acid	<0.30	<10	<10	<10		µg/L	GE	0
		1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Dieldrin	<10	<10	<10	<10		µg/L	GE	0
		Diethyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		2,4-Dimethyl phenol	<10	<10	<10	<10		µg/L	GE	0
		Dimethyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		2,4-Dinitrophenol	<45	<45	<45	<45		µg/L	GE	0
		2,4-Dinitrotoluene	<10	<10	<10	<10		µg/L	GE	0

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 ● = exceeded holding time for 4th quarter 1993.
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Well LCO 2 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		2,6-Dinitrotoluene	<10	<10	<10	<10		µg/L	GE	0
		Di-n-octyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		1,2-Diphenylhydrazine	<10	<10	<10	<10		µg/L	GE	0
		Dissolved organic carbon	<1,000	<1,000	1,300	<1,000		µg/L	GE	0
		Endosulfan I	<10	<10	<10	<10		µg/L	GE	0
		Endosulfan II	<10	<10	<10	<10		µg/L	GE	0
		Endosulfan sulfate	<10	<10	<10	<10		µg/L	GE	0
		Endrin	<0.0060	<10	<10	<10		µg/L	GE	0
		Endrin aldehyde	<10	<10	<10	<10		µg/L	GE	0
		Ethylbenzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Europium-152	<5.0E+01	<4.0E+01	<5.0E+01	<5.0E+01		pCi/L	CN	0
		Europium-154	<2.5E+01	<2.0E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Europium-155	<2.5E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Fluoranthene	<10	<10	<10	<10		µg/L	GE	0
		Fluorene	<10	<10	<10	<10		µg/L	GE	0
		Fluoride	<100					µg/L		
		Gross alpha	<2.0E+00	6.0E-01	<2.0E+00	<2.0E+00		pCi/L	GE	0
		Heptachlor	<10	<10	<10	<10		µg/L	GE	0
		Heptachlor epoxide	<10	<10	<10	<10		µg/L	GE	0
		Hexachlorobenzene	<10	<10	<10	<10		µg/L	GE	0
		Hexachlorobutadiene	<10	<10	<10	<10		µg/L	GE	0
		Hexachlorocyclopentadiene	<10	<10	<10	<10		µg/L	GE	0
		Hexachloroethane	<10	<10	<10	<10		µg/L	GE	0
		Indeno[1,2,3-c,d]pyrene	<10	<10	<10	<10		µg/L	GE	0
		Iron, total recoverable	18	18	49	23		µg/L	GE	0
		Isophorone	<10	<10	<10	<10		µg/L	GE	0
		Lead, total recoverable	4.7	4.0	4.7	3.6		µg/L	GE	0
		Lead-212		<1.5E+01		<2.5E+01		pCi/L	CN	0
		Lindane	<0.0050	<10	<10	<10		µg/L	GE	0
		Magnesium, total recoverable	469					µg/L		
		Manganese, total recoverable	3.4	3.4	<2.0	<2.0		µg/L	GE	0
		Manganese-54	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Mercury, total recoverable	<0.20	<0.20	<0.20	<0.20		µg/L	GE	0
		Methoxychlor	<0.50					µg/L		
		2-Methyl-4,6-dinitrophenol	<10	<10	<10	<10		µg/L	GE	0
		Naphthalene	<10	<10	<10	<10		µg/L	GE	0
		Nitrate as nitrogen		1,830				µg/L		
		Nitrate-nitrite as nitrogen	1,570	1,430	1,720	1,520		µg/L	GE	0
		Nitrobenzene	<10	<10	<10	<10		µg/L	GE	0
		2-Nitrophenol	<10	<10	<10	<10		µg/L	GE	0
		4-Nitrophenol	<10	<10	<10	<10		µg/L	GE	0
		N-Nitrosodimethylamine	<10	<10	<10	<10		µg/L	GE	0
		N-Nitrosodiphenylamine	<10	<10	<10	<10		µg/L	GE	0
		N-Nitrosodipropylamine	<10	<10	<10	<10		µg/L	GE	0
		Nonvolatile beta	2.2E+01	2.3E+00	<2.0E+00	<2.0E+00		pCi/L	GE	0
		PCB 1016	<150	<150	<150	<150		µg/L	GE	0
		PCB 1221	<150	<150	<150	<150		µg/L	GE	0
		PCB 1232	<150	<150	<150	<150		µg/L	GE	0
		PCB 1242	<150	<150	<150	<150		µg/L	GE	0
		PCB 1248	<150	<150	<150	<150		µg/L	GE	0
		PCB 1254	<150	<150	<150	<150		µg/L	GE	0
		PCB 1260	<150	<150	<150	<150		µg/L	GE	0
		Pentachlorophenol	<10	<10	<10	<10		µg/L	GE	0
		pH	4.7	4.8	4.6	4.6	J	pH	GE	0
		Phenanthrene	<10	<10	<10	<10		µg/L	GE	0
		Phenol	<10	<10	<10	<10		µg/L	GE	0
		Phenols	<5.0					µg/L		
		Plutonium-238	<1.0E+00	<1.0E+00		<1.0E+00		pCi/L	CN	0
		Plutonium-239/240	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Potassium, total recoverable	<500					µg/L		
		Potassium-40	<2.5E+02	<1.1E+02	<2.5E+02	<2.5E+02		pCi/L	CN	0
		Promethium-144	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0

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Well LCO 2 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Promethium-146	<2.3E+01	<1.0E+01	<2.3E+01	<2.3E+01		pCi/L	CN	0
		Pyrene	<10	<10	<10	<10		µg/L	GE	0
		Radium-226		<1.7E-01				pCi/L		
		Radium-228		3.8E+00				pCi/L		
		Radium, total alpha-emitting	1.4E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	GE	0
		Ruthenium-106	<8.0E+01	<8.0E+01	<8.0E+01	<8.0E+01		pCi/L	CN	0
		Selenium, total recoverable	<2.0	<2.0	<2.0	<2.0	J1	µg/L	GE	0
		Silica, total recoverable	6,170					µg/L		
		Silver, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Sodium, total recoverable	2,210					µg/L		
		Sodium-22	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Specific conductance	25	30	27	29		µS/cm	GE	0
		Sulfate	<1,000	1,010	1,410	<1,000		µg/L	GE	0
		Technetium-99	<3.0E+02	<3.0E+02	<3.0E+02	<3.0E+02		pCi/L	CN	0
		1,1,2,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Tetrachloroethylene	1.0	1.5	<1.0	<1.0		µg/L	GE	0
		Thorium-234		<3.5E+02		<1.3E+03		pCi/L	CN	0
		Toluene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Total dissolved solids	21,000	19,000	25,000	10,000		µg/L	GE	0
		Total organic carbon	<1,000	<1,000	2,490	<1,000		µg/L	GE	0
		Total organic halogens	7.1					µg/L	GE	0
		Total phosphates (as P)	<50					µg/L		
		Toxaphene	<0.24	<10	<10	<10		µg/L	GE	0
		2,4,5-TP (Silvex)	<0.090					µg/L		
		1,2,4-Trichlorobenzene	<10	<10	<10	<10		µg/L	GE	0
		1,1,1-Trichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1,2-Trichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Trichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Trichlorofluoromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2,4,6-Trichlorophenol	<10	<10	<10	<10		µg/L	GE	0
		Tritium	5.3E+00	6.8E+00	6.3E+00	5.1E+00		pCi/mL	GE	0
		Uranium-233/234	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Uranium-235	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Uranium-238	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Yttrium-88	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Zinc-65	<2.3E+01	<2.0E+01	<2.3E+01	<2.3E+01		pCi/L	CN	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.
 ● = exceeded holding time for 4th quarter 1993.
 ■ = exceeded screening level or final primary drinking water standard for 4th quarter 1993.

WELL LCO 3

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N45203.0 E51113.2	33.209138 °N 81.620050 °W	226.3-196.3 ft msl	241.4 ft msl	4" PVC	S	Water Table

SAMPLE DATE	03/08/93	05/02/93	09/11/93	10/24/93
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FIELD DATA

Analyte	1Q93	2Q93	3Q93	4Q93	Unit
Water elevation	220.9	221.5	216.0	215.1	ft msl
Depth to water	20.5	19.9	25.5	26.3	ft
pH	7.9	7.8	7.2	7.4	pH
Sp. conductance	209	199	183	179	µS/cm
Water temperature	20.5	20.0	21.2	21.8	°C
Alkalinity as CaCO ₃	84	66	50	71	mg/L
Turbidity	2	2	1	1	NTU
Volume purged	14.3	14.1	6.9	3.9	Well vol.
Sampling code					

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Acenaphthene	<10	<10	<10	<10		µg/L	GE	0
		Acenaphthylene	<10	<10	<10	<10		µg/L	GE	0
		Actinium-228	<3.0E+01			<3.0E+01		pCi/L	GP	0
		Aldrin	<10	<10	<10	<10		µg/L	GE	0
		Aluminum, total recoverable	251		155			µg/L		
		Americium-241	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Anthracene	<10	<10	<10	<10		µg/L	GE	0
		Antimony-125	<2.0E+01	<2.5E+01	<2.5E+01	<2.0E+01		pCi/L	GP	0
		Arsenic, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Barium, total recoverable	<3.0	<3.0	<3.0	<3.0		µg/L	GE	0
		Benzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		alpha-Benzene hexachloride	<10	<10	<10	<10		µg/L	GE	0
		beta-Benzene hexachloride	<10	<10	<10	<10		µg/L	GE	0
		delta-Benzene hexachloride	<10	<10	<10	<10		µg/L	GE	0
		Benzo[a]anthracene	<10	<10	<10	<10		µg/L	GE	0
		Benzo[b]fluoranthene	<10	<10	<10	<10		µg/L	GE	0
		Benzo[k]fluoranthene	<10	<10	<10	<10		µg/L	GE	0
		Benzo[g,h,i]perylene	<10	<10	<10	<10		µg/L	GE	0
		Benzo[a]pyrene	<10	<10	<10	<10		µg/L	GE	0
		Bis(2-chloroethoxy) methane	<10	<10	<10	<10		µg/L	GE	0
		Bis(2-chloroisopropyl) ether	<10	<10	<10	<10		µg/L	GE	0
		Bis(2-ethylhexyl) phthalate	<10	<10	<10	<10		µg/L	GE	0
		Bromodichloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromoform	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromomethane (Methyl bromide)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		4-Bromophenyl phenyl ether	<10	<10	<10	<10		µg/L	GE	0
		Butylbenzyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		Cadmium, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Calcium, total recoverable	20					µg/L		
		Carbon tetrachloride	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Cerium-144	<5.0E+01	<5.0E+01	<5.0E+01	<5.0E+01		pCi/L	CN	0
		Cesium-134	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Cesium-137	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Chlordane	<10	<10	<10	<10		µg/L	GE	0
		Chloride	2,030	1,830	2,200	3,470		µg/L	WA	0
		Chlorobenzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		4-Chloro-m-cresol	<10	<10	<10	<10		µg/L	GE	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

■ = exceeded screening level or final primary drinking water standard for 4th quarter 1993.

WSRC-TR-94-0353
Unclassified

Well LCO 3 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Chloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroethene (Vinyl chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2-Chloroethyl vinyl ether	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroform	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloromethane (Methyl chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2-Chloronaphthalene	<10	<10	<10	<10		µg/L	GE	0
		2-Chlorophenol	<10	<10	<10	<10		µg/L	GE	0
		4-Chlorophenyl phenyl ether	<10	<10	<10	<10		µg/L	GE	0
		Chromium, total recoverable	33	<4.0	<4.0	<4.0	J3	µg/L	GE	0
		Chrysene	<10	<10	<10	4.0		µg/L	WA	0
		Cobalt-57	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		µg/L	GE	0
		Cobalt-60	<1.0E+01	<1.2E+01	<1.2E+01	<1.0E+01		pCi/L	CN	0
		p,p'-DDD	<10	<10	<10	<10		pCi/L	GP	0
		p,p'-DDE	<10	<10	<10	<10		µg/L	GE	0
		p,p'-DDT	<10	<10	<10	<10		µg/L	GE	0
		Dibenz[a,h]anthracene	<10	<10	<10	<10		µg/L	GE	0
		Dibenzofuran	<11	<10	<10	<10		µg/L	GE	0
		Dibromochloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	WA	0
		Di-n-butyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		1,2-Dichlorobenzene	<11	<10	<10	<10		µg/L	GE	0
		1,3-Dichlorobenzene	<11	<10	<10	<10		µg/L	WA	0
		1,4-Dichlorobenzene	<11	<10	<10	<10		µg/L	WA	0
		3,3'-Dichlorobenzidine	<10	<10	<10	<10		µg/L	WA	0
		1,1-Dichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,2-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Dichloromethane (Methylene chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2,4-Dichlorophenol	<10	<10	<10	2.5		µg/L	GE	1
		2,4-Dichlorophenoxyacetic acid	<0.30	<10	<10	<10		µg/L	GE	0
		1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Dieldrin	<10	<10	<10	<10		µg/L	GE	0
		Diethyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		2,4-Dimethyl phenol	<10	<10	<10	<10		µg/L	GE	0
		Dimethyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		2,4-Dinitrophenol	<45	<45	<45	<45		µg/L	GE	0
		2,4-Dinitrotoluene	<10	<10	<10	<10		µg/L	GE	0
		2,6-Dinitrotoluene	<10	<10	<10	<10		µg/L	GE	0
		Di-n-octyl phthalate	<10	<10	<10	<10		µg/L	GE	0
		1,2-Diphenylhydrazine	<10	<10	<10	<10		µg/L	GE	0
		Dissolved organic carbon	5,760	<1,000	1,560	1,100		µg/L	GE	0
		Endosulfan I	<10	<10	<10	<10		µg/L	GE	0
		Endosulfan II	<10	<10	<10	<10		µg/L	GE	0
		Endosulfan sulfate	<10	<10	<10	<10		µg/L	GE	0
		Endrin	<0.0060	<10	<10	<10		µg/L	GE	0
		Endrin aldehyde	<10	<10	<10	<10		µg/L	GE	0
		Ethylbenzene	<1.0	2.6	<1.0	<1.0		µg/L	GE	0
		Europium-152	<4.0E+01	<5.0E+01	<5.0E+01	<4.0E+01		µg/L	GE	0
		Europium-154	<2.0E+01	<2.5E+01	<2.5E+01	<2.0E+01		pCi/L	GP	0
		Europium-155	<2.5E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	GP	0
		Fluoranthene	<10	<10	<10	<10		pCi/L	CN	0
		Fluorene	<10	<10	<10	<10		µg/L	GE	0
		Fluoride	184	<10	<10	<10		µg/L	GE	0
		Gross alpha	7.0E-01	<2.0E+00	<2.0E+00	2.2E+00		µg/L	GE	0
		Heptachlor	<10	<10	<10	<10		pCi/L	TM	0
		Heptachlor epoxide	<10	<10	<10	<10		µg/L	GE	0
		Hexachlorobenzene	<10	<10	<10	<10		µg/L	GE	0
		Hexachlorobutadiene	<10	<10	<10	<10		µg/L	GE	0
		Hexachlorocyclopentadiene	<10	<10	<10	<10		µg/L	GE	0
		Hexachloroethane	<10	<10	<10	<10		µg/L	GE	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

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Well LCO 3 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Indenol[1,2,3-c,d]pyrene	<10	<10	<10	<10		µg/L	GE	0
		Iron, total recoverable	343	63	36	99		µg/L	GE	0
		Isophorone	<10	<10	<10	<10		µg/L	GE	0
		Lead, total recoverable	<3.0	<3.0	<3.0	3.7		µg/L	GE	0
		Lead-212	<1.5E+01			<1.5E+01		pCi/L	GP	0
		Lindane	<0.0050	<10	<10	<10		µg/L	GE	0
		Magnesium, total recoverable	51					µg/L		
		Manganese, total recoverable	4.6	<2.0	<2.0	3.5		µg/L	GE	0
		Manganese-54	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Mercury, total recoverable	<0.20	<0.20	<0.20	<0.20		µg/L	GE	0
		Methoxychlor	<0.50					µg/L		
		2-Methyl-4,6-dinitrophenol	<10	<10	<10	<10		µg/L	GE	0
		Naphthalene	<10	<10	<10	<10		µg/L	GE	0
		Nitrate as nitrogen	880			1,310		µg/L	WA	0
		Nitrate-nitrite as nitrogen	1,050	870	1,070	770		µg/L	GE	0
		Nitrobenzene	<10	<10	<10	<10		µg/L	GE	0
		2-Nitrophenol	<10	<10	<10	<10		µg/L	GE	0
		4-Nitrophenol	<10	<10	<10	<10		µg/L	GE	0
		N-Nitrosodimethylamine	<10	<10	<10	<10		µg/L	GE	0
		N-Nitrosodiphenylamine	<10	<10	<10	<10		µg/L	GE	0
		N-Nitrosodipropylamine	<10	<10	<10	<10		µg/L	GE	0
		Nonvolatile beta	5.1E+00	<2.0E+00	<2.0E+00	2.9E+00		pCi/L	TM	0
		PCB 1016	<150	<150	<150	<150		µg/L	GE	0
		PCB 1221	<150	<150	<150	<150		µg/L	GE	0
		PCB 1232	<150	<150	<150	<150		µg/L	GE	0
		PCB 1242	<150	<150	<150	<150		µg/L	GE	0
		PCB 1248	<150	<150	<150	<150		µg/L	GE	0
		PCB 1254	<150	<150	<150	<150		µg/L	GE	0
		PCB 1260	<150	<150	<150	<150		µg/L	GE	0
		Pentachlorophenol	<10	<10	<10	<10		µg/L	GE	0
		pH	7.8	7.8	7.2	7.3	J	pH	WA	0
		Phenanthrene	<10	<10	<10	<10		µg/L	GE	0
		Phenol	<10	<10	<10	<10		µg/L	GE	0
		Phenols	<5.0					µg/L		
		Plutonium-238	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Plutonium-239/240	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Potassium, total recoverable	<500					µg/L		
		Potassium-40	<1.1E+02	<2.5E+02	<2.5E+02	<1.1E+02		pCi/L	GP	0
		Promethium-144	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Promethium-146	<1.0E+01	<2.3E+01	<2.3E+01	<1.0E+01		pCi/L	GP	0
		Pyrene	<10	<10	<10	<10		µg/L	GE	0
		Radium-226	<2.2E-01			<2.3E-01		pCi/L	TM	0
		Radium-228	2.4E+00			4.1E+00		pCi/L	TM	0
		Radium, total alpha-emitting	<1.0E+00	1.0E+00	<1.0E+00	<1.0E+00		pCi/L	GE	0
		Ruthenium-106	<8.0E+01	<8.0E+01	<8.0E+01	<8.0E+01		pCi/L	CN	0
		Selenium, total recoverable	<2.0	<2.0	<2.0	<2.0	J1	µg/L	GE	0
		Silica, total recoverable	3,520					µg/L		
		Silver, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Sodium, total recoverable	50,600					µg/L		
		Sodium-22	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Specific conductance	198	184	180	171		µS/cm	GE	0
		Sulfate	9,970	9,220	8,970	11,000		µg/L	GE	0
		Technetium-99	<3.0E+02	<3.0E+02	<3.0E+02	<3.0E+02		pCi/L	CN	0
		1,1,2,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Tetrachloroethylene	7.9	12	8.0	8.0		µg/L	WA	2
		Thorium-234	<3.5E+02			<3.5E+02		pCi/L	GP	0
		Toluene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Total dissolved solids	137,000	132,000	108,000	112,000		µg/L	WA	0
		Total organic carbon	1,340	<1,000	1,000	1,450		µg/L	GE	0
		Total organic halogens	13					µg/L		
		Total phosphates (as P)	71					µg/L		
		Toxaphene	<0.24	<10	<10	<10		µg/L	GE	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

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Well LCO 3 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		2,4,5-TP (Silvex)	<0.090					µg/L		
		1,2,4-Trichlorobenzene	<10	<10	<10	<10		µg/L	GE	0
		1,1,1-Trichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1,2-Trichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Trichloroethylene	1.4	1.0	1.5	2.1	J	µg/L	WA	0
		Trichlorofluoromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2,4,6-Trichlorophenol	<10	<10	<10	<10		µg/L	GE	0
		Tritium	6.5E+00	7.1E+00	5.4E+00	6.9E+00		pCi/mL	TM	0
		Uranium-233/234	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Uranium-235	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Uranium-238	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Yttrium-88	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Zinc-65	<2.0E+01	<2.3E+01	<2.3E+01	<2.0E+01		pCi/L	GP	0

WELL LCO 4

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N45087.4 E51036.1	33.208756 °N 81.620029 °W	222.3-192.3 ft msl	237.2 ft msl	4" PVC	S	Water Table

SAMPLE DATE	03/08/93	05/02/93	09/11/93	11/05/93
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FIELD DATA

Analyte	1Q93	2Q93	3Q93	4Q93	Unit
Water elevation	218.2	217.1	212.5	211.4	ft msl
Depth to water	19.0	20.1	24.7	25.8	ft
pH	5.3	5.3	5.3	5.2	pH
Sp. conductance	459	492	574	532	µS/cm
Water temperature	20.6	20.1	21.2	20.9	°C
Alkalinity as CaCO ₃	5	12	2	3	mg/L
Turbidity	12	7	10	12	NTU
Volume purged	7.5	12.3	10.2	5.0	Well vol.

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Acenaphthene	<10	<100	<10	<100	J1	µg/L	GE	0
		Acenaphthylene	<10	<100	<10	<100	J1	µg/L	GE	0
		Actinium-228				<8.4E+01		pCi/L	CN	0
		Aldrin	<10	<100	<10	<100	J1	µg/L	GE	0
		Aluminum, total recoverable	272		385			µg/L		
		Americium-241	<1.0E+00	<1.0E+00	<1.0E+00	4.6E+00		pCi/L	CN	1
		Anthracene	<10	<100	<10	<100	J1	µg/L	GE	0
		Antimony-125	<2.5E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Arsenic, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Barium, total recoverable	7.1	7.6	7.9	7.1		µg/L	GE	0
		Benzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		alpha-Benzene hexachloride	<10	<100	<10	<100	J1	µg/L	GE	0
		beta-Benzene hexachloride	<10	<100	<10	<100	J1	µg/L	GE	0
		delta-Benzene hexachloride	<10	<100	<10	<100	J1	µg/L	GE	0
		Benzidine	<10	<100	<10	<100	J1	µg/L	GE	0
		Benzo[a]anthracene	<10	<100	<10	<100	J1	µg/L	GE	0
		Benzo[b]fluoranthene	<10	<100	<10	<100	J1	µg/L	GE	0
		Benzo[k]fluoranthene	<10	<100	<10	<100	J1	µg/L	GE	0
		Benzo[g,h,i]perylene	<10	<100	<10	<100	J1	µg/L	GE	0
		Benzo[a]pyrene	<10	<100	<10	<100	J1	µg/L	GE	0
		Bis(2-chloroethoxy) methane	<10	<100	<10	<100	J1	µg/L	GE	0
		Bis(2-chloroisopropyl) ether	<10	<100	<10	<100	J1	µg/L	GE	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

■ = exceeded screening level or final primary drinking water standard for 4th quarter 1993.

Well LCO 4 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Bis(2-chloroisopropyl) ether				<100	J1	µg/L	GE	0
		Bis(2-ethylhexyl) phthalate	<10	<100	858	<100	J1	µg/L	GE	0
		Bromodichloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromoform	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Bromomethane (Methyl bromide)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		4-Bromophenyl phenyl ether	<10	<100	<10	<100	J1	µg/L	GE	0
		Butylbenzyl phthalate	<10	<100	<10	<100	J1	µg/L	GE	0
		Cadmium, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Calcium, total recoverable	198					µg/L		
		Carbon tetrachloride	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Cerium-144	<5.0E+01	<5.0E+01	<5.0E+01	<5.0E+01		pCi/L	CN	0
		Cesium-134	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Cesium-137	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Chlordane	<10	<100	<10	<100	J1	µg/L	GE	0
		Chloride	6,970	8,180	9,680	10,200		µg/L	GE	0
		Chlorobenzene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		4-Chloro-m-cresol	<10	<100	<10	<100	J1	µg/L	GE	0
		Chloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroethene (Vinyl chloride)	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2-Chloroethyl vinyl ether	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloroform	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Chloromethane (Methyl chloride)	<1.0	<1.0	1.3	<1.0		µg/L	GE	0
		2-Chloronaphthalene	<10	<100	<10	<100	J1	µg/L	GE	0
		2-Chlorophenol	<10	<100	<10	<100	J1	µg/L	GE	0
		4-Chlorophenyl phenyl ether	<10	<100	<10	<100	J1	µg/L	GE	0
		Chromium, total recoverable	<4.0	<4.0	<4.0	<4.0		µg/L	GE	0
		Chrysene	<10	<100	<10	<100	J1	µg/L	GE	0
		Cobalt-57	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Cobalt-60	<1.2E+01	<1.2E+01	<1.2E+01	<1.2E+01		pCi/L	CN	0
		p,p'-DDD	<10	<100	<10	<100	J1	µg/L	GE	0
		p,p'-DDE	<10	<100	<10	<100	J1	µg/L	GE	0
		p,p'-DDT	<10	<100	<10	<100	J1	µg/L	GE	0
		Dibenz[a,h]anthracene	<10	<100	<10	<100	J1	µg/L	GE	0
		Dibenzofuran			<11			µg/L		
		Dibromochloromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Di-n-butyl phthalate	<10	<100	<10	<100	J1	µg/L	GE	0
		1,2-Dichlorobenzene			<11			µg/L		
		1,3-Dichlorobenzene			<11			µg/L		
		1,4-Dichlorobenzene			<11			µg/L		
		3,3'-Dichlorobenzidine	<10	<100	<10	<100	J1	µg/L	GE	0
		1,1-Dichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,2-Dichloroethylene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Dichloromethane (Methylene chloride)	<1.0	<1.0	<1.0	<1.0	JV	µg/L	GE	0
		2,4-Dichlorophenol	<10	<100	<10	<100	J1	µg/L	GE	0
		2,4-Dichlorophenoxyacetic acid	<0.30					µg/L		
		1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Dieldrin	<10	<100	<10	<100	J1	µg/L	GE	0
		Diethyl phthalate	<10	<100	<10	<100	J1	µg/L	GE	0
		2,4-Dimethyl phenol	<10	<100	<10	<100	J1	µg/L	GE	0
		Dimethyl phthalate	<10	<100	<10	<100	J1	µg/L	GE	0
		2,4-Dinitrophenol	<45	<450	<45	<450	J1	µg/L	GE	0
		2,4-Dinitrotoluene	<10	<100	<10	<100	J1	µg/L	GE	0
		2,6-Dinitrotoluene	<10	<100	<10	<100	J1	µg/L	GE	0
		Di-n-octyl phthalate	<10	<100	<10	<100	J1	µg/L	GE	0
		1,2-Diphenylhydrazine	<10	<100	<10	<100	J1	µg/L	GE	0
		Dissolved organic carbon	<1,000	<1,000	<1,000	<1,000		µg/L	GE	0
		Endosulfan I	<10	<100	<10	<100	J1	µg/L	GE	0
		Endosulfan II	<10	<100	<10	<100	J1	µg/L	GE	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

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Well LCO 4 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Endosulfan sulfate	<10	<100	<10	<100	J1	µg/L	GE	0
		Endrin	<0.0060	<100	<10	<100	J1	µg/L	GE	0
		Endrin aldehyde	<10	<100	<10	<100	J1	µg/L	GE	0
		Ethylbenzene	1.3	<1.0	3.0	3.2		µg/L	GE	0
		Europium-152	<5.0E+01	<5.0E+01	<5.0E+01	<5.0E+01		pCi/L	CN	0
		Europium-154	<2.5E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Europium-155	<2.5E+01	<2.5E+01	<2.5E+01	<2.5E+01		pCi/L	CN	0
		Fluoranthene	<10	<100	<10	<100	J1	µg/L	GE	0
		Fluorene	<10	<100	<10	<100	J1	µg/L	GE	0
		Fluoride	207					µg/L	GE	0
		Gross alpha	3.8E+00	3.3E+00	4.8E+00	<2.0E+00		pCi/L	GE	0
		Heptachlor	<10	<100	<10	<100	J1	µg/L	GE	0
		Heptachlor epoxide	<10	<100	<10	<100	J1	µg/L	GE	0
		Hexachlorobenzene	<10	<100	<10	<100	J1	µg/L	GE	0
		Hexachlorobutadiene	<10	<100	<10	<100	J1	µg/L	GE	0
		Hexachlorocyclopentadiene	<10	<100	<10	<100	J1	µg/L	GE	0
		Hexachloroethane	<10	<100	<10	<100	J1	µg/L	GE	0
		Indenol [1,2,3-c,d]pyrene	<10	<100	<10	<100	J1	µg/L	GE	0
		Iron, total recoverable	510	306	329	110		µg/L	GE	0
		Isophorone	<10	<100	<10	<100	J1	µg/L	GE	0
		Lead, total recoverable	<3.0	<3.0	3.0	<3.0		µg/L	GE	0
		Lead-212				<2.5E+01		pCi/L	CN	0
		Lindane	<0.0050	<100	<10	<100	J1	µg/L	GE	0
		Magnesium, total recoverable	1,090					µg/L	GE	0
		Manganese, total recoverable	21	20	32	28		µg/L	GE	1
		Manganese-54	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Mercury, total recoverable	0.53	0.64	1.0	0.60		µg/L	GE	0
		Methoxychlor	<0.50					µg/L	GE	0
		2-Methyl-4,6-dinitrophenol	<10	<100	<10	<100	J1	µg/L	GE	0
		Naphthalene	<10	<100	<10	<100	J1	µg/L	GE	0
		Nitrate as nitrogen			1,210			µg/L	GE	0
		Nitrate-nitrite as nitrogen	1,740	1,530	1,690	1,390		µg/L	GE	0
		Nitrobenzene	<10	<100	<10	<100	J1	µg/L	GE	0
		2-Nitrophenol	<10	<100	<10	<100	J1	µg/L	GE	0
		4-Nitrophenol	<10	<100	<10	<100	J1	µg/L	GE	0
		N-Nitrosodimethylamine	<10	<100	<10	<100	J1	µg/L	GE	0
		N-Nitrosodiphenylamine	<10	<100	<10	<100	J1	µg/L	GE	0
		N-Nitrosodipropylamine	<10	<100	<10	<100	J1	µg/L	GE	0
		Nonvolatile beta	<2.0E+00	6.9E+00	4.5E+00	2.2E+00		pCi/L	GE	0
		PCB 1016	<150	<150	<150	<1,500	J1	µg/L	GE	0
		PCB 1221	<150	<150	<150	<1,500	J1	µg/L	GE	0
		PCB 1232	<150	<150	<150	<1,500	J1	µg/L	GE	0
		PCB 1242	<150	<150	<150	<1,500	J1	µg/L	GE	0
		PCB 1248	<150	<150	<150	<1,500	J1	µg/L	GE	0
		PCB 1254	<150	<150	<150	<1,500	J1	µg/L	GE	0
		PCB 1260	<150	<150	<150	<1,500	J1	µg/L	GE	0
		Pentachlorophenol	<10	<100	<10	<100	J1	µg/L	GE	0
		pH	5.6	5.5	5.4	5.7	J	pH	GE	0
		Phenanthrene	<10	<100	<10	<100	J1	µg/L	GE	0
		Phenol	<10	<100	<10	<100	J1	µg/L	GE	0
		Phenols	<5.0					µg/L	GE	0
		Plutonium-238	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Plutonium-239/240	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Potassium, total recoverable	<500					µg/L	GE	0
		Potassium-40	<2.5E+02	<2.5E+02	<2.5E+02	<2.5E+02		pCi/L	CN	0
		Promethium-144	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Promethium-146	<2.3E+01	<2.3E+01	<2.3E+01	<2.3E+01		pCi/L	CN	0
		Pyrene	<10	<100	<10	<100	J1	µg/L	GE	0
		Radium-226			1.7E+00			pCi/L	GE	0
		Radium-228			4.0E+00			pCi/L	GE	0
		Radium, total alpha-emitting	2.8E+00	2.5E+00	3.6E+00	<1.0E+00		pCi/L	GE	0
		Ruthenium-106	<8.0E+01	<8.0E+01	<8.0E+01	<8.0E+01		pCi/L	CN	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

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Well LCO 4 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Selenium, total recoverable	4.1	4.3	3.4	4.4	J2	µg/L	GE	0
		Silica, total recoverable	5,590					µg/L		
		Silver, total recoverable	<2.0	<2.0	<2.0	<2.0		µg/L	GE	0
		Sodium, total recoverable	84,800					µg/L		
		Sodium-22	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Specific conductance	415	450	550	520		µS/cm	GE	2
		Sulfate	139,000	228,000	221,000	184,000		µg/L	GE	0
		Technetium-99	<3.0E+02	<3.0E+02	<3.0E+02	<3.0E+02		pCi/L	CN	0
		1,1,2,2-Tetrachloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Tetrachloroethylene	13	6.6	19	12		µg/L	GE	2
		Thorium-234				<1.3E+03		pCi/L	CN	0
		Toluene	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Total dissolved solids	261,000	313,000	335,000	338,000	V	µg/L	GE	0
		Total organic carbon	<1,000	<1,000	1,450	2,160		µg/L	GE	0
		Total organic halogens	6.6					µg/L		
		Total phosphates (as P)	50					µg/L		
		Toxaphene	<0.24	<100	<10	<100	J1	µg/L	GE	0
		2,4,5-TP (Silvex)	<0.090					µg/L		
		1,2,4-Trichlorobenzene	<10	<100	<10	<100	J1	µg/L	GE	0
		1,1,1-Trichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		1,1,2-Trichloroethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		Trichloroethylene	1.4	1.2	3.1	2.8		µg/L	GE	1
		Trichlorofluoromethane	<1.0	<1.0	<1.0	<1.0		µg/L	GE	0
		2,4,6-Trichlorophenol	<10	<100	<10	<100	J1	µg/L	GE	0
		Tritium	6.3E+01	4.4E+01	3.5E+01	4.6E+01		pCi/mL	GE	2
		Uranium-233/234	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Uranium-235	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Uranium-238	<1.0E+00	<1.0E+00	<1.0E+00	<1.0E+00		pCi/L	CN	0
		Yttrium-88	<1.0E+01	<1.0E+01	<1.0E+01	<1.0E+01		pCi/L	CN	0
		Zinc-65	<2.3E+01	<2.3E+01	<2.3E+01	<2.3E+01		pCi/L	CN	0

WELL LDB 1

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N46067.3 E50530.6	33.210100 °N 81.623260 °W	215.0-185.0 ft msl	252.9 ft msl	4" PVC	S	Water Table

SAMPLE DATE	03/18/93	06/01/93	08/31/93	12/13/93
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FIELD DATA

Analyte	1Q93	2Q93	3Q93	4Q93	Unit
Water elevation	221.3	221.6	218.8	217.0	ft msl
Depth to water	31.6	31.3	34.1	35.9	ft
pH	5.1	5.7	5.3	4.9	pH
Sp. conductance	71	161	66	61	µS/cm
Water temperature	19.3	24.6	23.9	19.6	°C
Alkalinity as CaCO ₃	9	50	9	0	mg/L
Turbidity	15	18	14	14	NTU
Volume purged	0.9	0.9	0.9	0.9	Well vol.
Sampling code	X	X	X	X	

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Aluminum, total recoverable	152		230			µg/L		
		Arsenic, total recoverable	<2.0					µg/L		
		Barium, total recoverable	16					µg/L		
		Cadmium, total recoverable	<2.0					µg/L		
		Calcium, total recoverable	5,820					µg/L		

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

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Well LDB 1 continued

ANALYTICAL DATA

<u>H</u>	<u>D</u>	<u>Analyte</u>	<u>1Q93</u>	<u>2Q93</u>	<u>3Q93</u>	<u>4Q93</u>	<u>Mod</u>	<u>Unit</u>	<u>Lab</u>	<u>Flag</u>
		Carbon tetrachloride		<1.0	<1.0			µg/L		
		Chloride	2,110					µg/L		
		Chloroform		<1.0	<1.0			µg/L		
		Chromium, total recoverable	<4.0					µg/L		
		2,4-Dichlorophenoxyacetic acid	<0.30					µg/L		
		Endrin	<0.0060					µg/L		
		Fluoride	<100					µg/L		
		Gross alpha	<2.0E+00					pCi/L		
		Iron, total recoverable	232					µg/L		
		Lead, total recoverable	64		36			µg/L		
		Lindane	<0.0050					µg/L		
		Magnesium, total recoverable	1,690					µg/L		
		Manganese, total recoverable	11					µg/L		
		Mercury, total recoverable	<0.20					µg/L		
		Methoxychlor	<0.50					µg/L		
		Nitrate-nitrite as nitrogen	2,000					µg/L		
		Nonvolatile beta	<2.0E+00					pCi/L		
		pH	5.3					pH		
		Phenols	<5.0					µg/L		
		Potassium, total recoverable	<500					µg/L		
		Radium, total alpha-emitting	1.7E+00					pCi/L		
		Selenium, total recoverable	<2.0					µg/L		
		Silica, total recoverable	6,760					µg/L		
		Silver, total recoverable	<2.0					µg/L		
		Sodium, total recoverable	1,990					µg/L		
		Specific conductance	57					µS/cm		
		Sulfate	4,620					µg/L		
		Tetrachloroethylene		6.3	6.2			µg/L		
		Total dissolved solids	48,000					µg/L		
		Total organic carbon	<1,000					µg/L		
		Total organic halogens	12		<5.0			µg/L		
		Total phosphates (as P)	<50					µg/L		
		Toxaphene	<0.24					µg/L		
		2,4,5-TP (Silvex)	<0.090					µg/L		
		1,1,1-Trichloroethane		<1.0	<1.0			µg/L		
		Trichloroethylene		<1.0	<1.0			µg/L		
		Tritium	8.2E+00			9.3E+00		pCi/mL		

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.
 ● = exceeded holding time for 4th quarter 1993.
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WELL LDB 2

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N45886.5 E50590.5	33.209798 °N 81.622752 °W	214.5-184.5 ft msl	251.9 ft msl	4" PVC	S	Water Table

<u>SAMPLE DATE</u>	03/18/93	06/01/93	08/31/93	12/13/93
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FIELD DATA

<u>Analyte</u>	<u>1Q93</u>	<u>2Q93</u>	<u>3Q93</u>	<u>4Q93</u>	<u>Unit</u>
Water elevation	221.1	222.1	219.2	217.2	ft msl
Depth to water	30.8	29.8	32.7	34.7	ft
pH	5.2	5.1	5.4	5.3	pH
Sp. conductance	90	104	101	114	µS/cm
Water temperature	19.4	24.2	23.2	19.2	°C
Alkalinity as CaCO ₃	8	10	10	3	mg/L
Turbidity	7	17	7	10	NTU
Volume purged	1.0	0.7	0.8	0.9	Well vol.
Sampling code	X	X	X	X	

ANALYTICAL DATA

<u>H</u>	<u>D</u>	<u>Analyte</u>	<u>1Q93</u>	<u>2Q93</u>	<u>3Q93</u>	<u>4Q93</u>	<u>Mod</u>	<u>Unit</u>	<u>Lab</u>	<u>Flag</u>
		Aluminum, total recoverable	62		48			µg/L		
		Arsenic, total recoverable	<2.0					µg/L		
		Barium, total recoverable	24					µg/L		
		Cadmium, total recoverable	<2.0					µg/L		
		Calcium, total recoverable	3,990					µg/L		
		Carbon tetrachloride		<1.0	<1.0			µg/L		
		Chloride	4,500					µg/L		
		Chloroform		<1.0	<1.0			µg/L		
		Chromium, total recoverable	<4.0					µg/L		
		2,4-Dichlorophenoxyacetic acid	<0.30					µg/L		
		Endrin	<0.0060					µg/L		
		Fluoride	<100					µg/L		
		Gross alpha	<2.0E+00					pCi/L		
		Iron, total recoverable	165					µg/L		
		Lead, total recoverable	16		7.0			µg/L		
		Lindane	<0.0050					µg/L		
		Magnesium, total recoverable	1,480					µg/L		
		Manganese, total recoverable	42					µg/L		
		Mercury, total recoverable	<0.20					µg/L		
		Methoxychlor	<0.50					µg/L		
		Nitrate-nitrite as nitrogen	670					µg/L		
		Nonvolatile beta	<2.0E+00					pCi/L		
		pH	5.4					pH		
		Phenols	<5.0					µg/L		
		Potassium, total recoverable	878					µg/L		
		Radium, total alpha-emitting	2.2E+00					pCi/L		
		Selenium, total recoverable	<2.0					µg/L		
		Silica, total recoverable	5,950					µg/L		
		Silver, total recoverable	<2.0					µg/L		
		Sodium, total recoverable	5,570					µg/L		
		Specific conductance	70					µS/cm		
		Sulfate	9,250					µg/L		
		Tetrachloroethylene		<1.0	<1.0			µg/L		
		Total dissolved solids	53,000					µg/L		
		Total organic carbon	3,770					µg/L		
		Total organic halogens	25		92			µg/L		
		Total phosphates (as P)	<50					µg/L		
		Toxaphene	<0.24					µg/L		
		2,4,5-TP (Silvex)	<0.090					µg/L		

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

■ = exceeded screening level or final primary drinking water standard for 4th quarter 1993.

Well LDB 2 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		1,1,1-Trichloroethane		<1.0	<1.0			µg/L		
		Trichloroethylene		<1.0	<1.0			µg/L		
		Tritium	3.7E+00		4.4E+00			pCi/mL		

WELL LRP 1

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N48548.6 E49128.7	33.213303 °N 81.631763 °W	215.8-185.8 ft msl	252.9 ft msl	4" PVC	S	Water Table

SAMPLE DATE	03/09/93	05/08/93	08/28/93	10/24/93
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FIELD DATA

Analyte	1Q93	2Q93	3Q93	4Q93	Unit
Water elevation	211.7	213.6	211.5	210.4	ft msl
Depth to water	41.2	39.3	41.4	42.6	ft
pH	4.5	4.8	4.6	4.4	pH
Sp. conductance	21	22	22	22	µS/cm
Water temperature	18.8	20.0	19.3	18.8	°C
Alkalinity as CaCO ₃	0	0	0	0	mg/L
Turbidity	1	1	1	1	NTU
Volume purged	12.5	14.5	19.0	10.7	Well vol.
Sampling code					

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Aluminum, total recoverable	48		25			µg/L		
		Arsenic, total recoverable	<2.0					µg/L		
		Barium, total recoverable	15					µg/L		
		Cadmium, total recoverable	<2.0					µg/L		
		Calcium, total recoverable	352					µg/L		
		Carbon tetrachloride		<1.0	<1.0			µg/L		
		Chloride	2,340					µg/L		
		Chloroform		<1.0	<1.0			µg/L		
		Chromium, total recoverable	<4.0					µg/L		
		2,4-Dichlorophenoxyacetic acid	<0.30					µg/L		
		Endrin	<0.0060					µg/L		
		Fluoride	<100					µg/L		
		Gross alpha	2.6E+00					µg/L		
		Iron, total recoverable	19					pCi/L		
		Lead, total recoverable	9.8		6.3			µg/L		
		Lindane	<0.0050					µg/L		
		Magnesium, total recoverable	376					µg/L		
		Manganese, total recoverable	16					µg/L		
		Mercury, total recoverable	0.28					µg/L		
		Methoxychlor	<0.50					µg/L		
		Nitrate as nitrogen	490					µg/L		
		Nitrate-nitrite as nitrogen	680					µg/L		
		Nonvolatile beta	2.8E+00					µg/L		
		pH	5.0					pCi/L		
		Phenols	<5.0					pH		
		Potassium, total recoverable	<500					µg/L		
		Radium-226	6.3E-01					µg/L		
		Radium-228	9.0E-01					pCi/L		
		Radium, total alpha-emitting	<1.0E+00					pCi/L		
		Selenium, total recoverable	<2.0					pCi/L		
		Silica, total recoverable	6,550					µg/L		
		Silver, total recoverable	<2.0					µg/L		

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.
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Well LRP 1 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Sodium, total recoverable	1,670					µg/L		
		Specific conductance	22					µS/cm		
		Sulfate	<1,000					µg/L		
		Tetrachloroethylene		<1.0	<1.0			µg/L		
		Total dissolved solids	18,000					µg/L		
		Total organic carbon	<1,000					µg/L		
		Total organic halogens	<5.0					µg/L		
		Total phosphates (as P)	<50					µg/L		
		Toxaphene	<0.24					µg/L		
		2,4,5-TP (Silvex)	<0.090					µg/L		
		1,1,1-Trichloroethane		<1.0	<1.0			µg/L		
		Trichloroethylene		<1.0	<1.0			µg/L		
		Tritium	2.7E+00					pCi/mL		

WELL LRP 2

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N48352.9 E49214.4	33.213010 °N 81.631158 °W	214.7-184.7 ft msl	256.7 ft msl	4" PVC	S	Water Table

SAMPLE DATE	03/09/93	05/08/93	08/28/93	10/24/93
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FIELD DATA

Analyte	1Q93	2Q93	3Q93	4Q93	Unit
Water elevation	212.9	215.0	212.5	211.7	ft msl
Depth to water	43.8	41.7	44.2	45.0	ft
pH	4.7	5.1	4.8	4.7	pH
Sp. conductance	29	28	29	28	µS/cm
Water temperature	18.7	20.0	19.4	19.0	°C
Alkalinity as CaCO ₃	0	1	0	0	mg/L
Turbidity	1	2	1	1	NTU
Volume purged	8.6	9.4	7.6	9.6	Well vol.
Sampling code					

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Aluminum, total recoverable	35		<20			µg/L		
		Arsenic, total recoverable	<2.0					µg/L		
		Barium, total recoverable	10					µg/L		
		Cadmium, total recoverable	<2.0					µg/L		
		Calcium, total recoverable	660					µg/L		
		Carbon tetrachloride		<1.0	<1.0			µg/L		
		Chloride	2,660					µg/L		
		Chloroform		<1.0	<1.0			µg/L		
		Chromium, total recoverable	<4.0					µg/L		
		2,4-Dichlorophenoxyacetic acid	<0.30					µg/L		
		Endrin	<0.0060					µg/L		
		Fluoride	<100					µg/L		
		Gross alpha	<2.0E+00					pCi/L		
		Iron, total recoverable	10					µg/L		
		Lead, total recoverable	54		48			µg/L		
		Lindane	<0.0050					µg/L		
		Magnesium, total recoverable	425					µg/L		
		Manganese, total recoverable	14					µg/L		
		Mercury, total recoverable	<0.20					µg/L		
		Methoxychlor	<0.50					µg/L		
		Nitrate-nitrite as nitrogen	1,110					µg/L		
		Nonvolatile beta	<2.0E+00					pCi/L		

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Unclassified

Well LRP 2 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		pH	5.2					pH		
		Phenols	<5.0					µg/L		
		Potassium, total recoverable	<500					µg/L		
		Radium, total alpha-emitting	1.8E+00					pCi/L		
		Selenium, total recoverable	<2.0					µg/L		
		Silica, total recoverable	7.880					µg/L		
		Silver, total recoverable	<2.0					µg/L		
		Sodium, total recoverable	2,620					µg/L		
		Specific conductance	25					µS/cm		
		Sulfate	<1,000					µg/L		
		Tetrachloroethylene		<1.0	<1.0			µg/L		
		Total dissolved solids	22,000					µg/L		
		Total organic carbon	<1,000					µg/L		
		Total organic halogens	<5.0					µg/L		
		Total phosphates (as P)	<5.0					µg/L		
		Toxaphene	<0.24					µg/L		
		2,4,5-TP (Silvex)	<0.090					µg/L		
		1,1,1-Trichloroethane		<1.0	<1.0			µg/L		
		Trichloroethylene		<1.0	<1.0			µg/L		
		Tritium	1.9E+00					pCi/mL		

WELL LRP 3

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N48333.6 E49057.7	33.212712 °N 81.631533 °W	221.4-191.4 ft msl	258.2 ft msl	4" PVC	S	Water Table

SAMPLE DATE	03/09/93	05/08/93	08/28/93	10/24/93
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FIELD DATA

Analyte	1Q93	2Q93	3Q93	4Q93	Unit
Water elevation	211.9	214.1	212.0	211.1	ft msl
Depth to water	46.3	44.1	46.2	47.2	ft
pH	4.7	4.9	4.6	4.6	pH
Sp. conductance	29	30	32	29	µS/cm
Water temperature	18.7	19.6	19.4	18.9	°C
Alkalinity as CaCO ₃	0	0	0	0	mg/L
Turbidity	2	3	2	1	NTU
Volume purged	14.1	20.7	11.9	13.7	Well vol.
Sampling code					

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Aluminum, total recoverable	50		25			µg/L		
		Arsenic, total recoverable	<2.0					µg/L		
		Barium, total recoverable	9.1					µg/L		
		Cadmium, total recoverable	<2.0					µg/L		
		Calcium, total recoverable	641					µg/L		
		Carbon tetrachloride		<1.0	<1.0			µg/L		
		Chloride	2,020					µg/L		
		Chloroform		<1.0	<1.0			µg/L		
		Chromium, total recoverable	<4.0					µg/L		
		2,4-Dichlorophenoxyacetic acid	<0.30					µg/L		
		Endrin	<0.0060					µg/L		
		Fluoride	<100					µg/L		
		Gross alpha	3.6E+00					µg/L		
		Iron, total recoverable	42					pCi/L		
		Lead, total recoverable	16		20			µg/L		

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

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Well LRP 3 continued

ANALYTICAL DATA

<u>H</u>	<u>D</u>	<u>Analyte</u>	<u>1Q93</u>	<u>2Q93</u>	<u>3Q93</u>	<u>4Q93</u>	<u>Mod</u>	<u>Unit</u>	<u>Lab</u>	<u>Flag</u>
		Lindane	<0.0050					µg/L		
		Magnesium, total recoverable	545					µg/L		
		Manganese, total recoverable	21					µg/L		
		Mercury, total recoverable	<0.20					µg/L		
		Methoxychlor	<0.50					µg/L		
		Nitrate-nitrite as nitrogen	830					µg/L		
		Nonvolatile beta	2.2E+00					pCi/L		
		pH	5.1					pH		
		Phenols	<5.0					µg/L		
		Potassium, total recoverable	855					µg/L		
		Radium, total alpha-emitting	3.3E+00					pCi/L		
		Selenium, total recoverable	<2.0					µg/L		
		Silica, total recoverable	7,360					µg/L		
		Silver, total recoverable	<2.0					µg/L		
		Sodium, total recoverable	1,840					µg/L		
		Specific conductance	26					µS/cm		
		Sulfate	2,190					µg/L		
		Tetrachloroethylene		<1.0	<1.0			µg/L		
		Total dissolved solids	19,000					µg/L		
		Total organic carbon	<1,000					µg/L		
		Total organic halogens	<5.0					µg/L		
		Total phosphates (as P)	<50					µg/L		
		Toxaphene	<0.24					µg/L		
		2,4,6-TP (Silvex)	<0.090					µg/L		
		1,1,1-Trichloroethane		<1.0	<1.0			µg/L		
		Trichloroethylene		<1.0	<1.0			µg/L		
		Tritium	2.2E+00					pCi/mL		

WELL LRP 4

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N48440.2 E48964.7	33.212796 °N 81.631984 °W	203.3-173.3 ft msl	255.6 ft msl	4" PVC	S	Water Table

<u>SAMPLE DATE</u>	<u>03/09/93</u>	<u>05/08/93</u>	<u>08/28/93</u>	<u>10/24/93</u>
FIELD DATA				

<u>Analyte</u>	<u>1Q93</u>	<u>2Q93</u>	<u>3Q93</u>	<u>4Q93</u>	<u>Unit</u>
Water elevation	211.3	213.4	211.3	210.5	ft msl
Depth to water	44.3	42.2	44.3	45.1	ft
pH	4.7	4.9	4.6	4.5	pH
Sp. conductance	29	28	30	30	µS/cm
Water temperature	18.5	18.9	19.5	19.0	°C
Alkalinity as CaCO ₃	0	0	0	0	mg/L
Turbidity	0	1	0	1	NTU
Volume purged	2.8	4.7	4.7	4.0	Well vol.
Sampling code					

ANALYTICAL DATA

<u>H</u>	<u>D</u>	<u>Analyte</u>	<u>1Q93</u>	<u>2Q93</u>	<u>3Q93</u>	<u>4Q93</u>	<u>Mod</u>	<u>Unit</u>	<u>Lab</u>	<u>Flag</u>
		Aluminum, total recoverable	28		28			µg/L		
		Arsenic, total recoverable	<2.0					µg/L		
		Barium, total recoverable	8.9					µg/L		
		Cadmium, total recoverable	<2.0					µg/L		
		Calcium, total recoverable	703					µg/L		
		Carbon tetrachloride		<1.0	<1.0			µg/L		
		Chloride	2,520					µg/L		
		Chloroform		<1.0	<1.0			µg/L		

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.
 ● = exceeded holding time for 4th quarter 1993.
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Unclassified

Well LRP 4 continued

ANALYTICAL DATA

<u>H</u>	<u>D</u>	<u>Analyte</u>	<u>1Q93</u>	<u>2Q93</u>	<u>3Q93</u>	<u>4Q93</u>	<u>Mod</u>	<u>Unit</u>	<u>Lab</u>	<u>Flag</u>
		Chromium, total recoverable	<4.0					µg/L		
		2,4-Dichlorophenoxyacetic acid	<0.30					µg/L		
		Endrin	<0.0060					µg/L		
		Fluoride	<100					µg/L		
		Gross alpha	2.7E+00					pCi/L		
		Iron, total recoverable	5.9					µg/L		
		Lead, total recoverable	<3.0		<3.0			µg/L		
		Lindane	<0.0050					µg/L		
		Magnesium, total recoverable	428					µg/L		
		Manganese, total recoverable	9.3					µg/L		
		Mercury, total recoverable	<0.20					µg/L		
		Methoxychlor	<0.50					µg/L		
		Nitrate-nitrite as nitrogen	1,040					µg/L		
		Nonvolatile beta	2.6E+00					pCi/L		
		pH	5.0					pH		
		Phenols	<5.0					µg/L		
		Potassium, total recoverable	<500					µg/L		
		Radium, total alpha-emitting	2.9E+00					pCi/L		
		Selenium, total recoverable	<2.0					µg/L		
		Silica, total recoverable	8,560					µg/L		
		Silver, total recoverable	<2.0					µg/L		
		Sodium, total recoverable	2,370					µg/L		
		Specific conductance	25					µS/cm		
		Sulfate	<1,000					µg/L		
		Tetrachloroethylene		<1.0	<1.0			µg/L		
		Total dissolved solids	17,000					µg/L		
		Total organic carbon	<1,000					µg/L		
		Total organic halogens	<5.0					µg/L		
		Total phosphates (as P)	<50					µg/L		
		Toxaphene	<0.24					µg/L		
		2,4,5-TP (Silvex)	<0.090					µg/L		
		1,1,1-Trichloroethane		<1.0	<1.0			µg/L		
		Trichloroethylene		<1.0	<1.0			µg/L		
		Tritium	1.2E+00					pCi/mL		

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.
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WELL LSB 1

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N45153.1 E50700.9	33.208355 °N 81.621038 °W	222.7-192.7 ft msl	232.7 ft msl	4" PVC	S	Water Table

SAMPLE DATE	03/07/93	05/08/93	09/12/93	11/05/93
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FIELD DATA

Analyte	1Q93	2Q93	3Q93	4Q93	Unit
Water elevation	216.8	215.0	211.1	210.0	ft msl
Depth to water	15.9	17.7	21.6	22.7	ft
pH	4.7	4.8	4.5	4.6	pH
Sp. conductance	24	26	22	20	µS/cm
Water temperature	20.5	20.2	21.1	20.1	°C
Alkalinity as CaCO ₃	0	0	0	0	mg/L
Turbidity	2	2	2	3	NTU
Volume purged	8.0	9.4	16.9	10.2	Well vol.
Sampling code					

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Aluminum, total recoverable	49		39			µg/L		
		Arsenic, total recoverable	<2.0					µg/L		
		Barium, total recoverable	4.1					µg/L		
		Cadmium, total recoverable	<2.0					µg/L		
		Calcium, total recoverable	383					µg/L		
		Chloride	1,420					µg/L		
		Chromium, total recoverable	<4.0					µg/L		
		2,4-Dichlorophenoxyacetic acid	<0.30					µg/L		
		Endrin	<0.0060					µg/L		
		Fluoride	<100					µg/L		
		Gross alpha	<2.0E+00	<2.0E+00	<2.0E+00	<2.0E+00		pCi/L	GE	0
		Iron, total recoverable	54		91			µg/L		
		Lead, total recoverable	7.4		5.3			µg/L		
		Lindane	<0.0050					µg/L		
		Magnesium, total recoverable	713					µg/L		
		Manganese, total recoverable	2.4					µg/L		
		Mercury, total recoverable	<0.20					µg/L		
		Methoxychlor	<0.50					µg/L		
		Nitrate-nitrite as nitrogen	1,130					µg/L		
		Nonvolatile beta	2.2E+00	2.3E+00	2.7E+00	<2.0E+00		pCi/L	GE	0
		pH	5.0					pH		
		Phenols	<5.0					µg/L		
		Potassium, total recoverable	<500					µg/L		
		Radium, total alpha-emitting	1.1E+00					pCi/L		
		Selenium, total recoverable	<2.0					µg/L		
		Silica, total recoverable	5,470					µg/L		
		Silver, total recoverable	<2.0					µg/L		
		Sodium, total recoverable	1,140					µg/L		
		Specific conductance	25					µS/cm		
		Sulfate	<1,000					µg/L		
		Total activity	2.0E+06	1.5E+06	2.7E+06	2.1E+06		pCi/L	EM	0
		Total dissolved solids	6,000					µg/L		
		Total organic carbon	<1,000					µg/L		
		Total organic halogens	<5.0					µg/L		
		Total phosphates (as P)	<50					µg/L		
		Toxaphene	<0.24					µg/L		
		2,4,5-TP (Silvex)	<0.090					µg/L		
■		Tritium	1.9E+03	1.5E+03	2.5E+03	1.9E+03		pCi/mL	GE	2

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

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WELL LSB 2

<u>SRS Coord.</u>	<u>Lat/Longitude</u>	<u>Screen Zone Elevation</u>	<u>Top of Casing</u>	<u>Casing</u>	<u>Pump</u>	<u>Screen Zone</u>
N45224.0 E50824.5	33.208713 °N 81.620851 °W	225.0-195.0 ft msl	235.2 ft msl	4" PVC	S	Water Table

<u>SAMPLE DATE</u>	03/07/93	05/08/93	09/12/93	11/05/93
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FIELD DATA

<u>Analyte</u>	<u>1Q93</u>	<u>2Q93</u>	<u>3Q93</u>	<u>4Q93</u>	<u>Unit</u>
Water elevation	217.7	216.0	211.8	210.8	ft msl
Depth to water	17.5	19.2	23.4	24.4	ft
pH	4.3	4.6	4.1	4.0	pH
Sp. conductance	33	32	34	31	µS/cm
Water temperature	21.9	23.3	22.7	20.4	°C
Alkalinity as CaCO ₃	0	0	0	0	mg/L
Turbidity	1	1	2	1	NTU
Volume purged	4.7	3.0	4.9	2.8	Well vol.
Sampling code					

ANALYTICAL DATA

<u>H</u>	<u>D</u>	<u>Analyte</u>	<u>1Q93</u>	<u>2Q93</u>	<u>3Q93</u>	<u>4Q93</u>	<u>Mod</u>	<u>Unit</u>	<u>Lab</u>	<u>Flag</u>
		Aluminum, total recoverable	192		211			µg/L		
		Arsenic, total recoverable	<2.0					µg/L		
		Barium, total recoverable	7.8					µg/L		
		Cadmium, total recoverable	<2.0					µg/L		
		Calcium, total recoverable	145					µg/L		
		Chloride	1,940					µg/L		
		Chromium, total recoverable	<4.0					µg/L		
		2,4-Dichlorophenoxyacetic acid	<0.30					µg/L		
		Endrin	<0.0060					µg/L		
		Fluoride	<100					µg/L		
		Gross alpha	6.0E-01	<2.0E+00	<2.0E+00	<2.0E+00		pCi/L	GE	0
		Iron, total recoverable	77		131			µg/L		
		Lead, total recoverable	6.0		13			µg/L		
		Lindane	<0.0050					µg/L		
		Magnesium, total recoverable	738					µg/L		
		Manganese, total recoverable	3.4					µg/L		
		Mercury, total recoverable	<0.20					µg/L		
		Methoxychlor	<0.50					µg/L		
		Nitrate as nitrogen	1,460					µg/L		
		Nitrate-nitrite as nitrogen	1,700					µg/L		
		Nonvolatile beta	2.1E+00	<2.0E+00	<2.0E+00	<2.0E+00		pCi/L	GE	0
		pH	4.6					pH		
		Phenols	<5.0					µg/L		
		Potassium, total recoverable	<500					µg/L		
		Radium-226	<2.1E-01					pCi/L		
		Radium-228	1.0E+00					pCi/L		
		Radium, total alpha-emitting	1.0E+00					pCi/L		
		Selenium, total recoverable	<2.0					µg/L		
		Silica, total recoverable	5,780					µg/L		
		Silver, total recoverable	<2.0					µg/L		
		Sodium, total recoverable	1,440					µg/L		
		Specific conductance	32					µS/cm		
		Sulfate	<1,000					µg/L		
		Total dissolved solids	31,000					µg/L		
		Total organic carbon	<1,000					µg/L		
		Total organic halogens	<5.0					µg/L		
		Total phosphates (as P)	<50					µg/L		
		Toxaphene	<0.24					µg/L		
		2,4,5-TP (Silvex)	<0.090					µg/L		

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

■ = exceeded screening level or final primary drinking water standard for 4th quarter 1993.

Well LSB 2 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Tritium	5.1E+00	3.7E+00	6.2E+00	4.4E+00		pCi/mL	GE	0

WELL LSB 3

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N45388.7 E50729.7	33.208923 °N 81.621420 °W	226.6-196.6 ft msl	236.4 ft msl	4" PVC	S	Water Table

SAMPLE DATE	03/07/93	05/08/93	09/11/93	11/06/93
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FIELD DATA

Analyte	1Q93	2Q93	3Q93	4Q93	Unit
Water elevation	223.2	221.2	216.9	215.7	ft msl
Depth to water	13.3	15.2	19.5	20.8	ft
pH	4.5	4.8	4.1	4.6	pH
Sp. conductance	22	22	22	24	µS/cm
Water temperature	21.0	21.8	22.0	21.2	°C
Alkalinity as CaCO ₃	0	0	0	0	mg/L
Turbidity	5	15	2	7	NTU
Volume purged	3.0	13.7	7.5	10.4	Well vol.
Sampling code					

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Aluminum, total recoverable	54		72			µg/L		
		Arsenic, total recoverable	<2.0					µg/L		
		Barium, total recoverable	7.4					µg/L		
		Cadmium, total recoverable	<2.0					µg/L		
		Calcium, total recoverable	262					µg/L		
		Chloride	1,270					µg/L		
		Chromium, total recoverable	<4.0					µg/L		
		2,4-Dichlorophenoxyacetic acid	<0.30					µg/L		
		Endrin	<0.0060					µg/L		
		Fluoride	<100					µg/L		
		Gross alpha	<2.0E+00	<2.0E+00	6.0E-01	<2.0E+00		pCi/L	GE	0
		Iron, total recoverable	52		58			µg/L		
		Lead, total recoverable	7.0		7.1			µg/L		
		Lindane	<0.0050					µg/L		
		Magnesium, total recoverable	576					µg/L		
		Manganese, total recoverable	3.9					µg/L		
		Mercury, total recoverable	<0.20					µg/L		
		Methoxychlor	<0.50					µg/L		
		Nitrate-nitrite as nitrogen	1,010					µg/L		
		Nonvolatile beta	2.0E+01	1.1E+01	9.0E-01	<2.0E+00		pCi/L	GE	0
		pH	6.0					pH		
		Phenols	<5.0					µg/L		
		Potassium, total recoverable	<500					µg/L		
		Radium, total alpha-emitting	1.4E+00					pCi/L		
		Selenium, total recoverable	<2.0					µg/L		
		Silica, total recoverable	5,780					µg/L		
		Silver, total recoverable	<2.0					µg/L		
		Sodium, total recoverable	946					µg/L		
		Specific conductance	21					µS/cm		
		Sulfate	2,470					µg/L		
		Total dissolved solids	30,000					µg/L		
		Total organic carbon	<1,000					µg/L		
		Total organic halogens	<5.0					µg/L		
		Total phosphates (as P)	<50					µg/L		

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

■ = exceeded screening level or final primary drinking water standard for 4th quarter 1993.

Well LSB 3 continued

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Toxaphene	<0.24					µg/L		
		2,4,5-TP (Silvex)	<0.090					µg/L		
		Tritium	8.5E+00	5.0E+00	1.3E+04	9.3E+00		pCi/mL	GE	0

WELL LSB 4

SRS Coord.	Lat/Longitude	Screen Zone Elevation	Top of Casing	Casing	Pump	Screen Zone
N45321.6 E50513.0	33.208421 °N 81.621860 °W	221.5-191.5 ft msl	231.5 ft msl	4" PVC	S	Water Table

SAMPLE DATE	03/07/93	05/08/93	09/12/93	11/05/93
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FIELD DATA

Analyte	1Q93	2Q93	3Q93	4Q93	Unit
Water elevation	221.4	198.5	216.7	215.6	ft msl
Depth to water	10.1	33.0	14.8	15.9	ft
pH	4.5	5.1	4.4	4.4	pH
Sp. conductance	30	26	33	29	µS/cm
Water temperature	19.1	19.4	22.0	21.2	°C
Alkalinity as CaCO ₃	0	1	0	0	mg/L
Turbidity	5	1	2	1	NTU
Volume purged	6.0	21.3	4.2	4.6	Well vol.
Sampling code					

ANALYTICAL DATA

H	D	Analyte	1Q93	2Q93	3Q93	4Q93	Mod	Unit	Lab	Flag
		Aluminum, total recoverable	72		94			µg/L		
		Arsenic, total recoverable	<2.0					µg/L		
		Barium, total recoverable	<3.0					µg/L		
		Cadmium, total recoverable	<2.0					µg/L		
		Calcium, total recoverable	631					µg/L		
		Chloride	1,950					µg/L		
		Chromium, total recoverable	<4.0					µg/L		
		2,4-Dichlorophenoxyacetic acid	<0.30					µg/L		
		Endrin	<0.0060					µg/L		
		Fluoride	<100					µg/L		
		Gross alpha	<2.0E+00	<2.0E+00	<2.0E+00	<2.0E+00		pCi/L	GE	0
		Iron, total recoverable	308		145			µg/L		
		Lead, total recoverable	7.4		9.2			µg/L		
		Lindane	<0.0050					µg/L		
		Magnesium, total recoverable	1,000					µg/L		
		Manganese, total recoverable	<2.0					µg/L		
		Mercury, total recoverable	<0.20					µg/L		
		Methoxychlor	<0.50					µg/L		
		Nitrate-nitrite as nitrogen	1,520					µg/L		
		Nonvolatile beta	<2.0E+00	2.4E+00	<2.0E+00	<2.0E+00		pCi/L	GE	0
		pH	4.9					pH		
		Phenols	<5.0					µg/L		
		Potassium, total recoverable	<500					µg/L		
		Radium, total alpha-emitting	<1.0E+00					µg/L		
		Selenium, total recoverable	<2.0					pCi/L		
		Silica, total recoverable	5,700					µg/L		
		Silver, total recoverable	<2.0					µg/L		
		Sodium, total recoverable	1,230					µg/L		
		Specific conductance	26					µg/L		
		Sulfate	<1,000					µS/cm		
		Total activity	1.9E+06	1.6E+06	1.7E+06	1.6E+06		µg/L		
		Total dissolved solids	14,000					pCi/L	EM	0

Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

■ = exceeded screening level or final primary drinking water standard for 4th quarter 1993.

Well LSB 4 continued

ANALYTICAL DATA

<u>H</u>	<u>D</u>	<u>Analyte</u>	<u>1Q93</u>	<u>2Q93</u>	<u>3Q93</u>	<u>4Q93</u>	<u>Mod</u>	<u>Unit</u>	<u>Lab</u>	<u>Flag</u>
		Total organic carbon	<1,000					µg/L		
		Total organic halogens	<5.0					µg/L		
		Total phosphates (as P)	<50					µg/L		
		Toxaphene	<0.24					µg/L		
		2,4,5-TP (Silvex)	<0.090					µg/L		
	■	Tritium	1.7E+03	1.4E+03	3.7E+02	1.5E+03		pCi/mL	GE	2

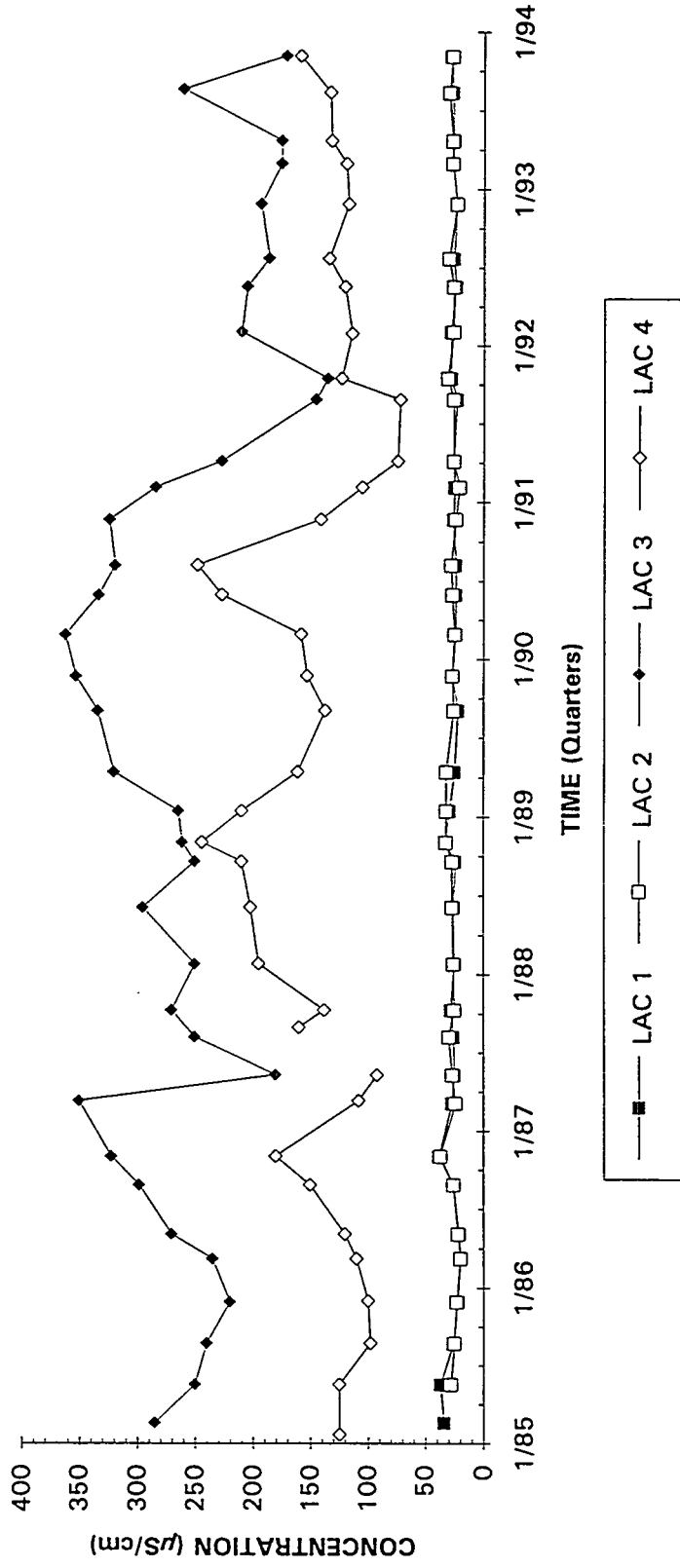
Note: Flagging levels, modifiers, and laboratories are for 4th quarter 1993 data only. See Appendix B for flagging criteria.

● = exceeded holding time for 4th quarter 1993.

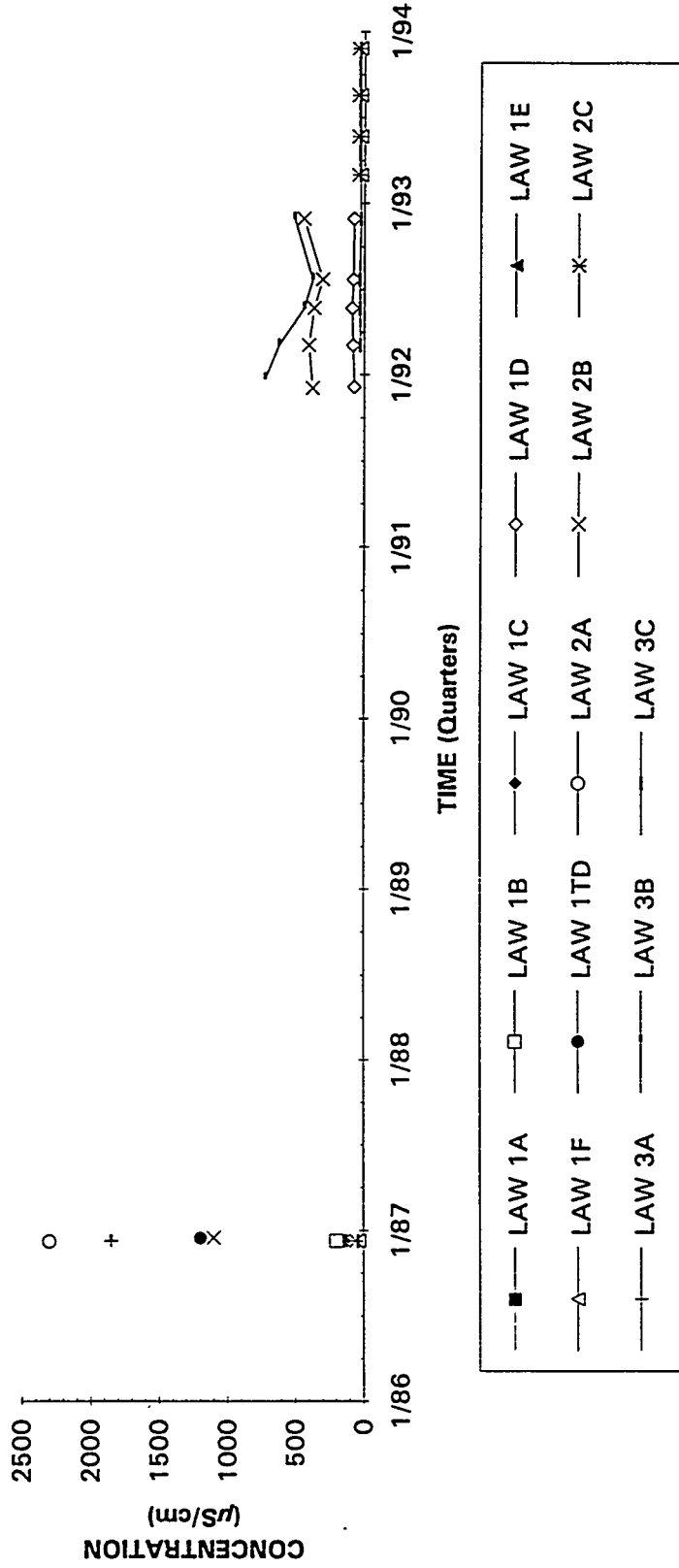
■ = exceeded screening level or final primary drinking water standard for 4th quarter 1993.

Appendix D. Time Series Plots

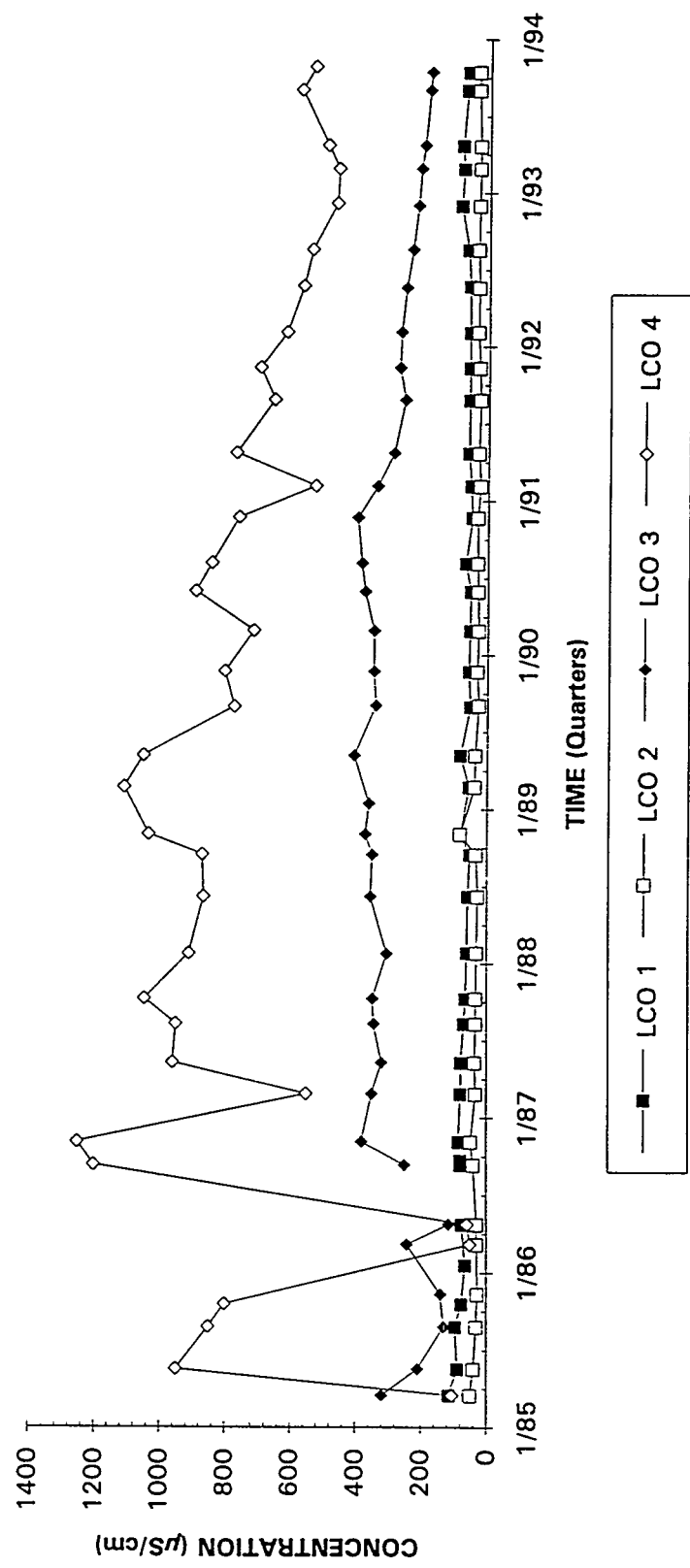
Conductivity LAC Well Series



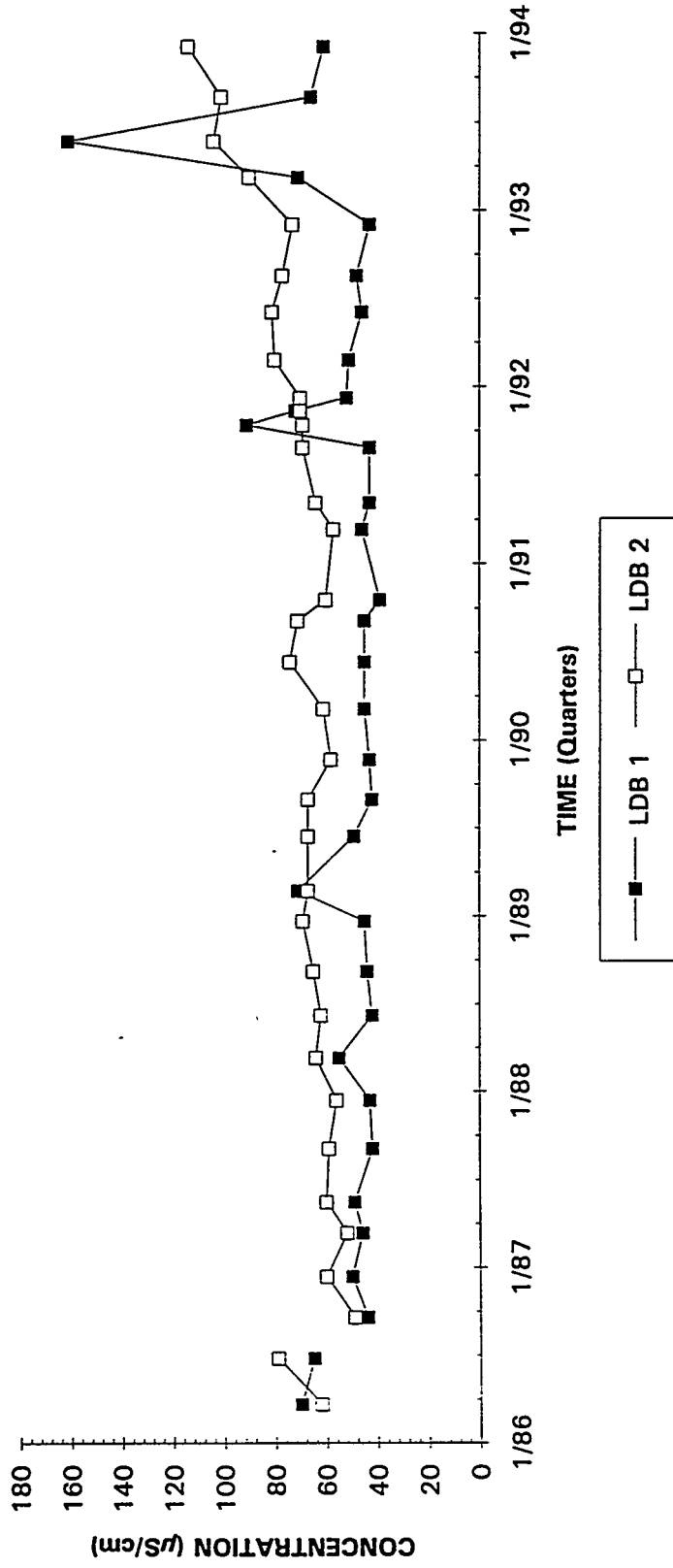
Conductivity LAW Well Series



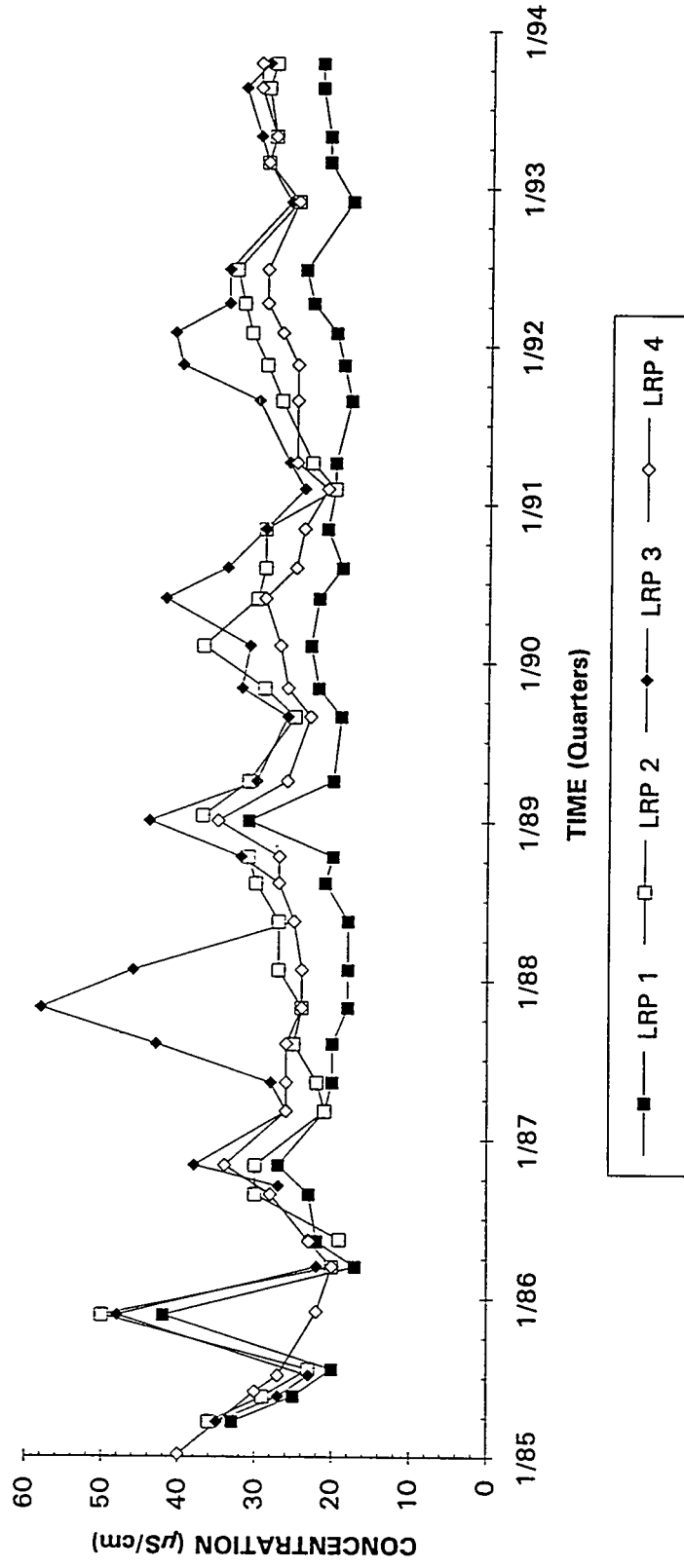
Conductivity LCO Well Series



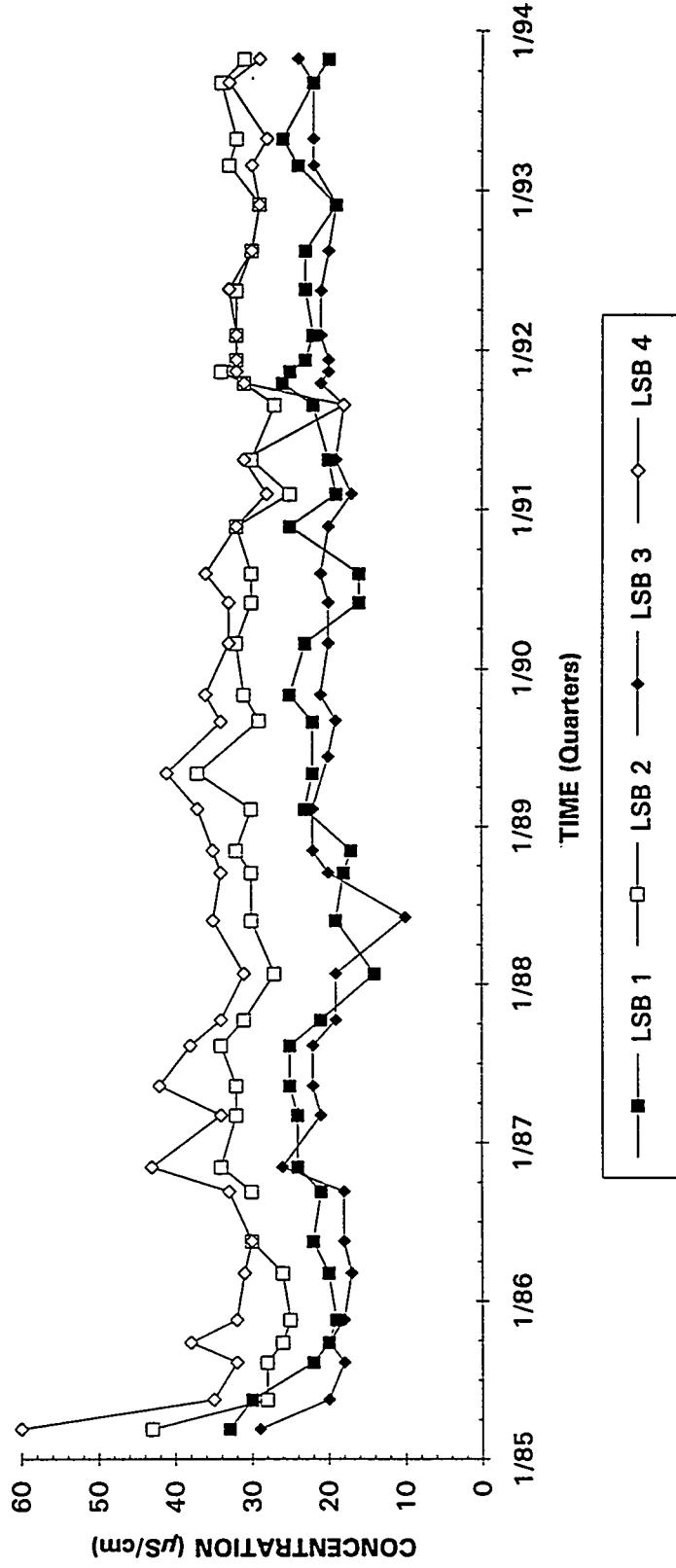
Conductivity LDB Well Series



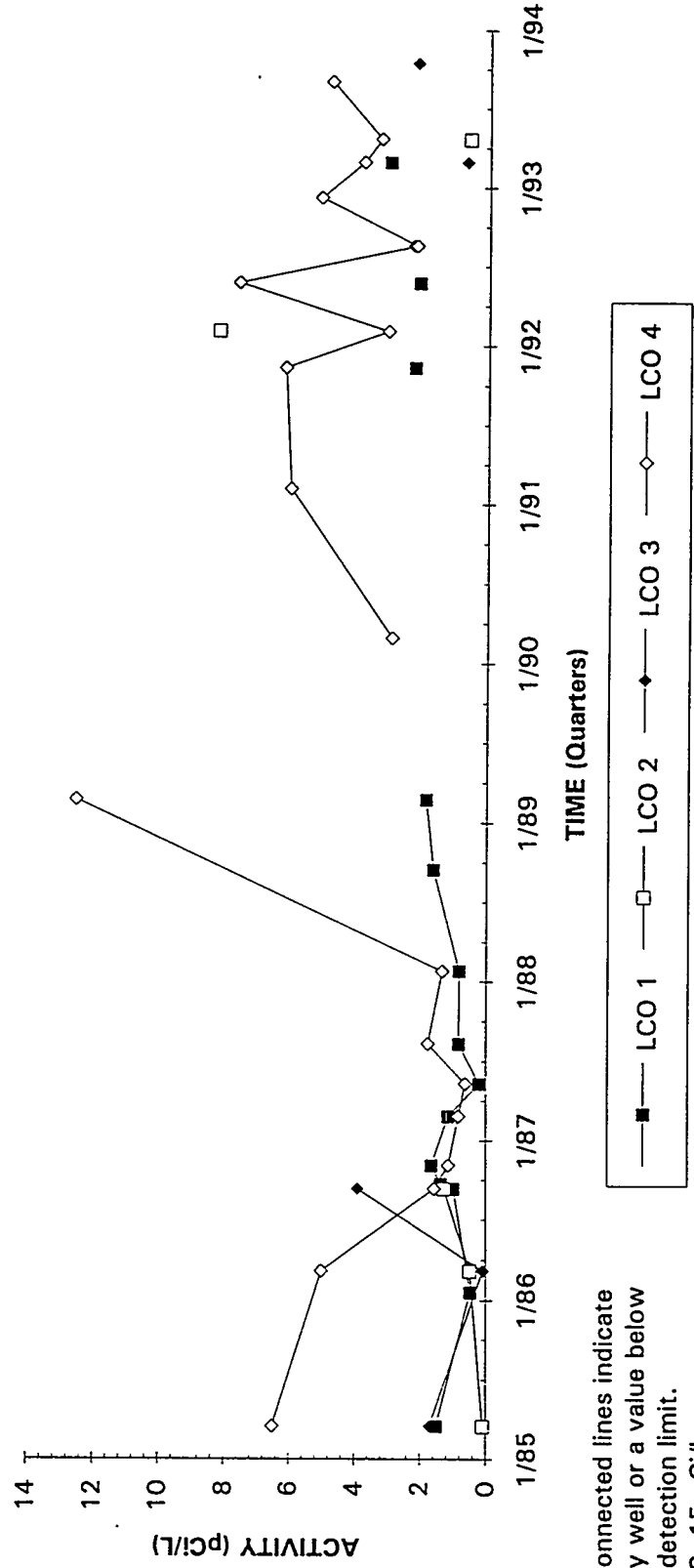
Conductivity LRP Well Series



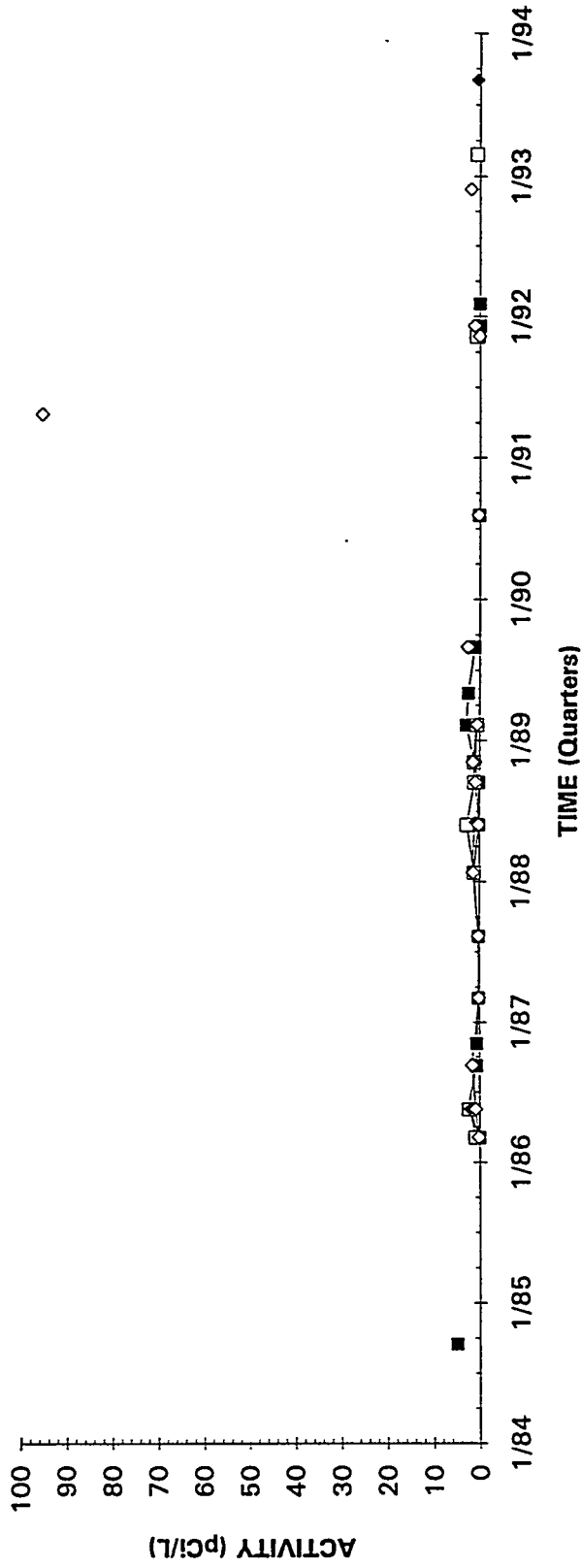
Conductivity LSB Well Series



Gross Alpha Activities LCO Well Series

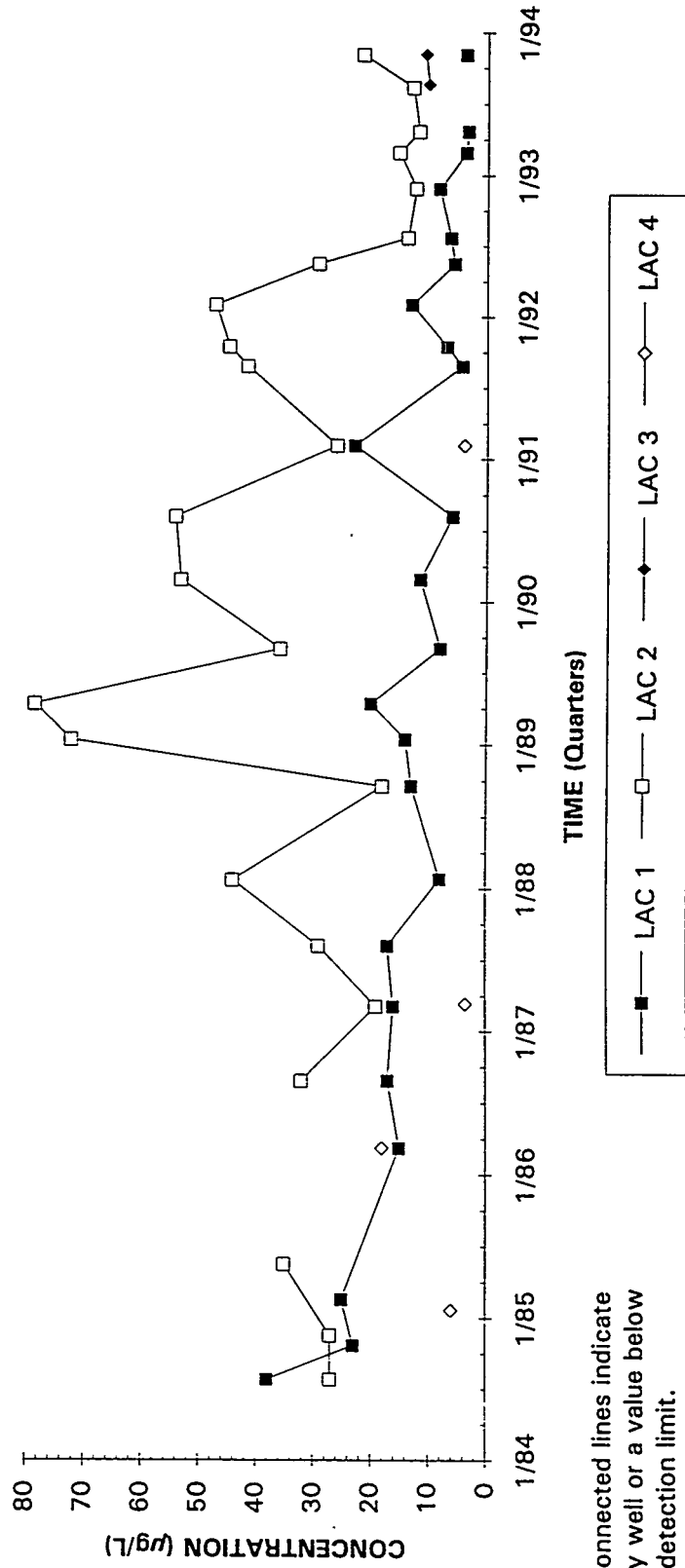


Gross Alpha Activities LSB Well Series

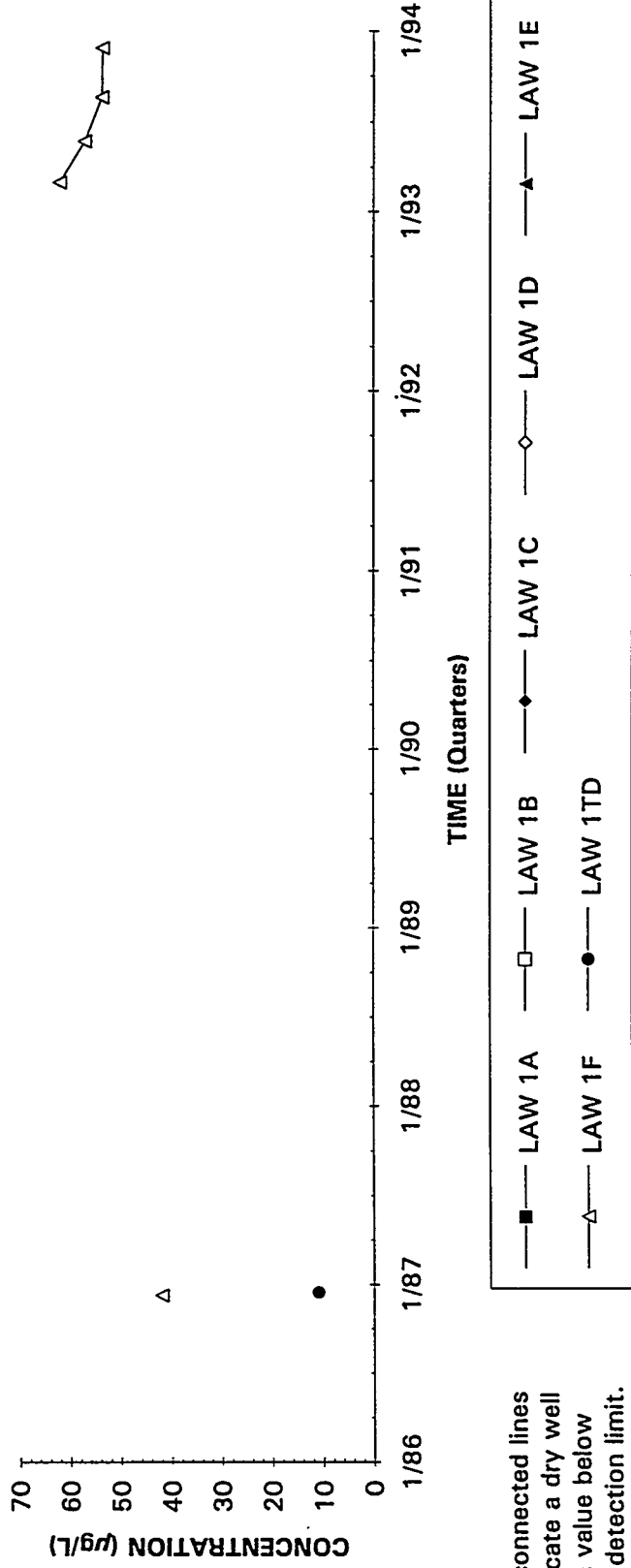


Unconnected lines indicate a dry well or a value below the detection limit.
DWS: 15 pCi/L

Lead Concentrations LAC Well Series

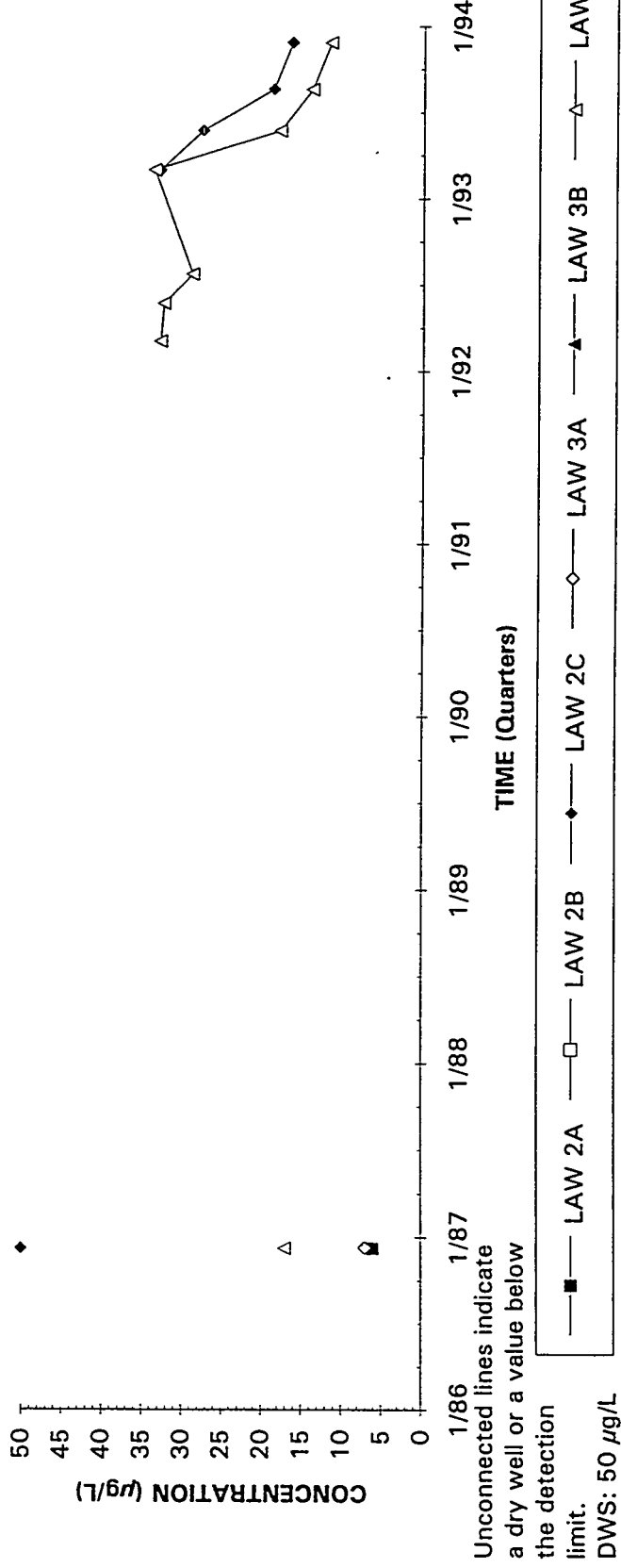


Lead Concentrations LAW Well Series (LAW 1A through 1TD)

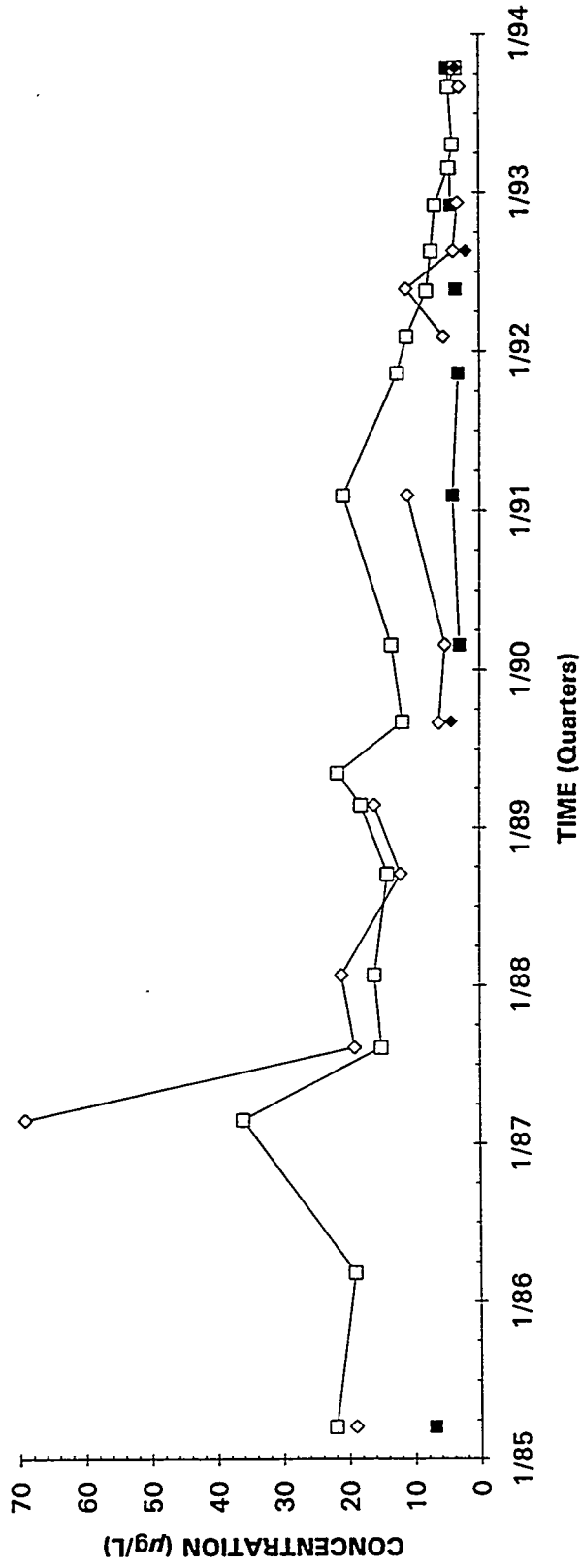


Unconnected lines indicate a dry well or a value below the detection limit.
DWS: 50 µg/L

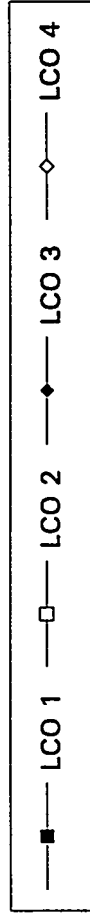
Lead Concentrations LAW Well Series (LAW 2A through 3C)



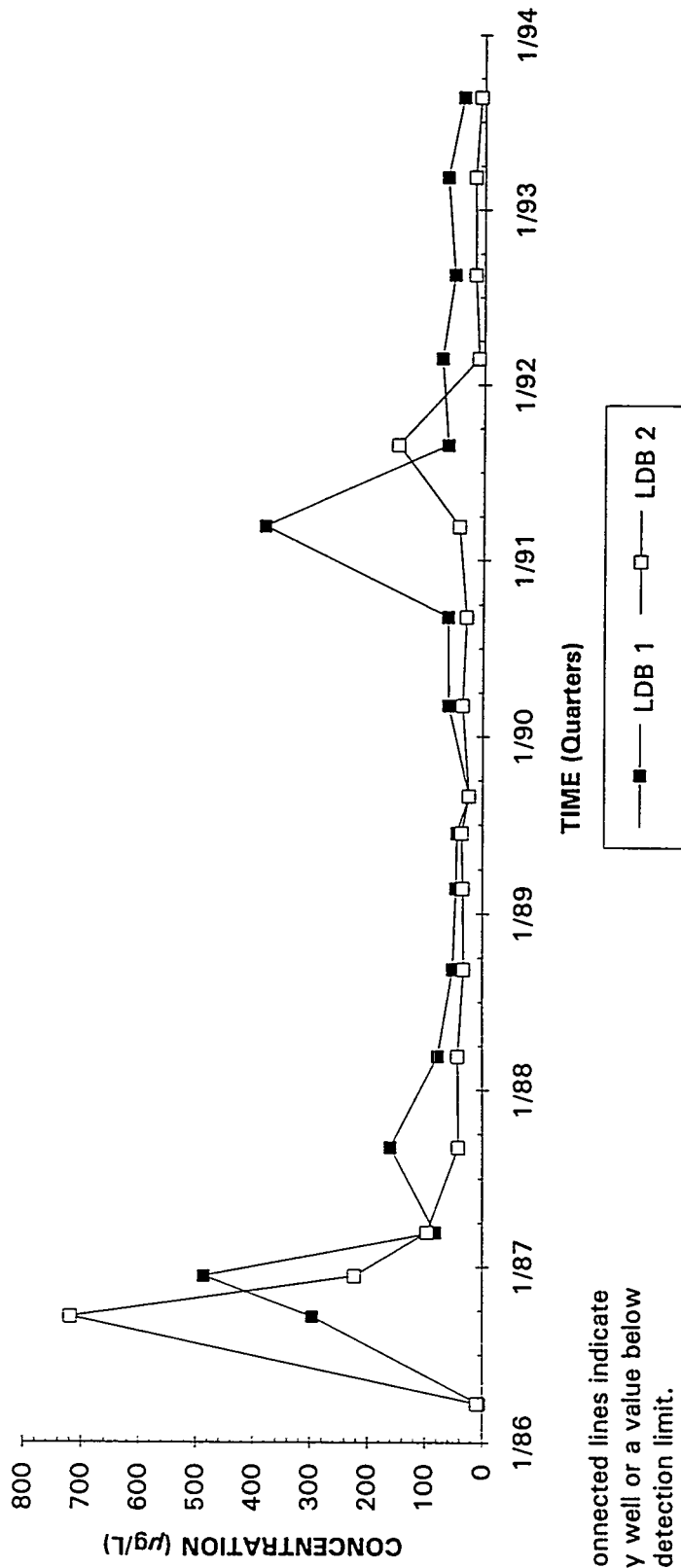
Lead Concentrations LCO Well Series



Unconnected lines indicate a dry well or a value below the detection limit.
DWS: 50 µg/L

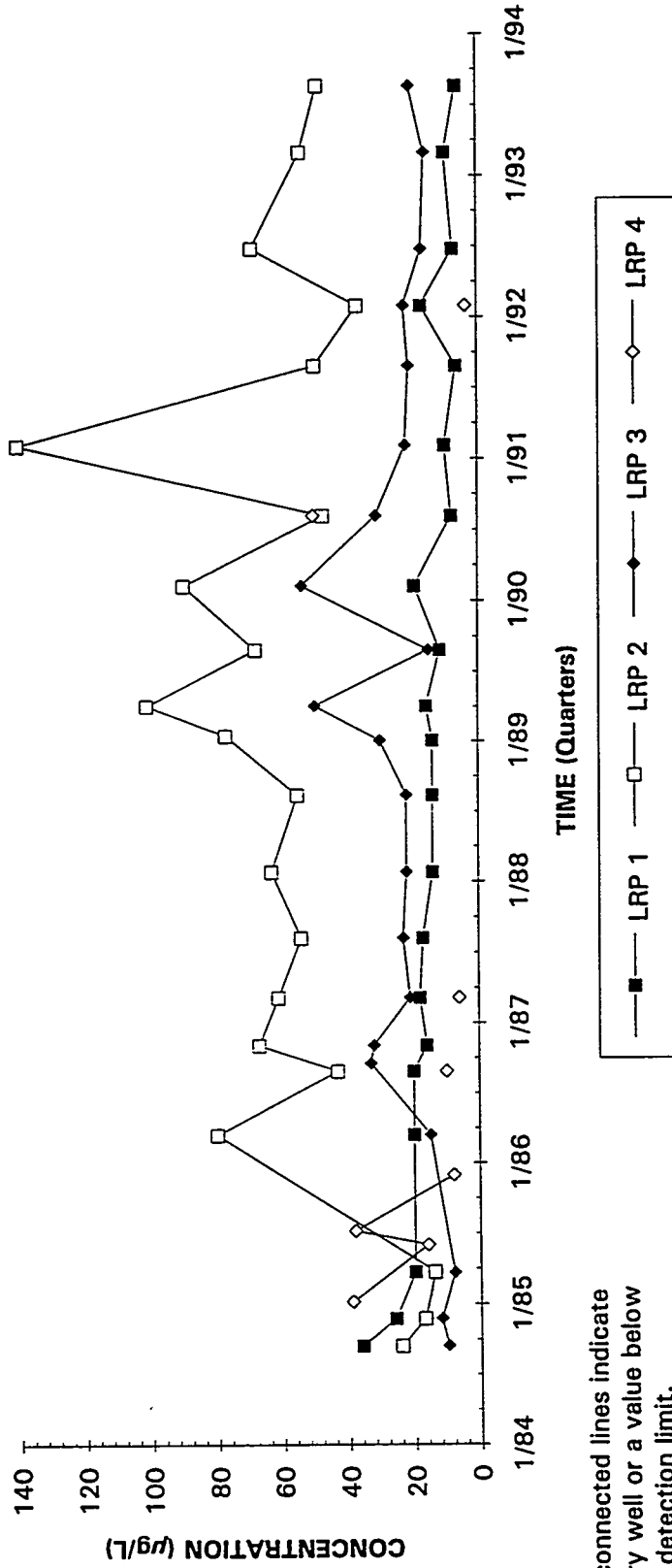


Lead Concentrations LDB Well Series



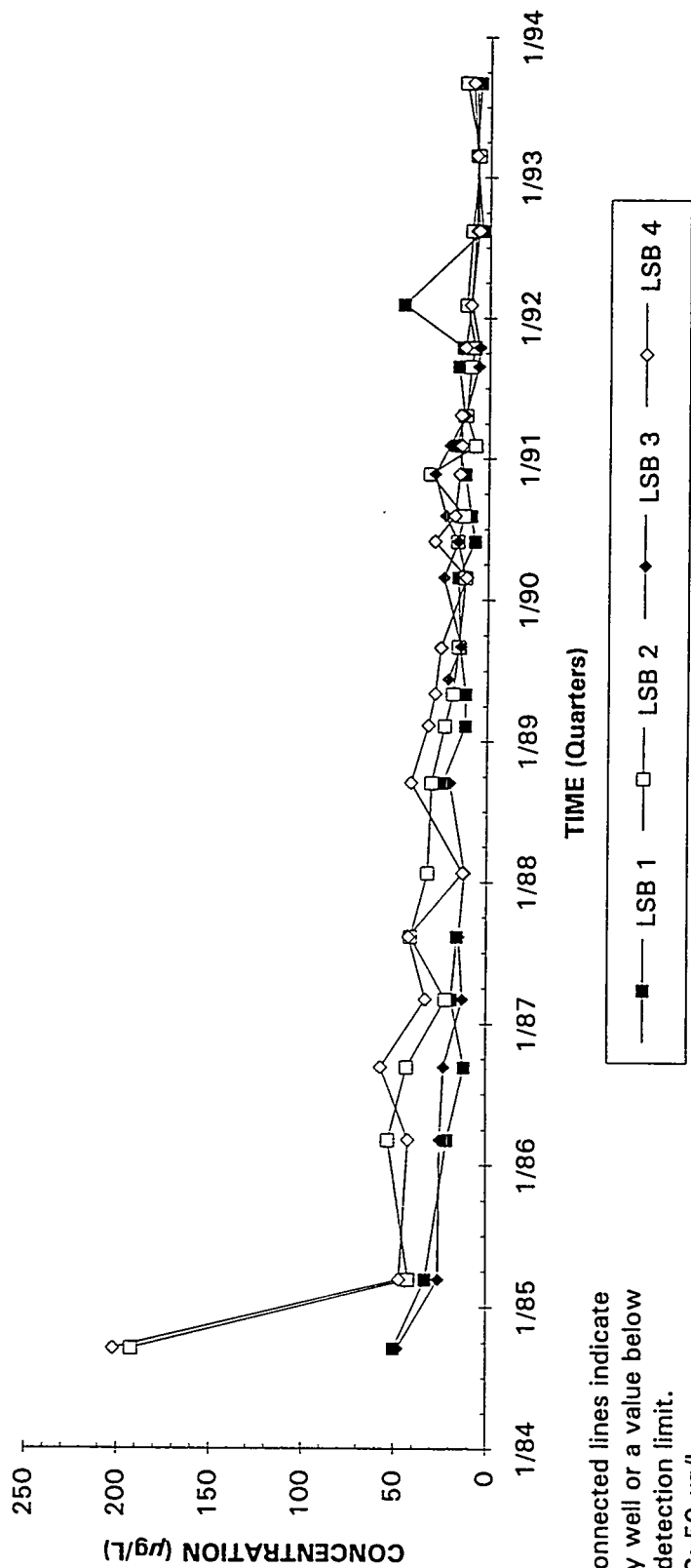
Unconnected lines indicate a dry well or a value below the detection limit.
DWS: 50 µg/L

Lead Concentrations LRP Well Series



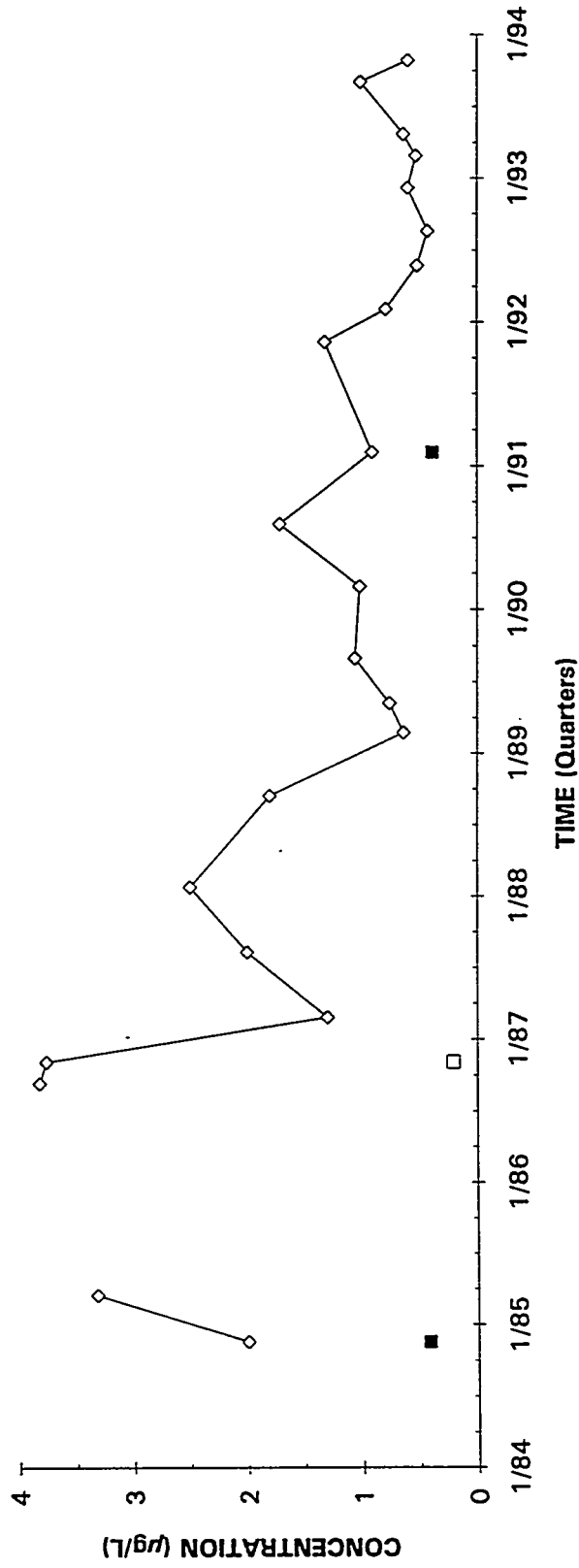
Unconnected lines indicate a dry well or a value below the detection limit.
DWS: 50 µg/L

Lead Concentrations LSB Well Series



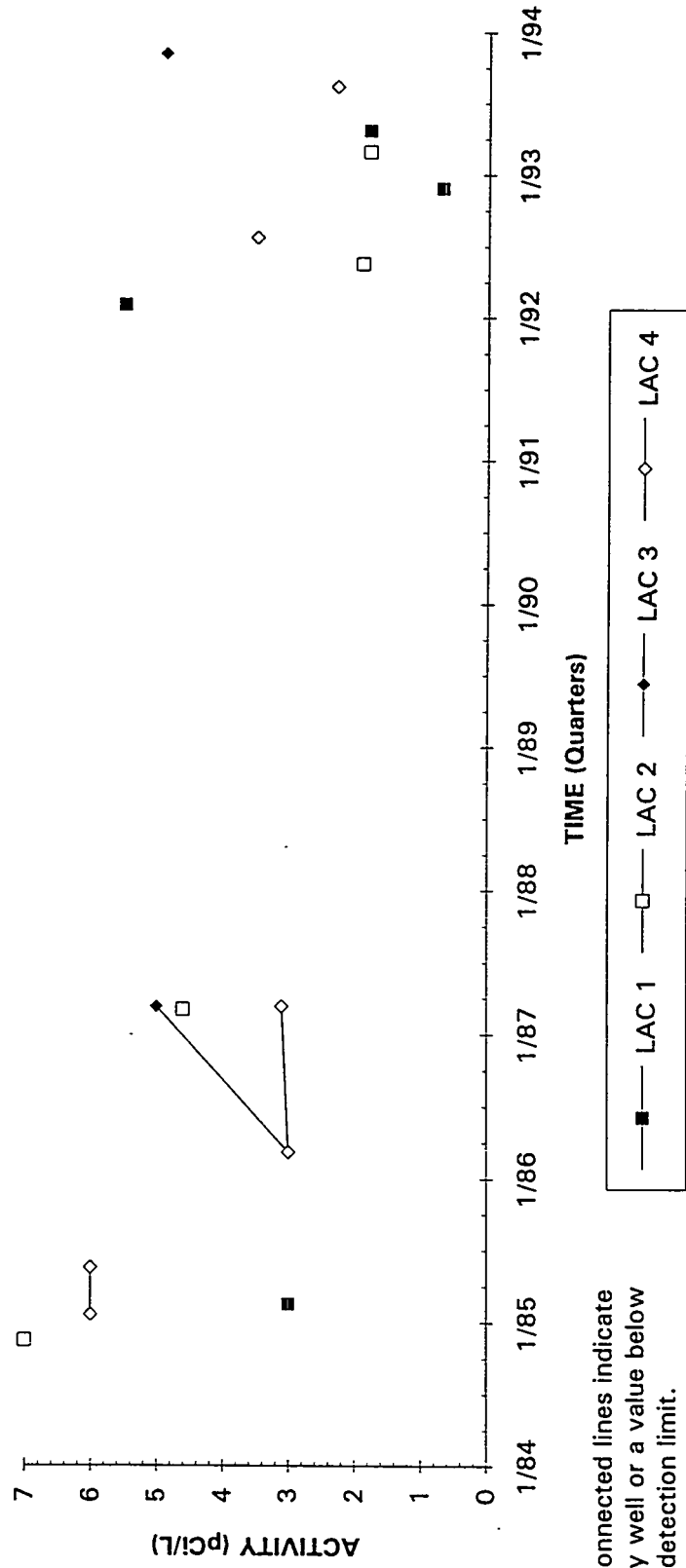
Unconnected lines indicate a dry well or a value below the detection limit.
DWS: 50 µg/L

Mercury Concentrations LCO Well Series

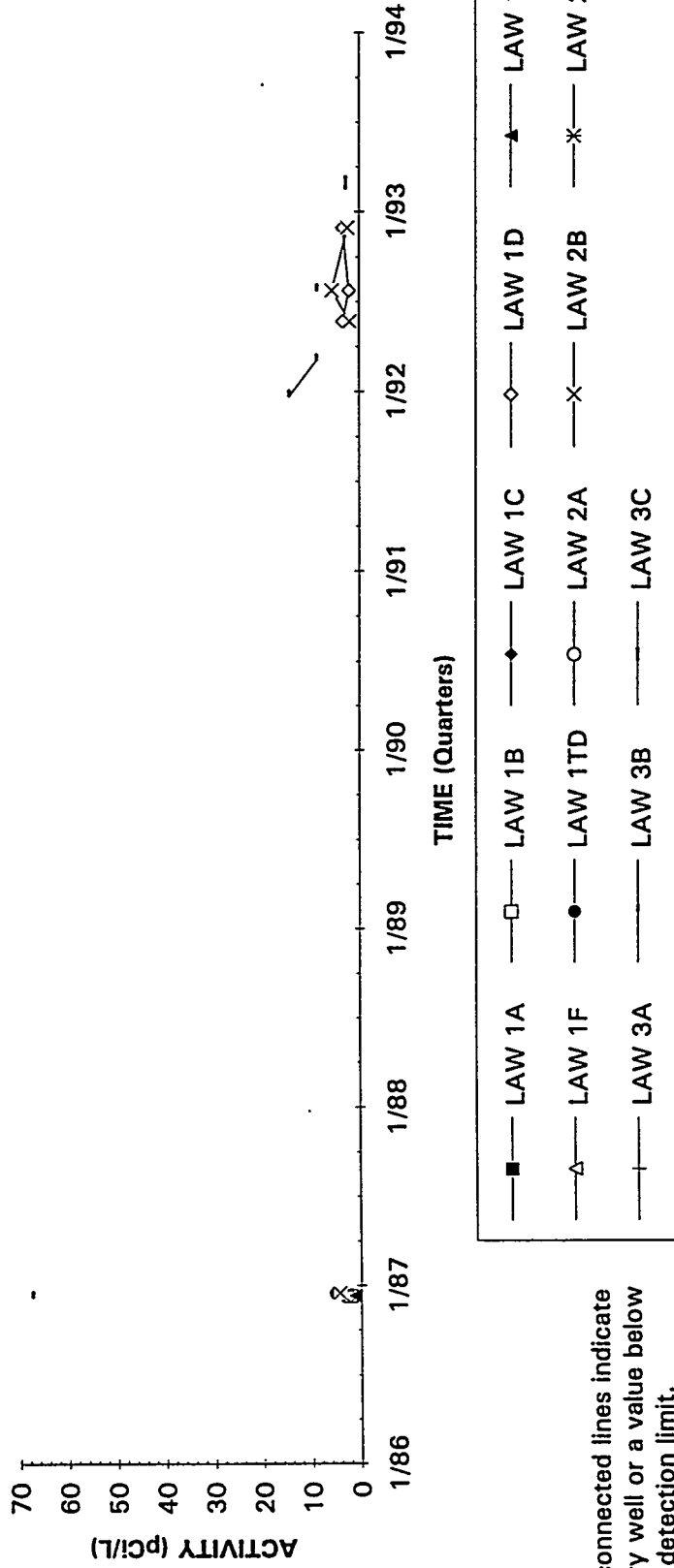


Unconnected lines indicate a dry well or a value below the detection limit.
DWS: 2 µg/L

Nonvolatile Beta Activities LAC Well Series

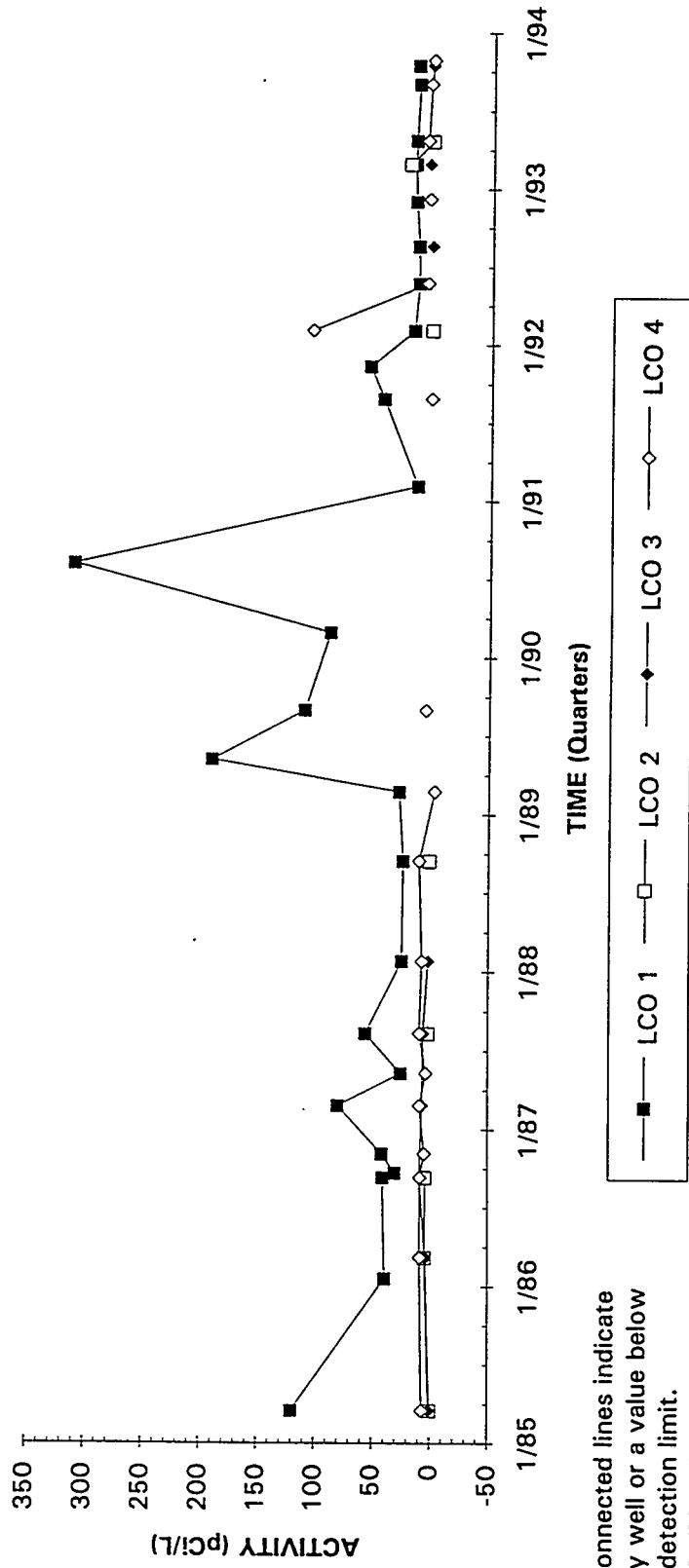


Nonvolatile Beta Activities LAW Well Series

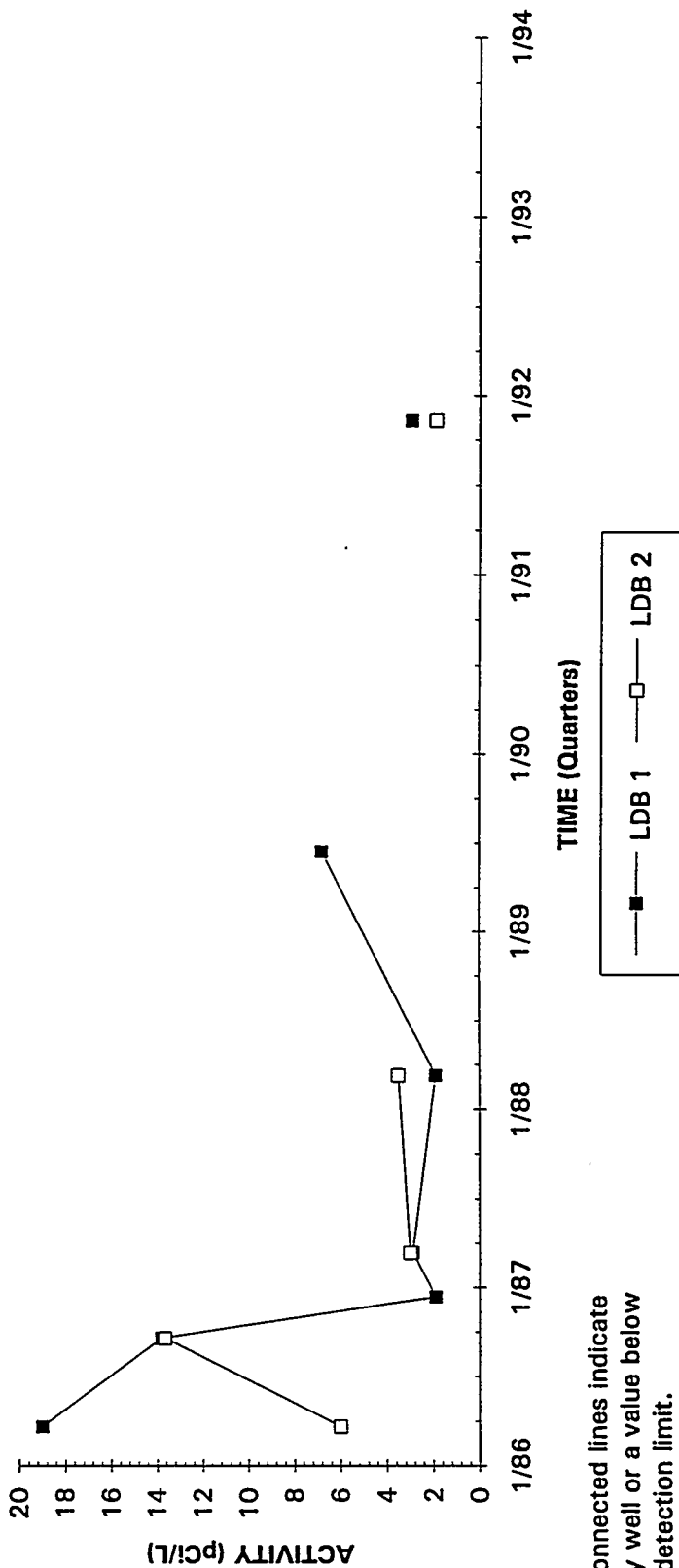


Unconnected lines indicate a dry well or a value below the detection limit.
DWS: 50 pCi/L

Nonvolatile Beta Activities LCO Well Series

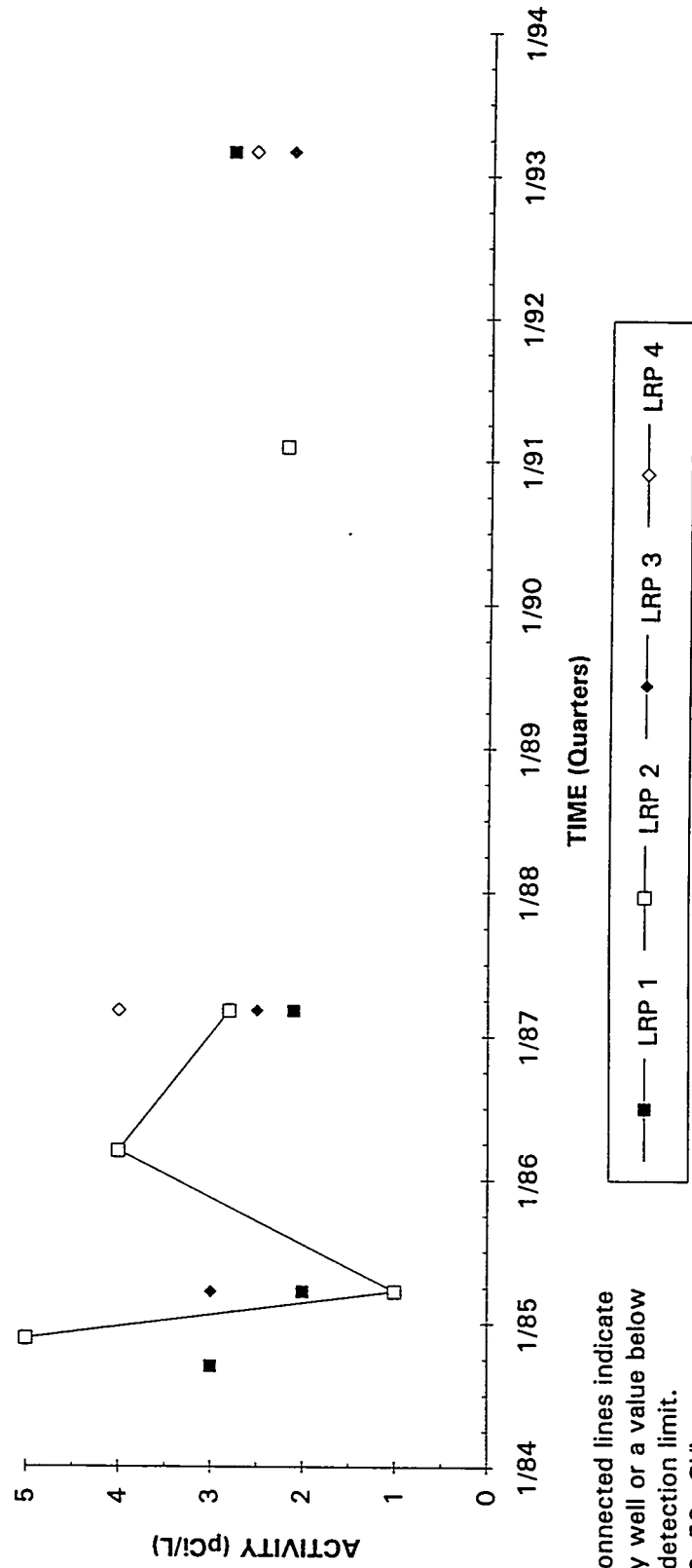


Nonvolatile Beta Activities LDB Well Series



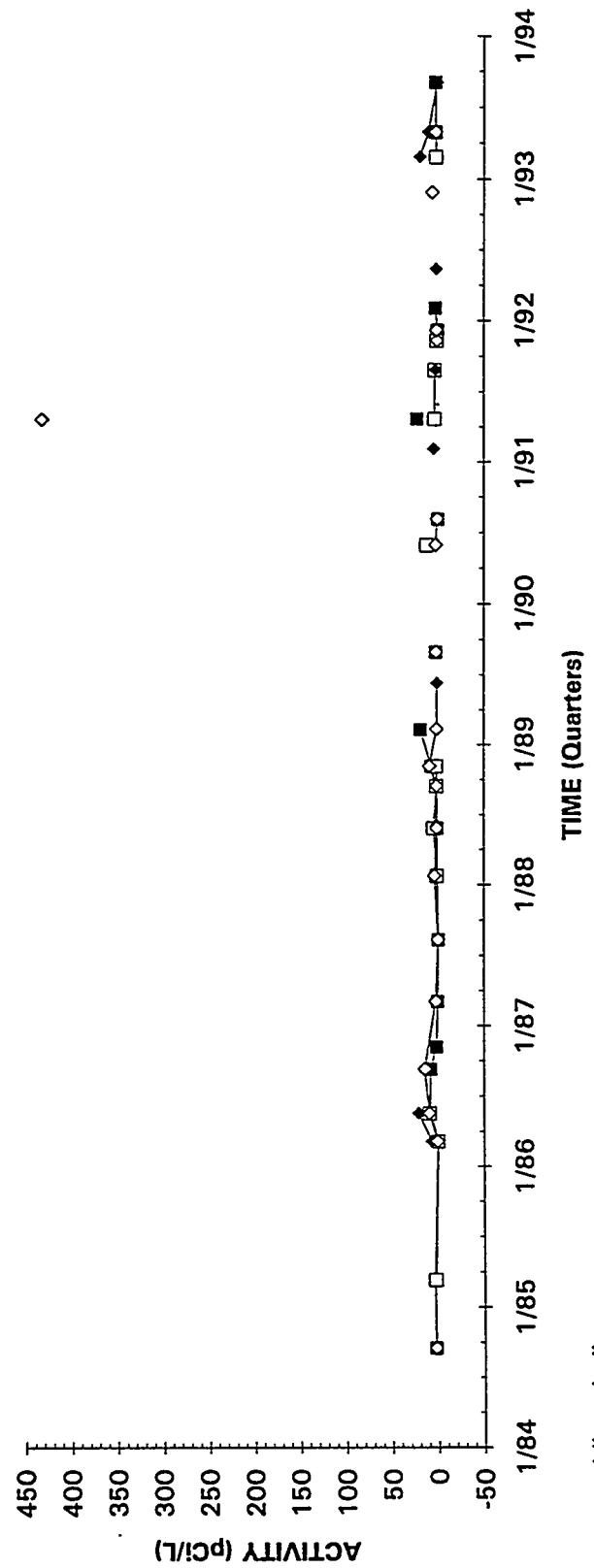
Unconnected lines indicate
a dry well or a value below
the detection limit.
DWS: 50 pCi/L

Nonvolatile Beta Activities LRP Well Series



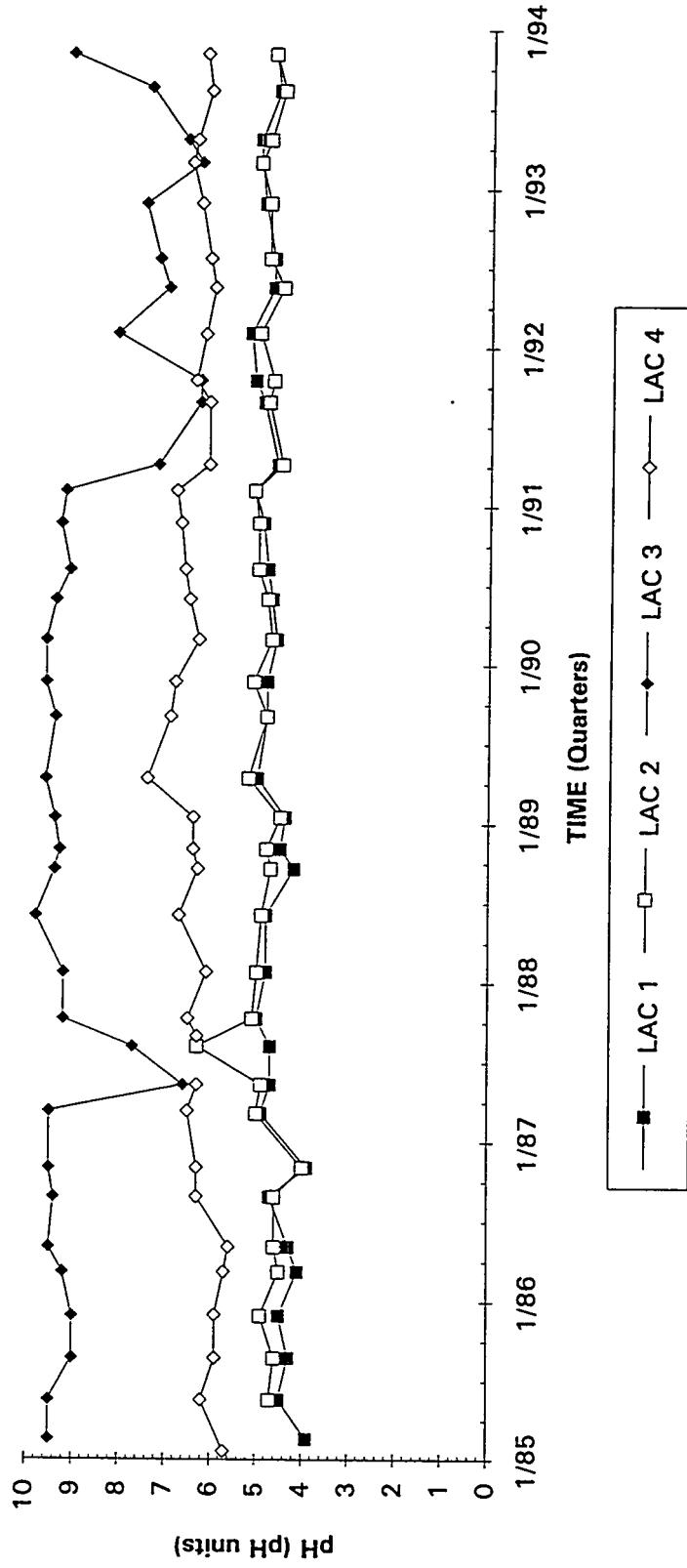
Unconnected lines indicate a dry well or a value below the detection limit.
DWS: 50 pCi/L

Nonvolatile Beta Activities LSB Well Series

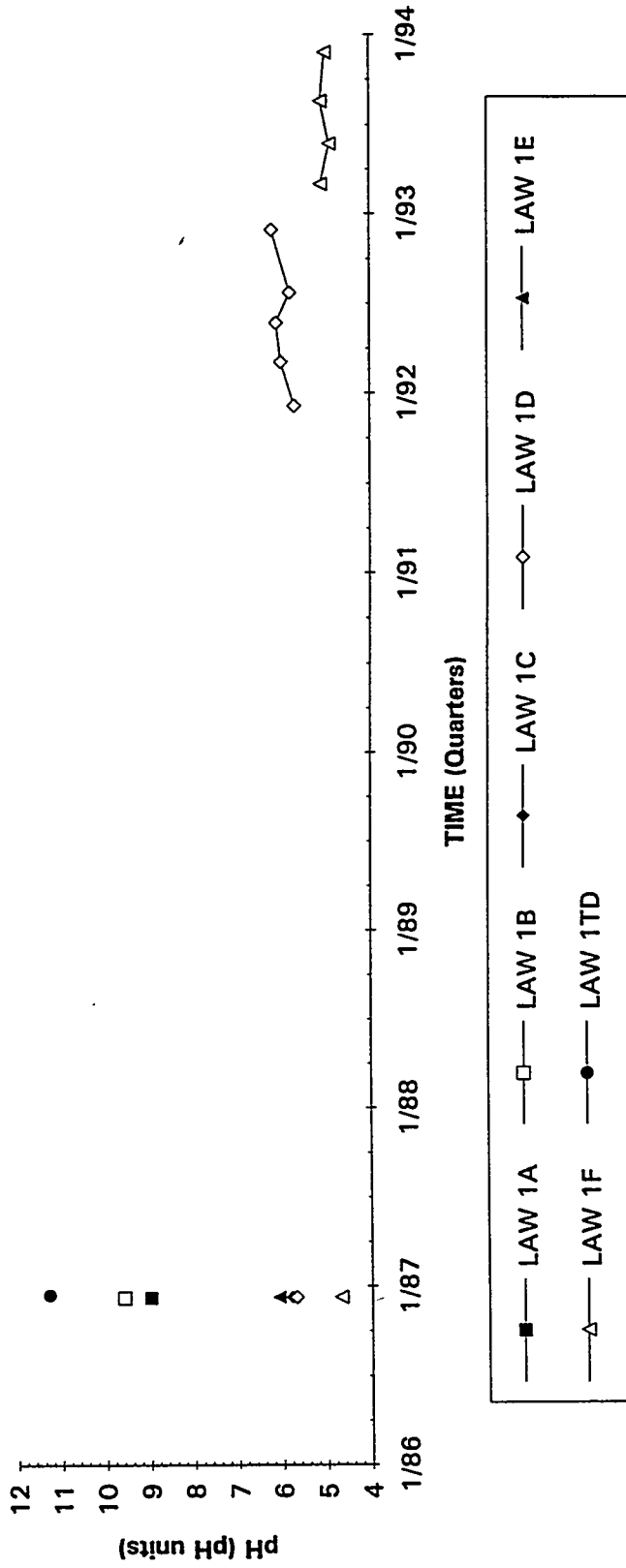


Unconnected lines indicate a dry well or a value below the detection limit.
DWS: 50 pCi/L

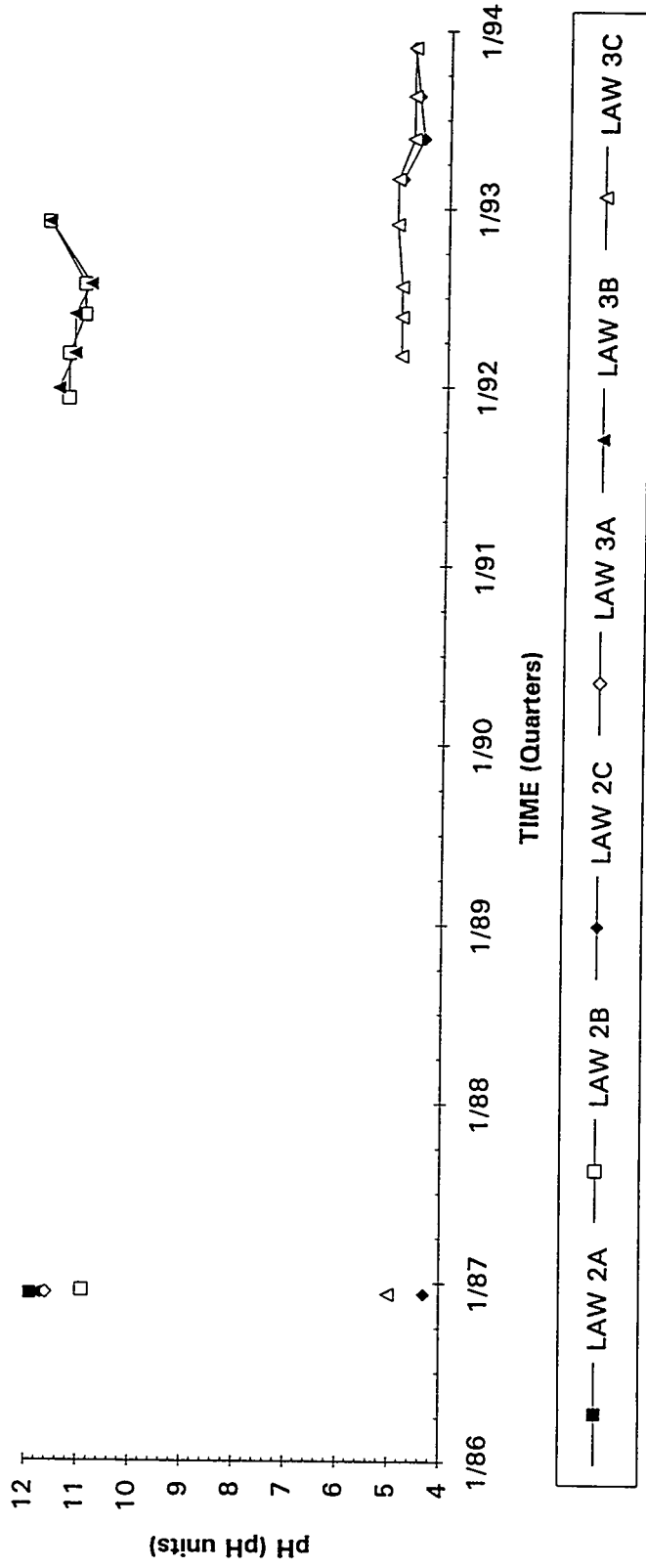
pH LAC Well Series



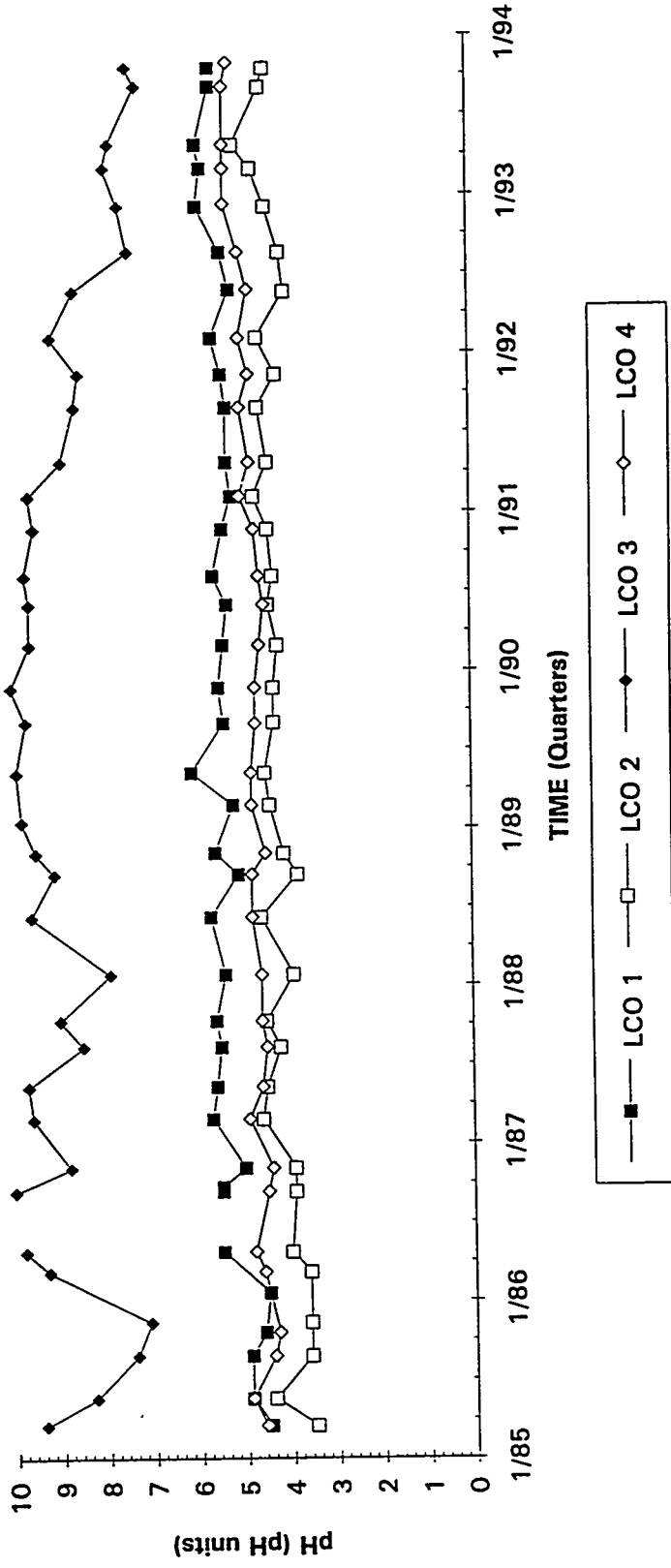
pH LAW Well Series (LAW 1A through 1TD)



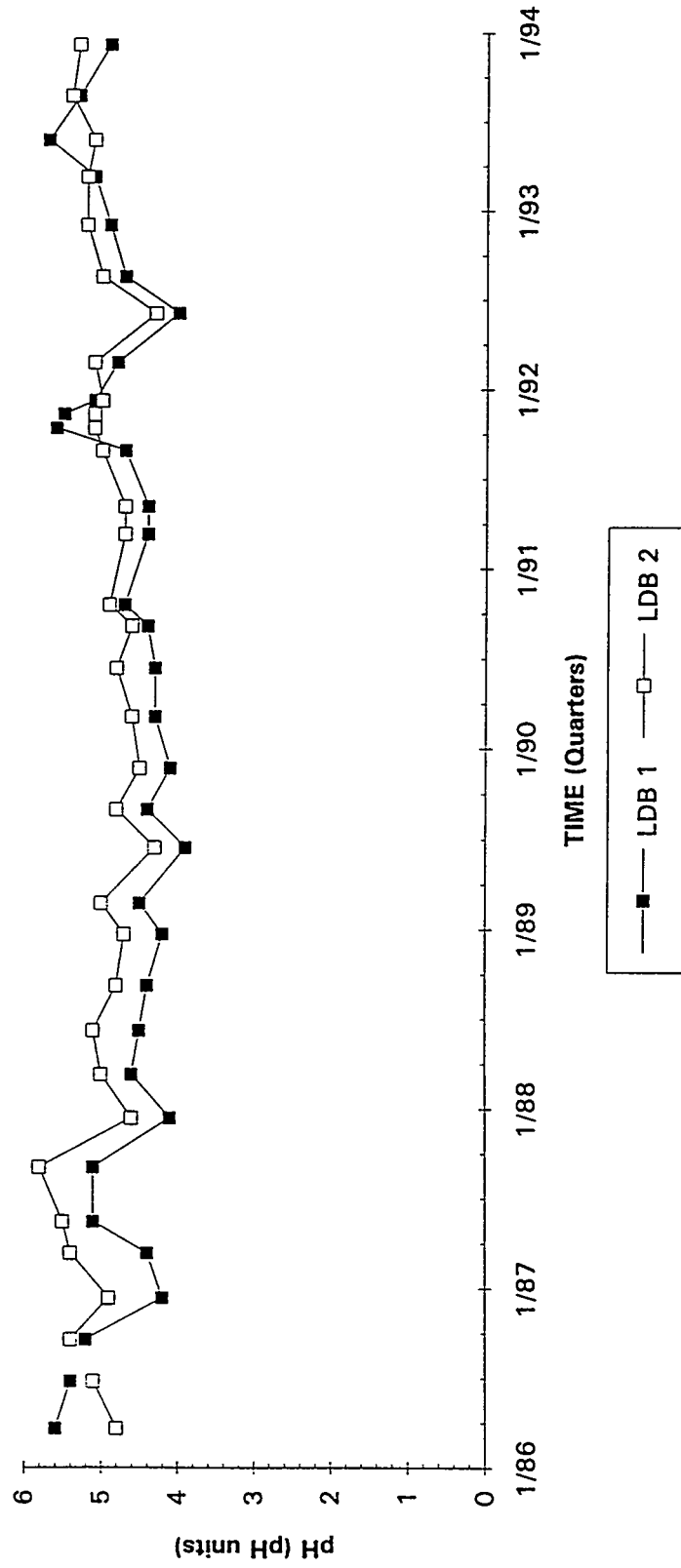
pH LAW Well Series (LAW 2A through 3C)



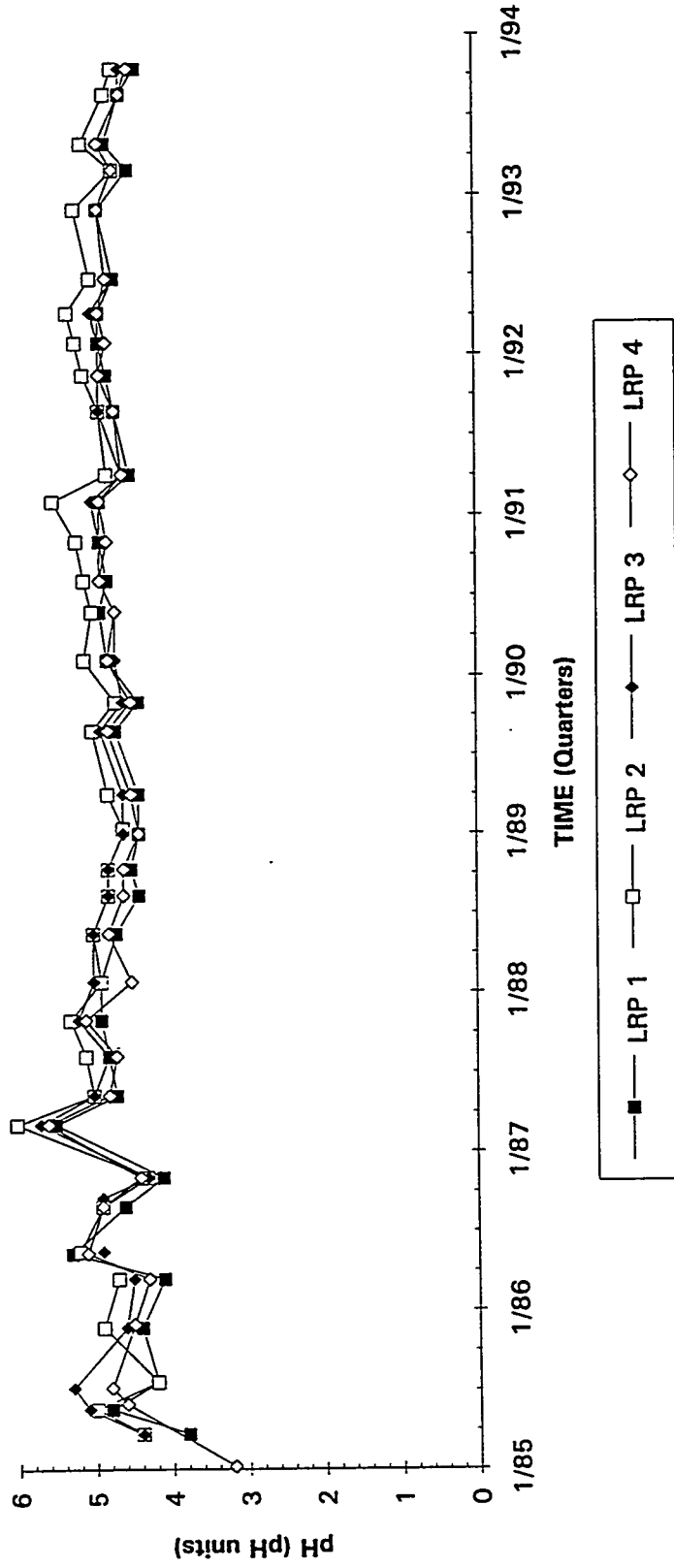
pH LCO Well Series



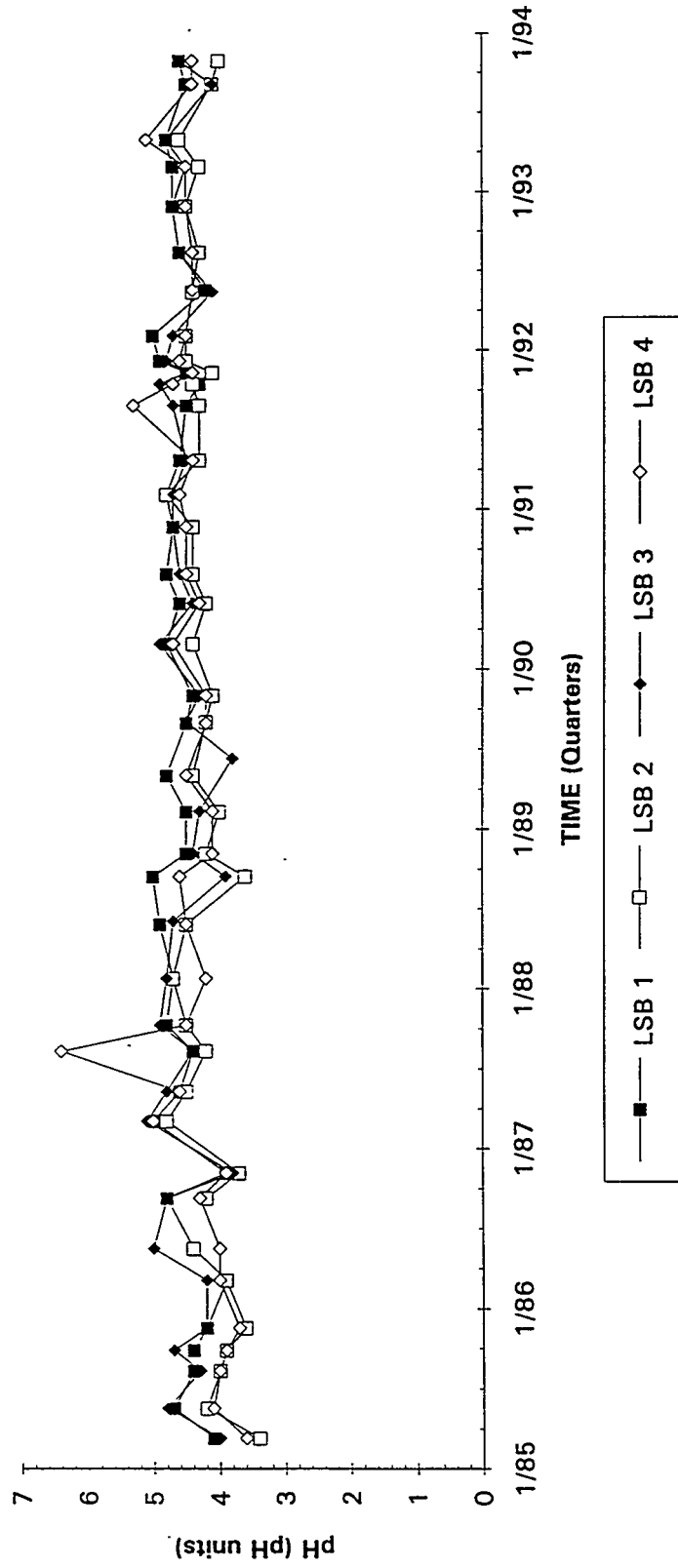
pH LDB Well Series



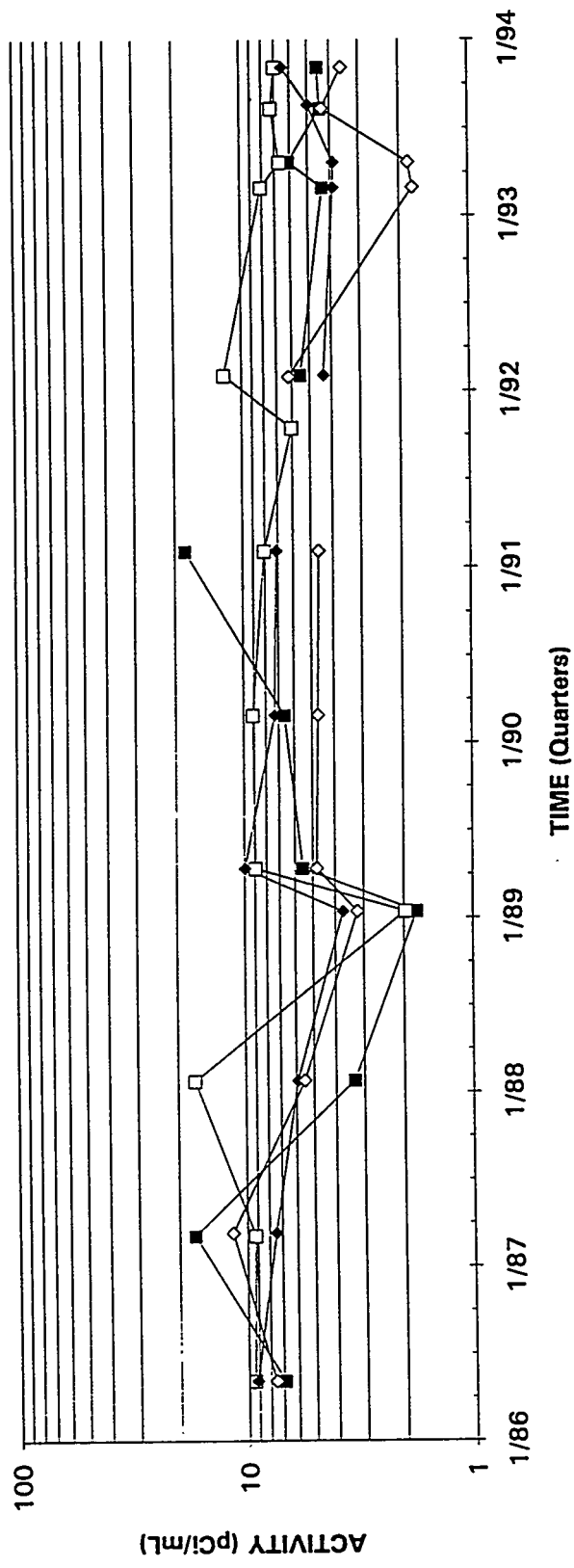
pH LRP Well Series



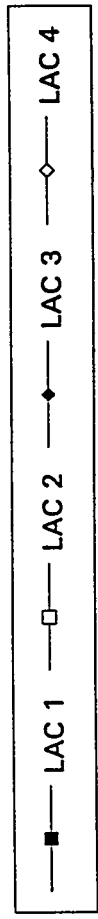
pH LSB Well Series



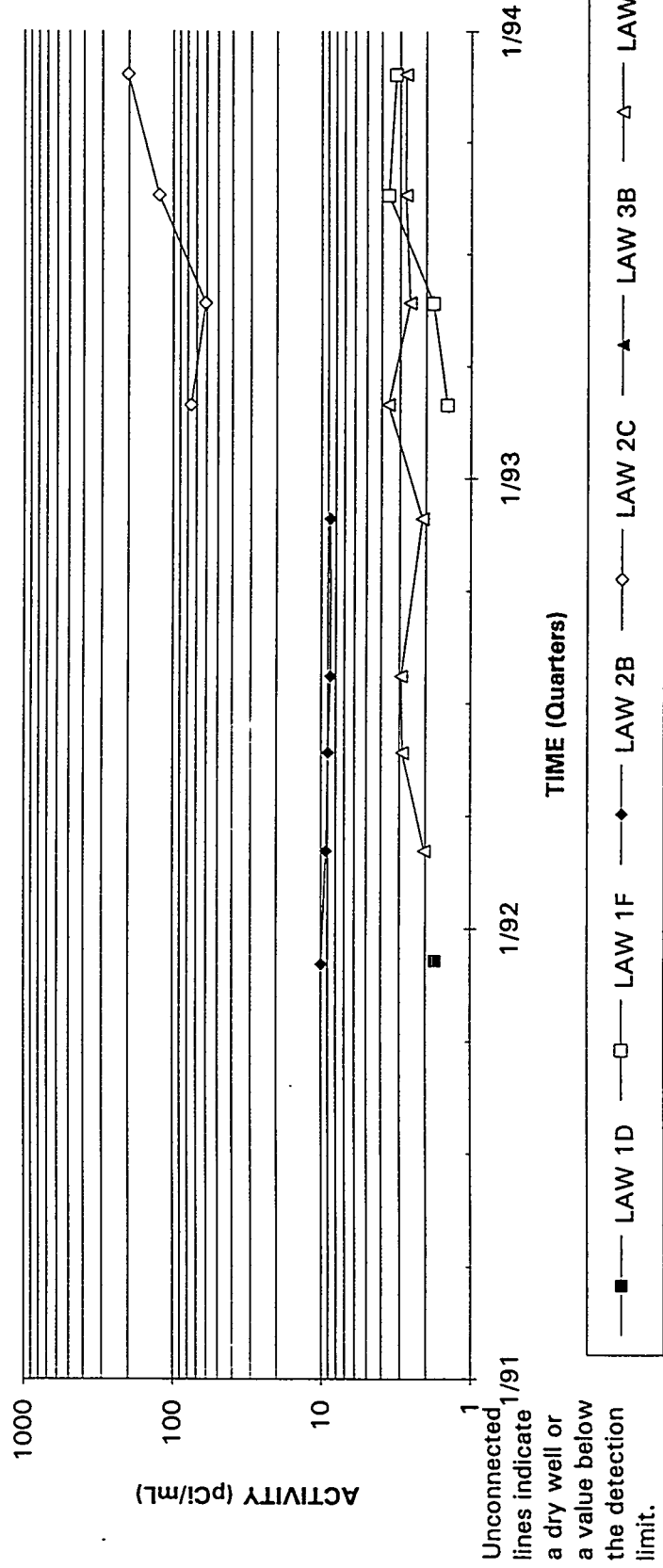
Tritium Activities LAC Well Series



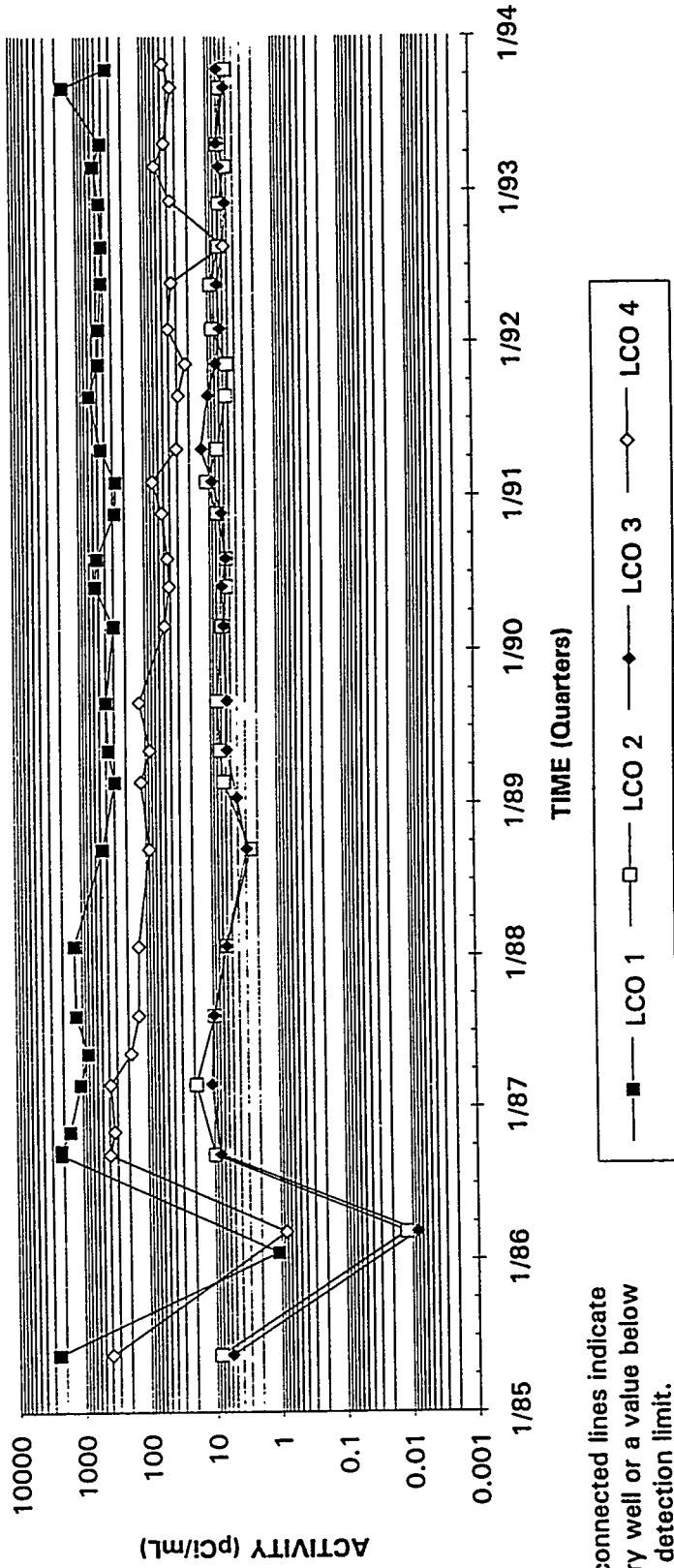
Unconnected lines indicate a dry well or a value below the detection limit.
 DWS: 20 pCi/mL



Tritium Activities LAW Well Series

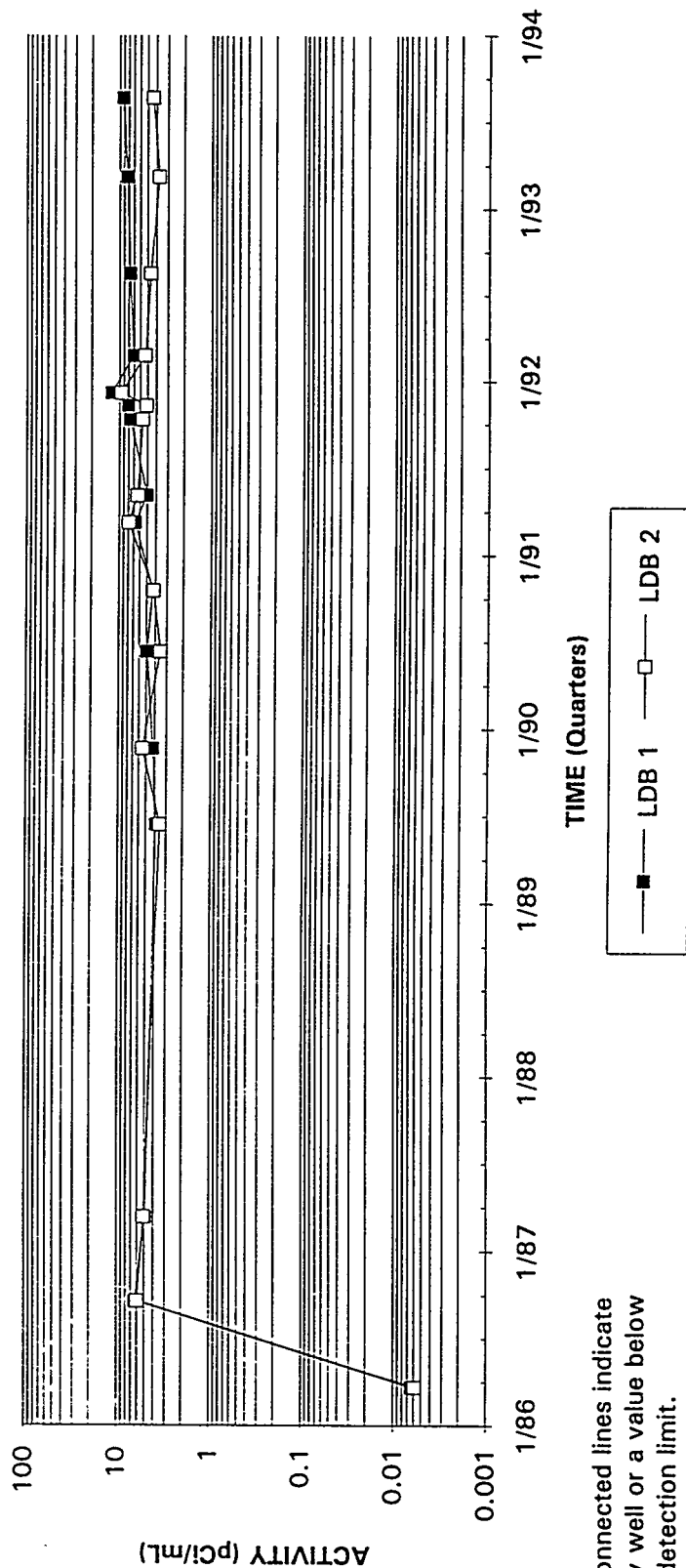


Tritium Activities LCO Well Series



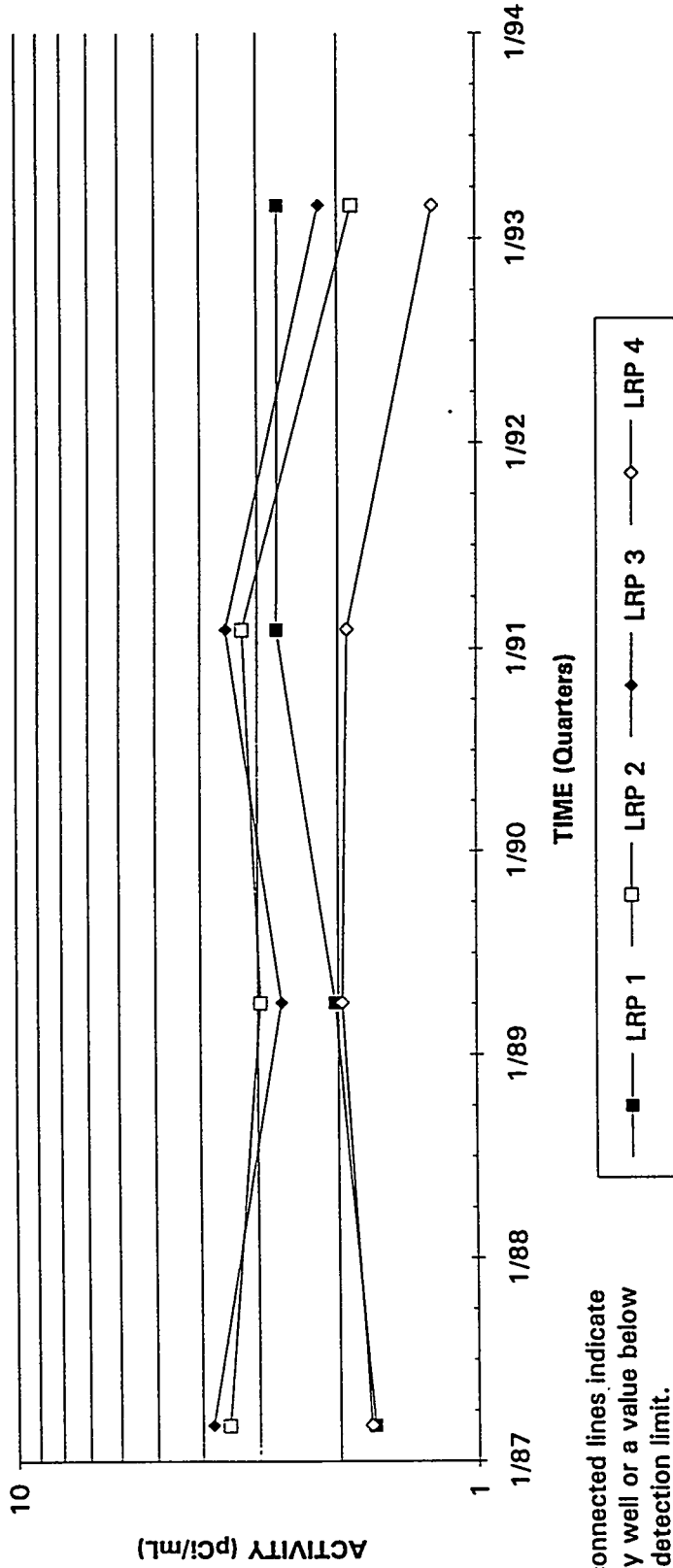
Unconnected lines indicate a dry well or a value below the detection limit.
DWS: 20 pCi/mL

Tritium Activities LDB Well Series



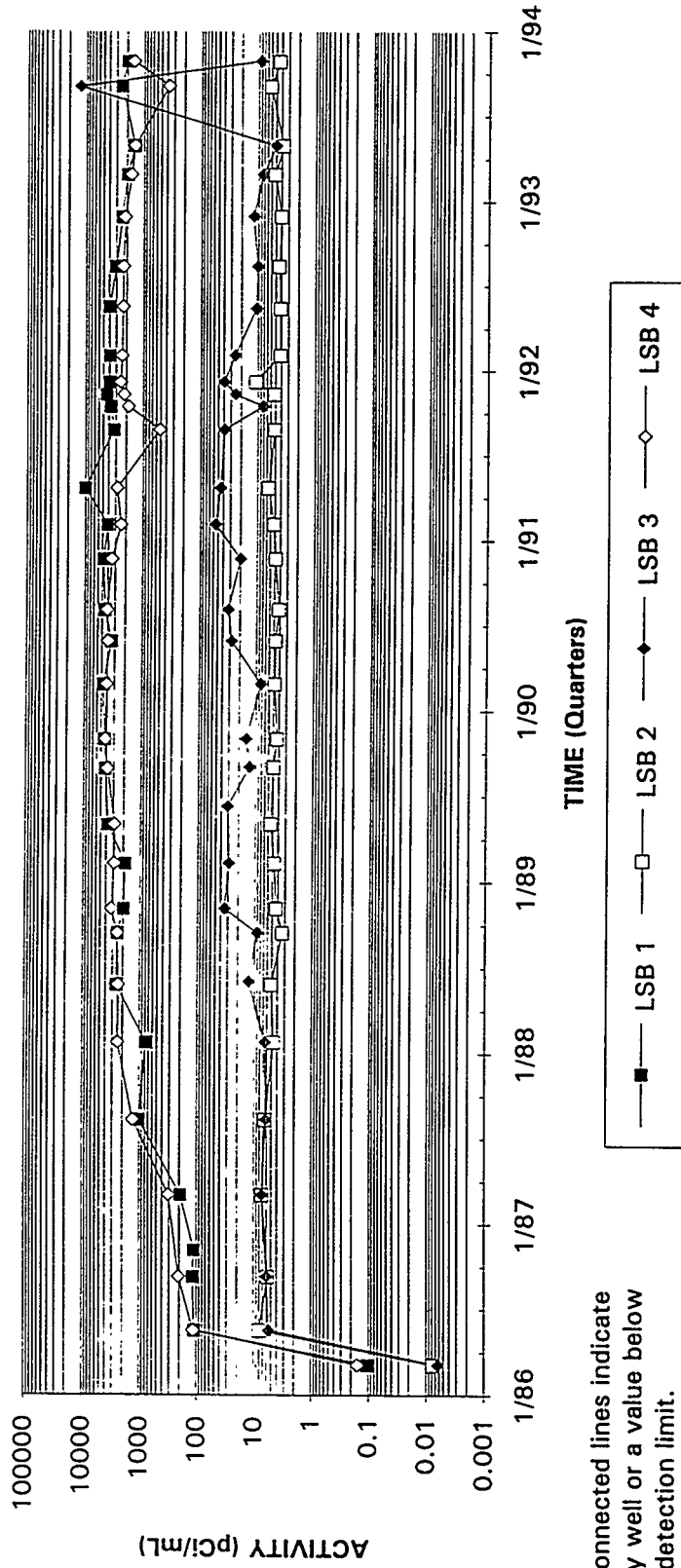
Unconnected lines indicate a dry well or a value below the detection limit.
DWS: 20 pCi/mL

Tritium Activities LRP Well Series



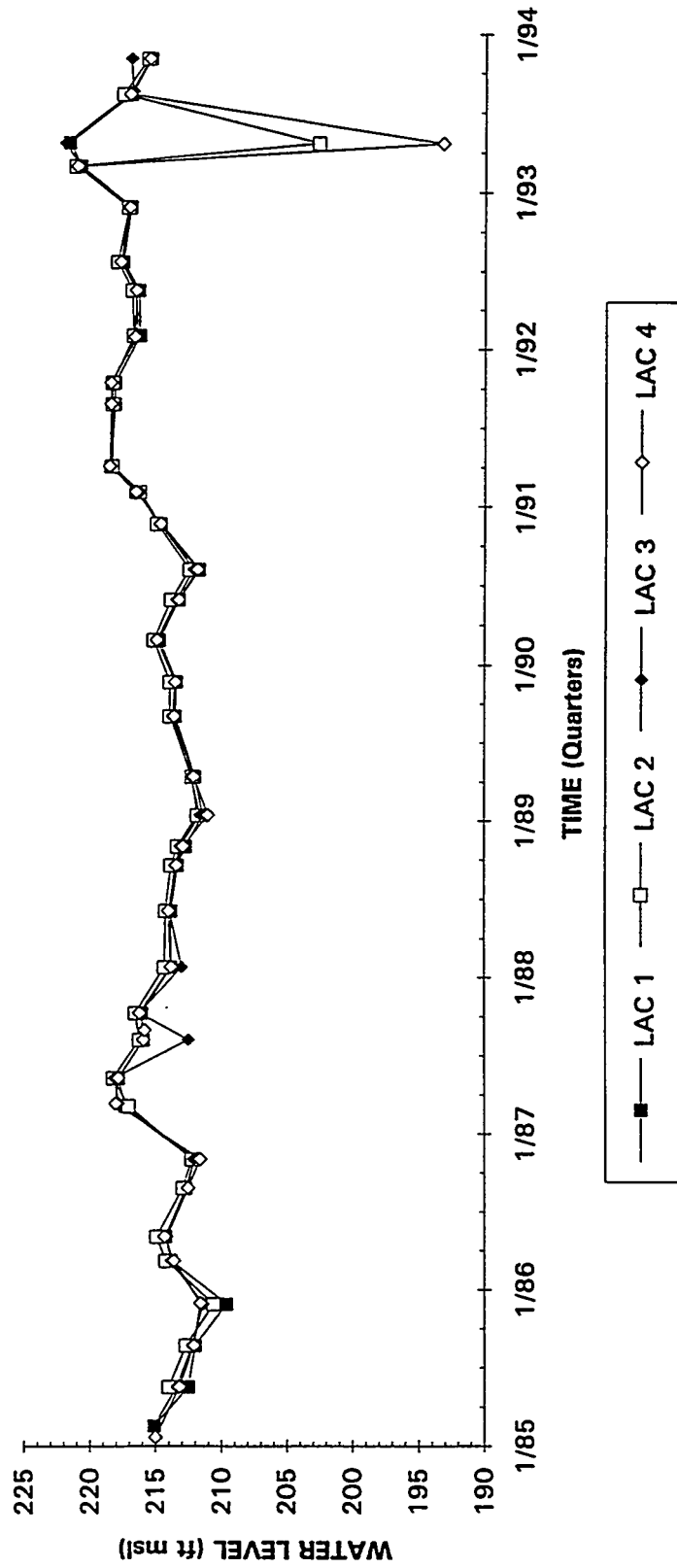
Unconnected lines indicate a dry well or a value below the detection limit.
DWS: 20 pCi/mL

Tritium Activities LSB Well Series

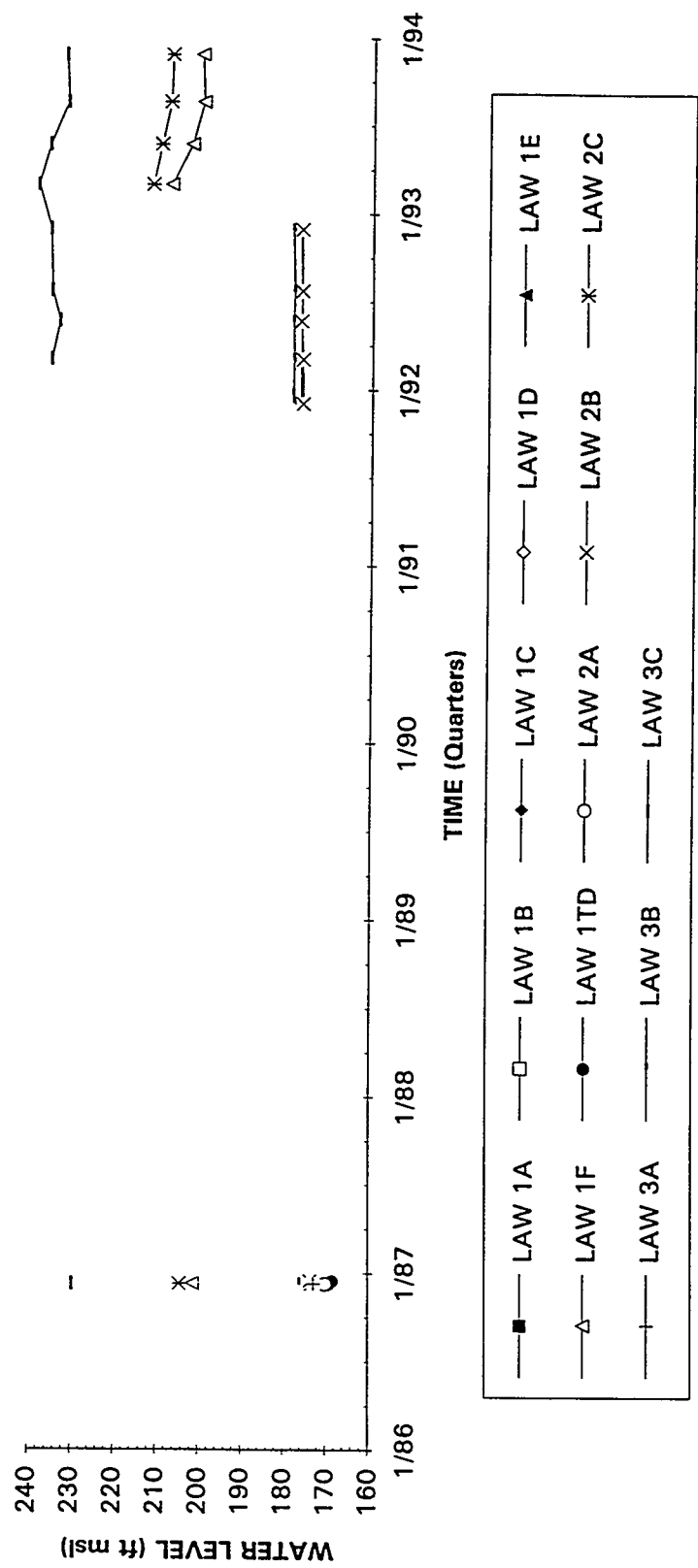


Unconnected lines indicate a dry well or a value below the detection limit.
DWS: 20 pCi/mL

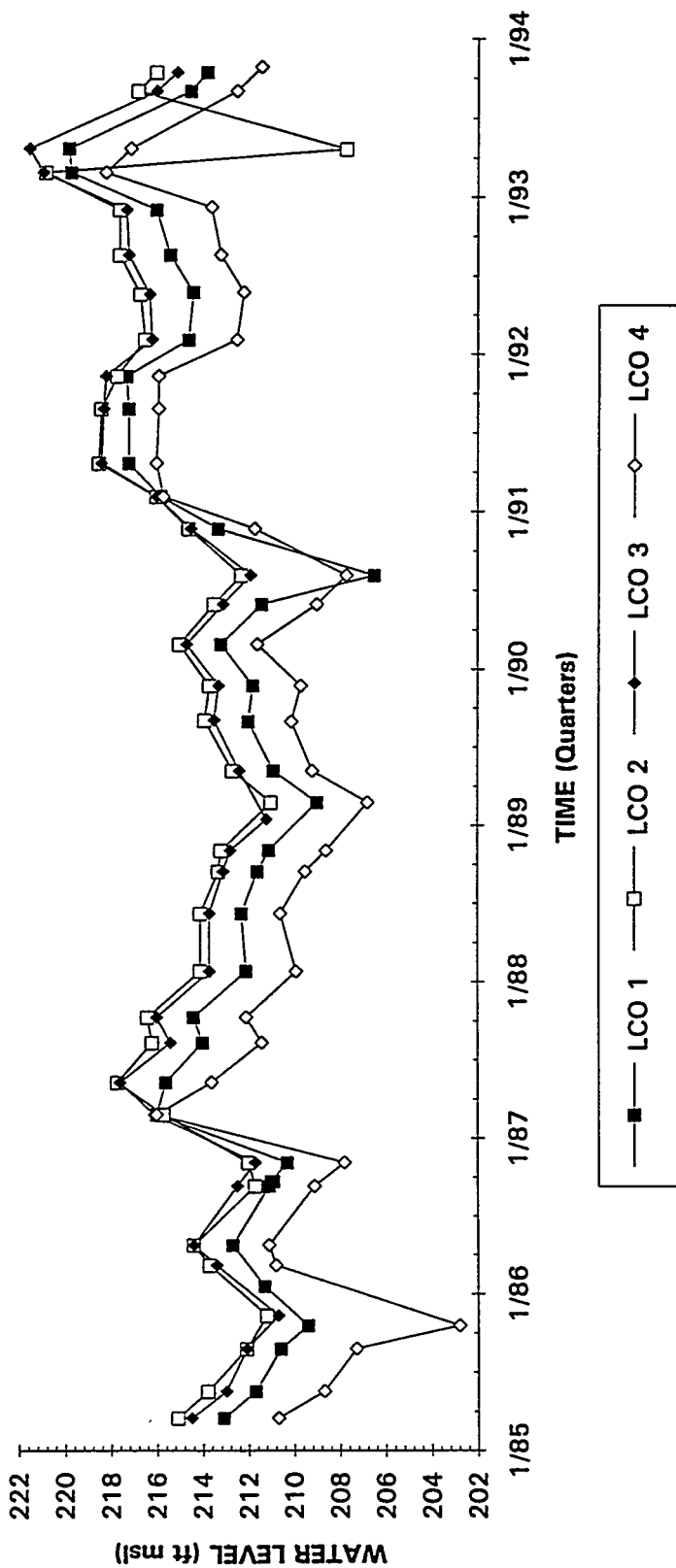
Hydrograph LAC Well Series



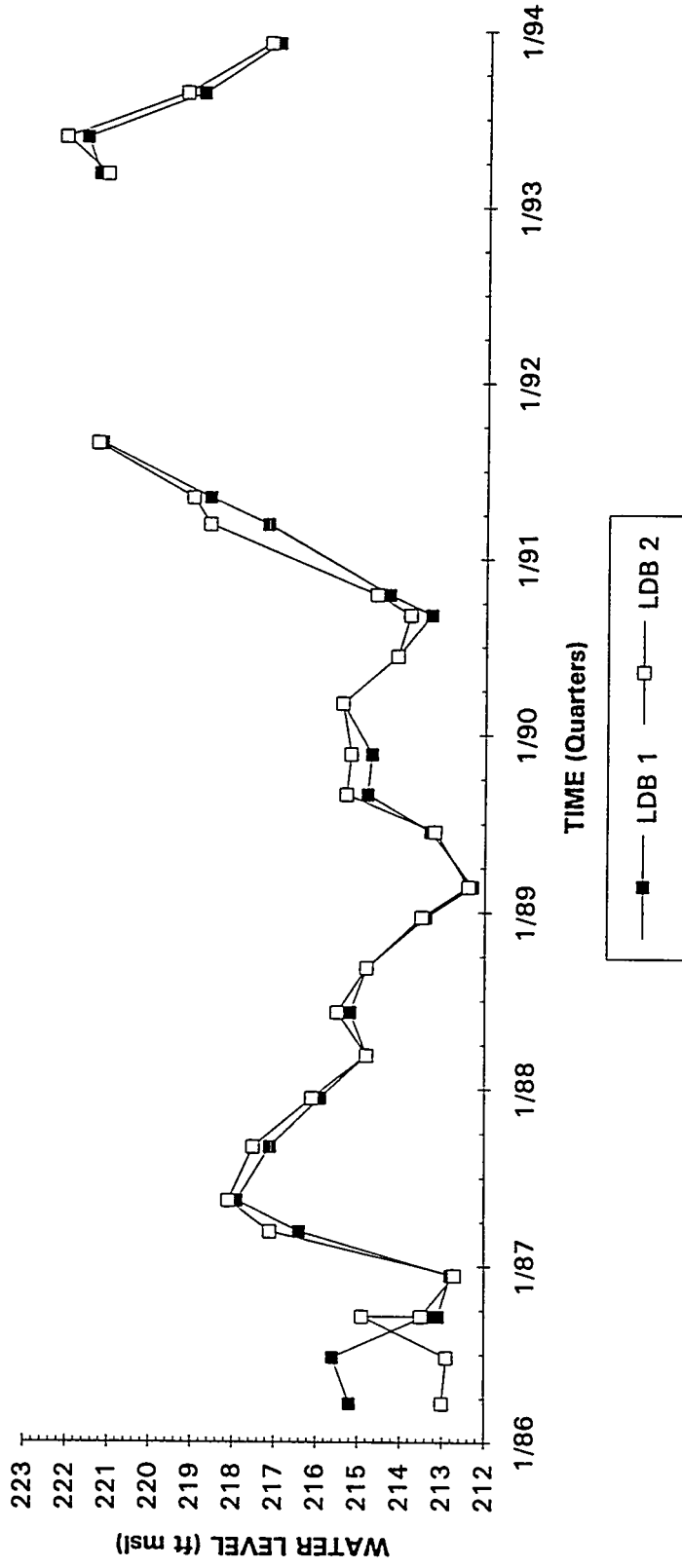
Hydrograph LAW Well Series



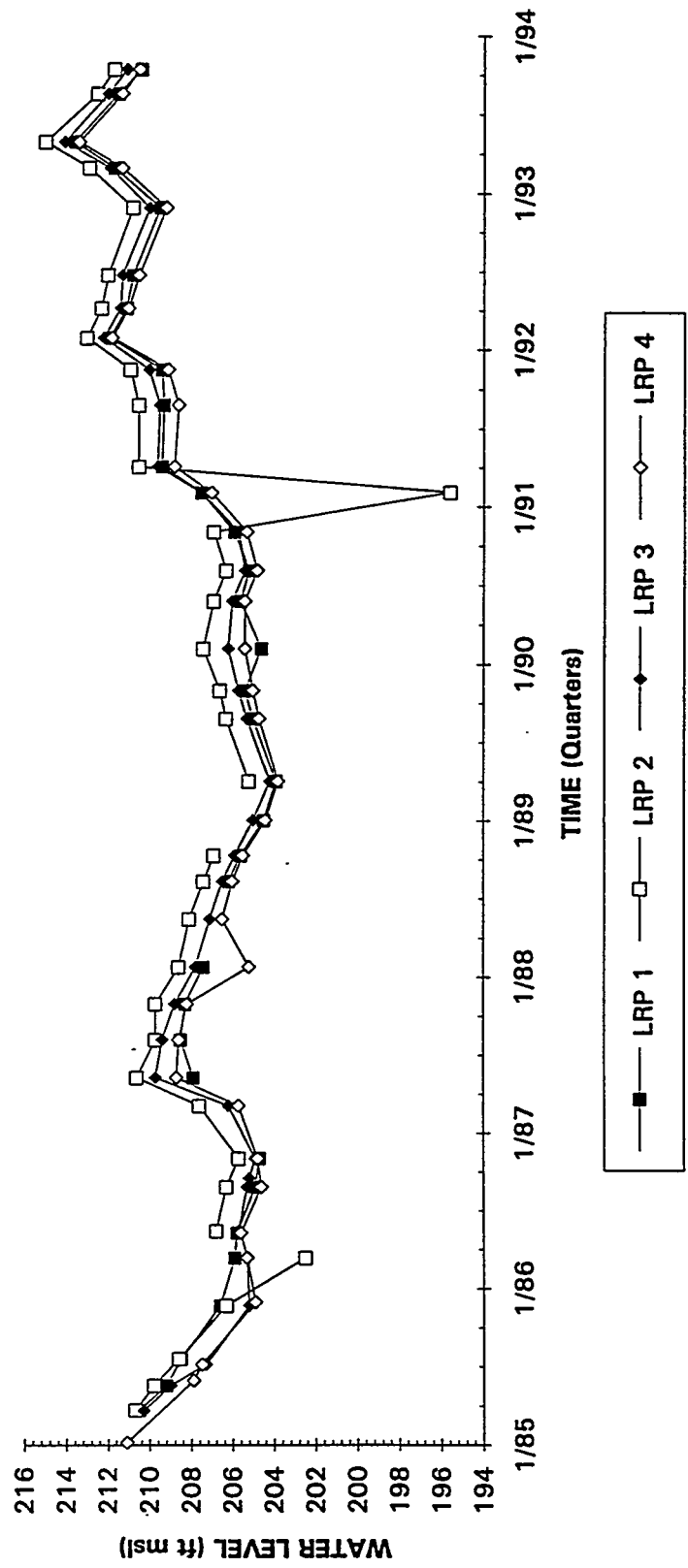
Hydrograph LCO Well Series



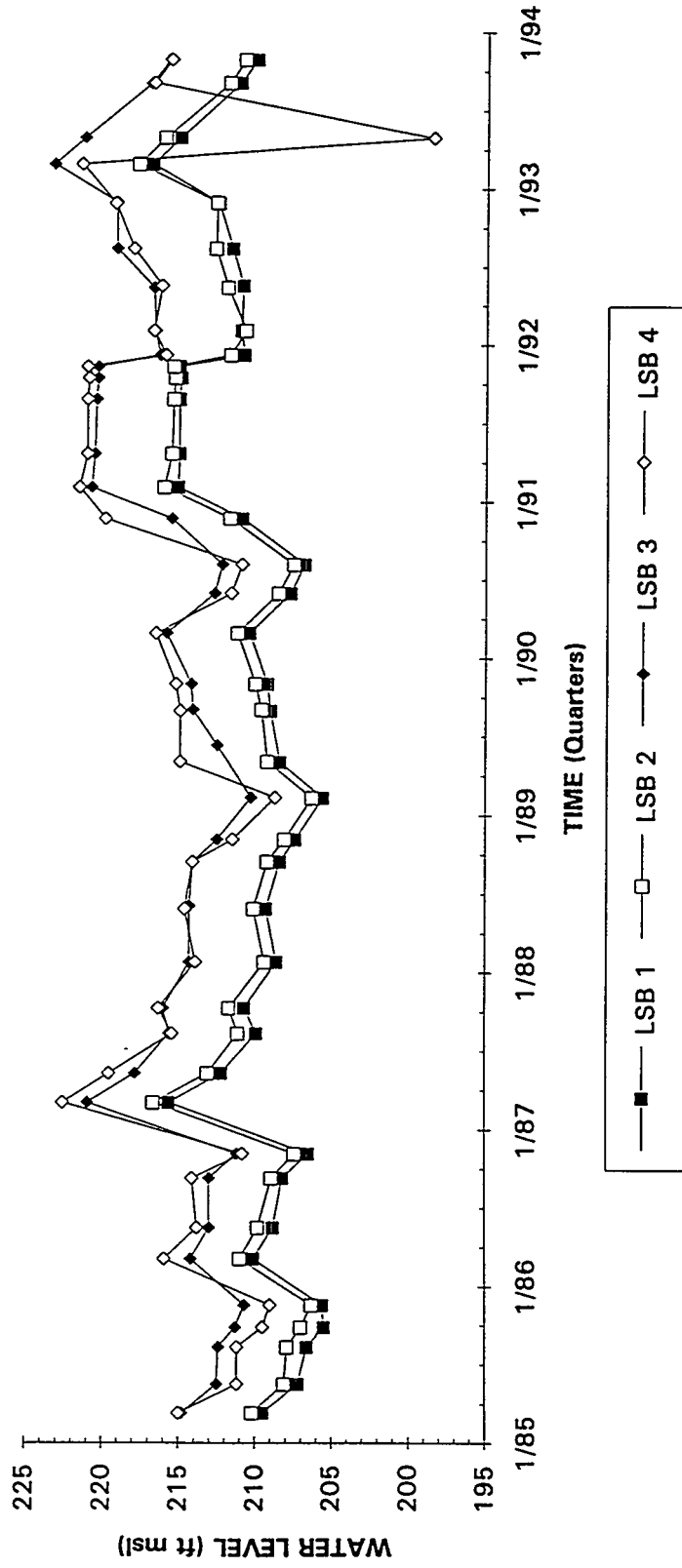
Hydrograph LDB Well Series

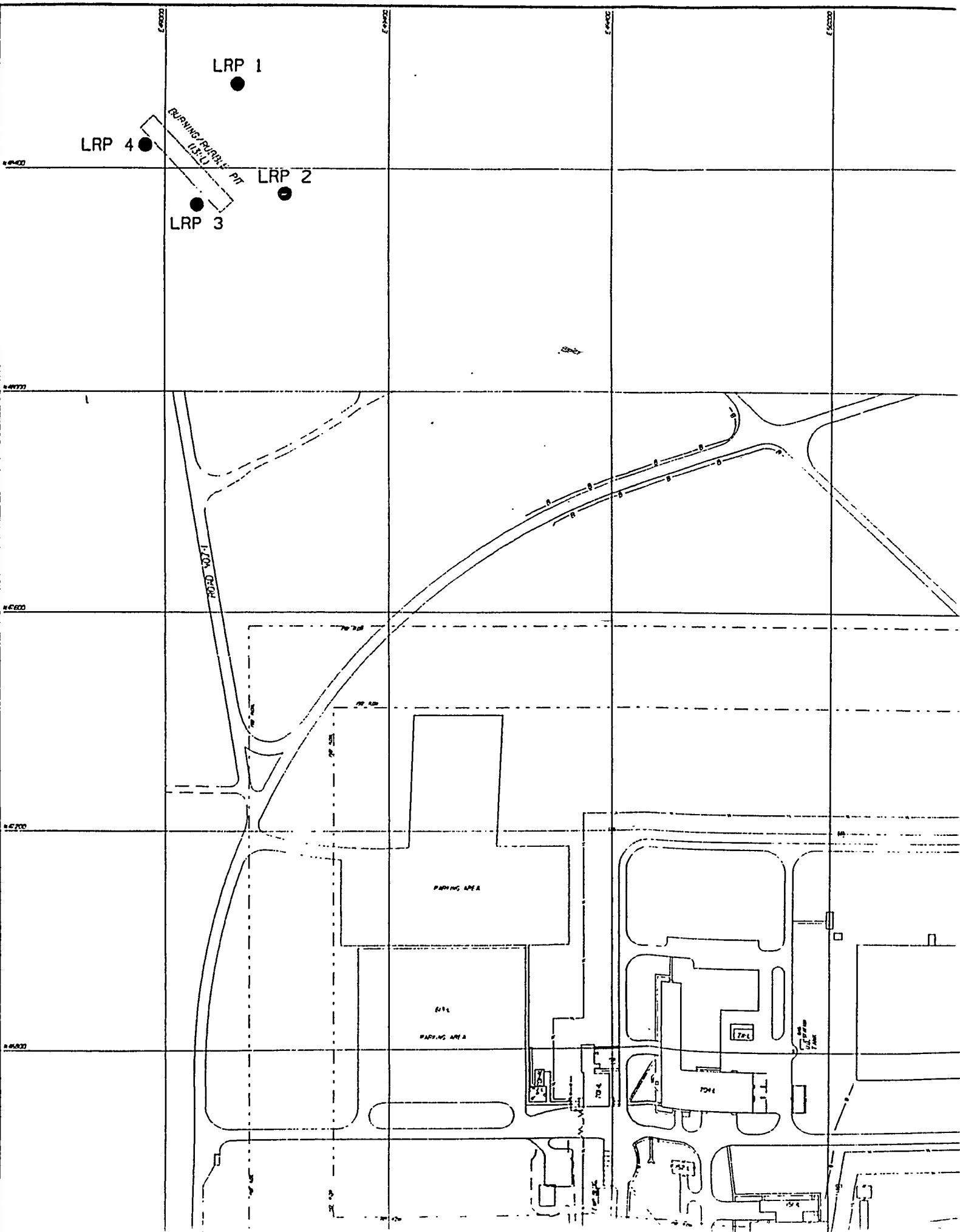


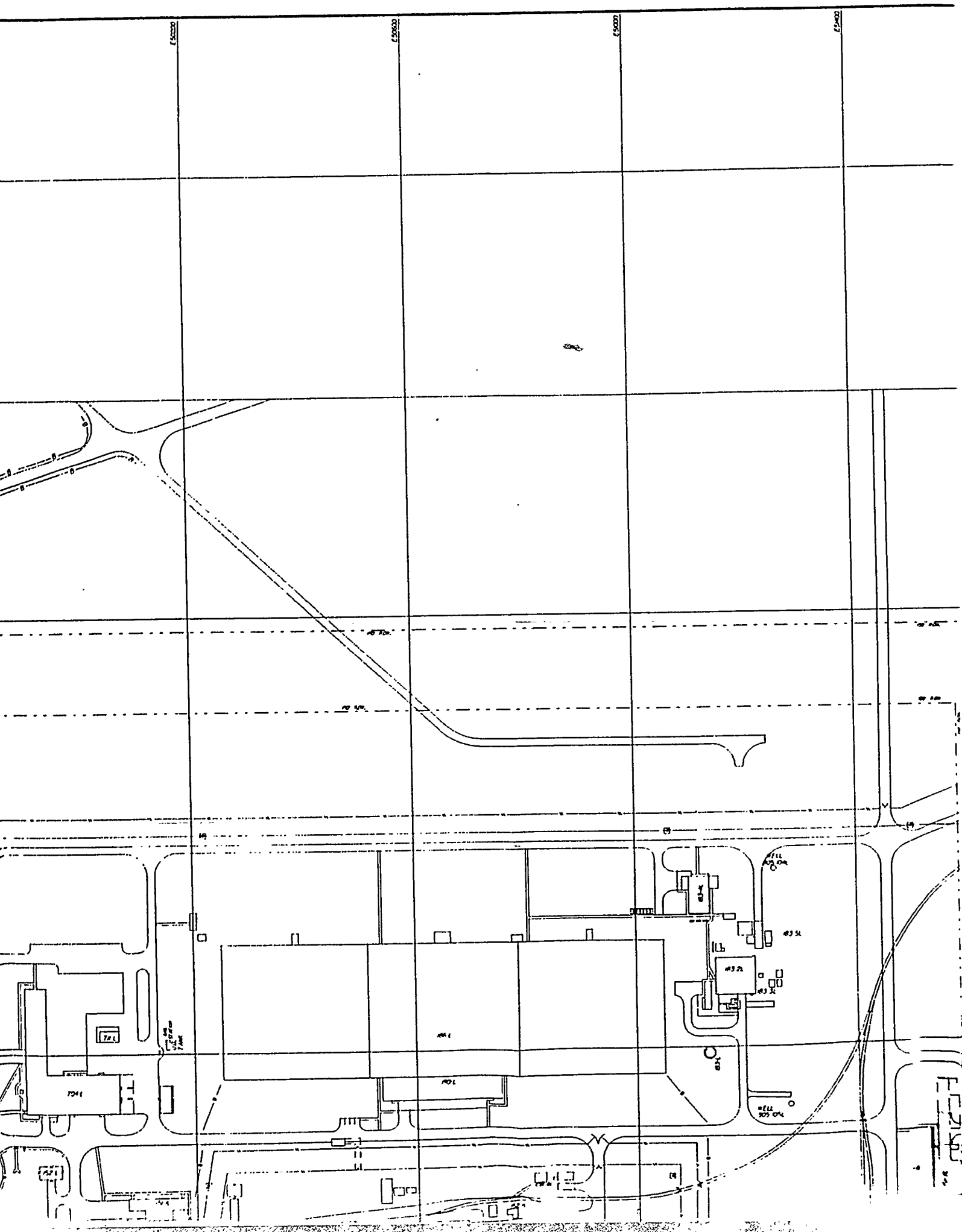
Hydrograph LRP Well Series

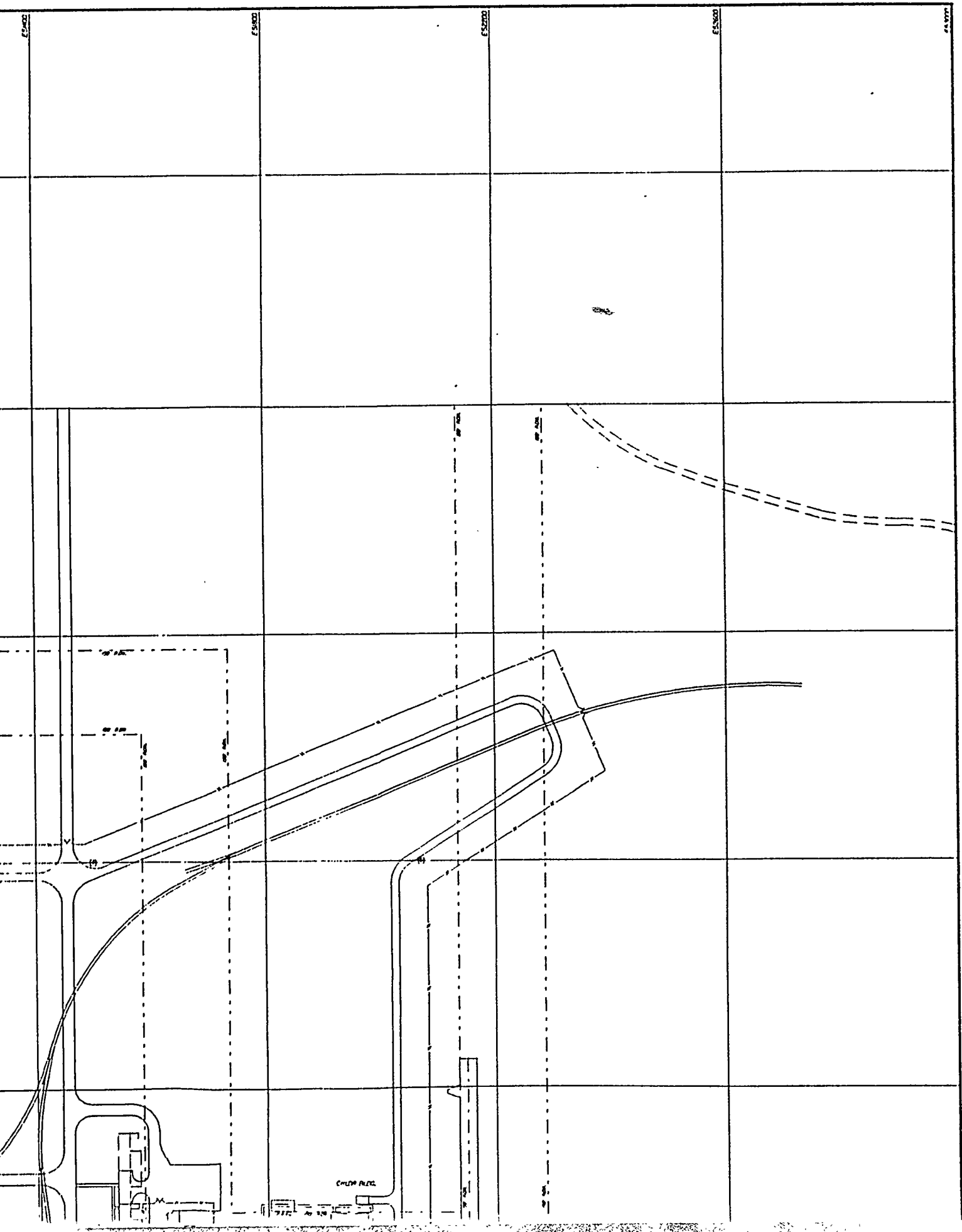


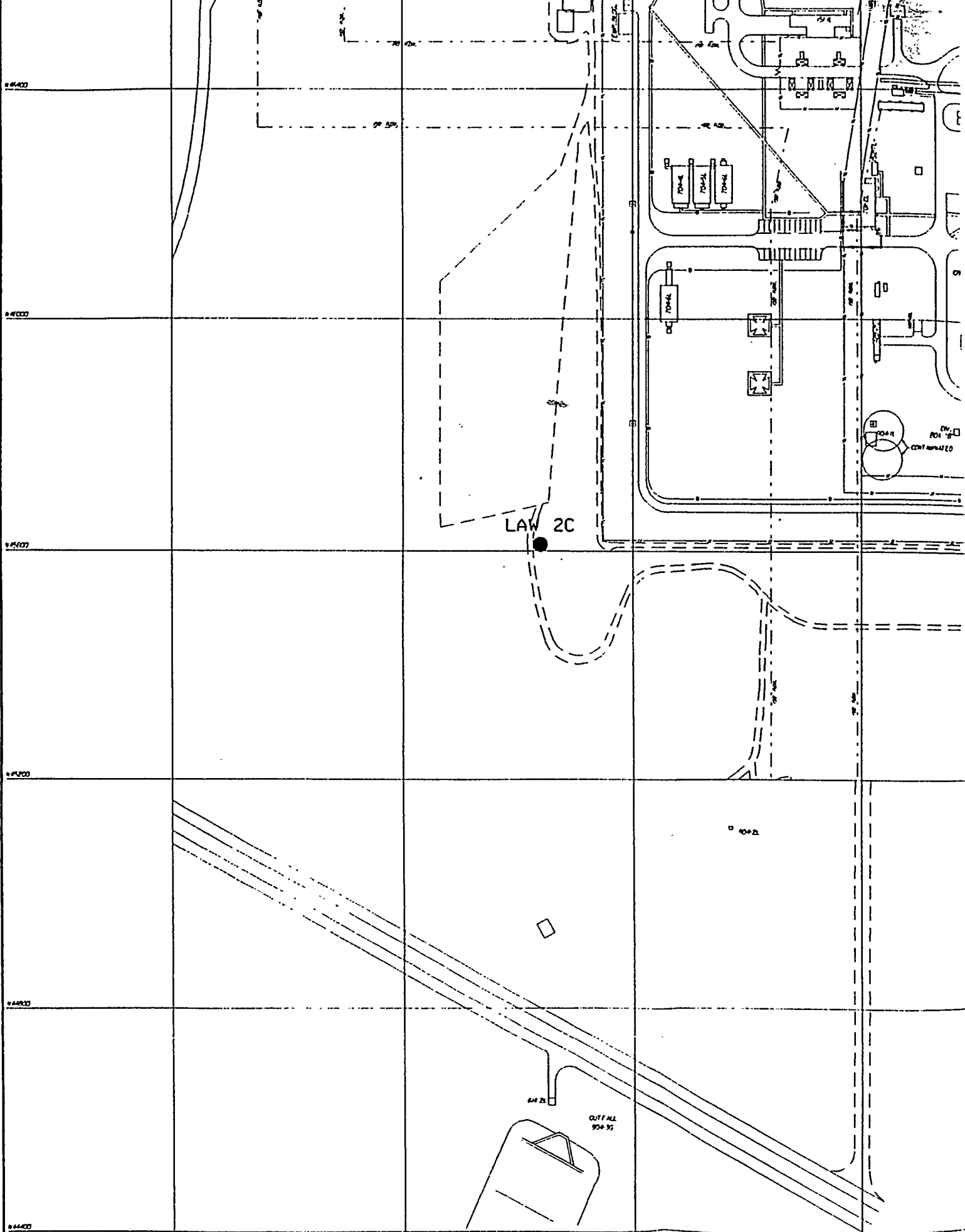
Hydrograph LSB Well Series





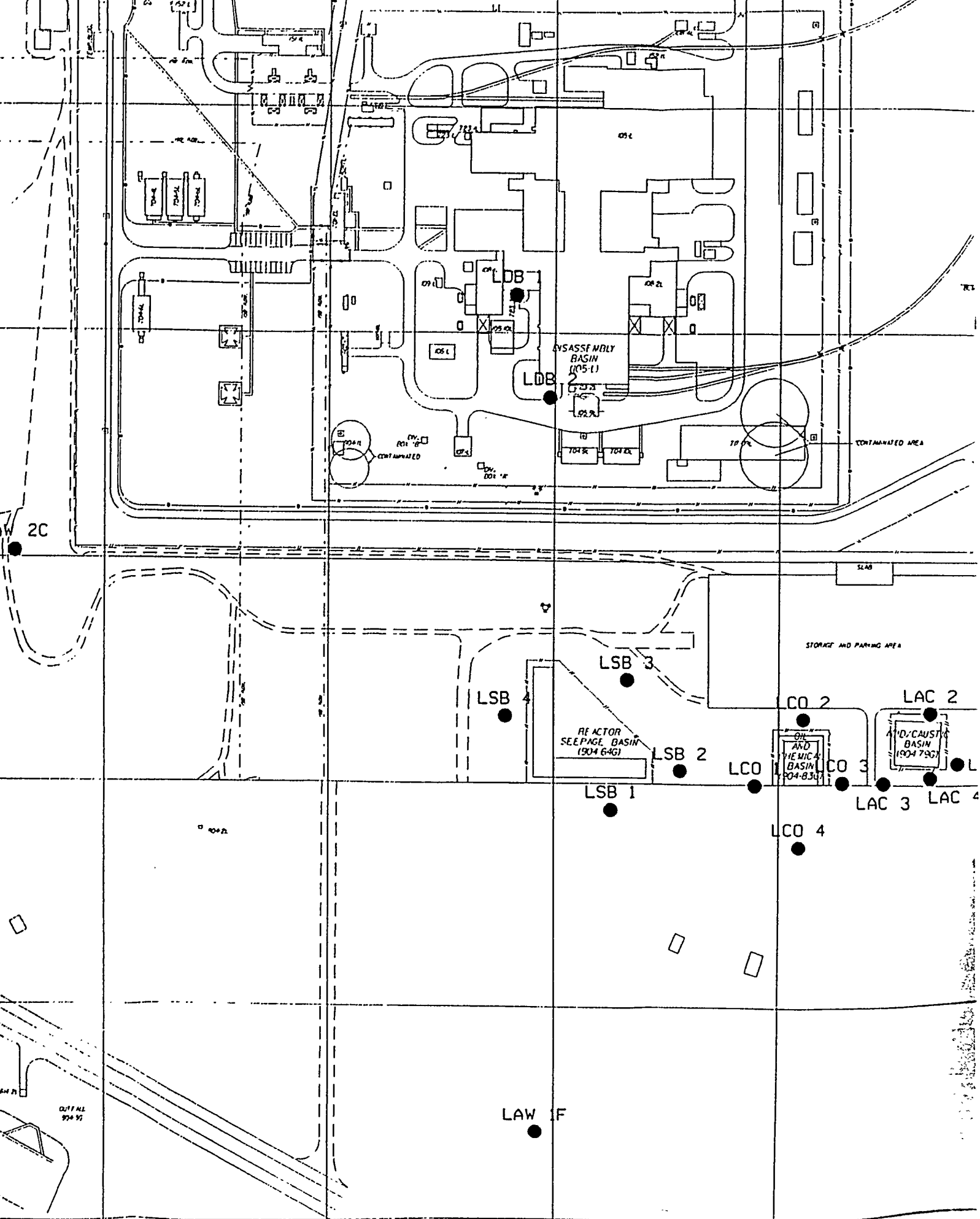






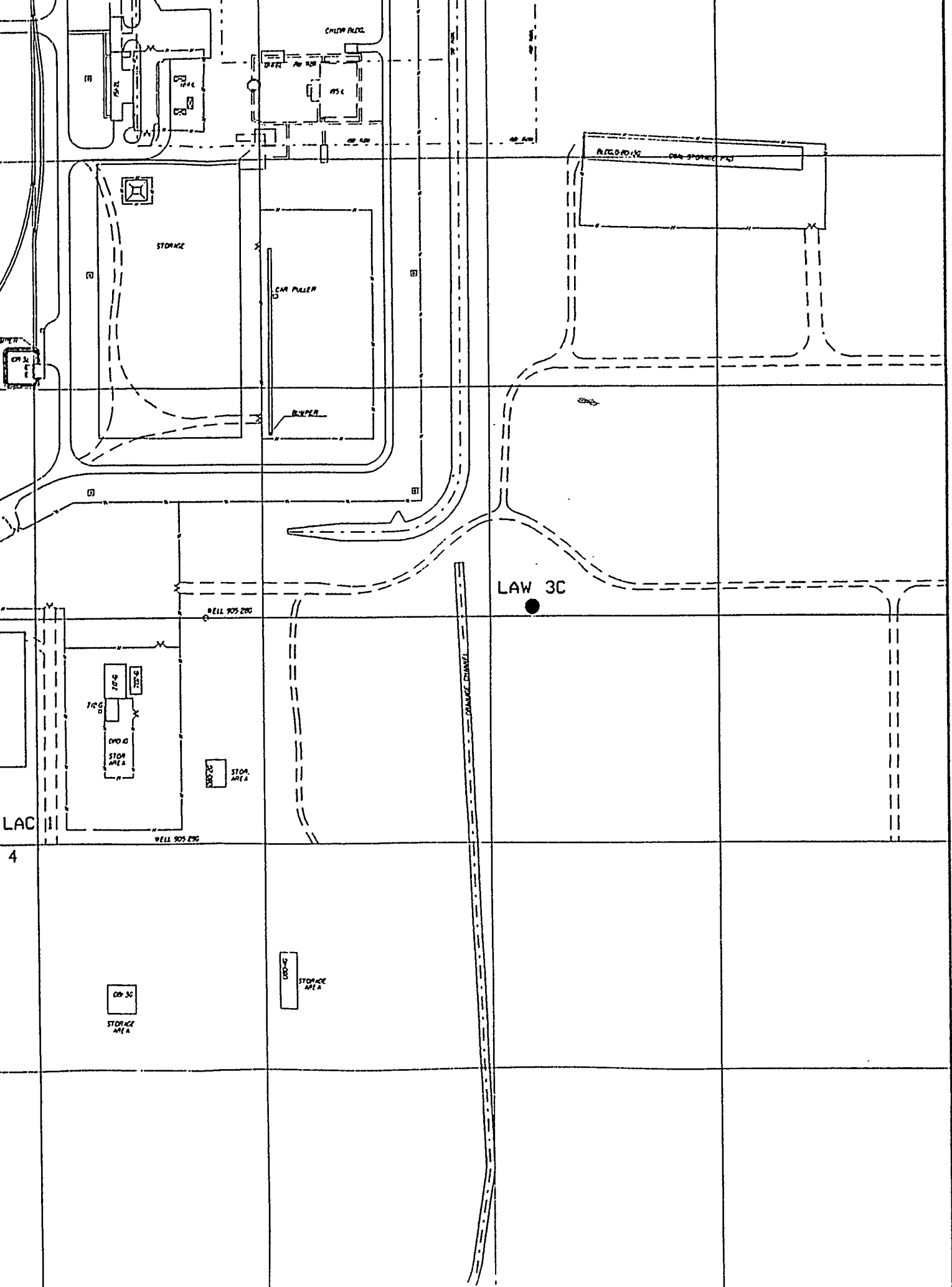
WELL SYMBOL LEGEND

WATER TABLE AQUIFER



LEGEND

D



DWG NO

REV. NO.

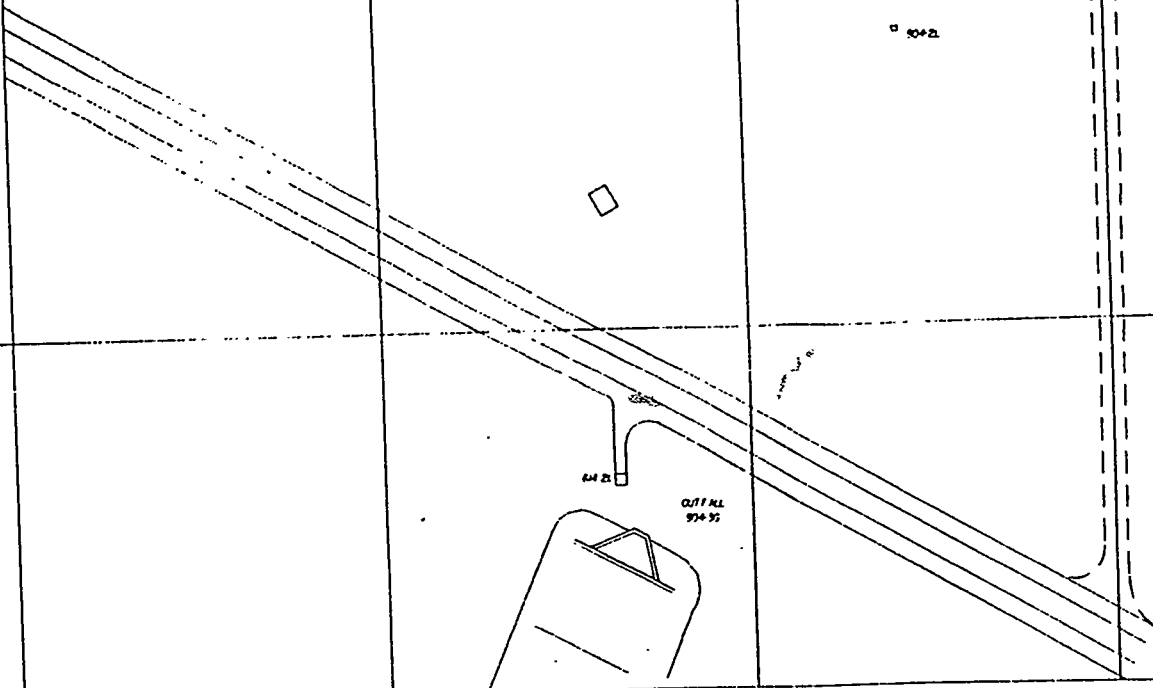
REV DATE

AREA

44300

44300

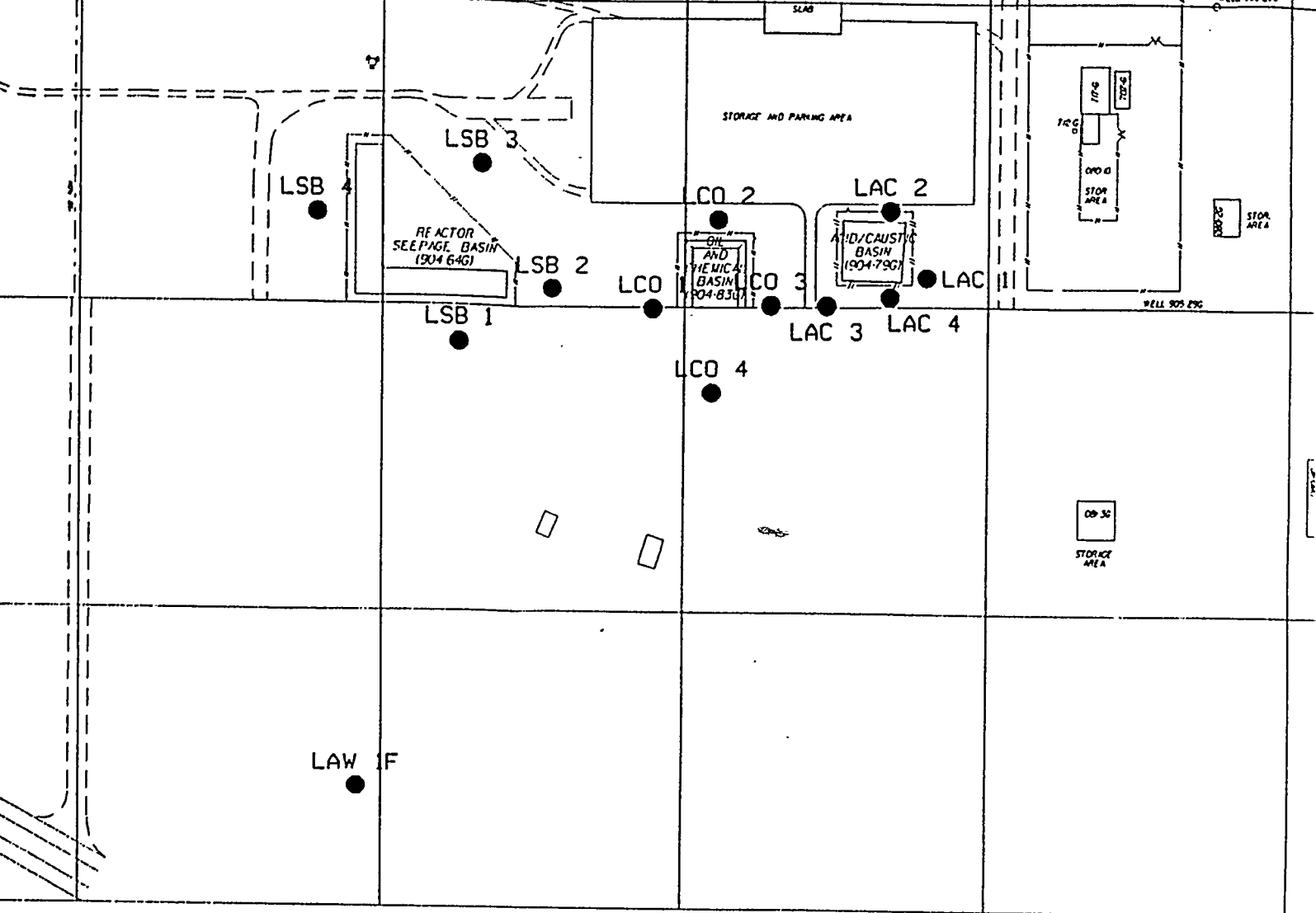
44300



WELL SYMBOL LEGEND

- WATER TABLE AQUIFER
GROUNDWATER MONITORING WELLS

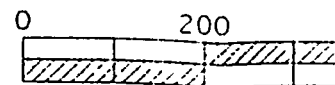
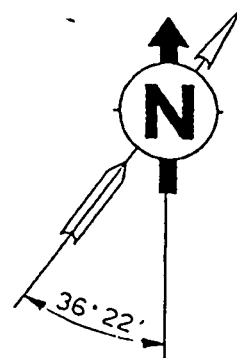
LAW2C WELL ID



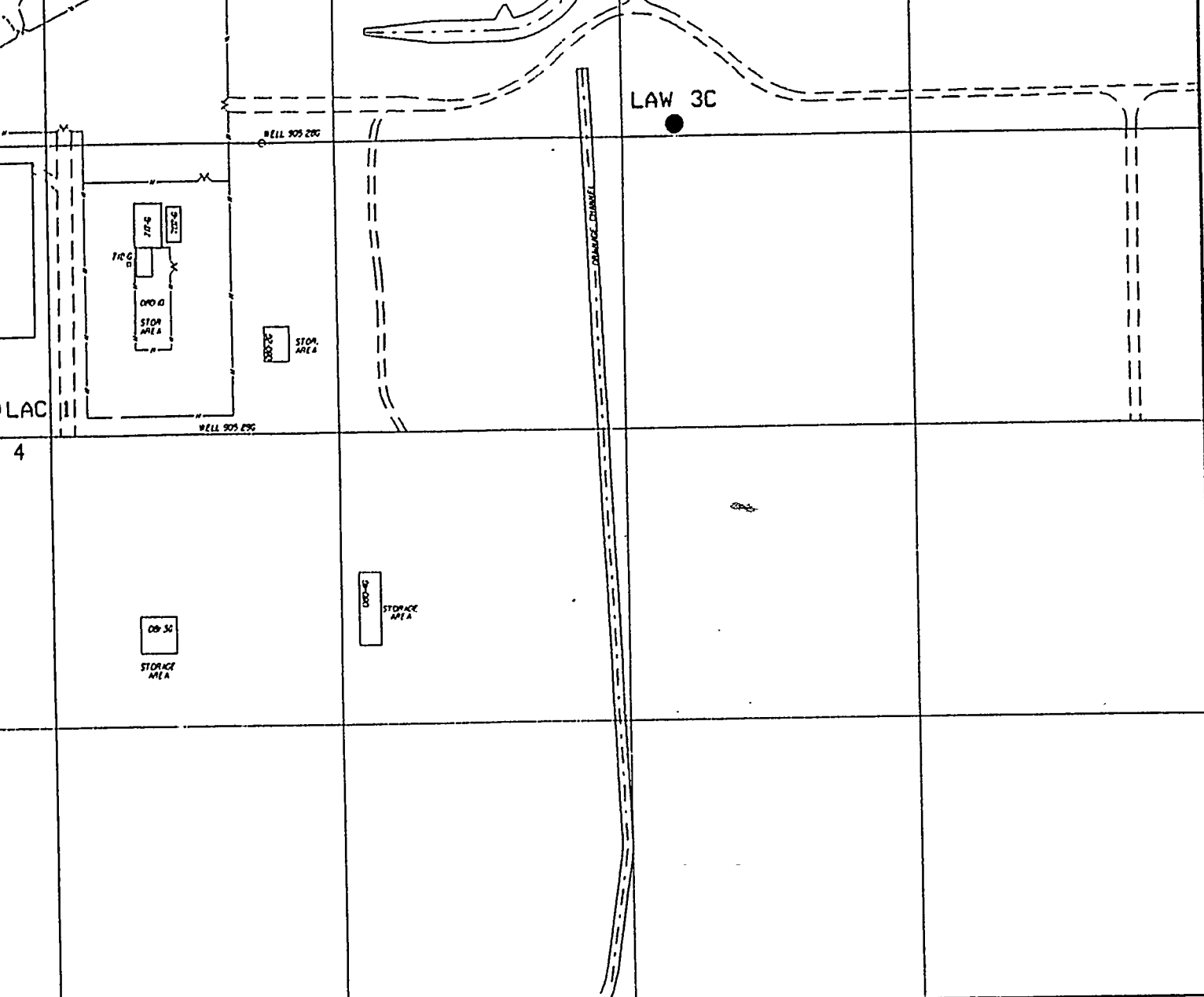
LEGEND

- FACILITY BOUNDARY
- ROAD
- DIRT ROAD
- - - - - STREAM
- + + + + + RAILROAD
- / — FENCE
- ▨ PIT/BASIN
- 280 - OBSERVED CONTOUR

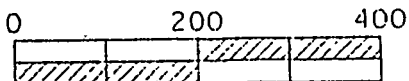
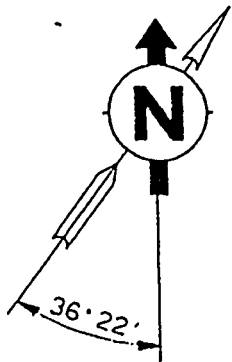
PLANT TRUE NORTH NORTH



SCALE: FEET



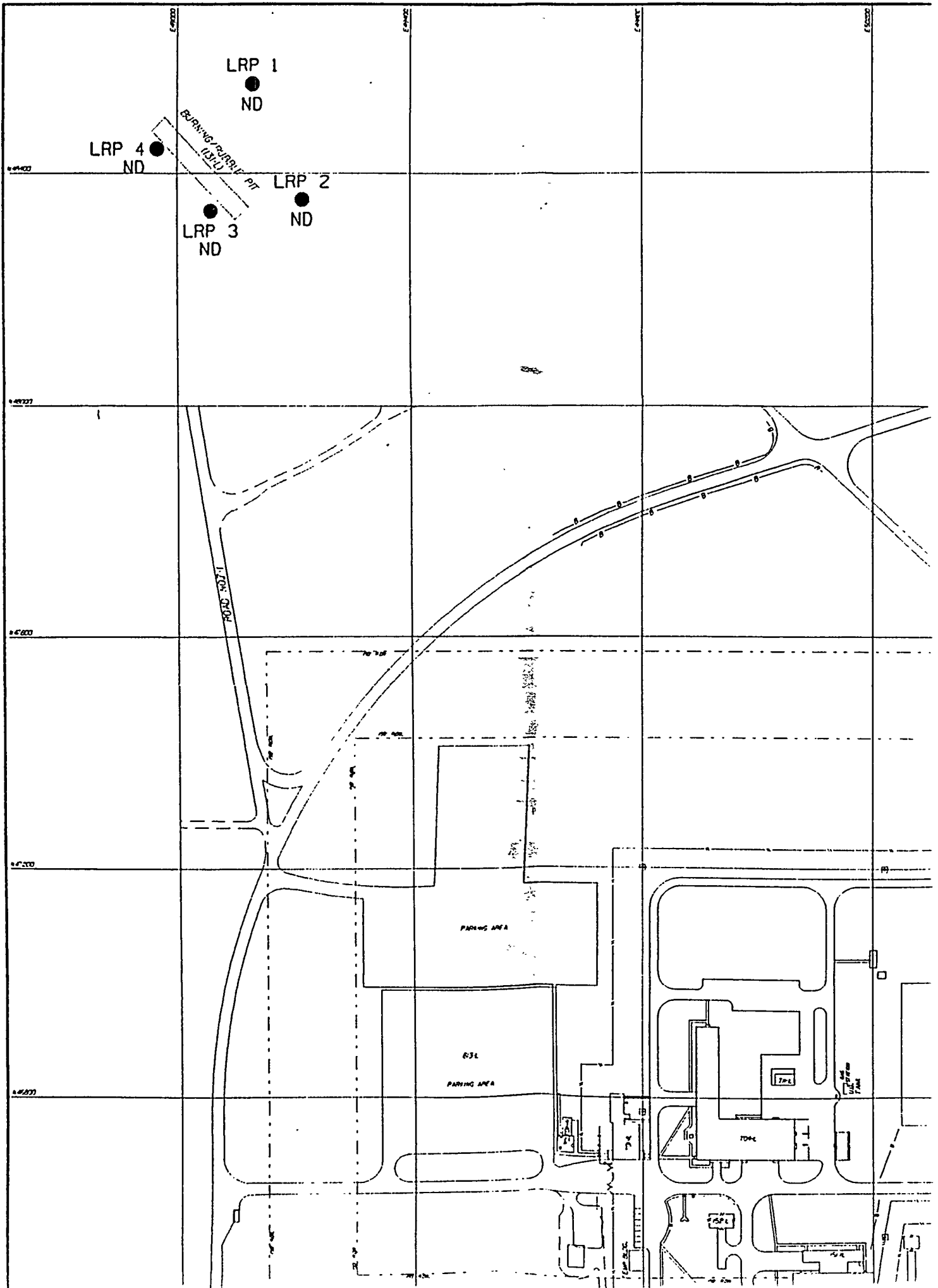
PLANT TRUE
NORTH NORTH

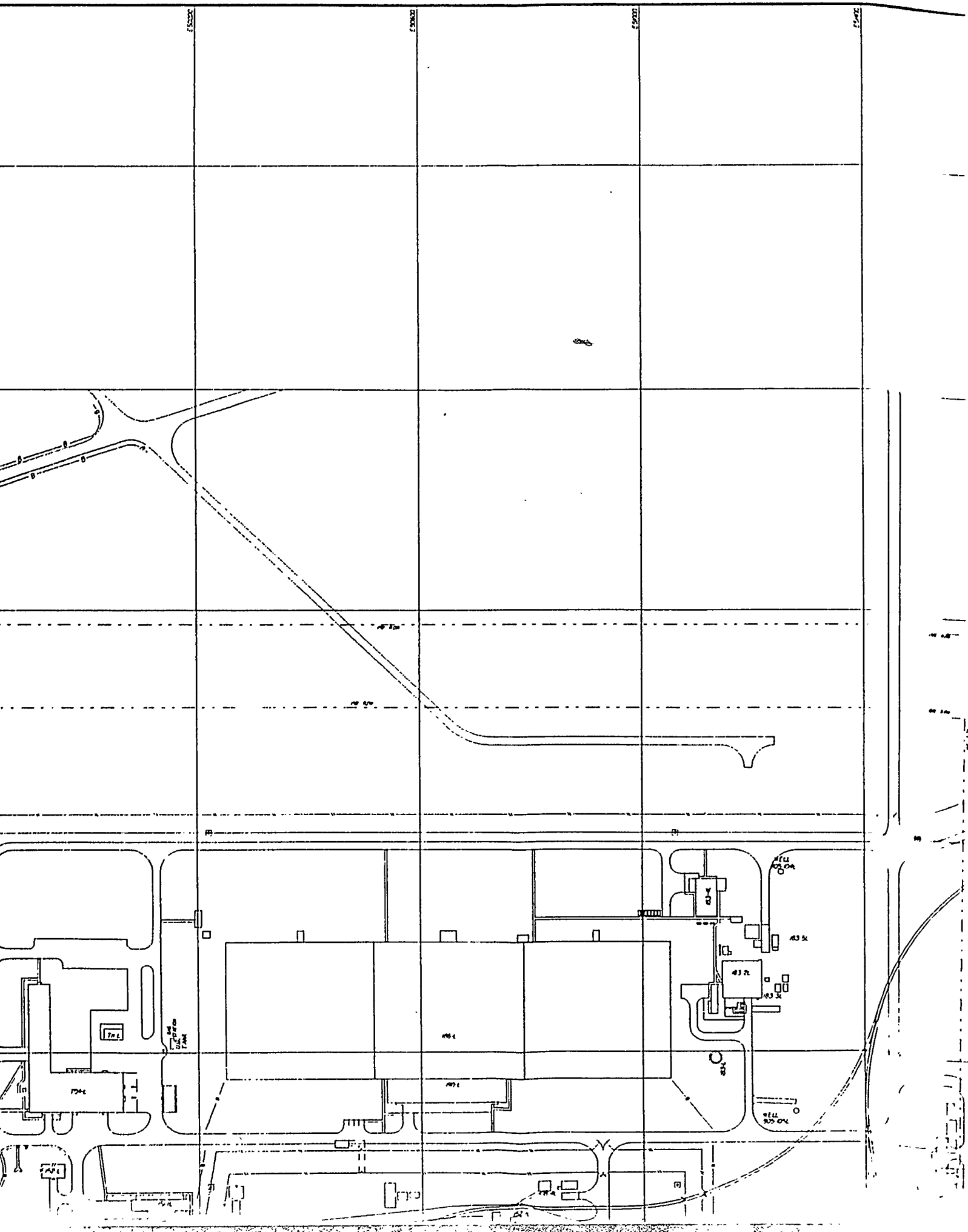


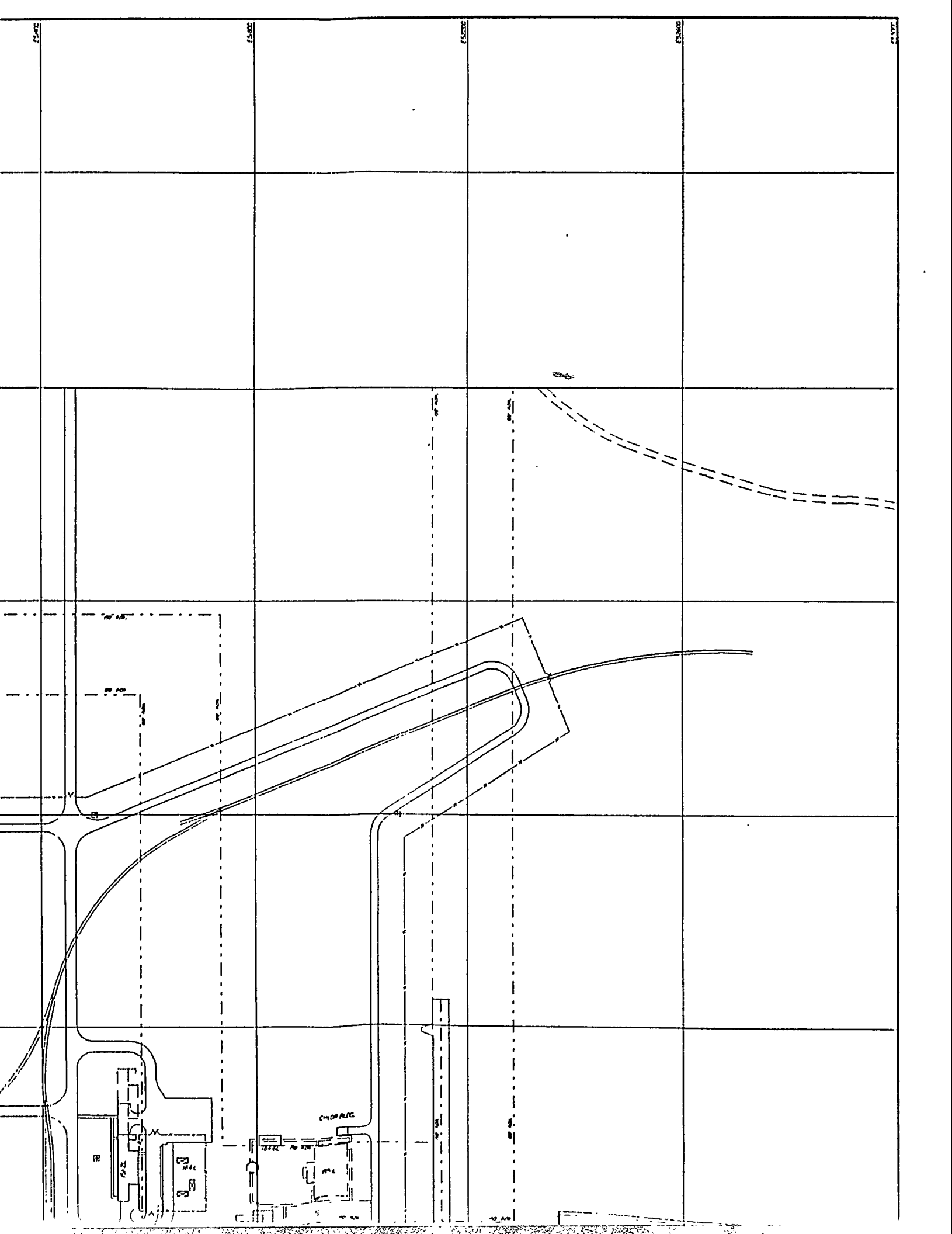
SCALE: FEET

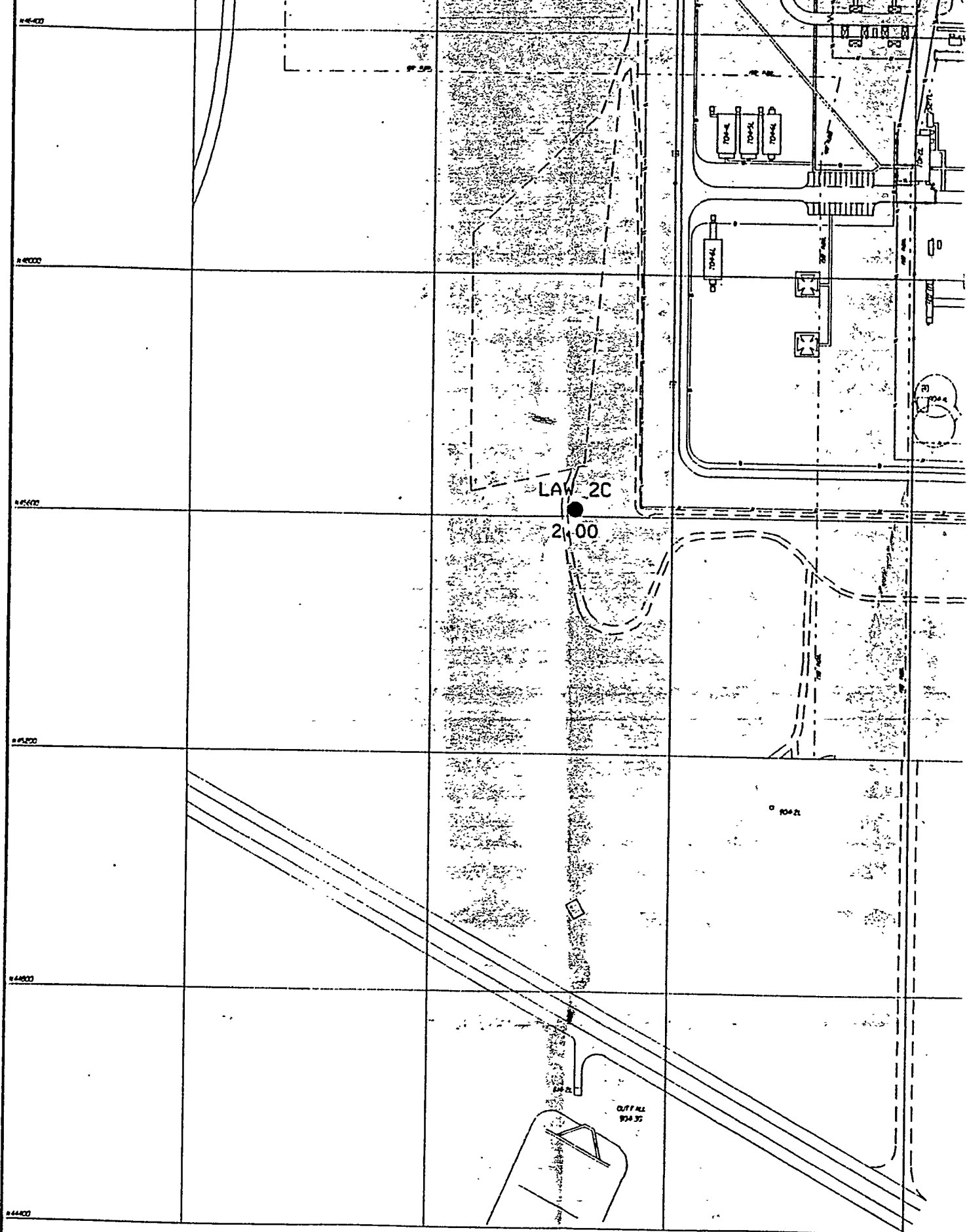
OWG NO. GL1098	REV. NO. 0	REV. DATE 8-10-94	AREA L-AREA
<p>TITLE</p> <p>WELL LOCATION MAP FOR L-REACTOR AREA THIRD QUARTER 1993</p>			
CREATED BY TRACY L. MICKLEY	DATE 8-29-94	APPROVED BY NA	DATE 93
PREPARED BY J. CARDOSO	DATE 8-10-94	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93

For Information Only





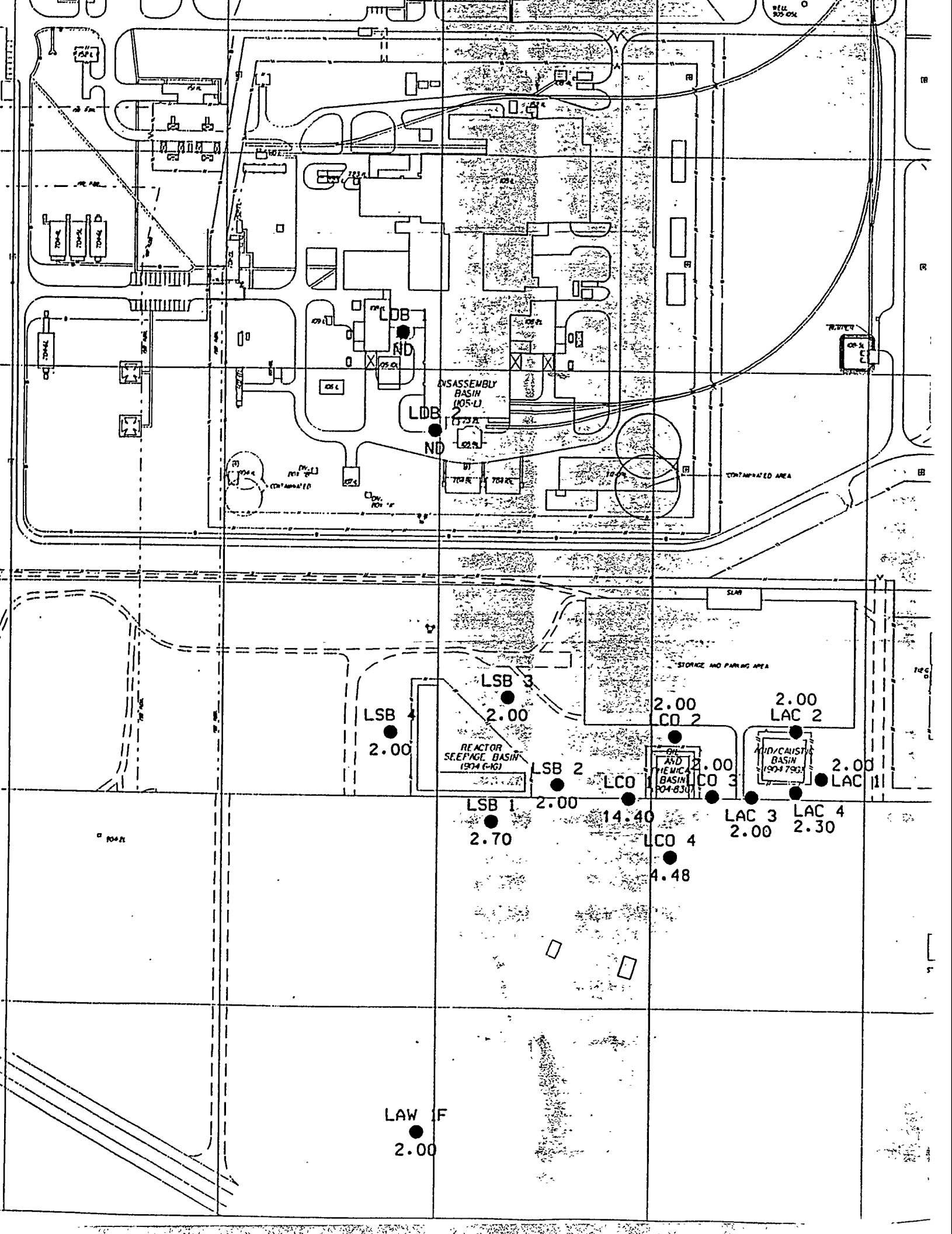


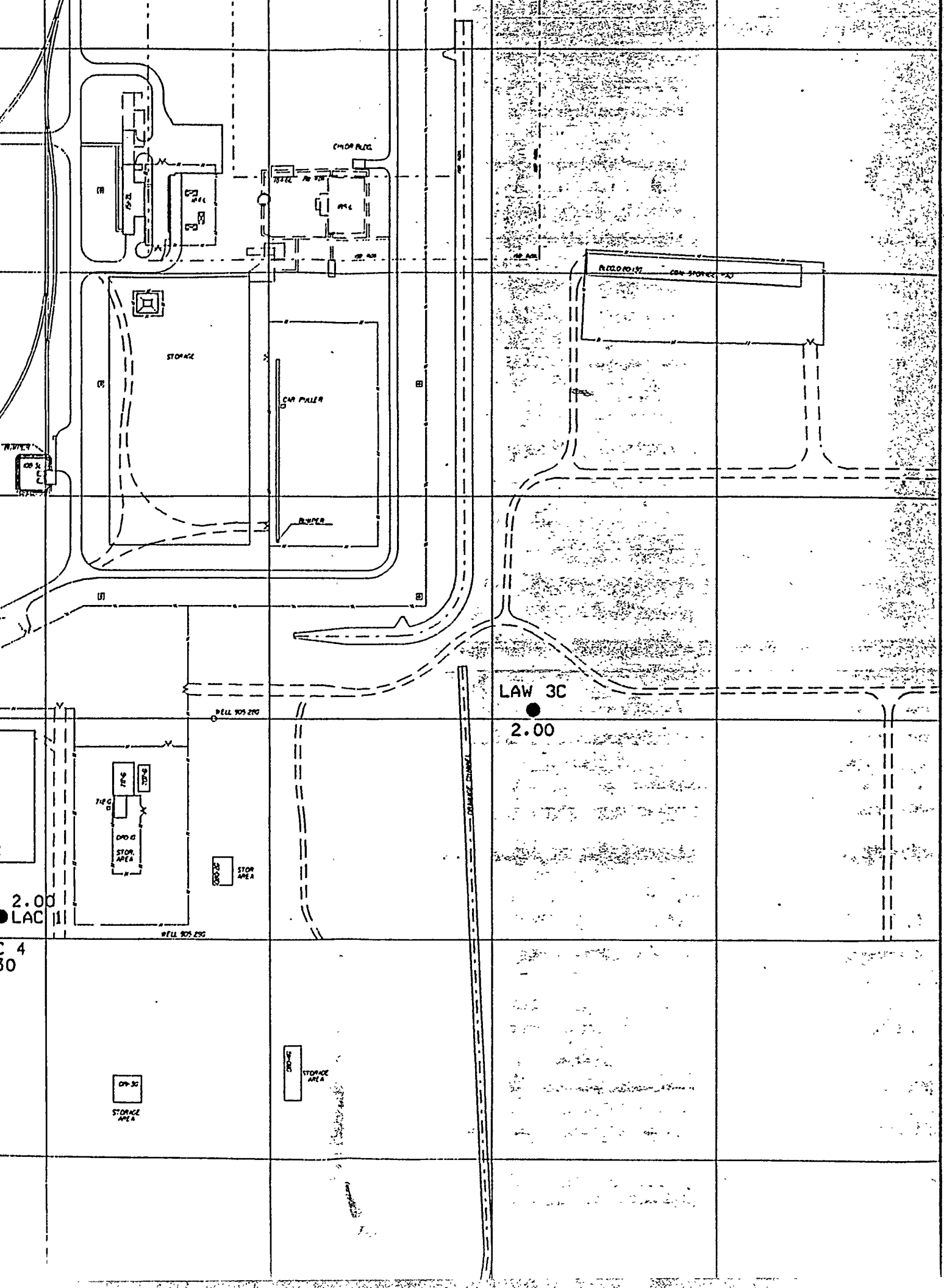


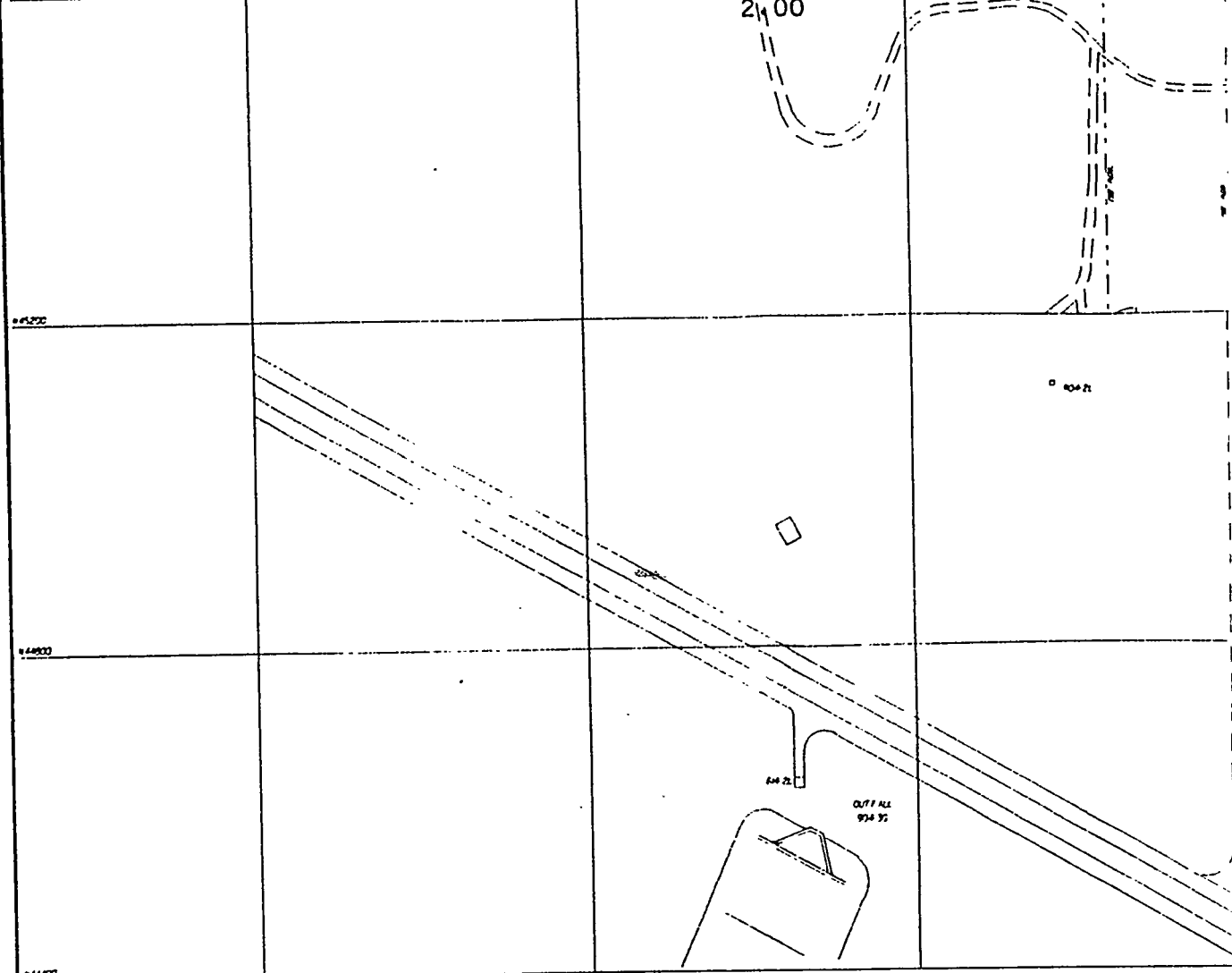
WELL SYMBOL LEGEND

- WATER TABLE AQUIFER
GROUNDWATER MONITORING WELLS

LAW2C WELL ID







WELL SYMBOL LEGEND

- WATER TABLE AQUIFER
GROUNDWATER MONITORING WELLS

LAW2C WELL ID

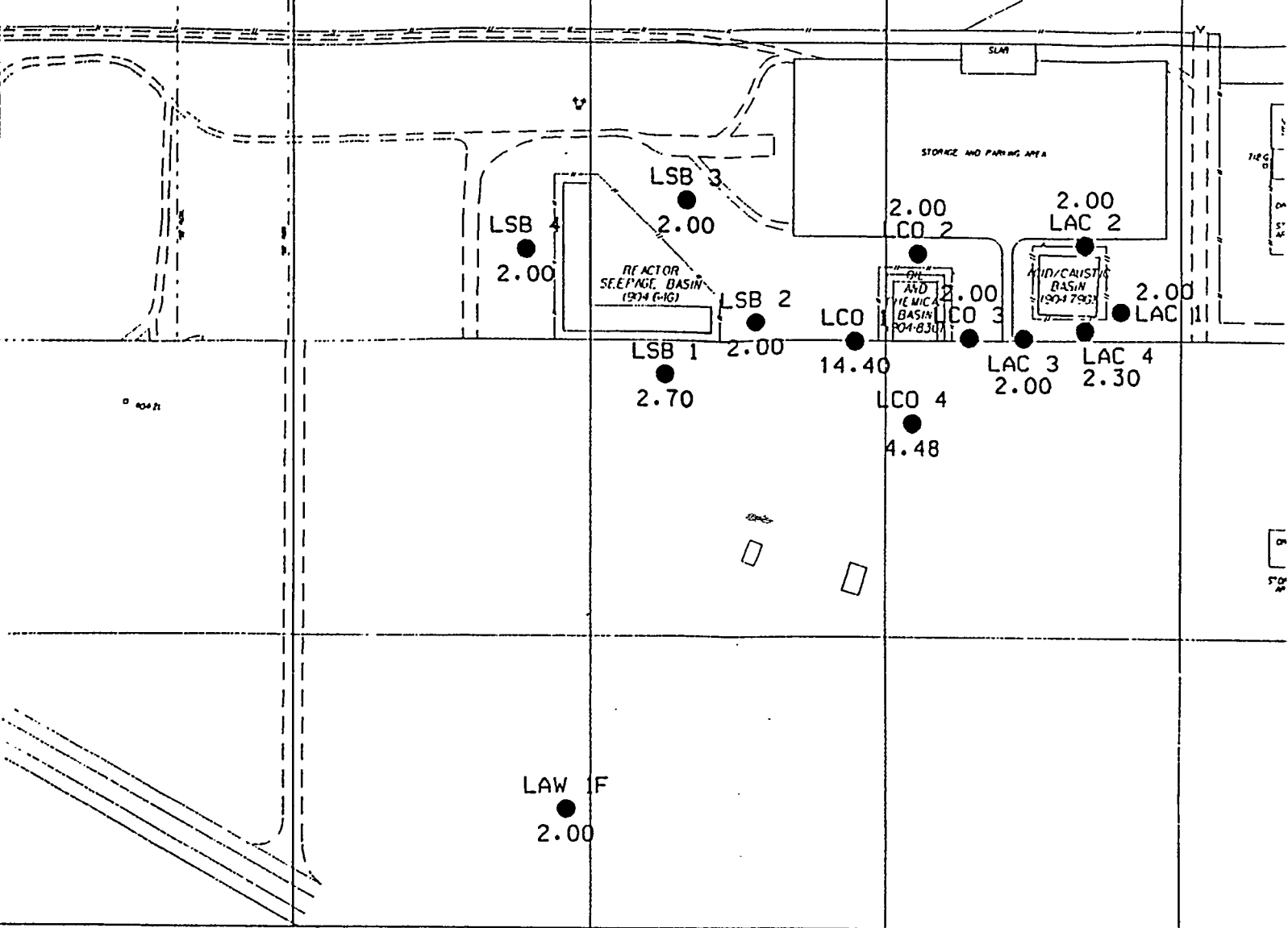
CONTOUR LEGEND

UNITS: pCi/L

PDWS: 50 pCi/L

2.00: DENOTES ACTIVITY AT OR LESS THAN DETECTION LIMIT

ND: NO DATA

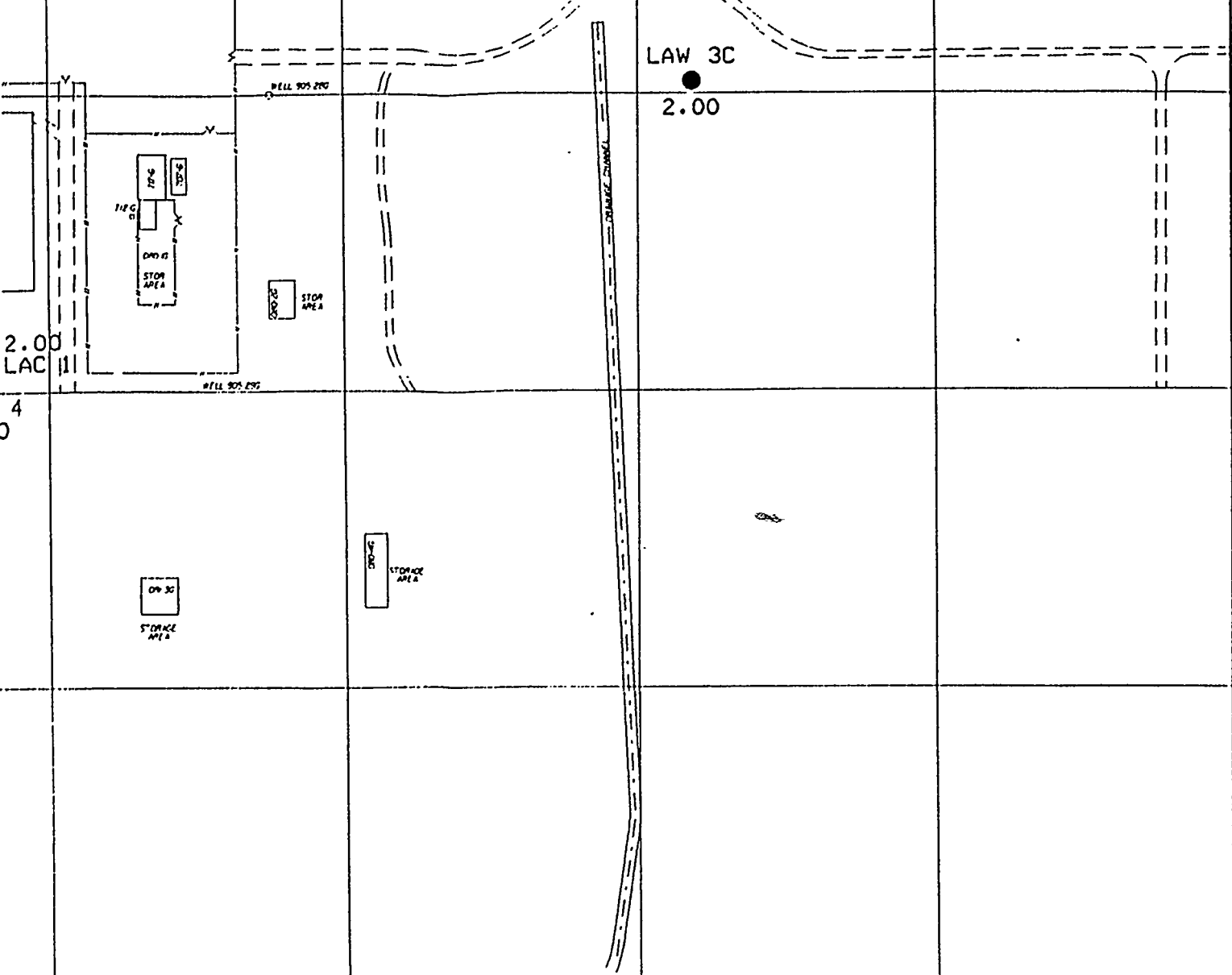


LEGEND

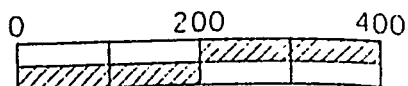
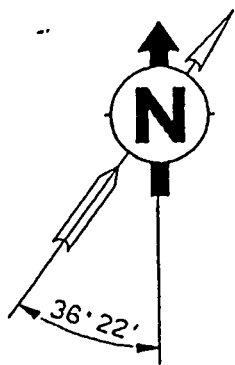
- FACILITY BOUNDARY
- ROAD
- DIRT ROAD
- STREAM
- +++++ RAILROAD
- /—— FENCE
- ▨ PIT/BASIN
- 280— OBSERVED CONTOUR

THAN DETECTION LIMIT

0



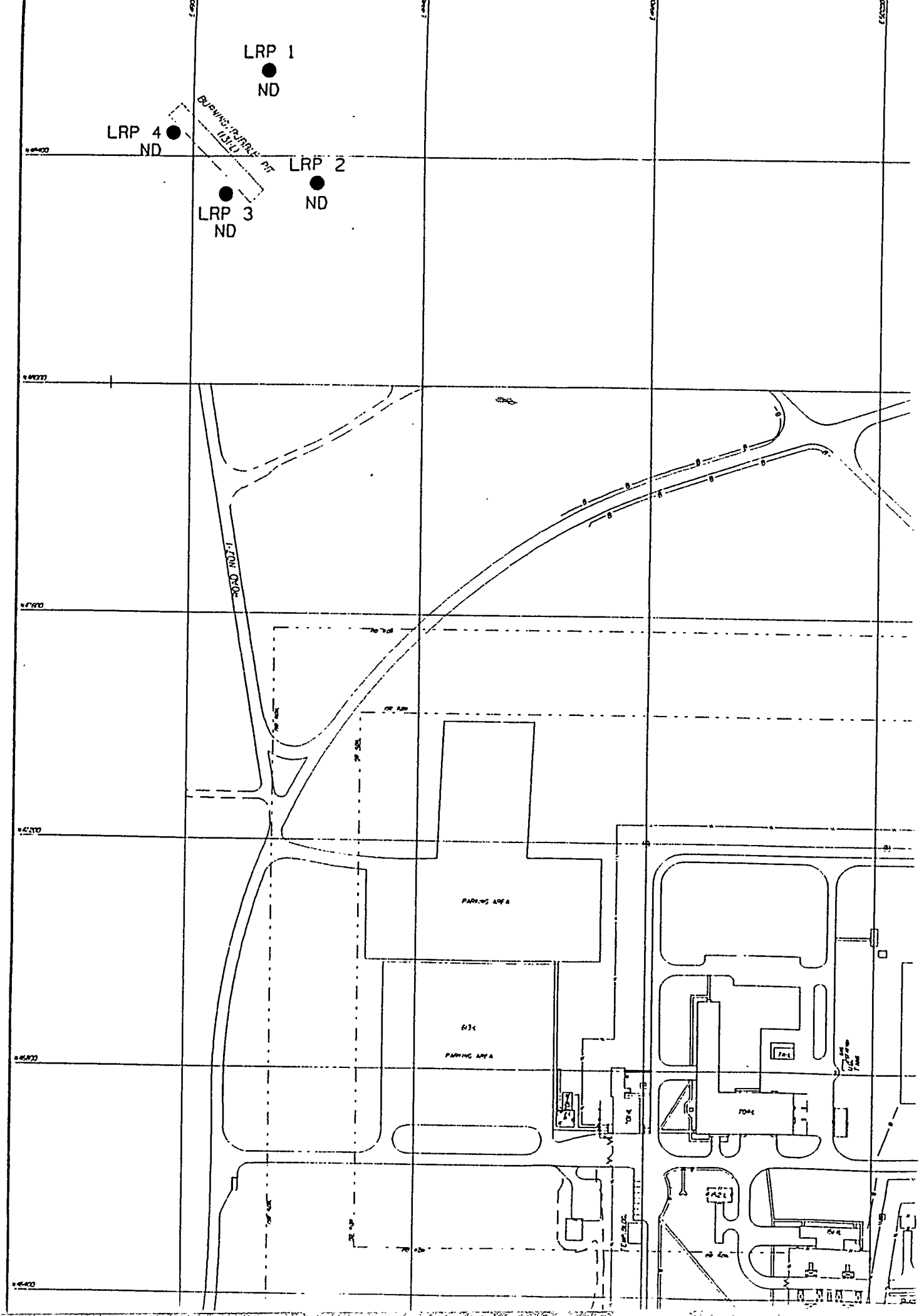
PLANT TRUE NORTH
NORTH NORTH

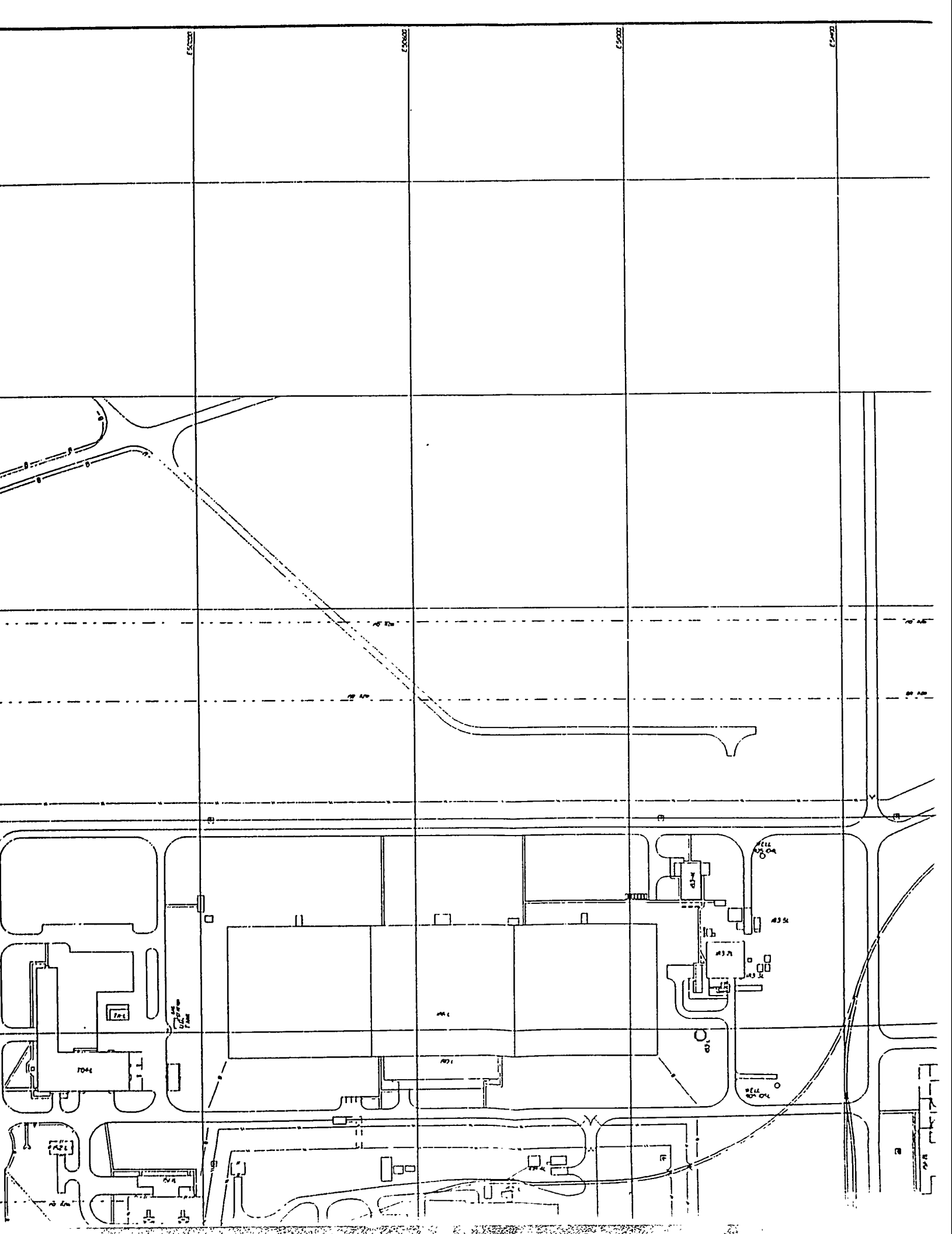


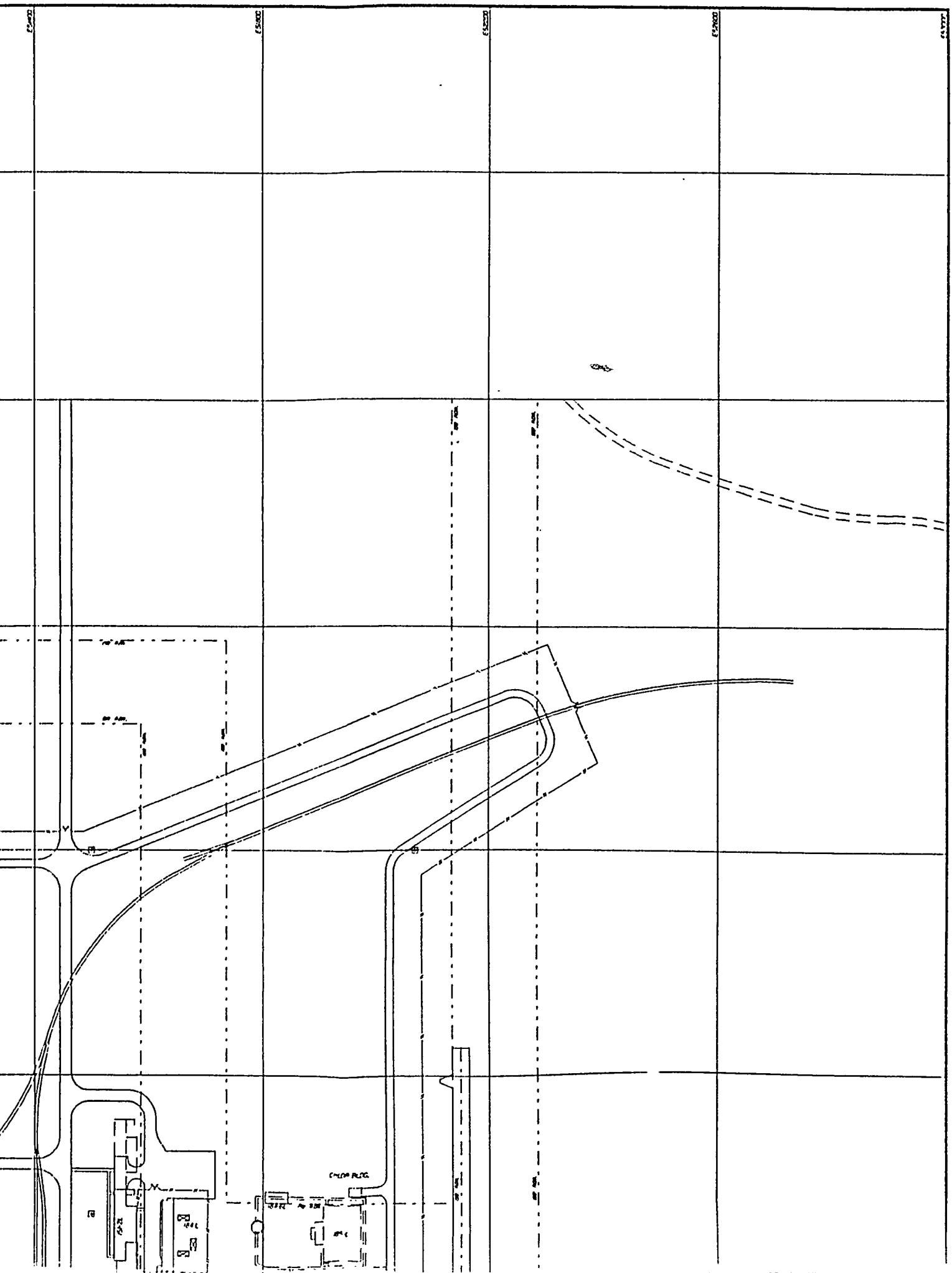
SCALE: FEET

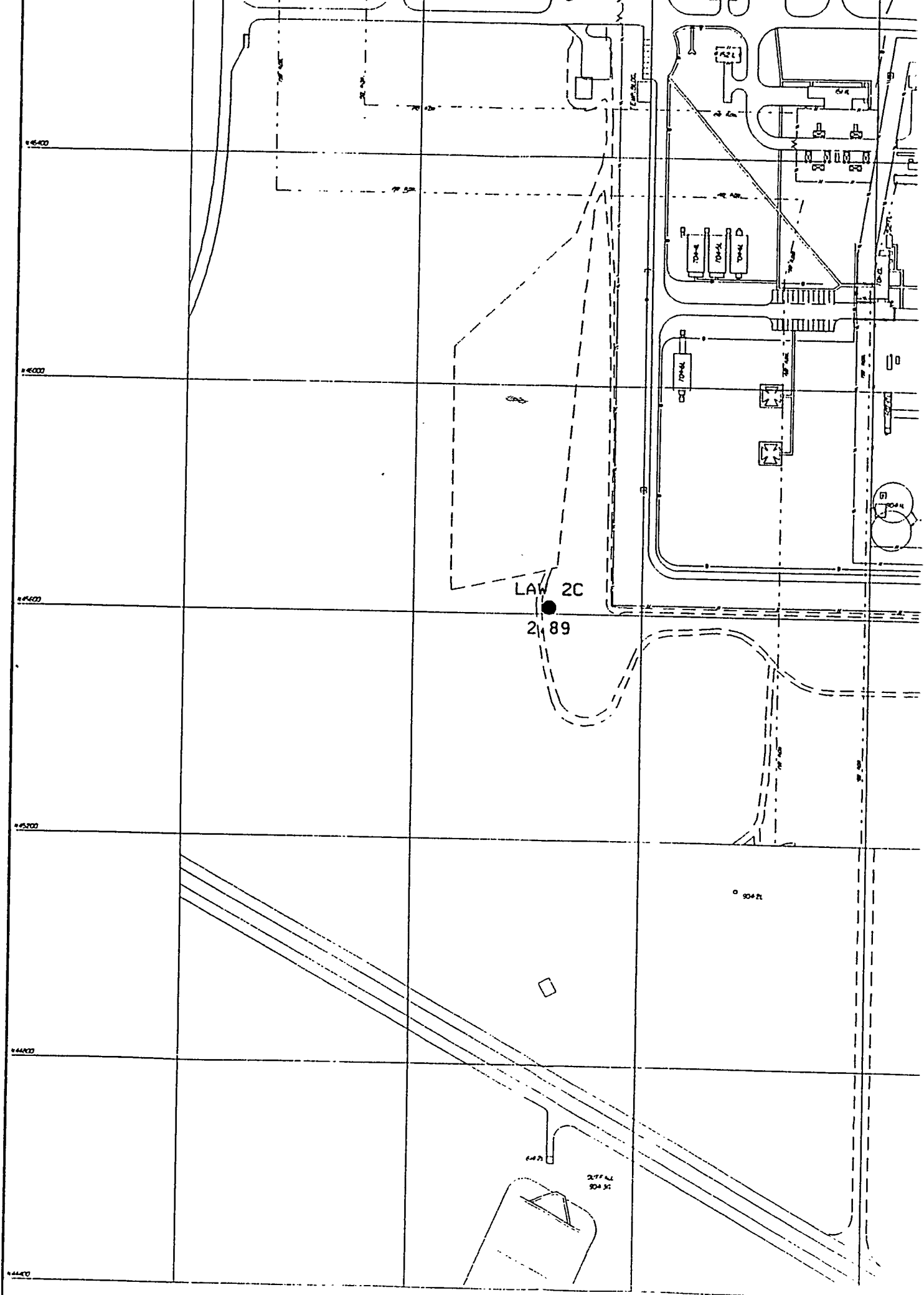
DWG NO. GL1100	REV. NO. 0	REV. DATE 8-10-94	AREA L-AREA
<p>TITLE</p> <p>NONVOLATILE BETA ACTIVITIES FOR L-REACTOR AREA GROUNDWATER MONITORING WELLS THIRD QUARTER 1993</p>			
CREATED BY TRACY L. MICKLEY	DATE 8-31-94	APPROVED BY NA	DATE 93
PREPARED BY C. BUTLER	DATE 8-10-94	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93

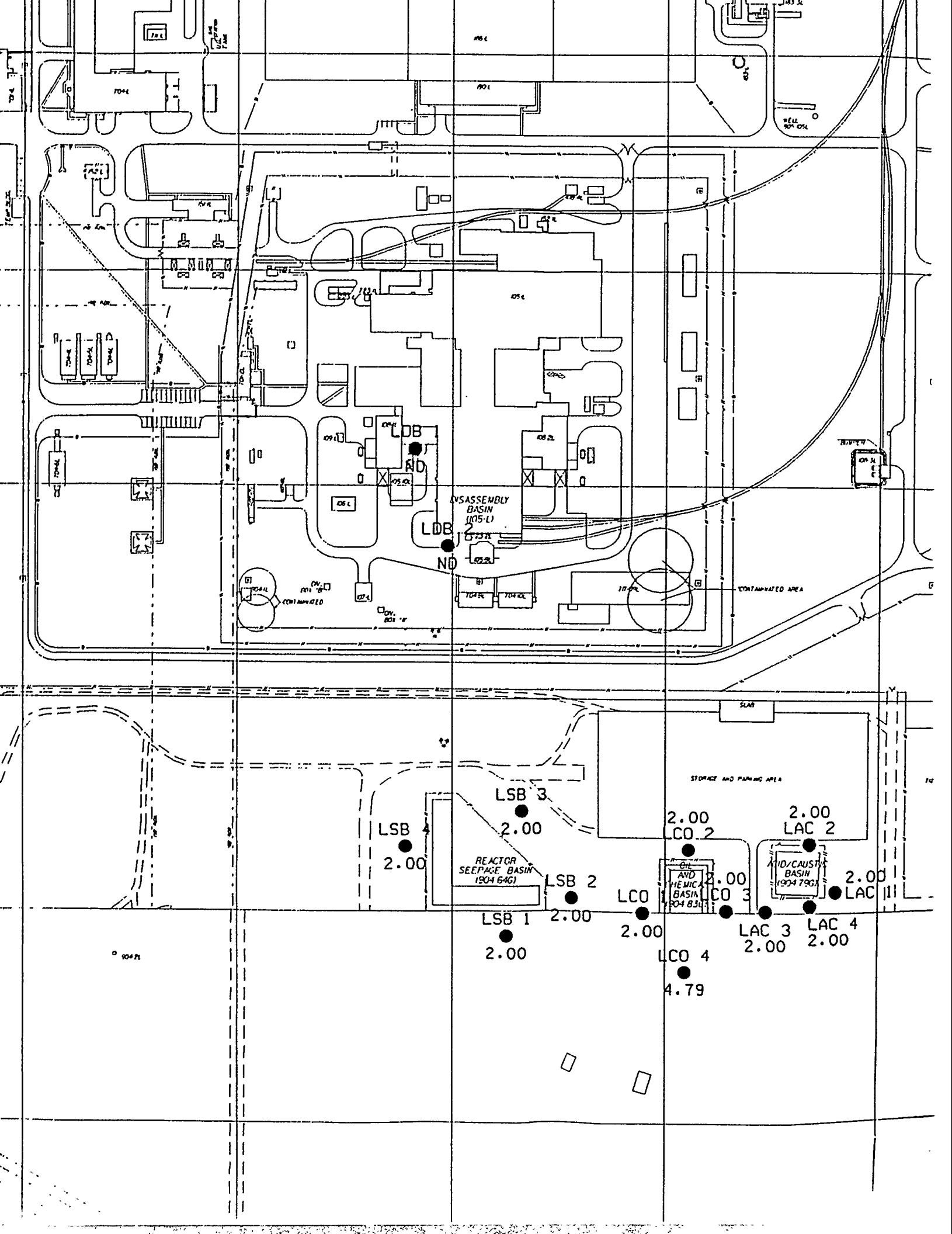
For Information











ASSEMBLY BASIN (105-1)

LDB 1

LDB 2

NO

CONTAMINATED AREA

STORAGE AND PARKING AREA

SLAB

REACTOR SEEPAGE BASIN (104-646)

OIL AND CHEMICAL BASIN (104-830)

WATER AND CAUSTIC BASIN (104-790)

LSB 4
2.00

LSB 3
2.00

LSB 2
2.00

LSB 1
2.00

LCO 2
2.00

LCO 4
4.79

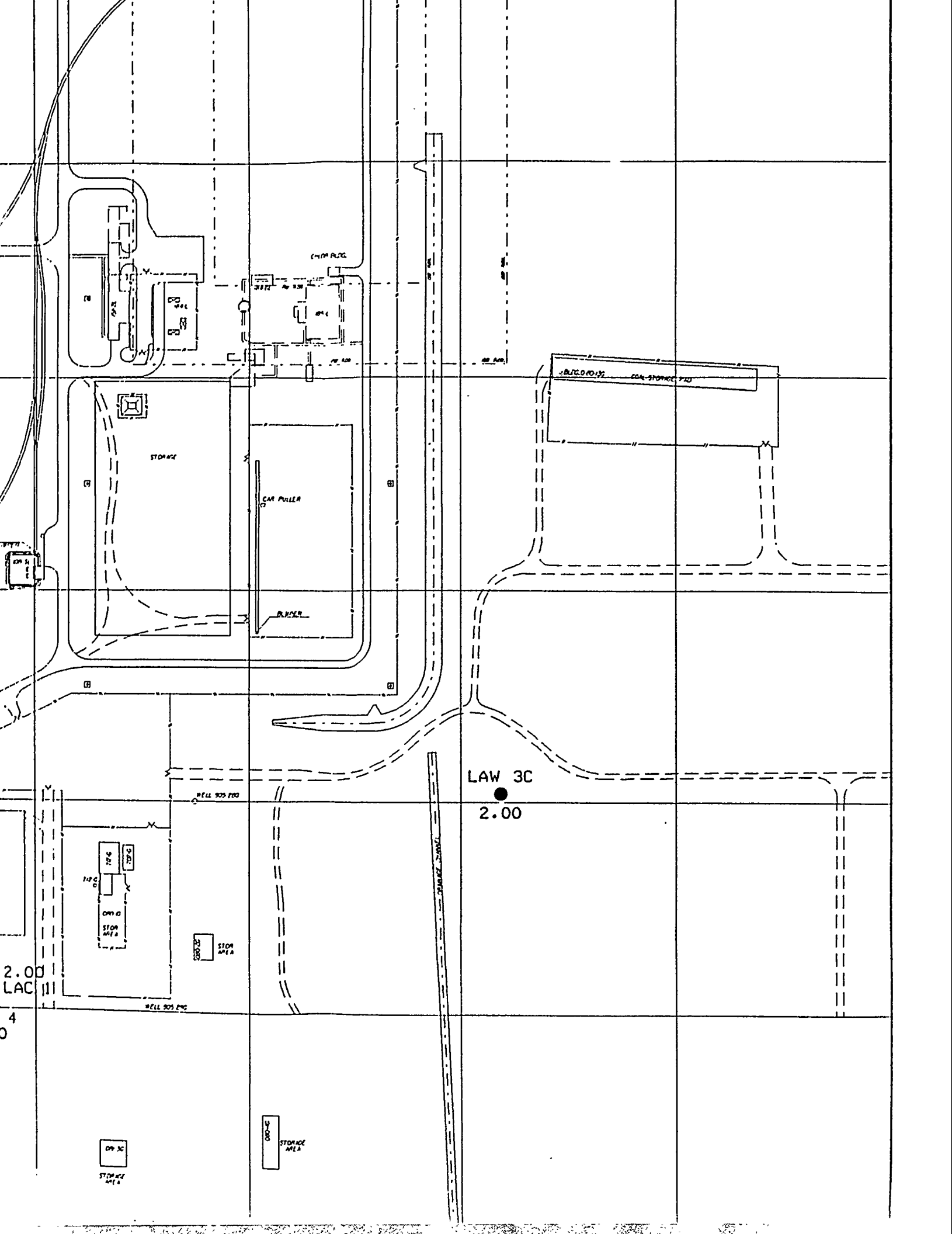
LCO 3
2.00

LAC 2
2.00

LAC 3
2.00

LAC 4
2.00

LAC 1
2.00



CHOP PLUG

STORAGE

CAR PULLER

PUMP

BUILDING COAL STORAGE PAD

LAW 3C

2.00

WELL 300 P20

176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
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194
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197
198
199
200

STOR
174

STOR
174

STOR
174

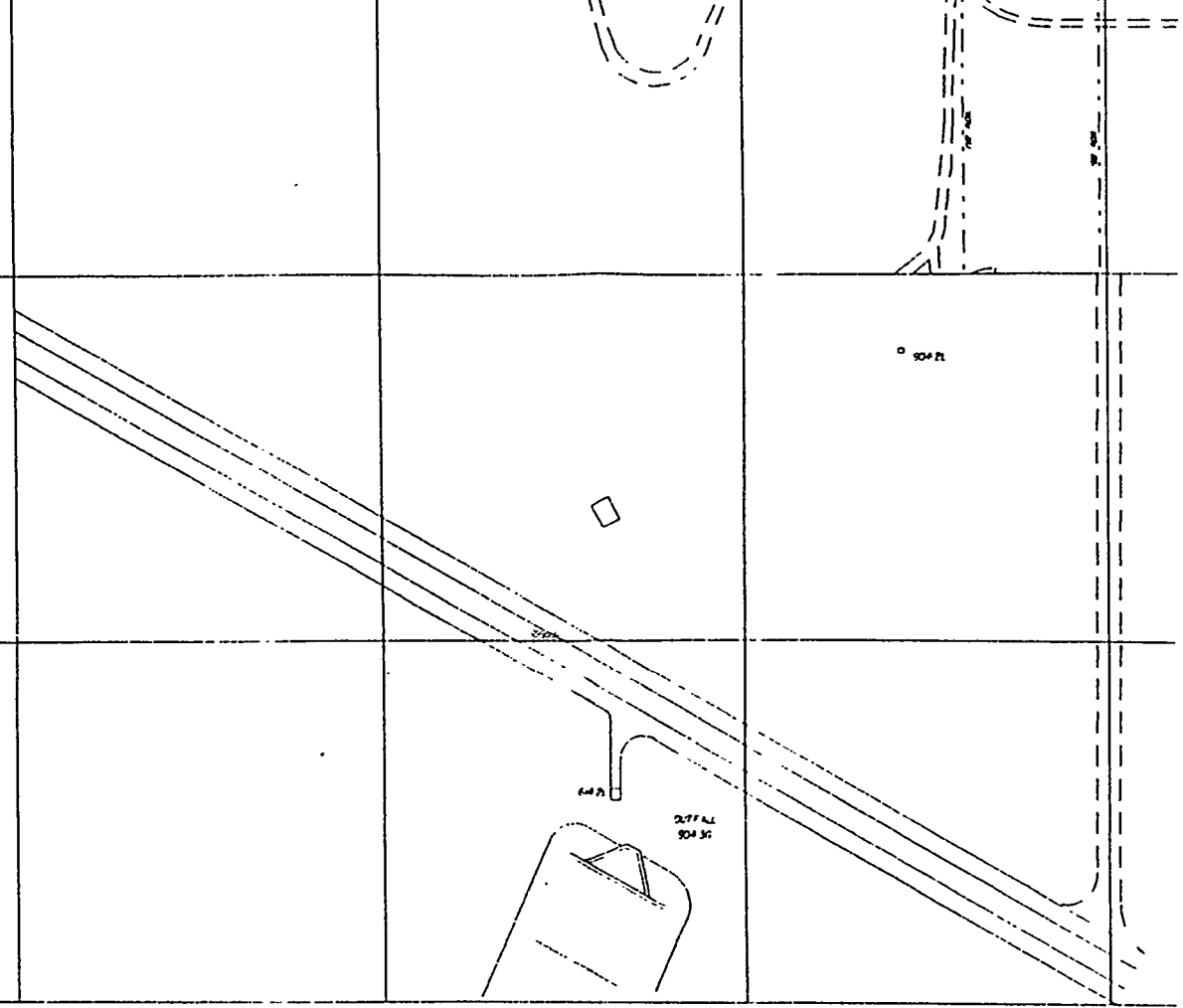
2.00
LAC

4
0

45200

44200

44400



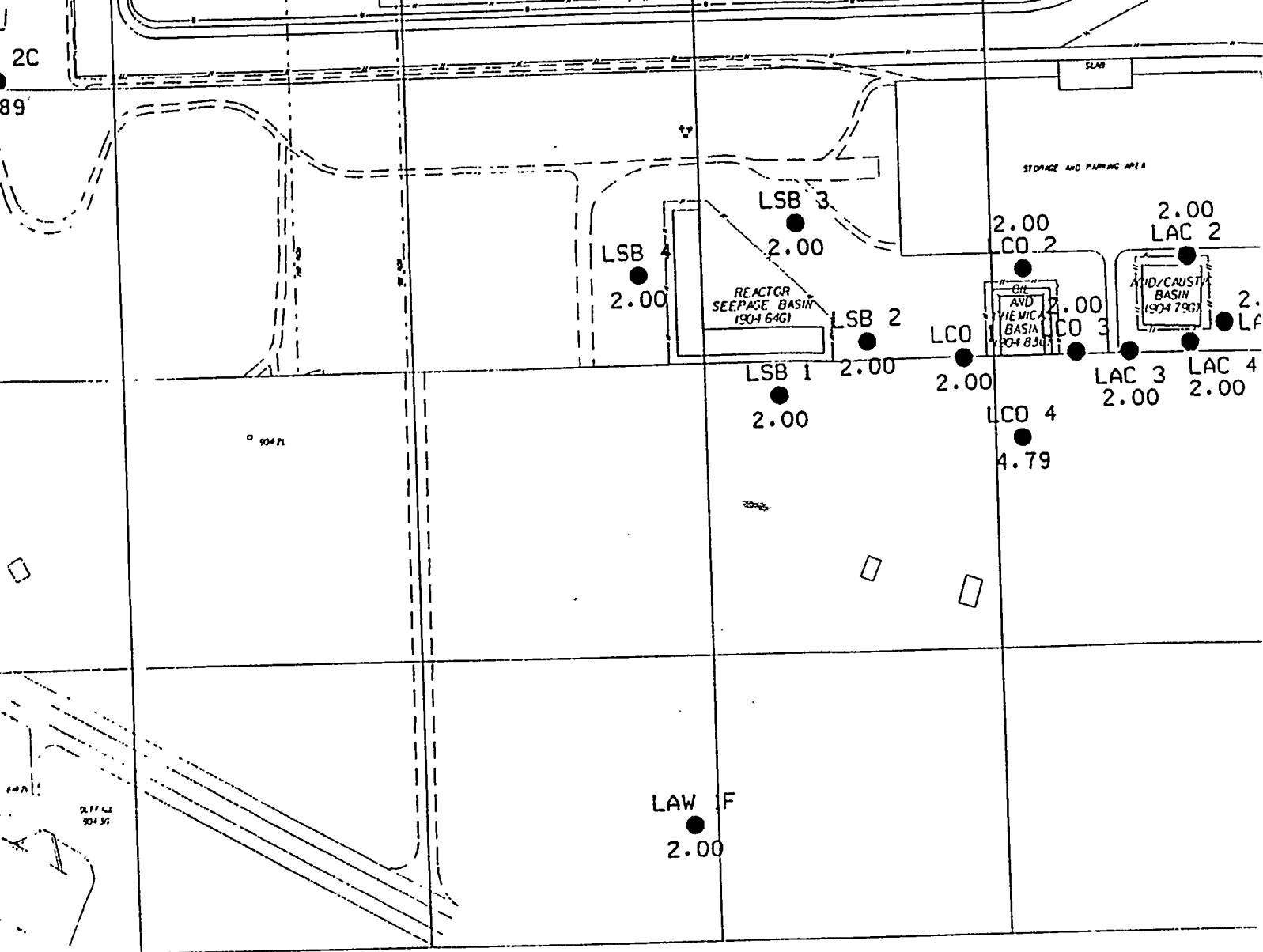
WELL SYMBOL LEGEND

- WATER TABLE AQUIFER
GROUNDWATER MONITORING WELLS

LAW2C WELL ID

CONTOUR LEGEND

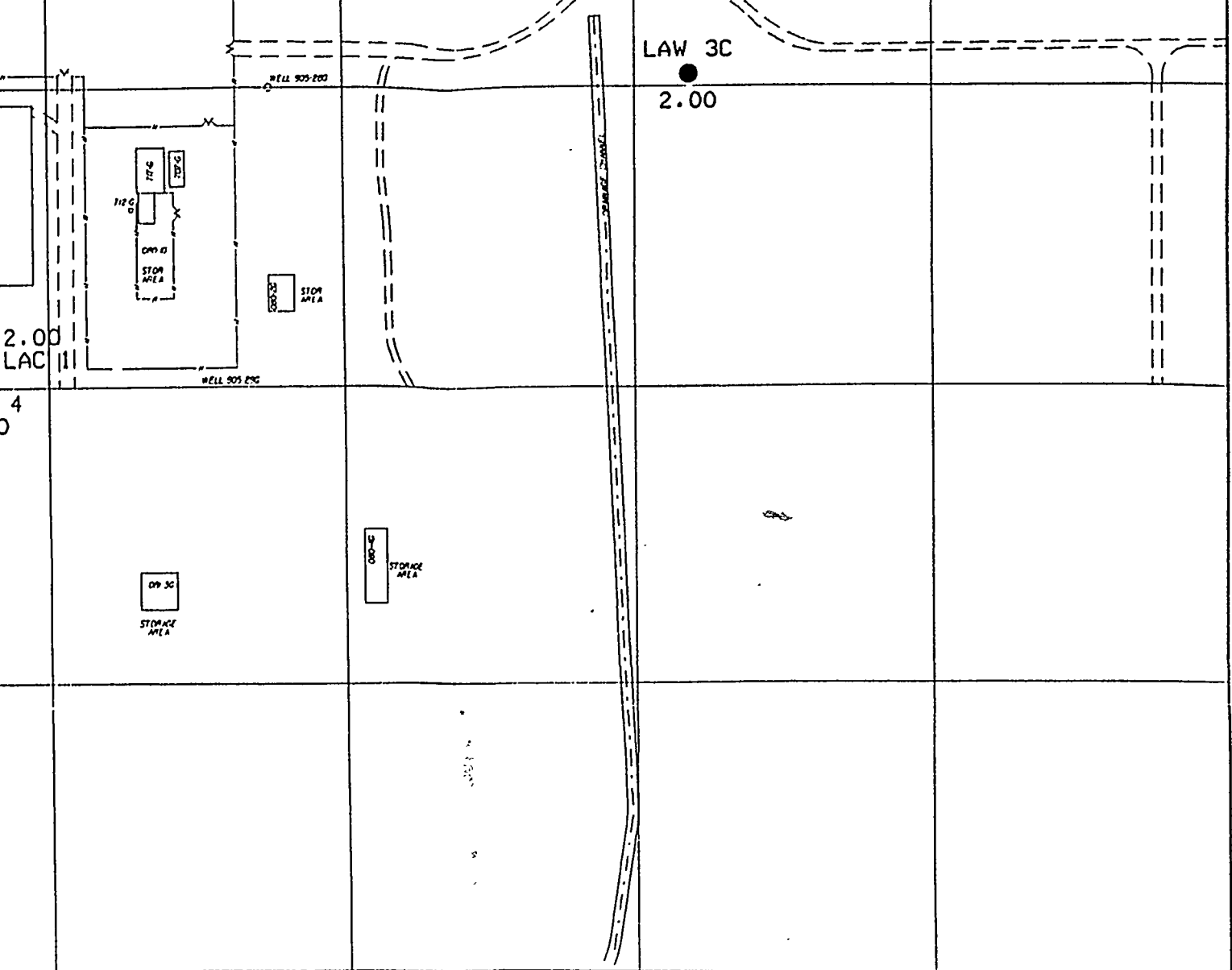
UNITS: pCi/L
PDWS: 15 pCi/L
2.00: DENOTES ACTIVITY AT OR LESS THAN DETECTION LIMIT
ND: NO DATA



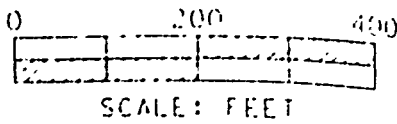
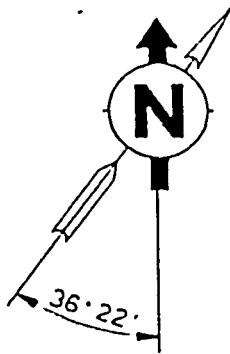
ND
ER
ORING WELLS

- LEGEND
- FACILITY BOUNDARY
 - ROAD
 - - - - - DIRT ROAD
 - . - . - . STREAM
 - + + + + + RAILROAD
 - / - / - / FENCE
 - ▨ PIT/BASIN
 - 280 — OBSERVED CONTOUR

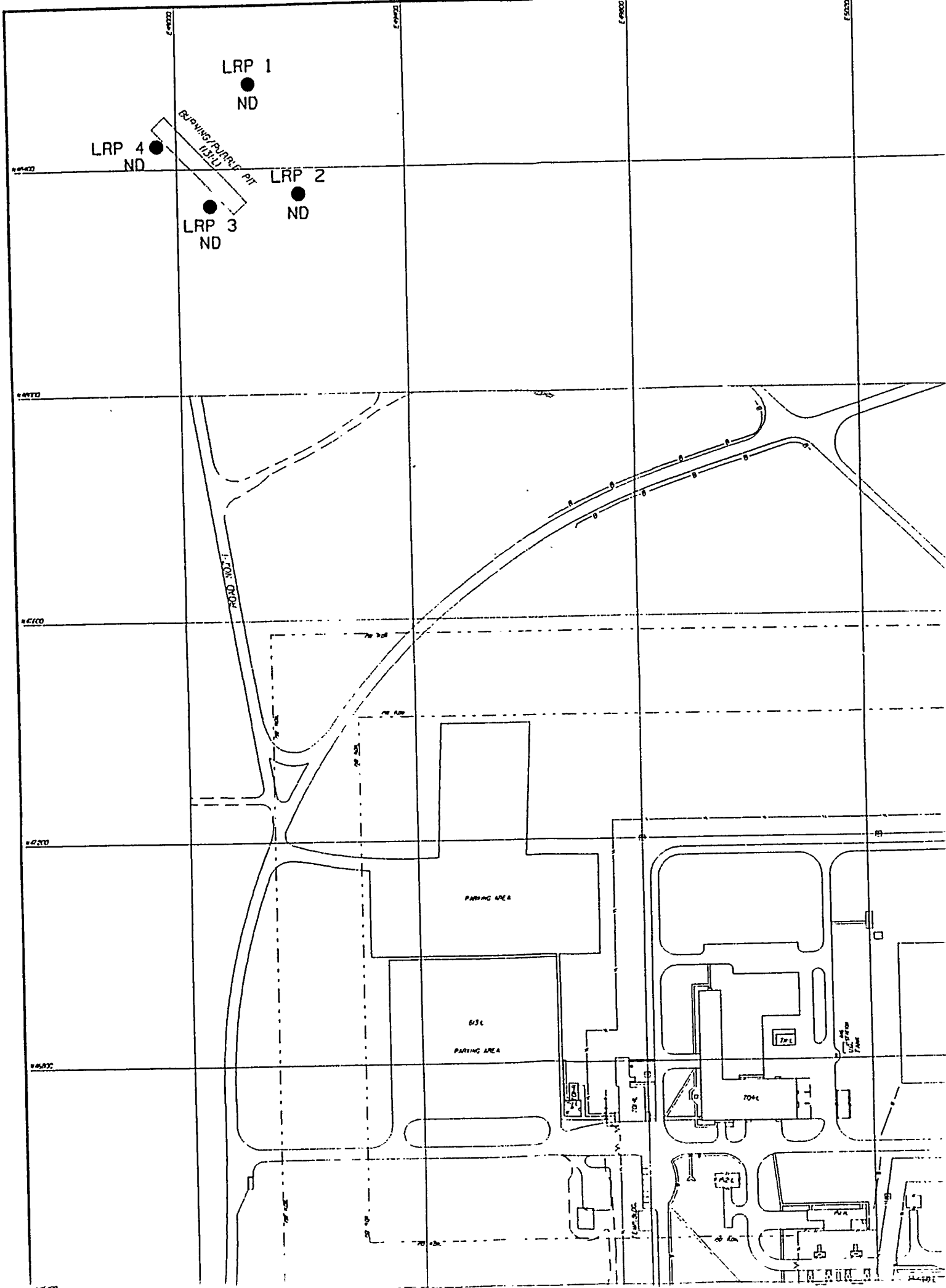
AT OR LESS THAN DETECTION LIMIT

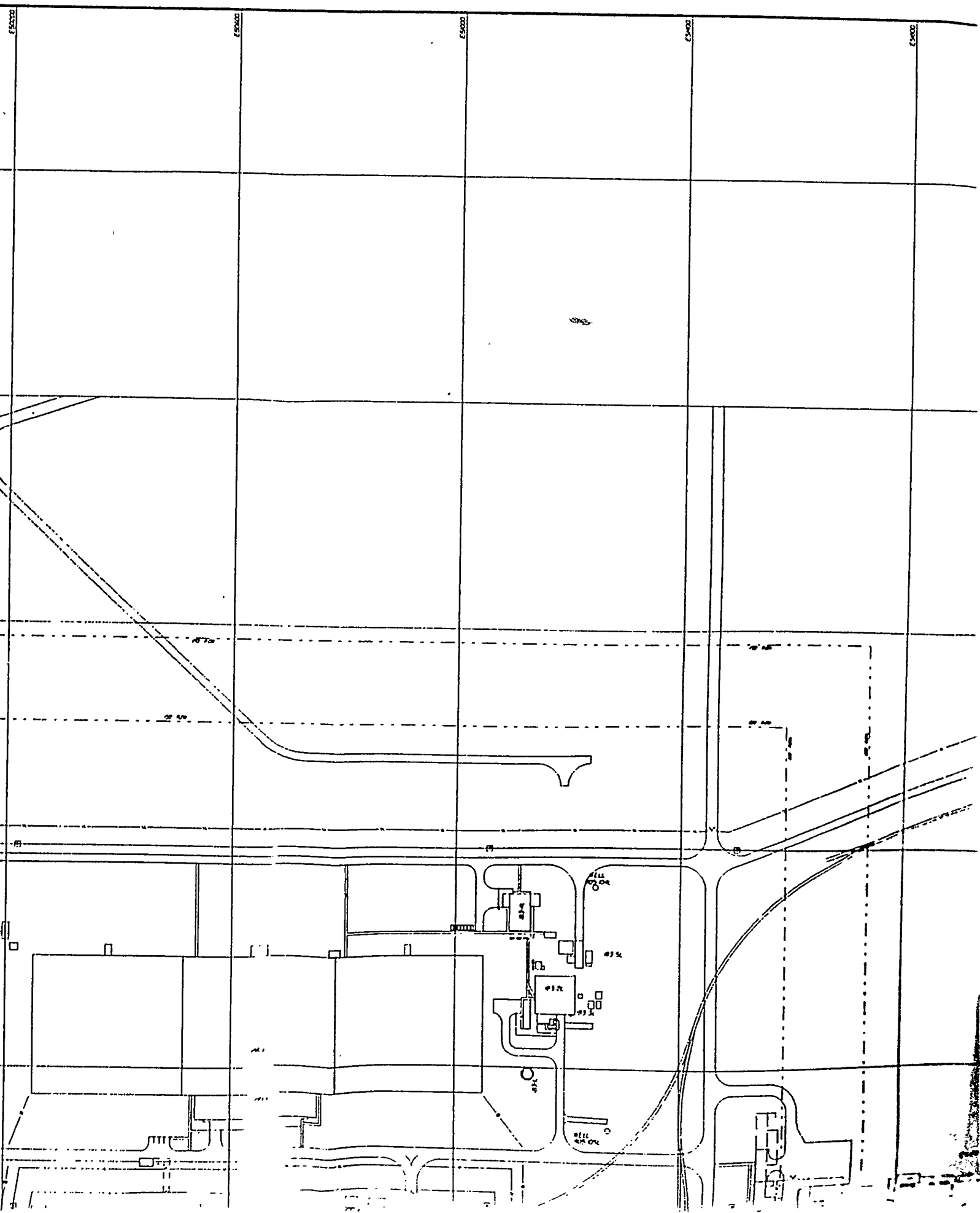


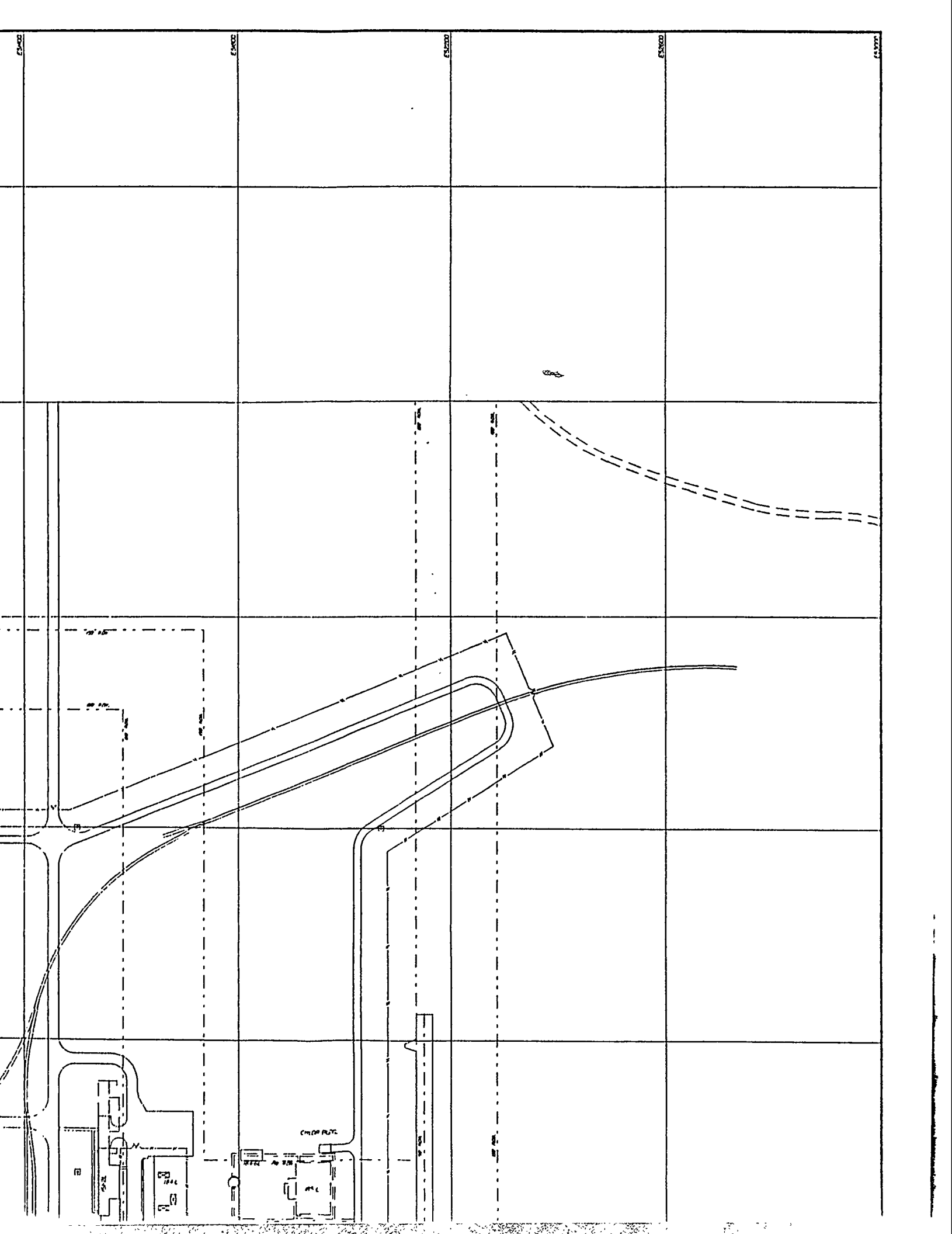
PLANT TRUE
NORTH NORTH



OWG NO GL1099	REV. NO. 0	REV. DATE 8-11-94	AREA L-AREA
<p>TITLE</p> <p>GROSS ALPHA ACTIVITIES FOR L-REACTOR AREA GROUNDWATER MONITORING WELLS THIRD QUARTER 1993</p>			
CREATED BY TRACY L. MICKLEY	DATE 8-30-94	APPROVED BY NA	DATE 93
PREPARED BY C. BUTLER	DATE 8-11-94	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93







034
PARKING AREA

04000

04000

04000

04000

04000

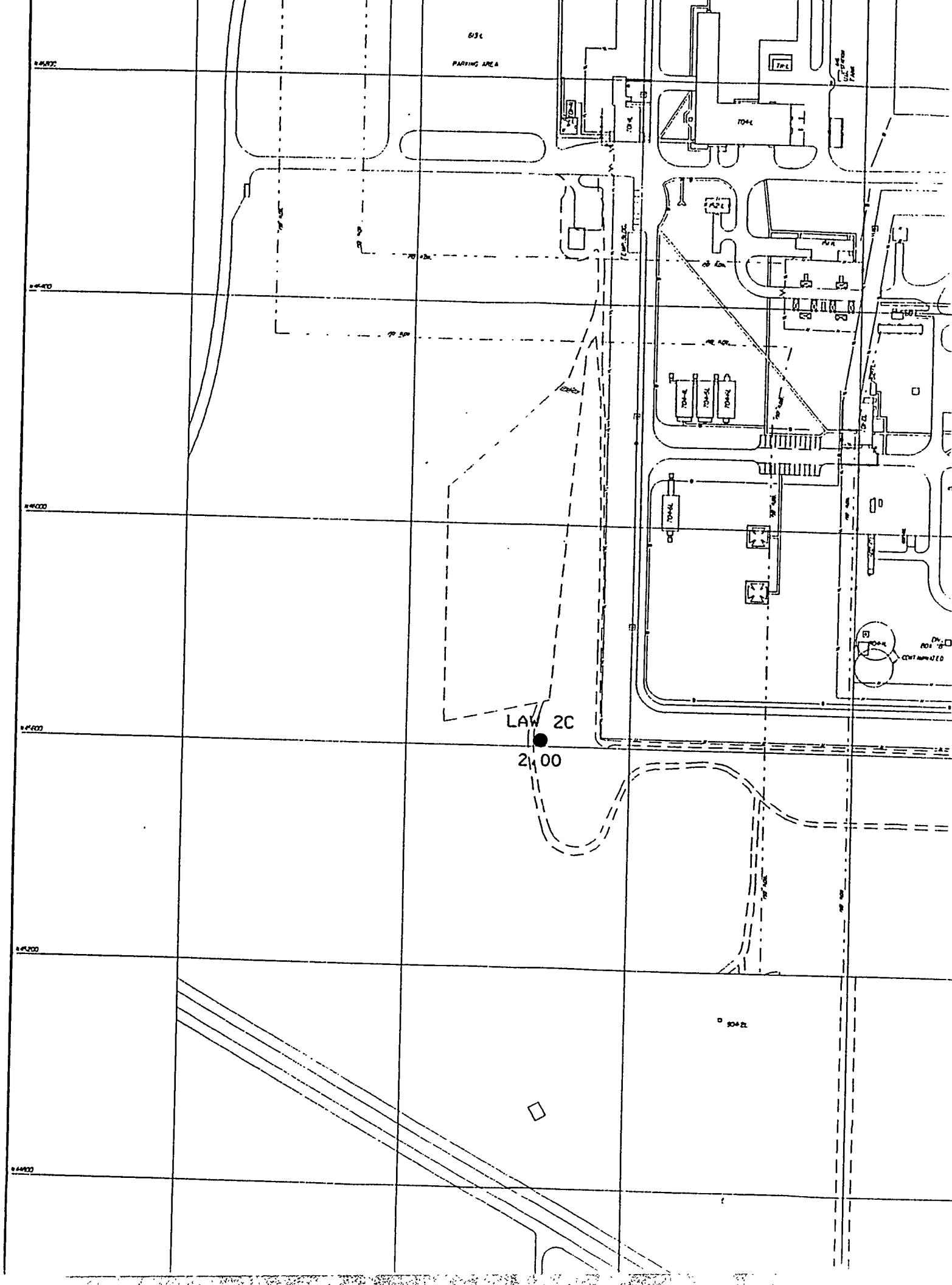
04000

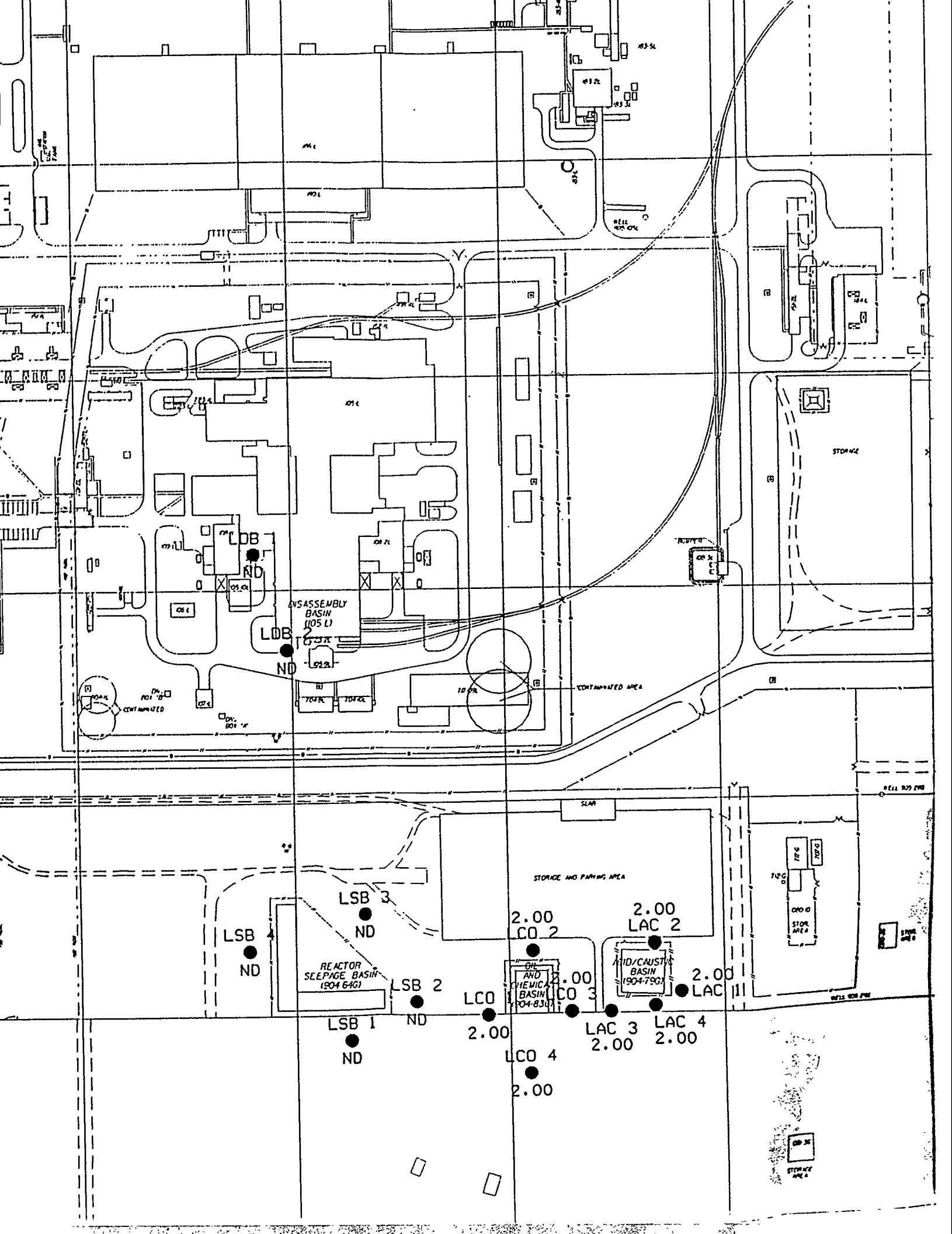
LAW 2C

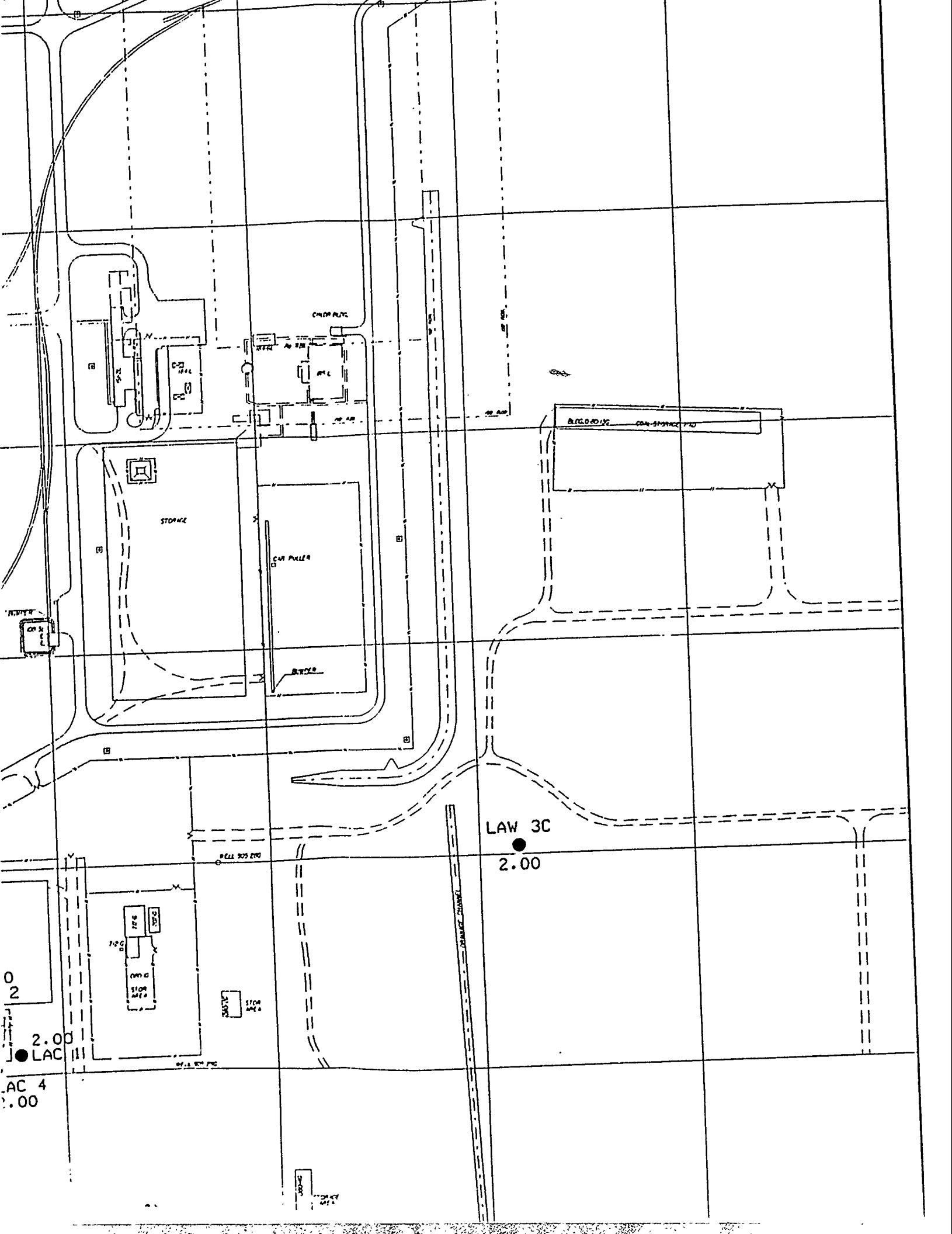
2100

3042

030
030
CENT. MOUNTED







CHILD PLAZA

STORAGE

CAR PULLER

RECYCLER

RECORDING COAL STORAGE PAD

LAW 3C

2.00

BELL BOX 210

WASTE STORAGE

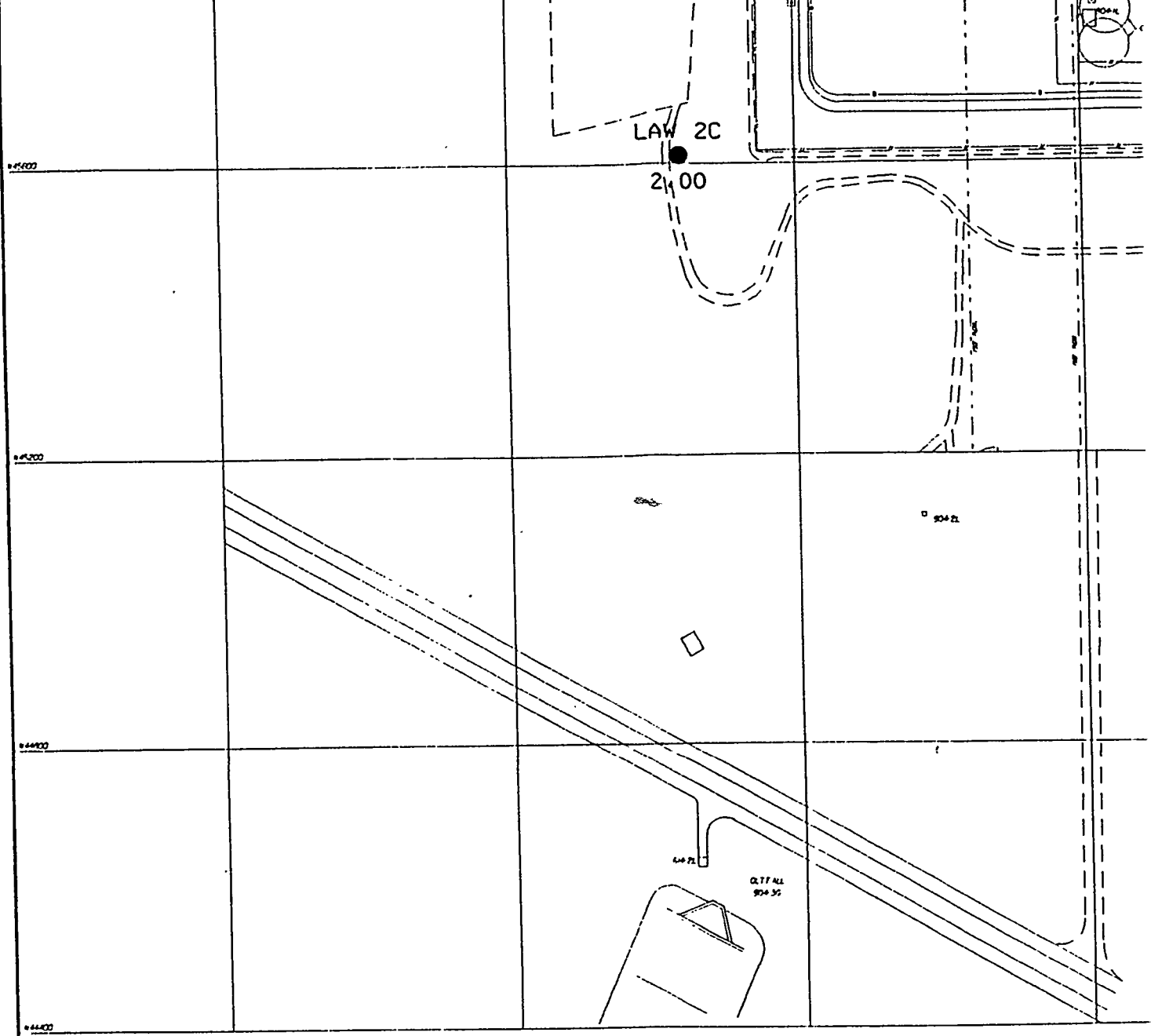
DRIVE CHANGEL

2.00 LAC

LAC 4

2.00

WASTE STORAGE



WELL SYMBOL LEGEND

- WATER TABLE AQUIFER
GROUNDWATER MONITORING WELLS

LAW2C WELL ID

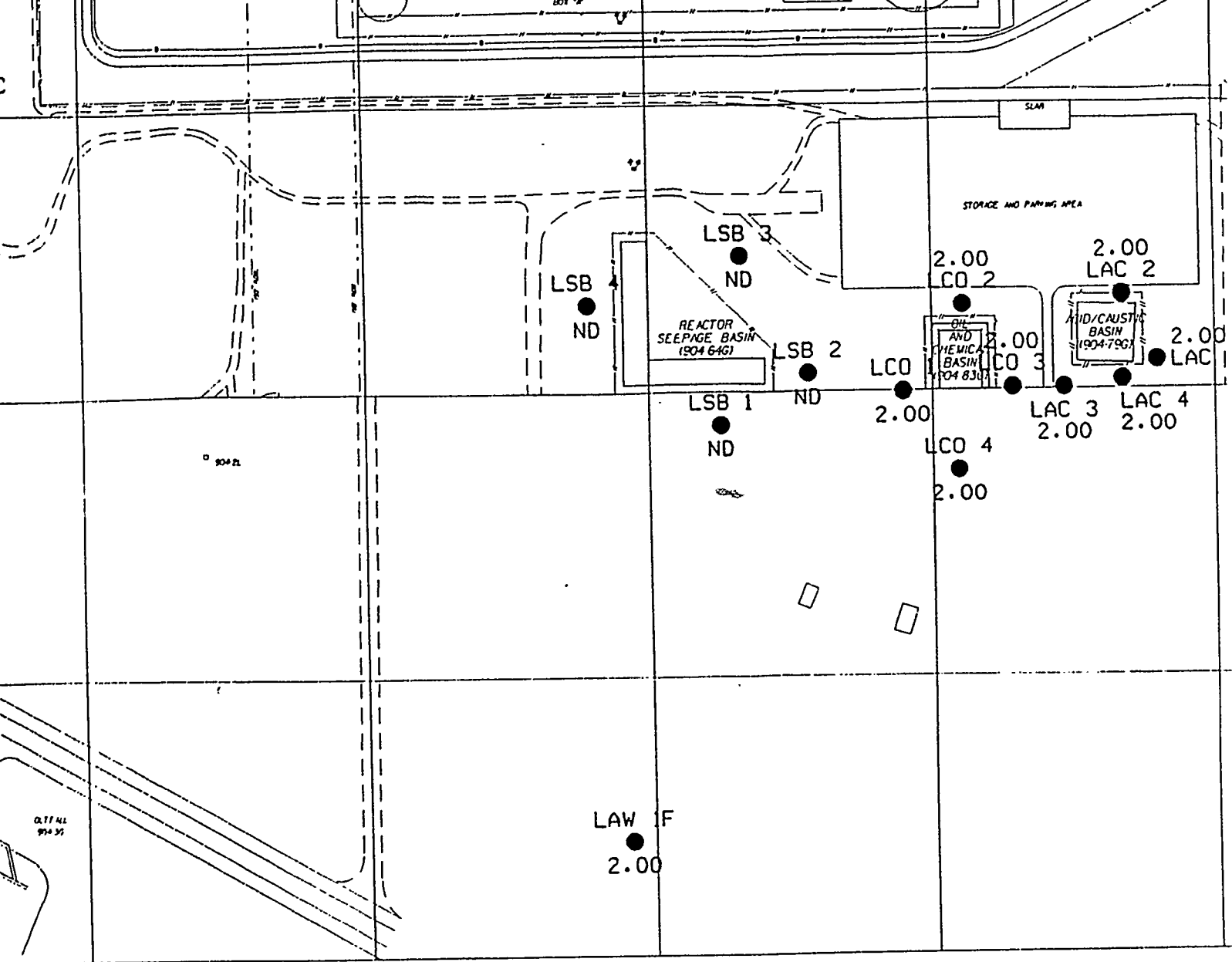
CONTOUR LEGEND

UNITS: ug/l

PDWS: 5 ug/l

2.00: DENOTES CONCENTRATIONS AT OR LESS THAN DETECTION LIM

ND: NO DATA

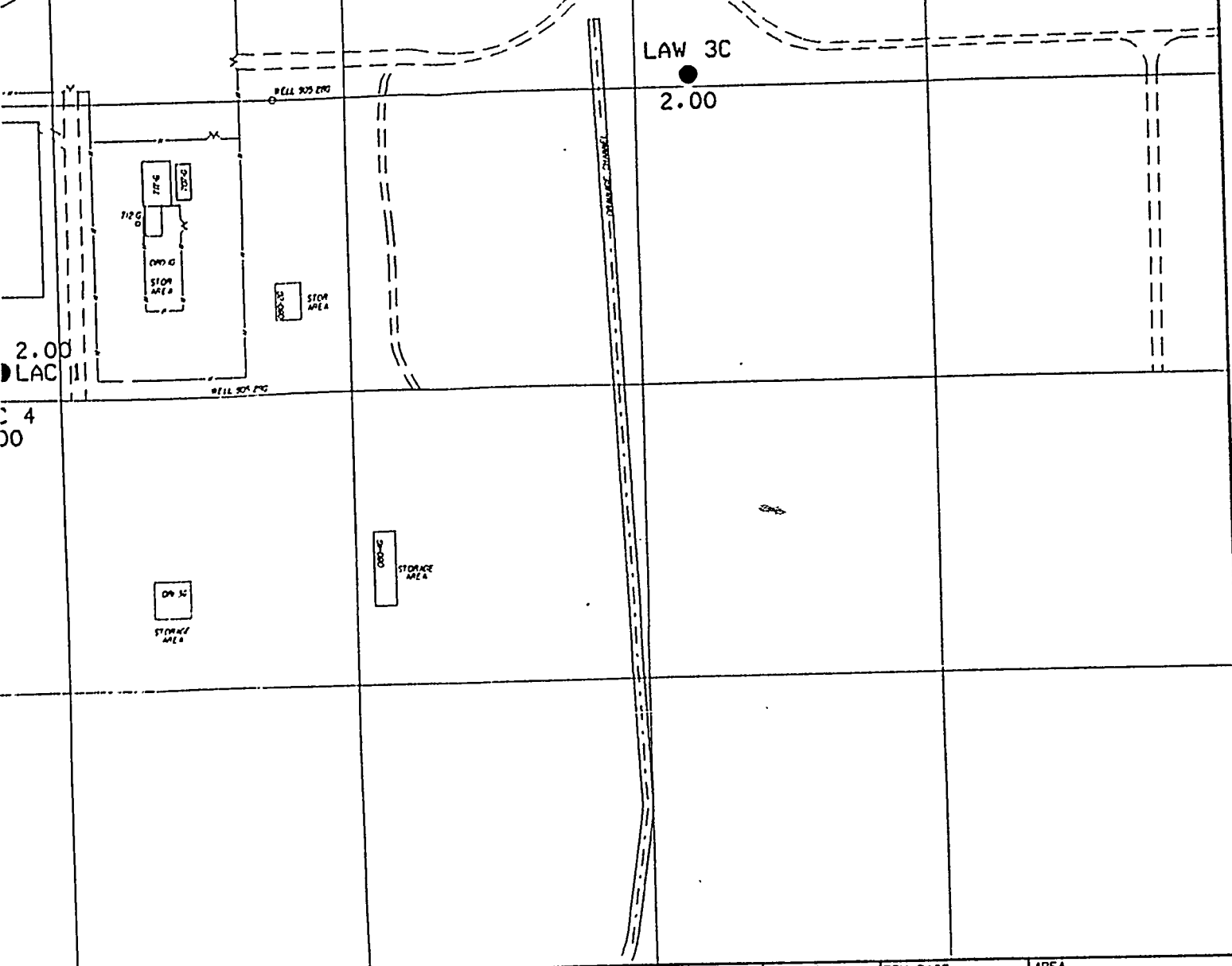


LEGEND

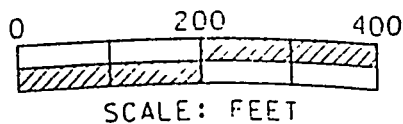
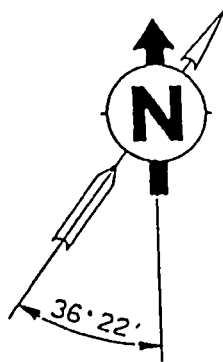
- FACILITY BOUNDARY
- ~~~~~ ROAD
- - - - - DIRT ROAD
- . - . - - STREAM
- + + + + + RAILROAD
- / — FENCE
- ▨ PIT/BASIN
- 280 — OBSERVED CONTOUR

NG WELLS

IONS AT OR LESS THAN DETECTION LIMIT

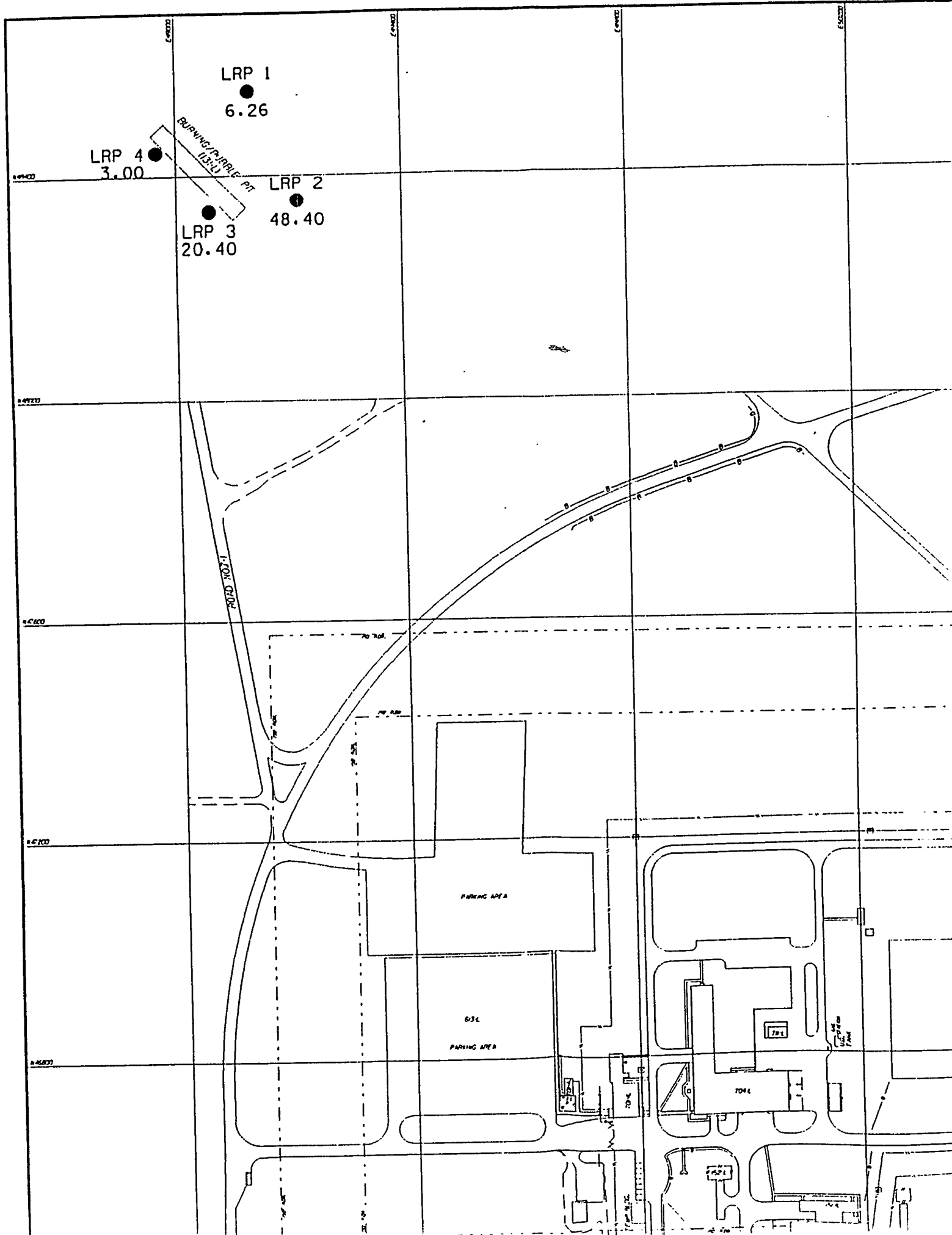


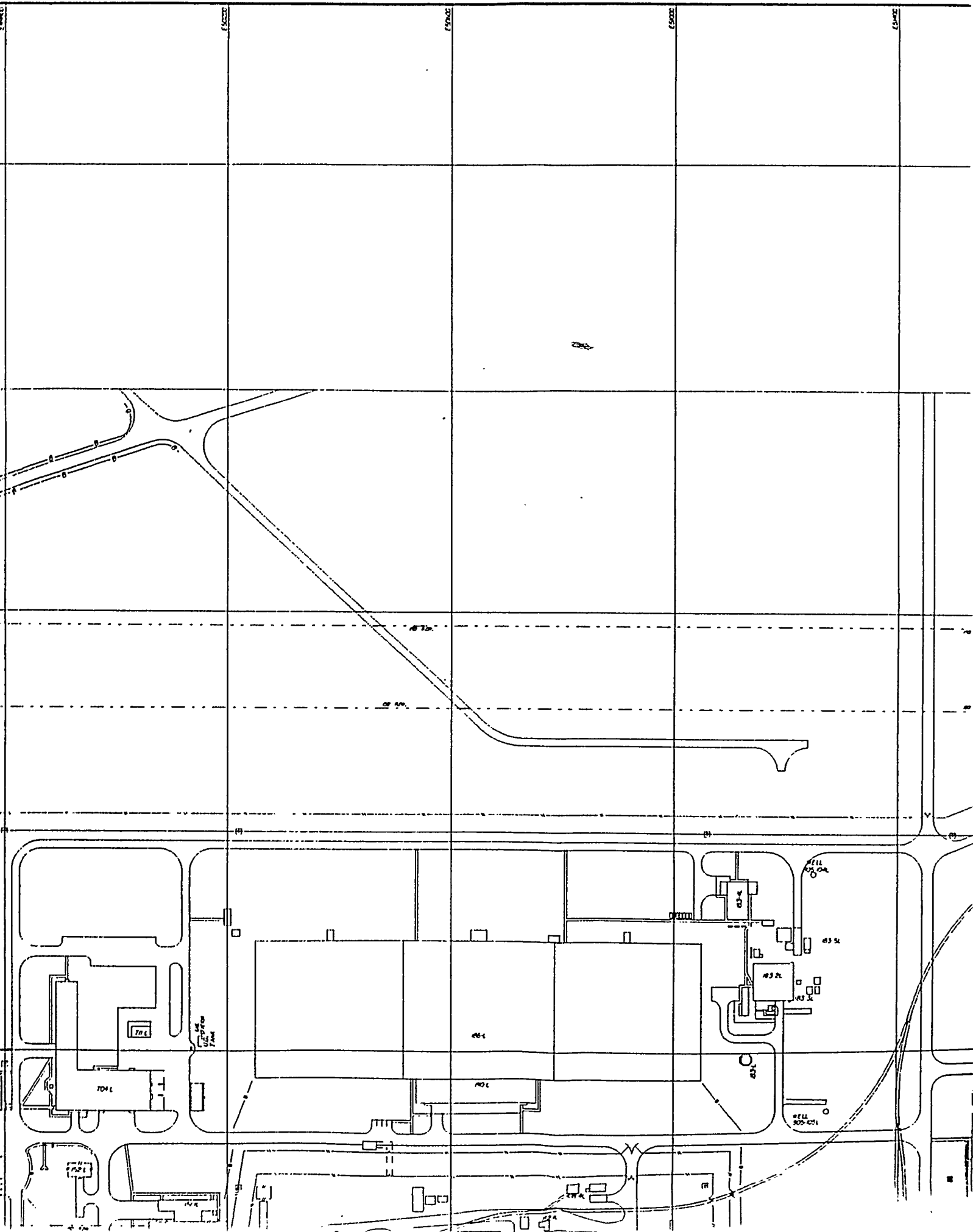
PLANT TRUE
NORTH NORTH

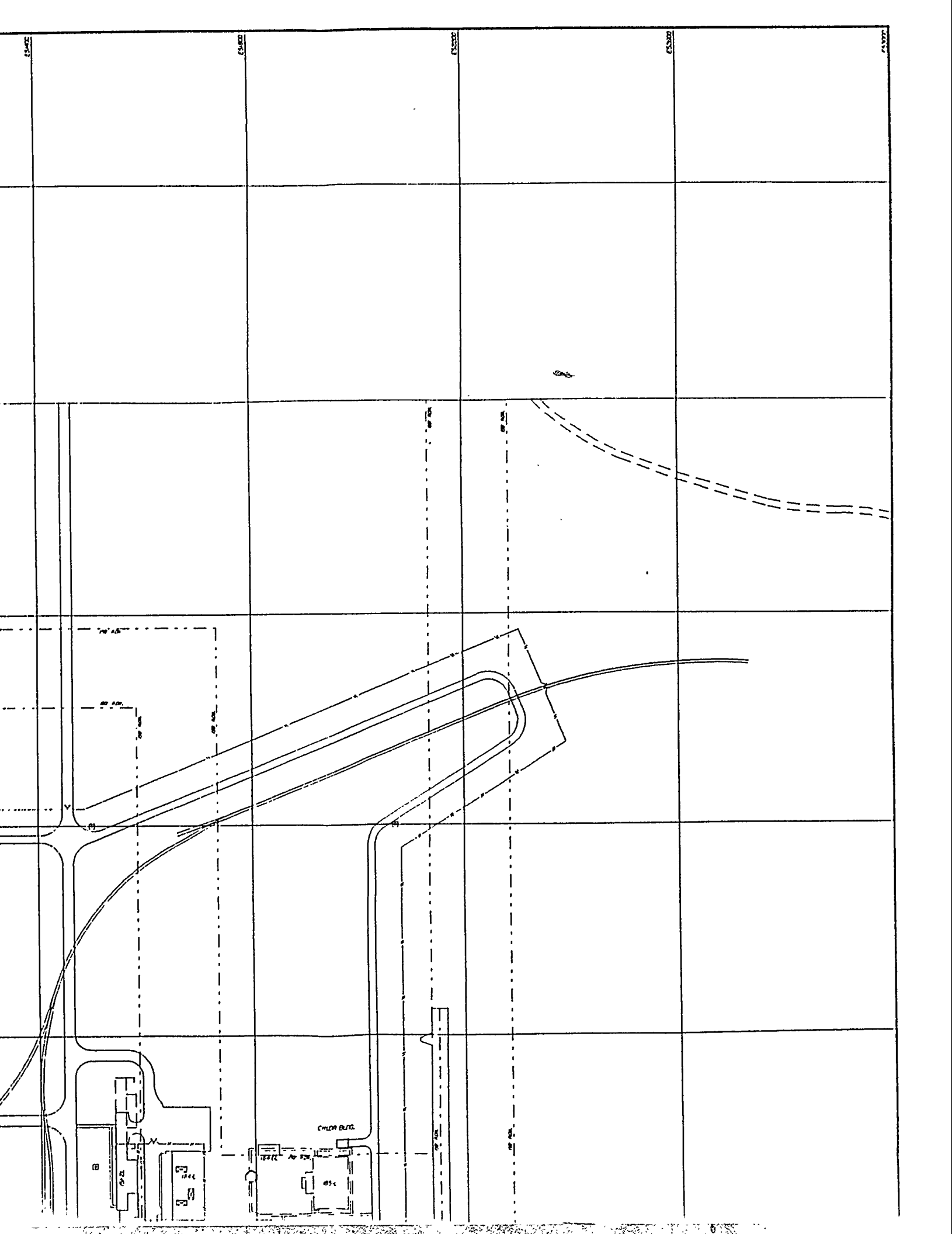


DWG NO GL1101	REV. NO. 0	REV. DATE 8-11-94	AREA L-AREA
<p>TITLE CADMIUM CONCENTRATIONS FOR L-REACTOR AREA GROUNDWATER MONITORING WELLS THIRD QUARTER 1993</p>			
CREATED BY TRACY L. MICKLEY	DATE 8-31-94	APPROVED BY NA	DATE 93
PREPARED BY C. BUTLER	DATE 8-11-94	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93

For Information







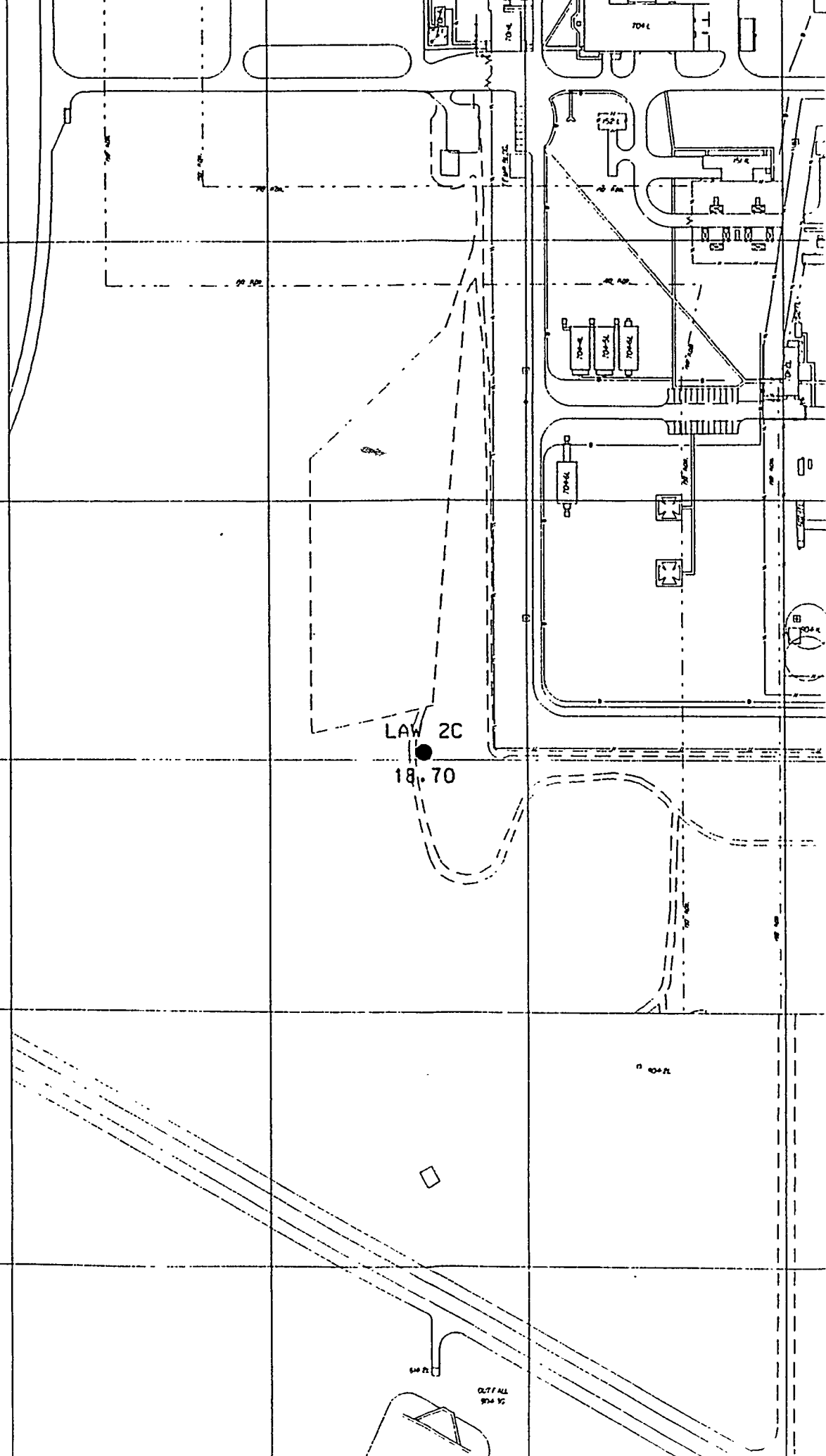
104-470

104-000

104-770

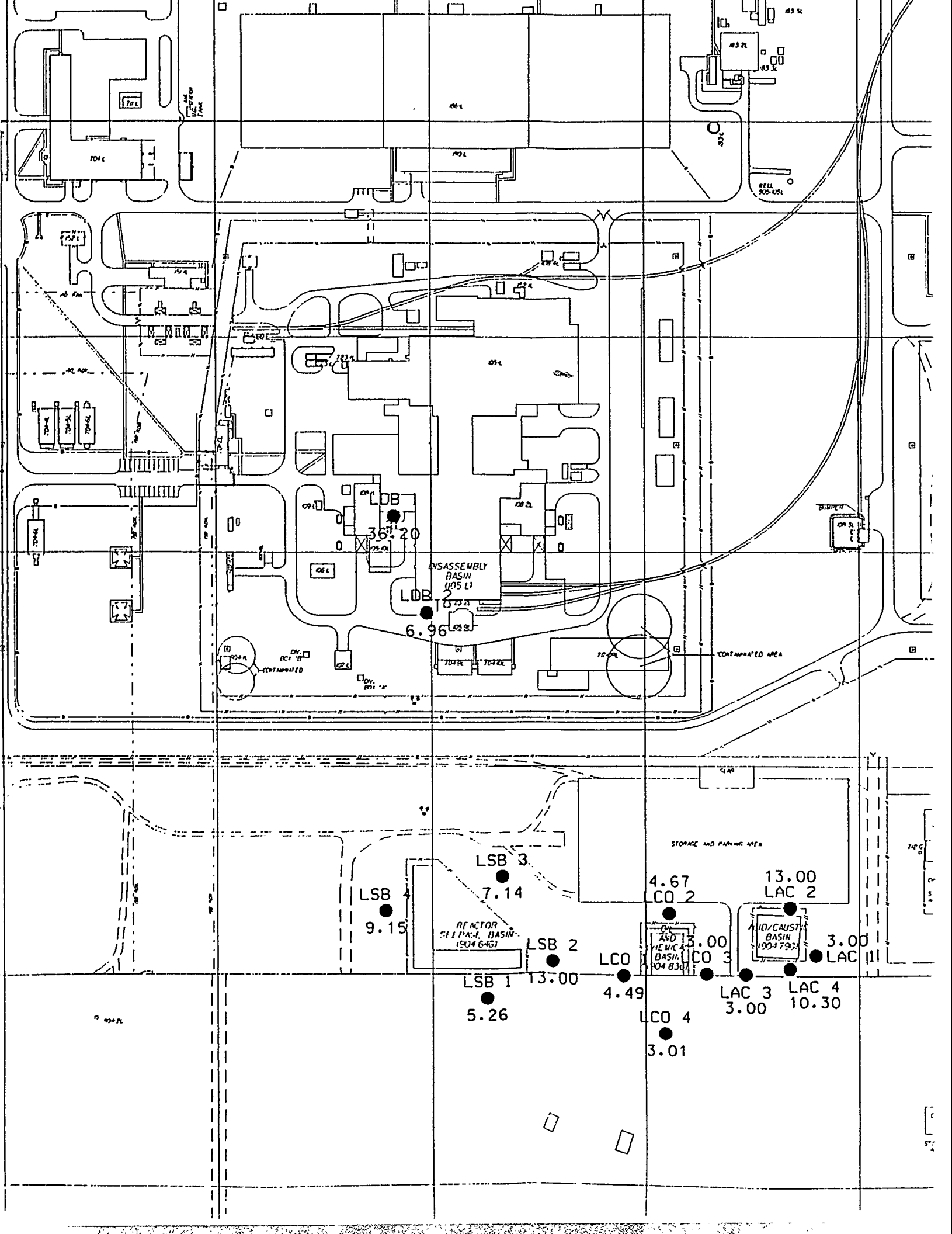
104-220

104-420



LAW 2C
 18.70

OUT ALL
 914 V



REACTOR ASSEMBLY BASIN (05 L)

LOB 1

LOB 2

STORAGE AND PARKING AREA

REACTOR SLEWING BASIN (04 6-40)

WIND AND CAUSTIC BASIN (04 830)

WIND/CAUSTIC BASIN (04 793)

LSB 4

LSB 3

LSB 2

LSB 1

CO 2

LCO 3

LCO 4

LAC 2

LAC 1

LAC 3

LAC 4

9.15

7.14

13.00

5.26

4.67

3.00

3.01

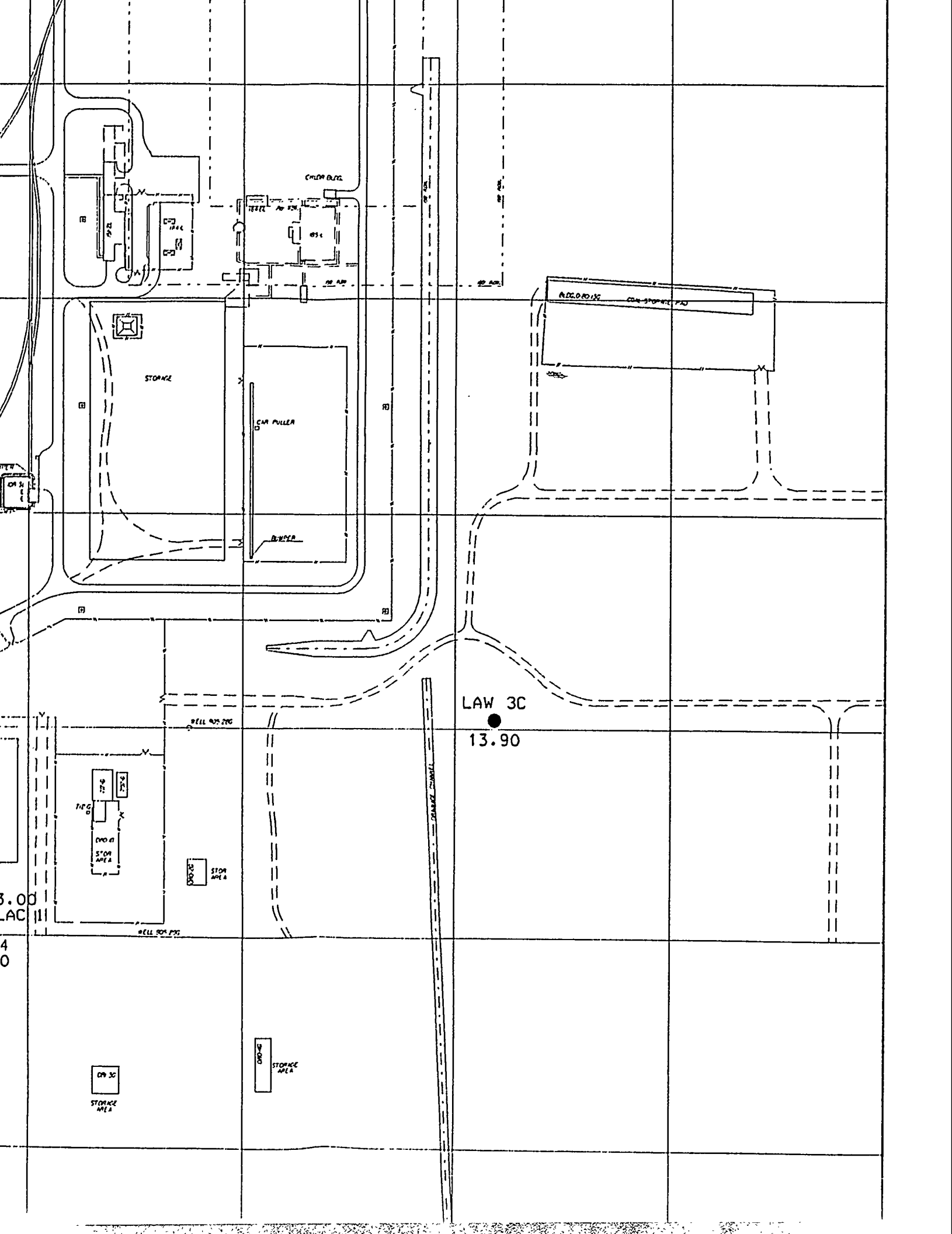
13.00

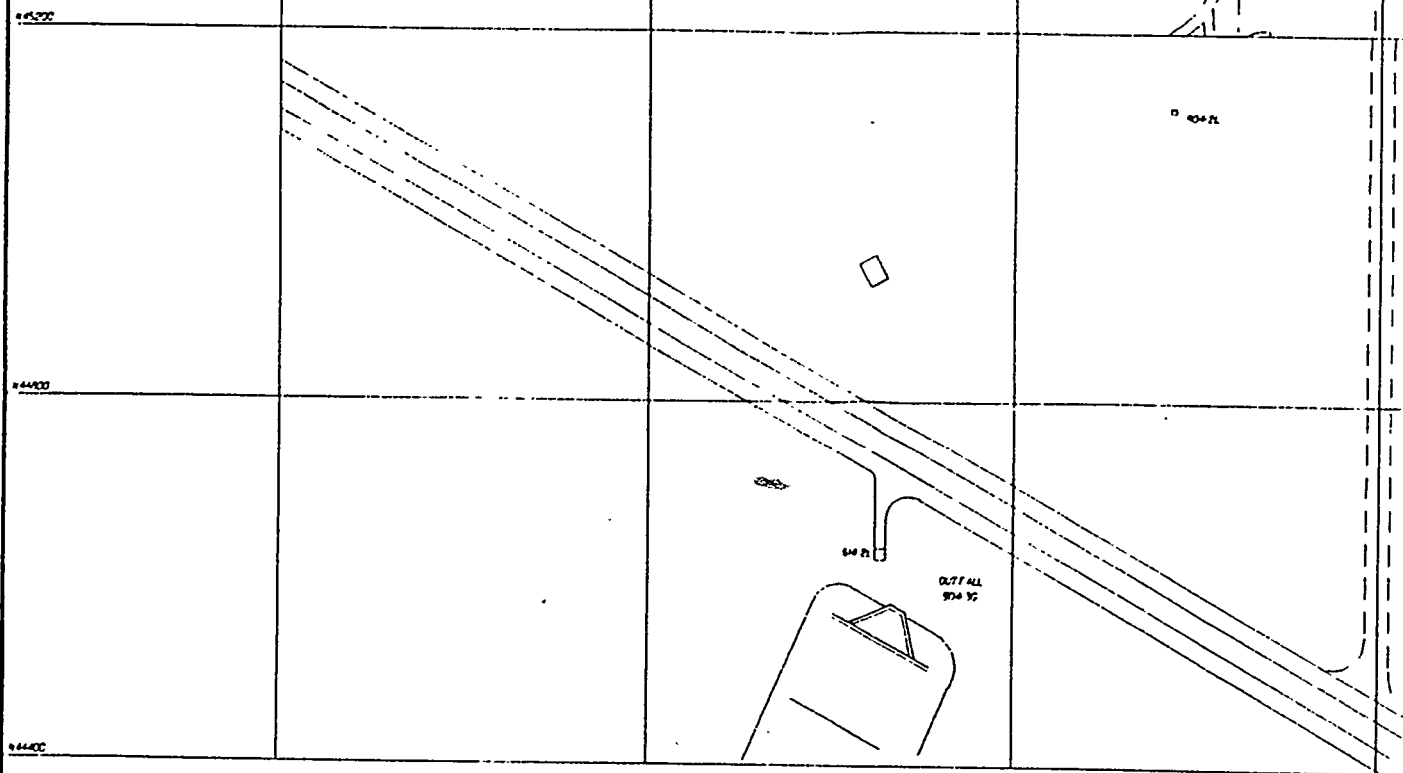
3.00

3.00

10.30

4.49





WELL SYMBOL LEGEND

- WATER TABLE AQUIFER
GROUNDWATER MONITORING WELLS

LAW2C WELL ID

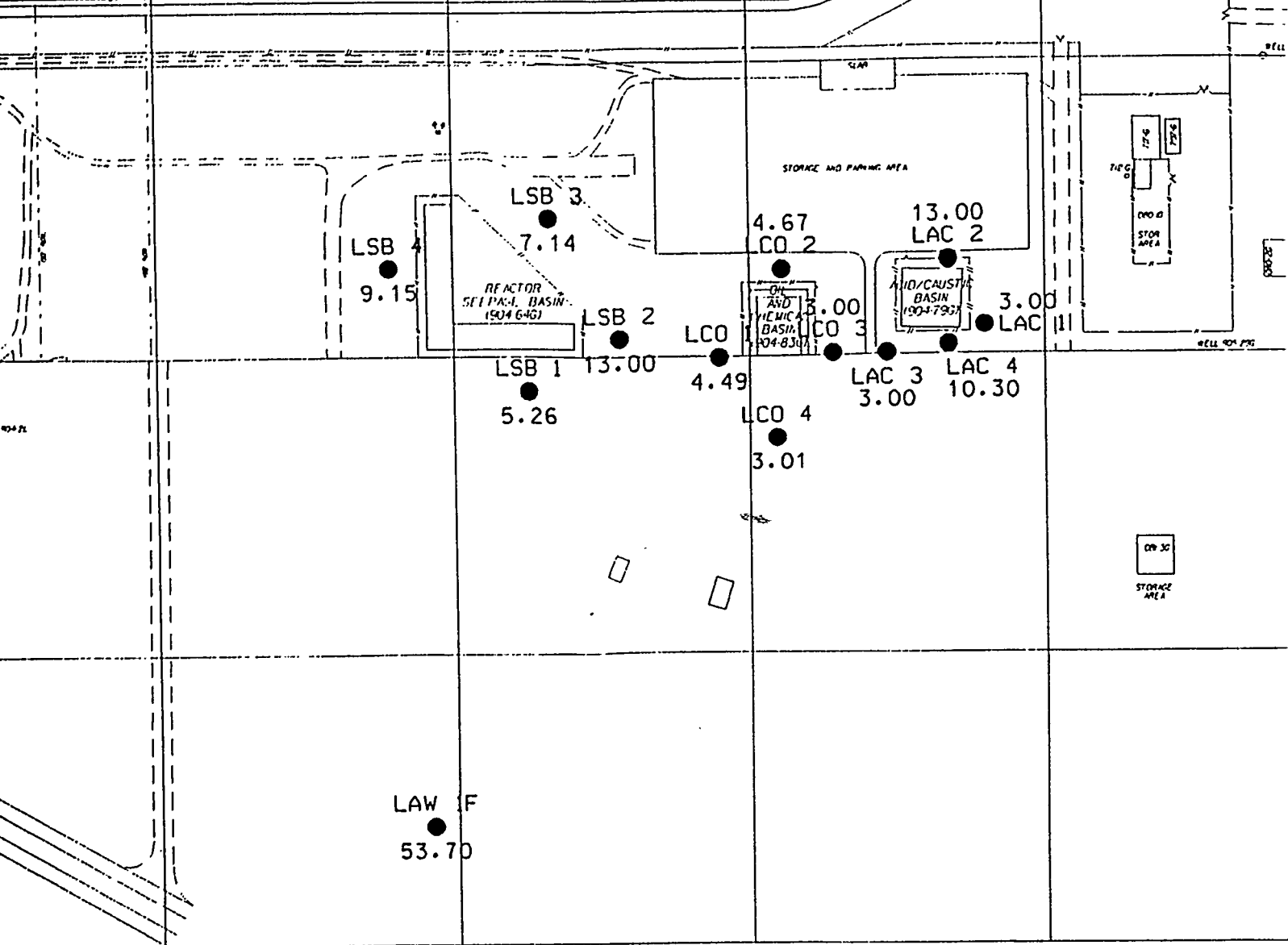
CONTOUR LEGEND

UNITS: ug/l

PDWS: 50 ug/l

3.00: DENOTES CONCENTRATIONS AT OR LESS THAN DETECTION L

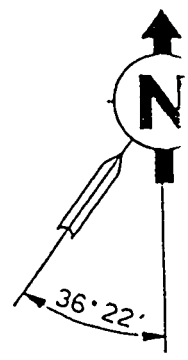
ND: NO DATA



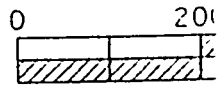
LEGEND

- FACILITY BOUNDARY
- ROAD
- - - - DIRT ROAD
- - - - STREAM
- + + + + RAILROAD
- / - / FENCE
- ▨ PIT/BASIN
- 280— OBSERVED CONTOUR

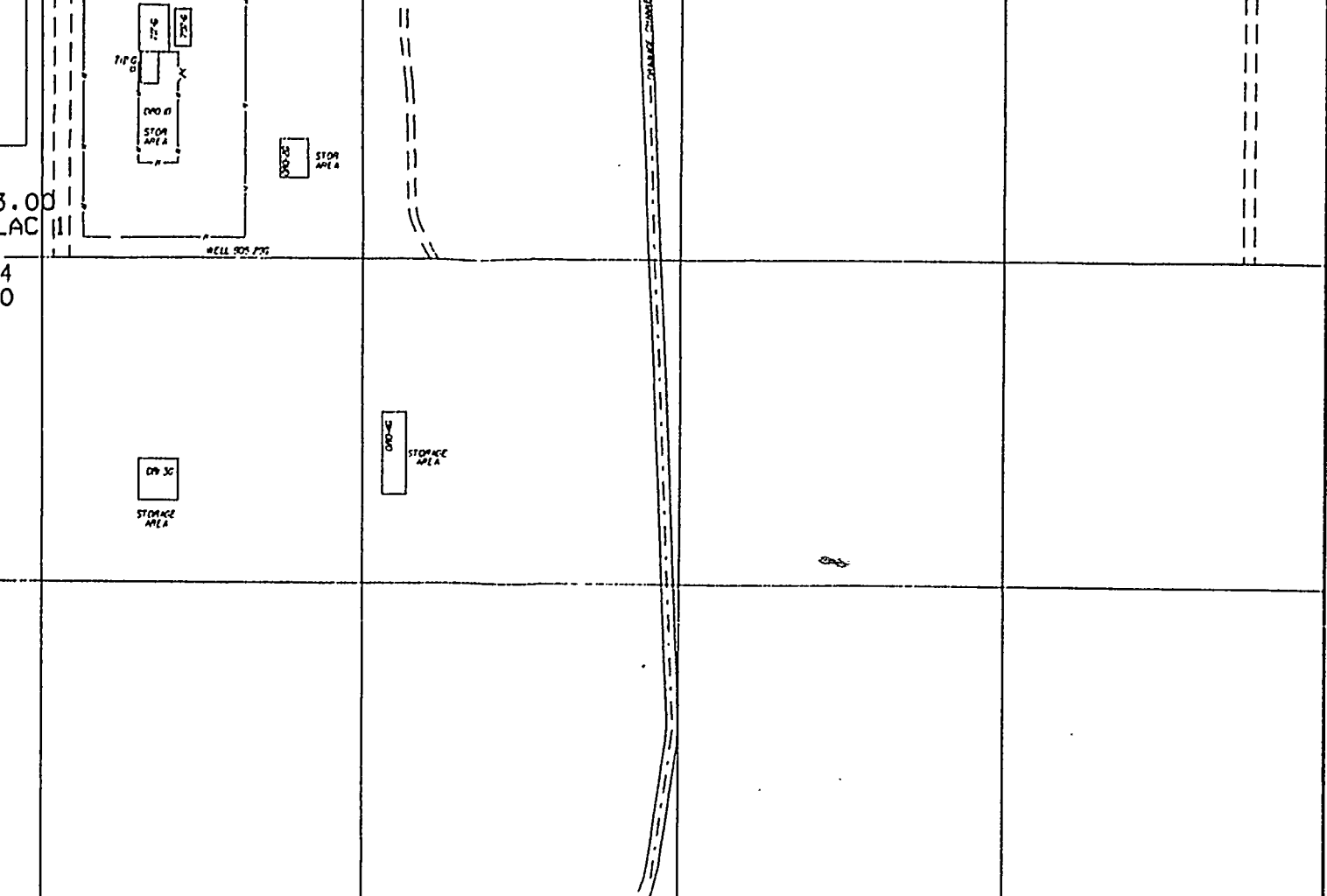
PLAN
NORT



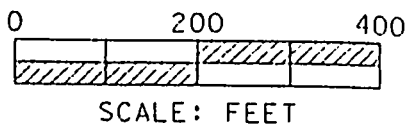
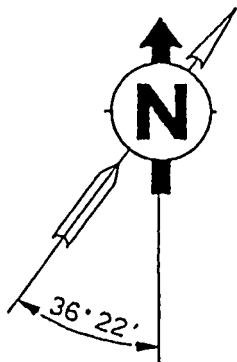
HAN DETECTION LIMIT



SCALE:

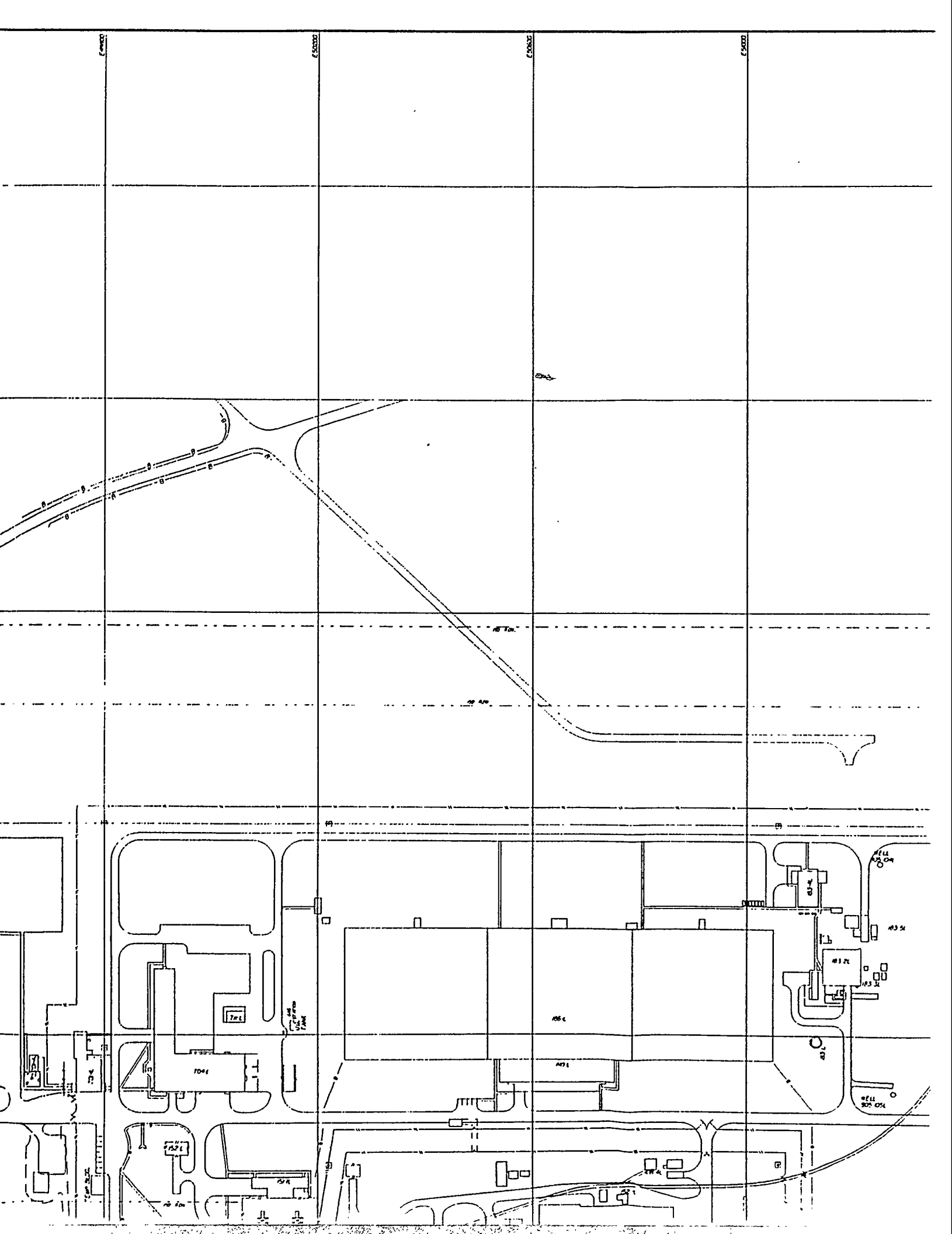


PLANT TRUE NORTH NORTH



DWG NO. GL1102	REV. NO. 0	REV. DATE 8-11-94	AREA L-AREA
<p>TITLE</p> <p>LEAD CONCENTRATIONS FOR L-REACTOR AREA GROUNDWATER MONITORING WELLS THIRD QUARTER 1993</p>			
CREATED BY TRACY L. MICKLEY	DATE 8-31-94	APPROVED BY NA	DATE 93
PREPARED BY C. BUTLER	DATE 8-11-94	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93

For Information





44873

44400

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44493

631
PARKING AREA

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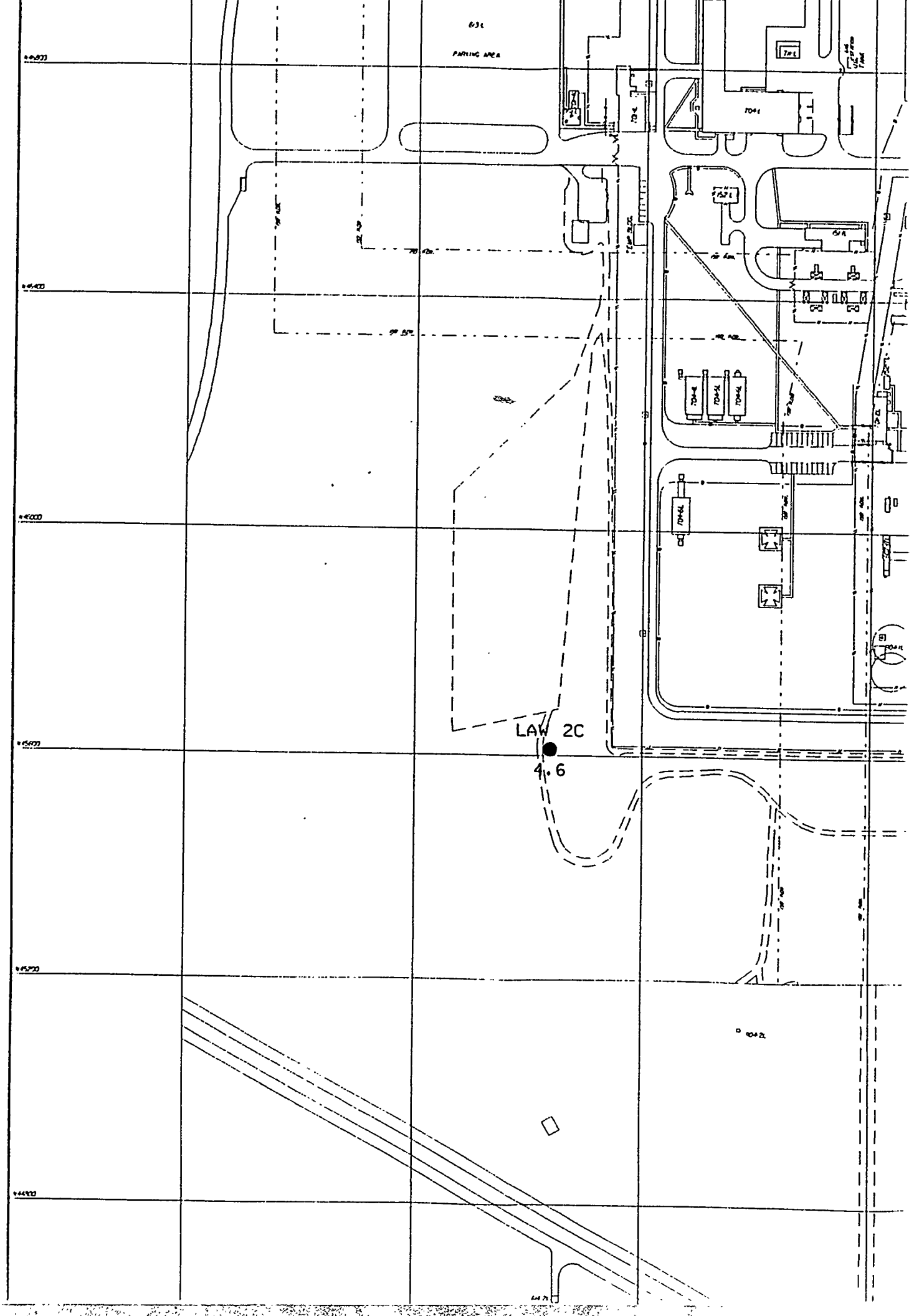
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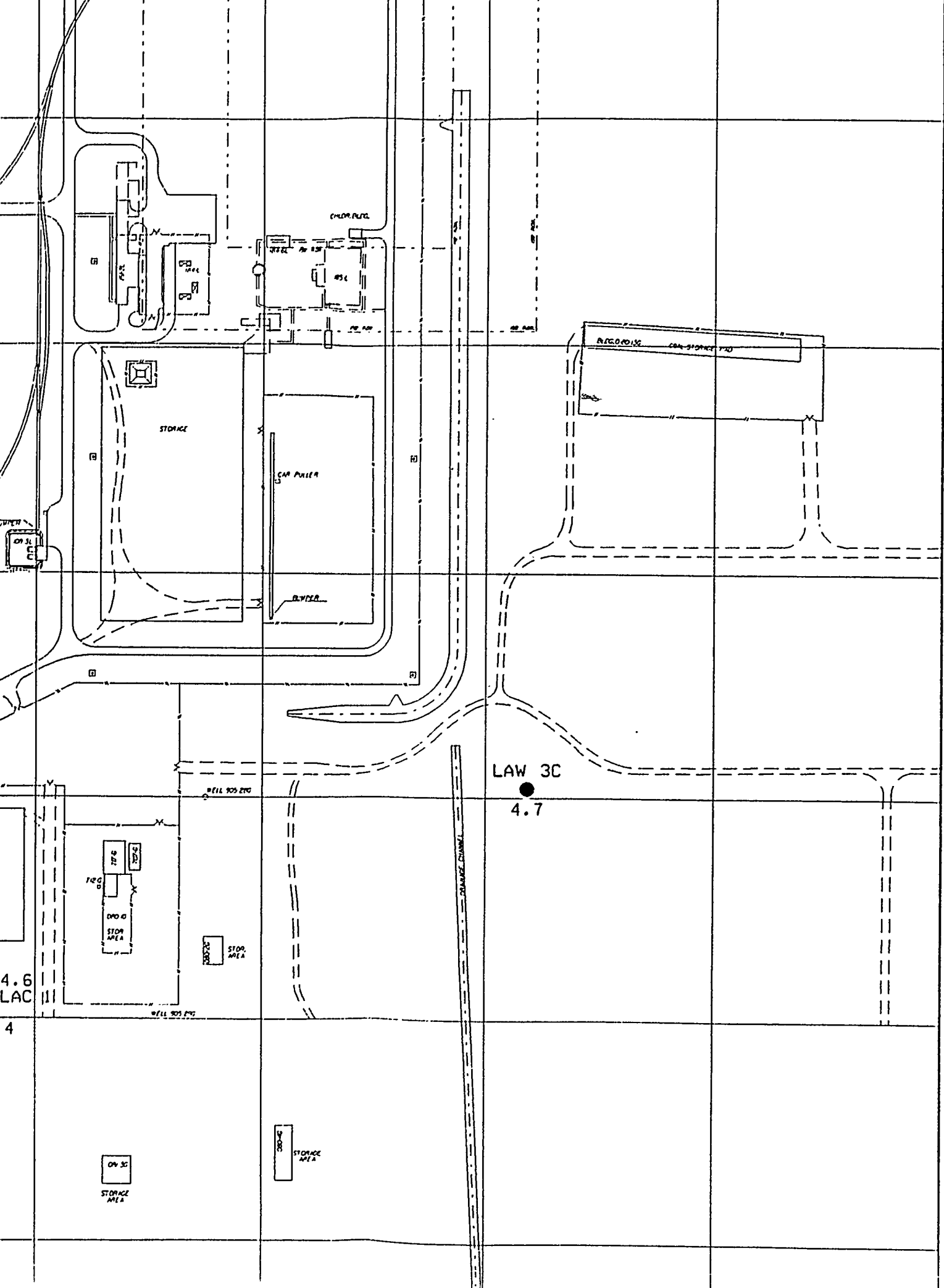
LAW 2C

4.6

0042

44493





4.6
LAC

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94520

94490

94480

9042

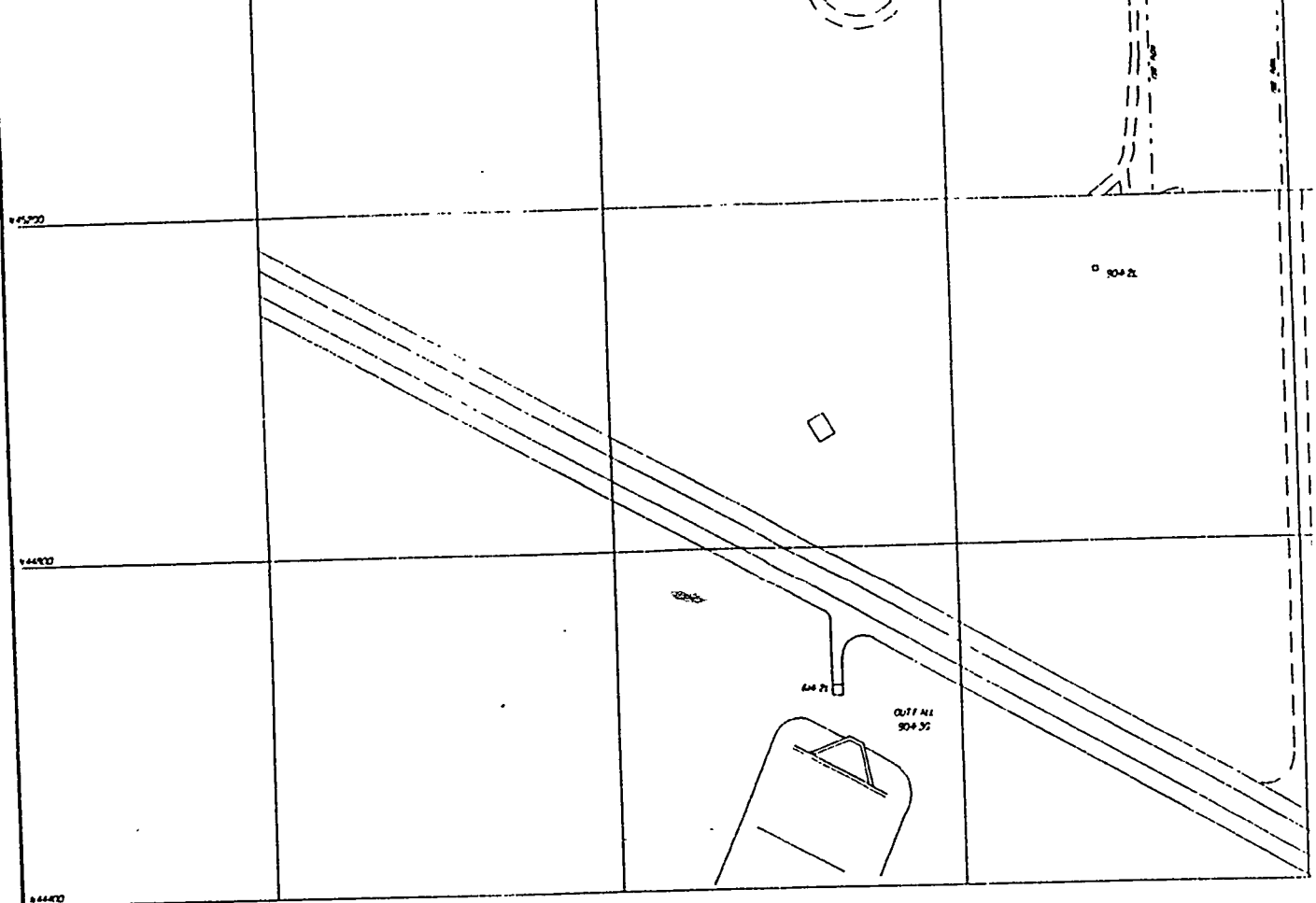
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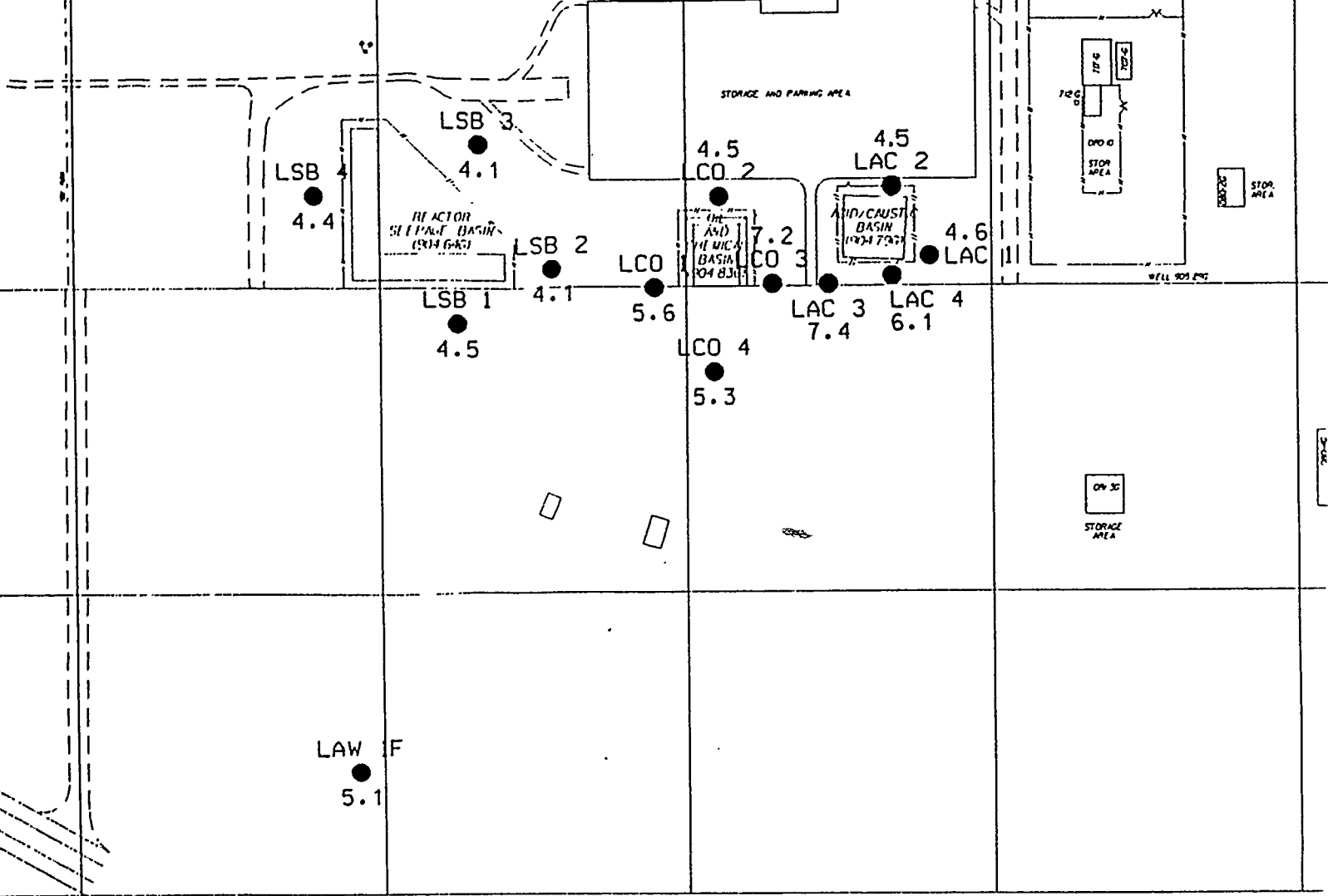
OUTLINE
90430

WELL SYMBOL LEGEND

● WATER TABLE AQUIFER
GROUNDWATER MONITORING WELLS

LAW2C WELL ID

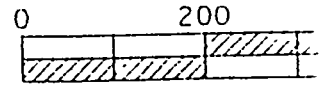
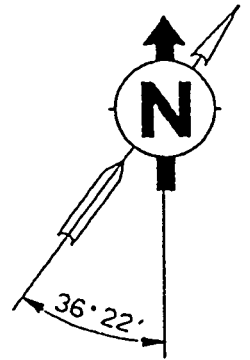




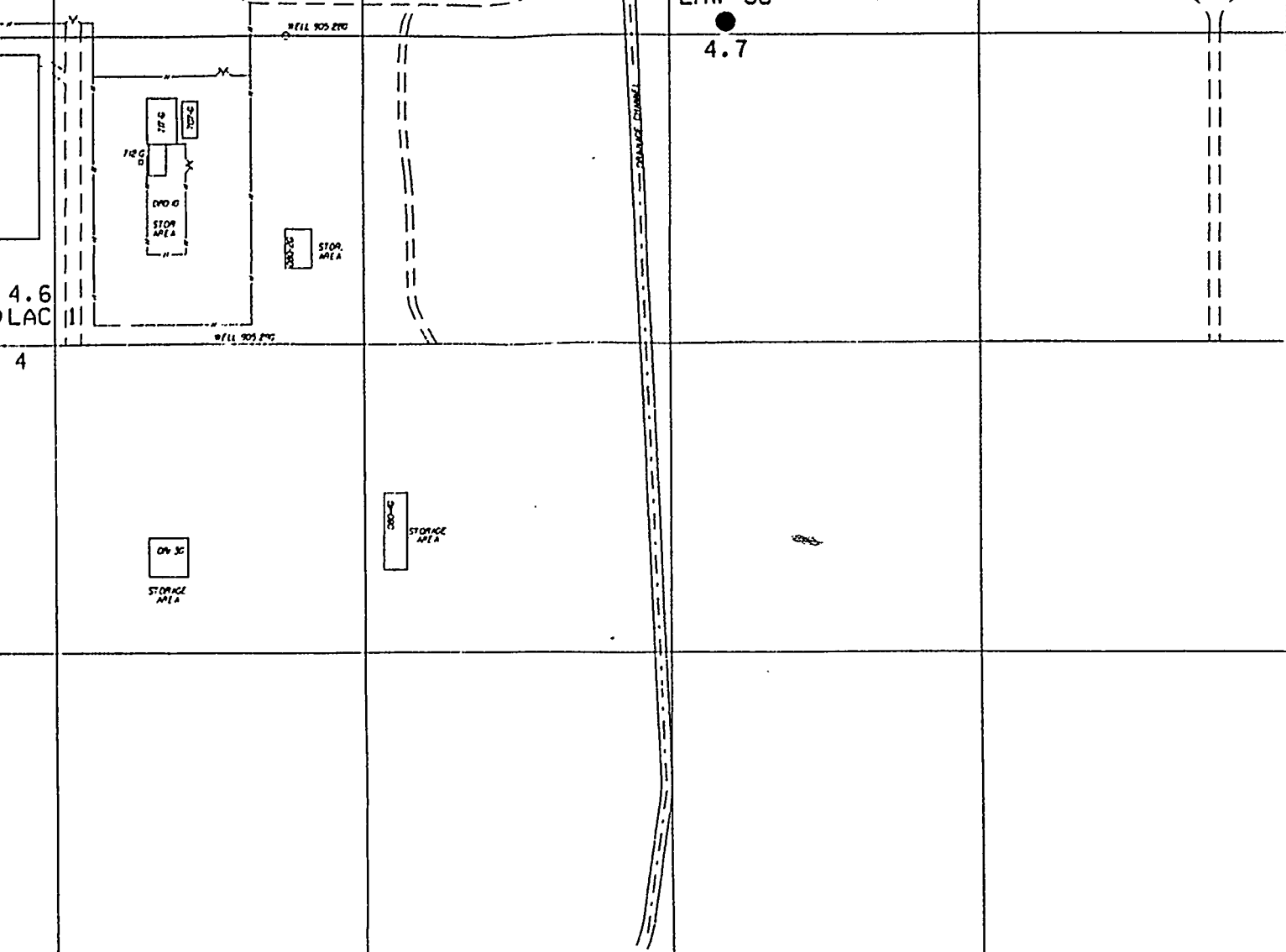
LEGEND

- FACILITY BOUNDARY
- ROAD
- - - - - DIRT ROAD
- . - . - . STREAM
- + + + + RAILROAD
- / - / - FENCE
- ▨ PIT/BASIN
- 280— OBSERVED CONTOUR

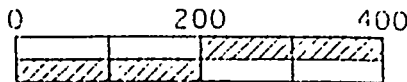
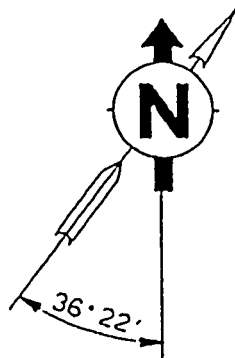
PLANT TRUE NORTH



SCALE: FEET

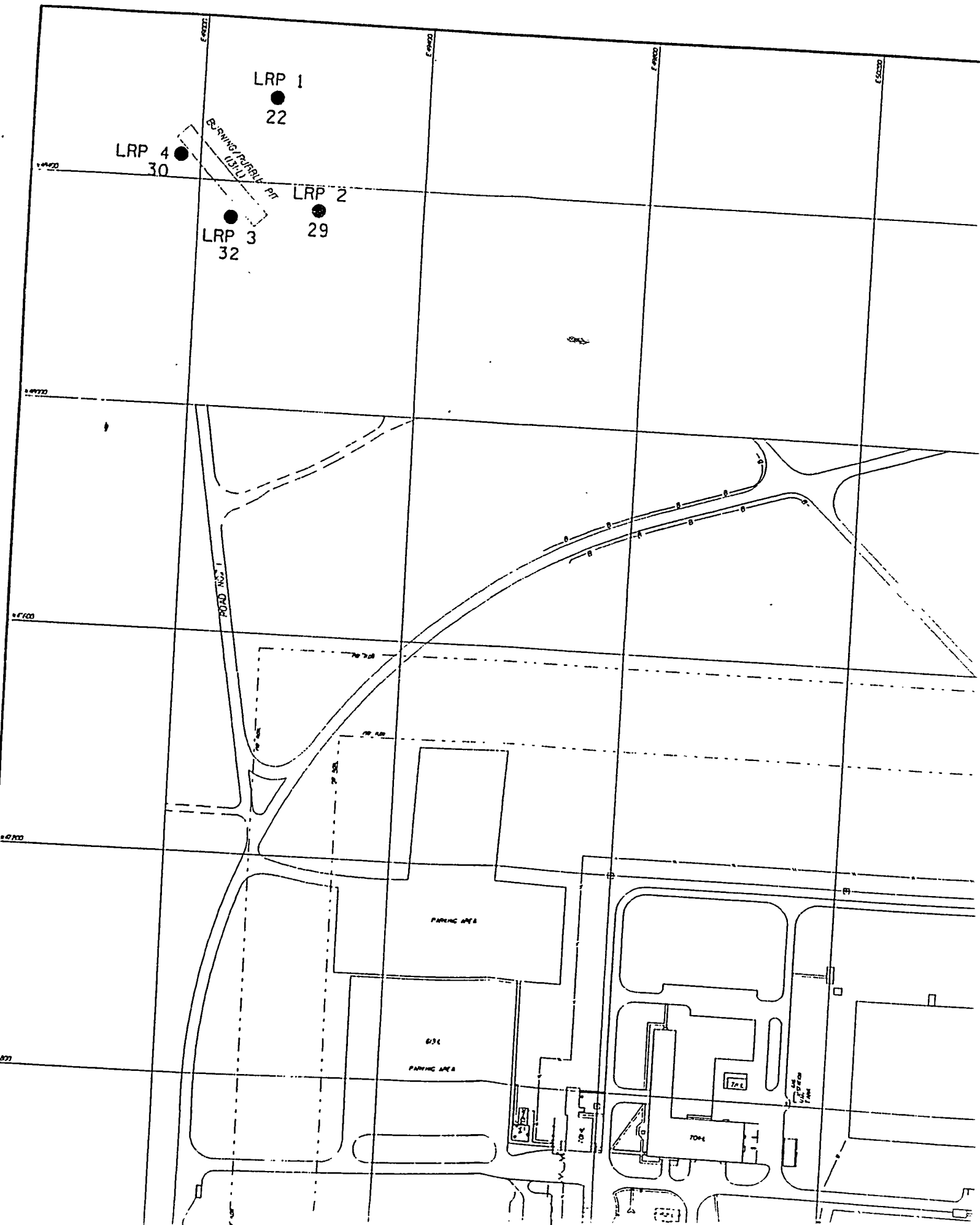


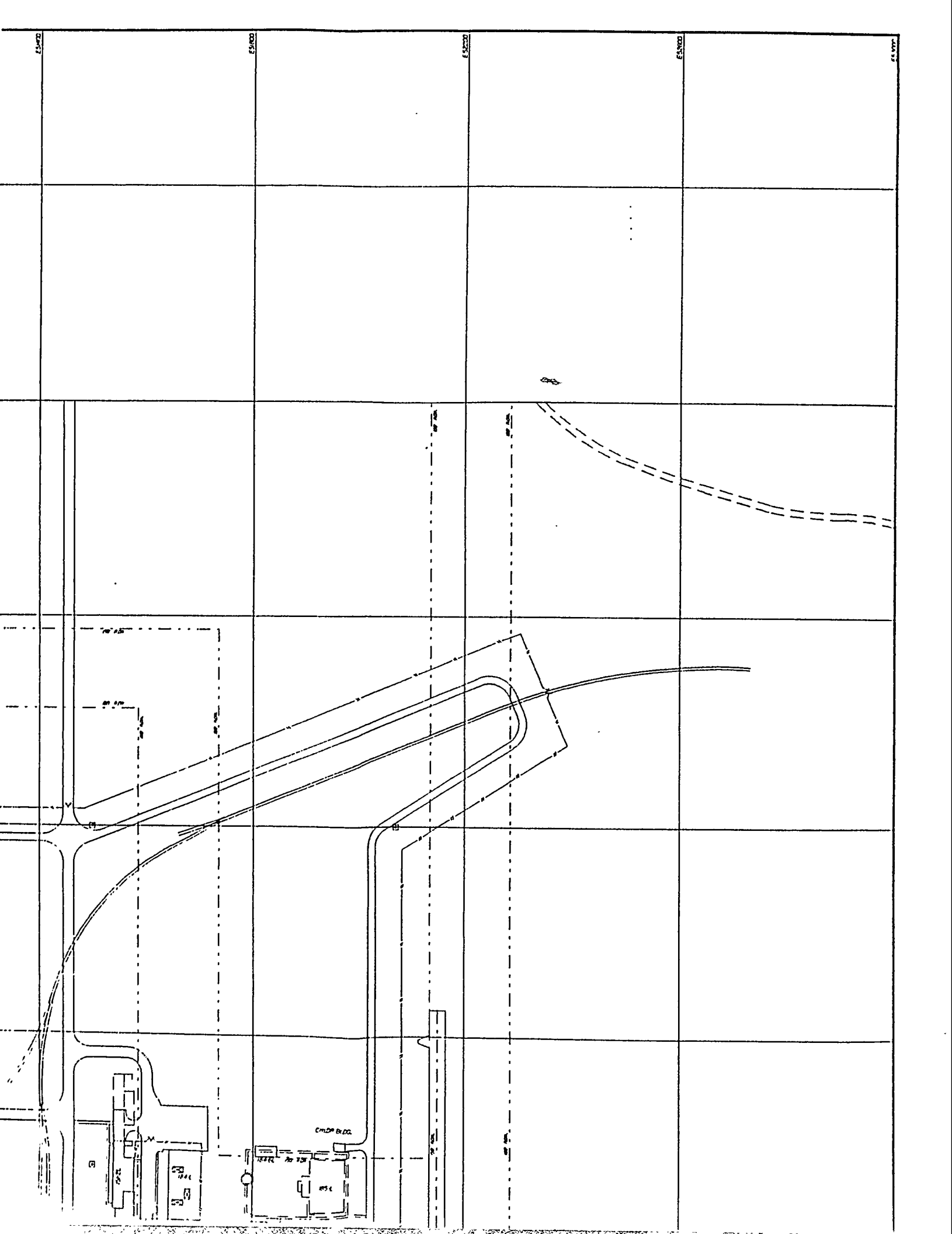
PLANT TRUE
NORTH NORTH



SCALE: FEET

DWG NO. GL1103	REV. NO. 0	REV. DATE 8-11-94	AREA L-AREA
<p>TITLE</p> <p>ph VALUES FOR L-REACTOR AREA GROUNDWATER MONITORING WELLS THIRD QUARTER 1993</p>			
CREATED BY TRACY L. MICKLE	DATE 8-30-94	APPROVED BY NA	DATE 93
PREPARED BY C. BUTLER	DATE 8-11-94	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93





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C.M.P. BLDG.

MKT. BLDG.

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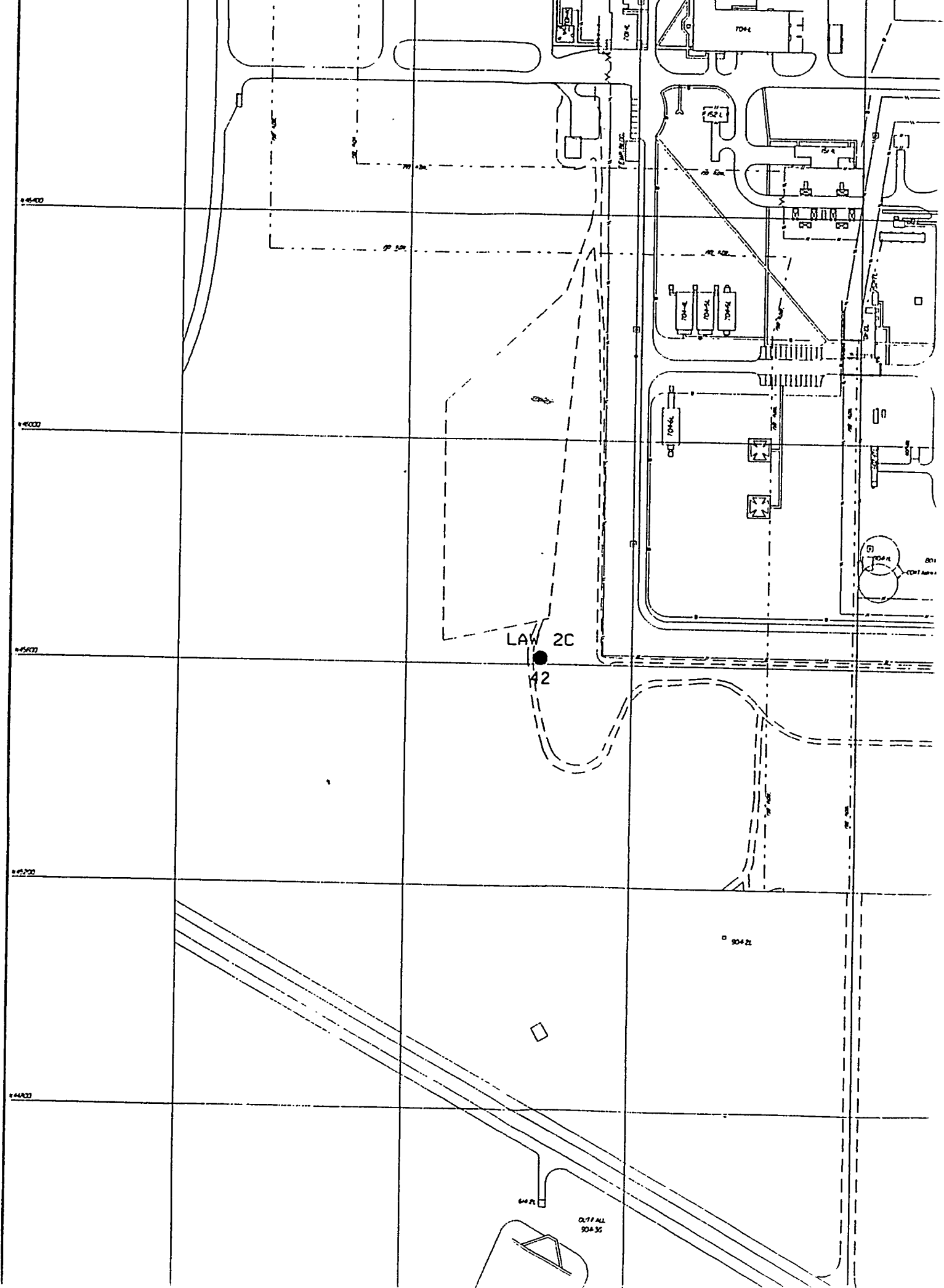
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10' 0"

10' 0"



45400

45500

45600

45700

45800

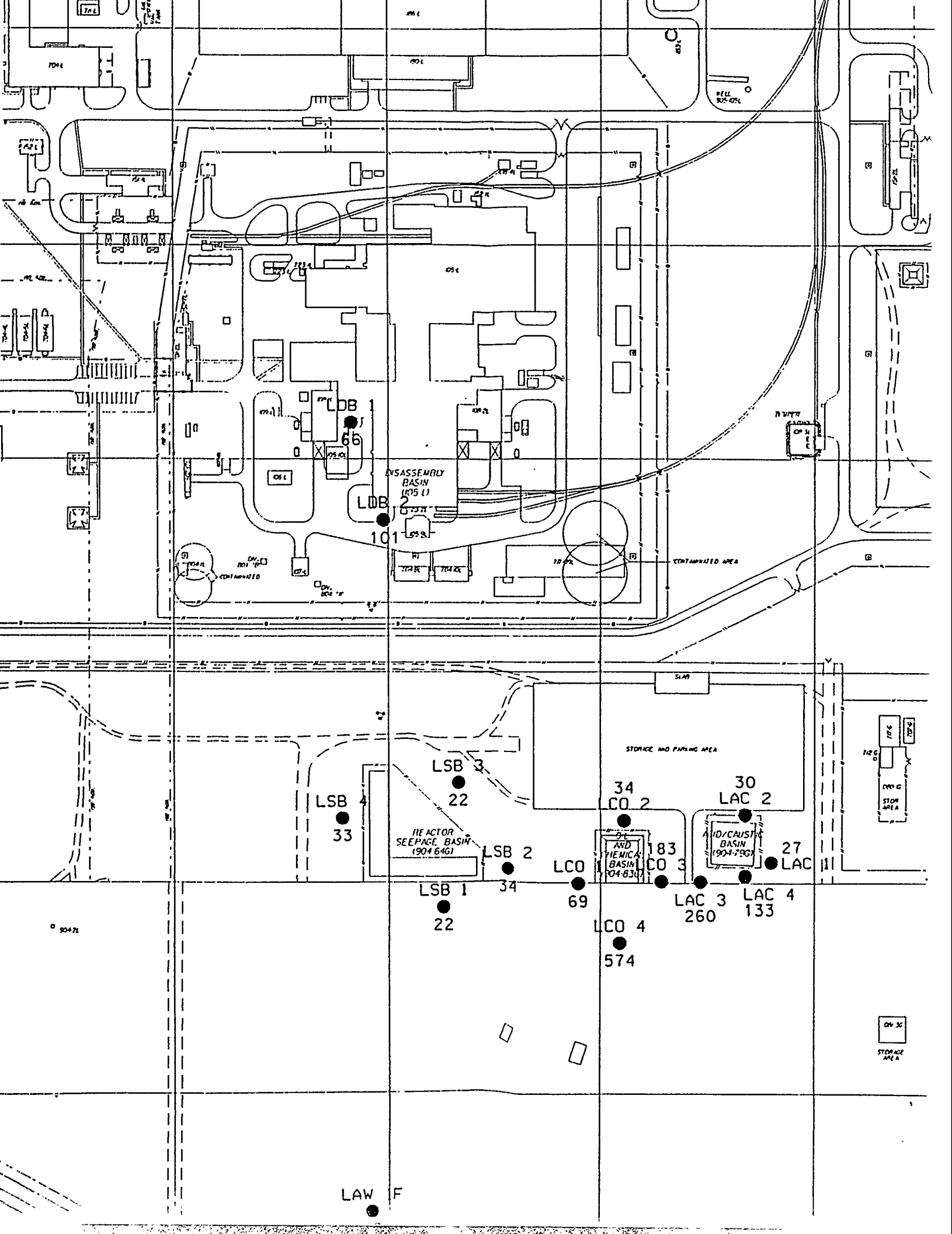
LAW 2C

42

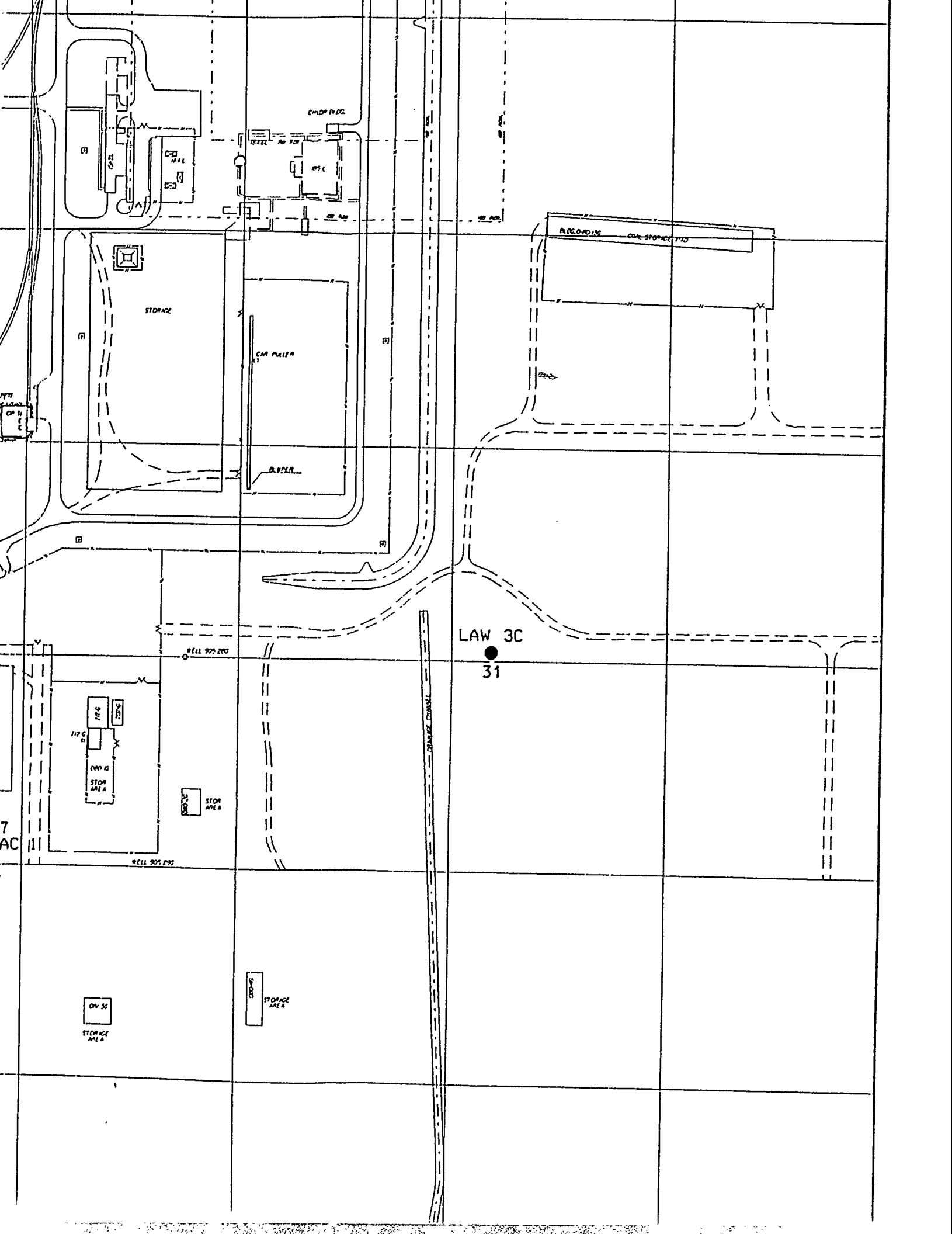
904 21

904 21

CLIFF ALL
904 30



LAW F



845200

844800

844000

804 2L

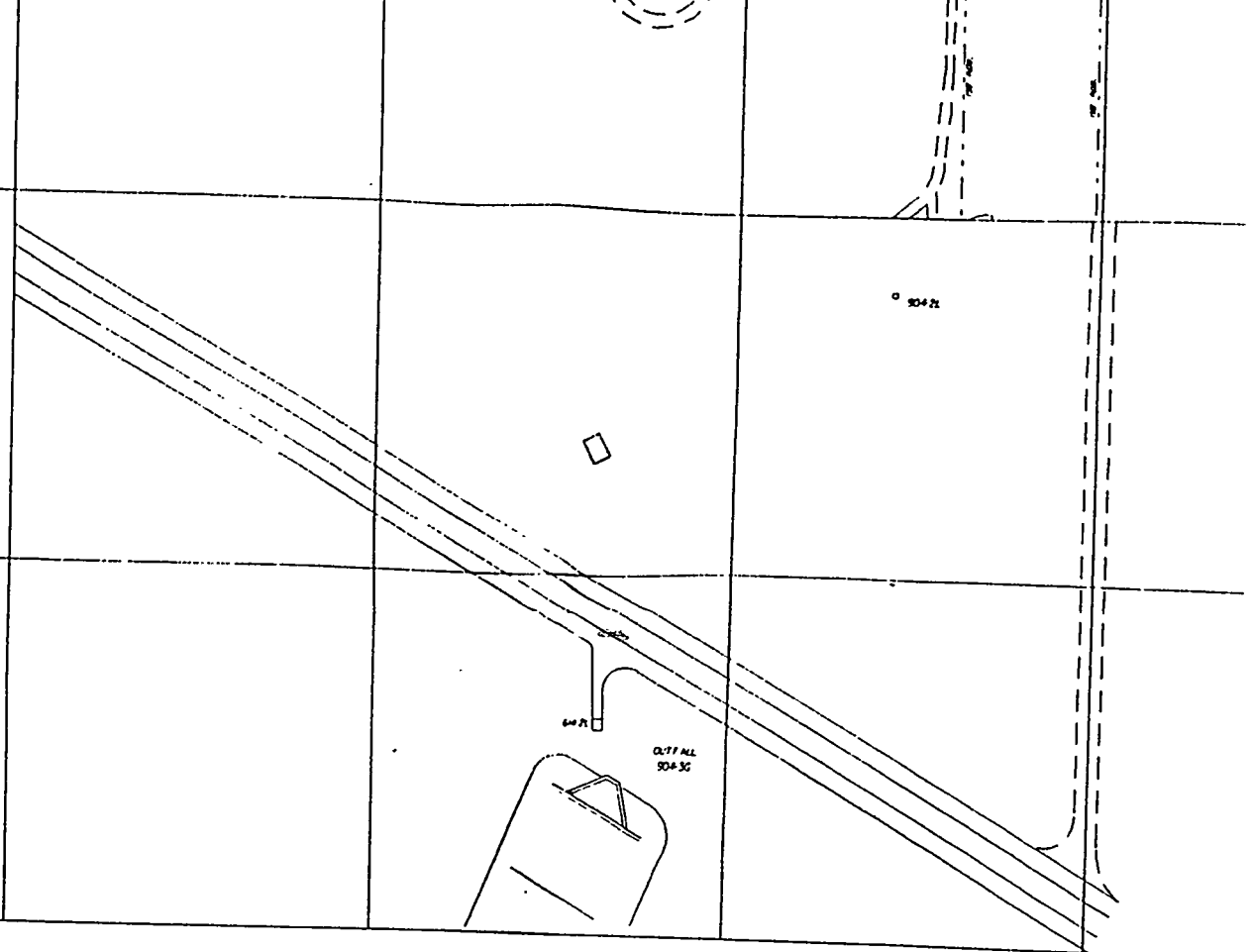
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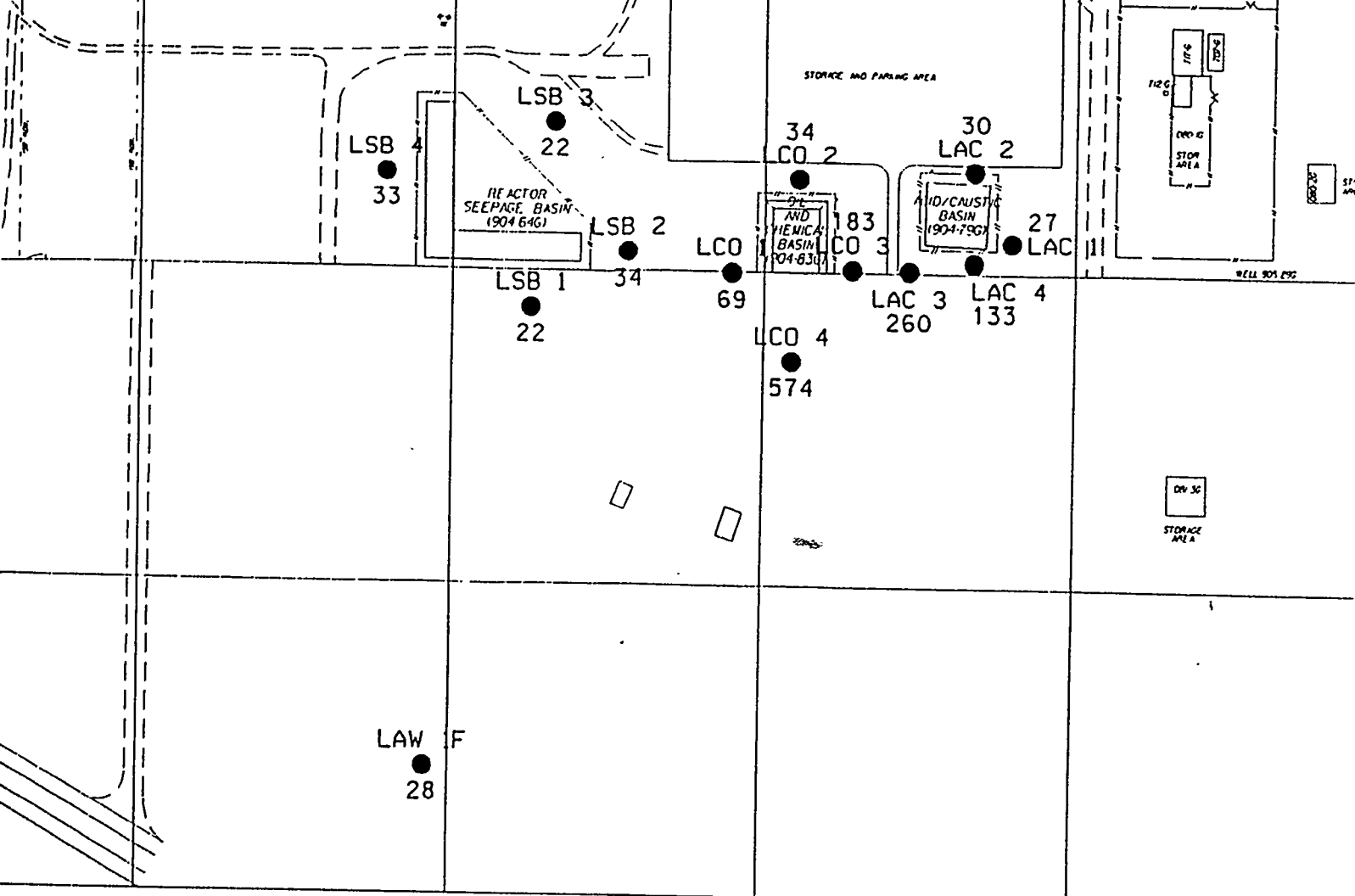
0177 ALL
804 3G

WELL SYMBOL LEGEND

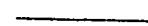
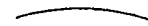
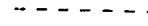

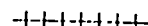
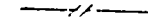

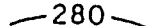
- WATER TABLE AQUIFER
GROUNDWATER MONITORING WELLS

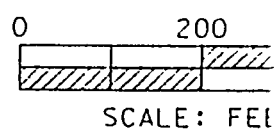
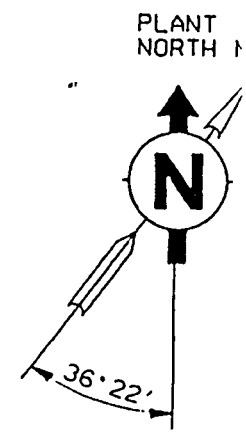
LAW2C WELL ID

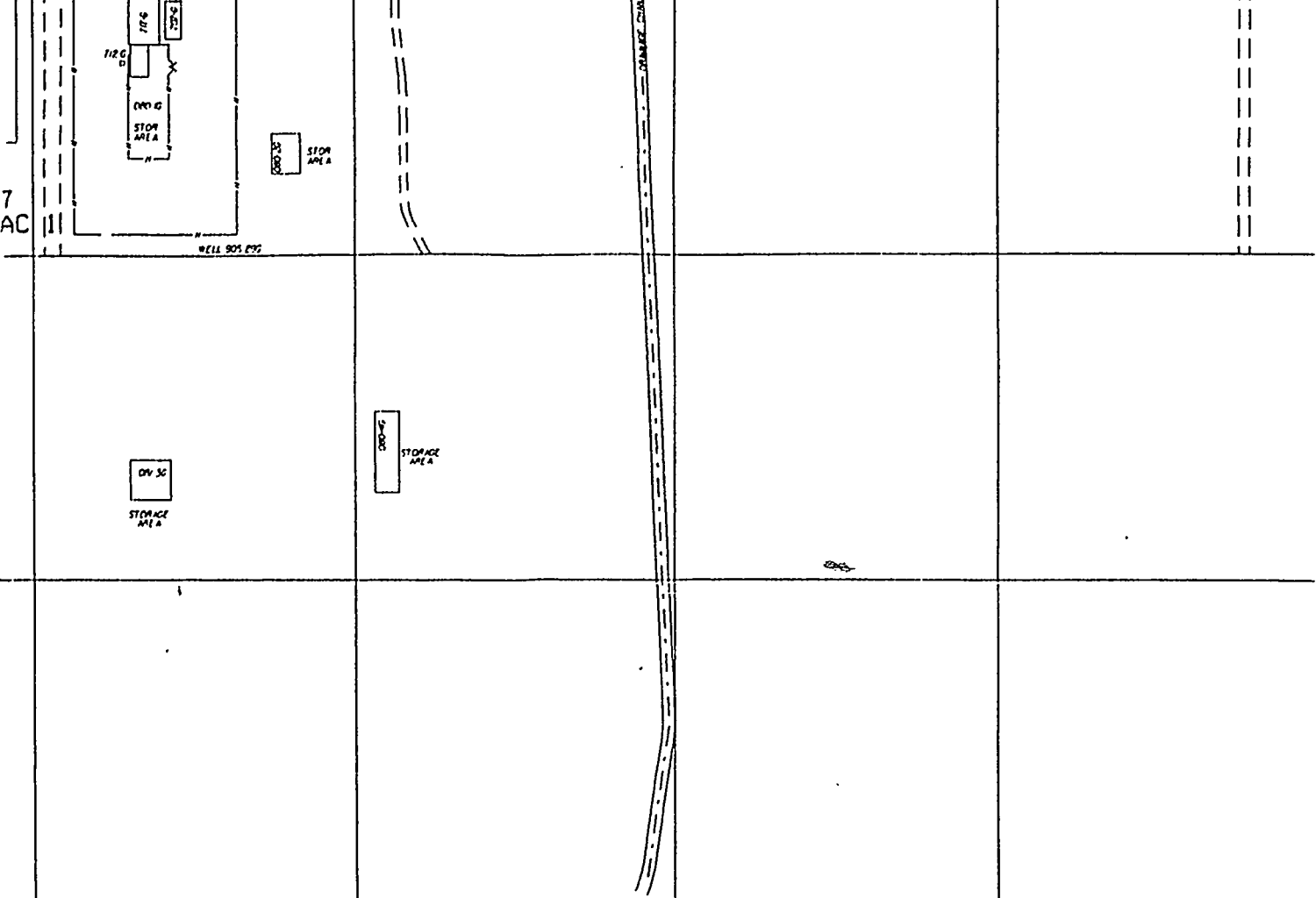




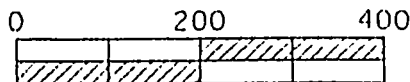
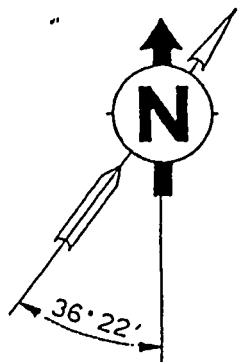
LEGEND

-  FACILITY BOUNDARY
-  ROAD
-  DIRT ROAD
-  STREAM
-  RAILROAD
-  FENCE
-  PIT/BASIN
-  280 OBSERVED CONTOUR





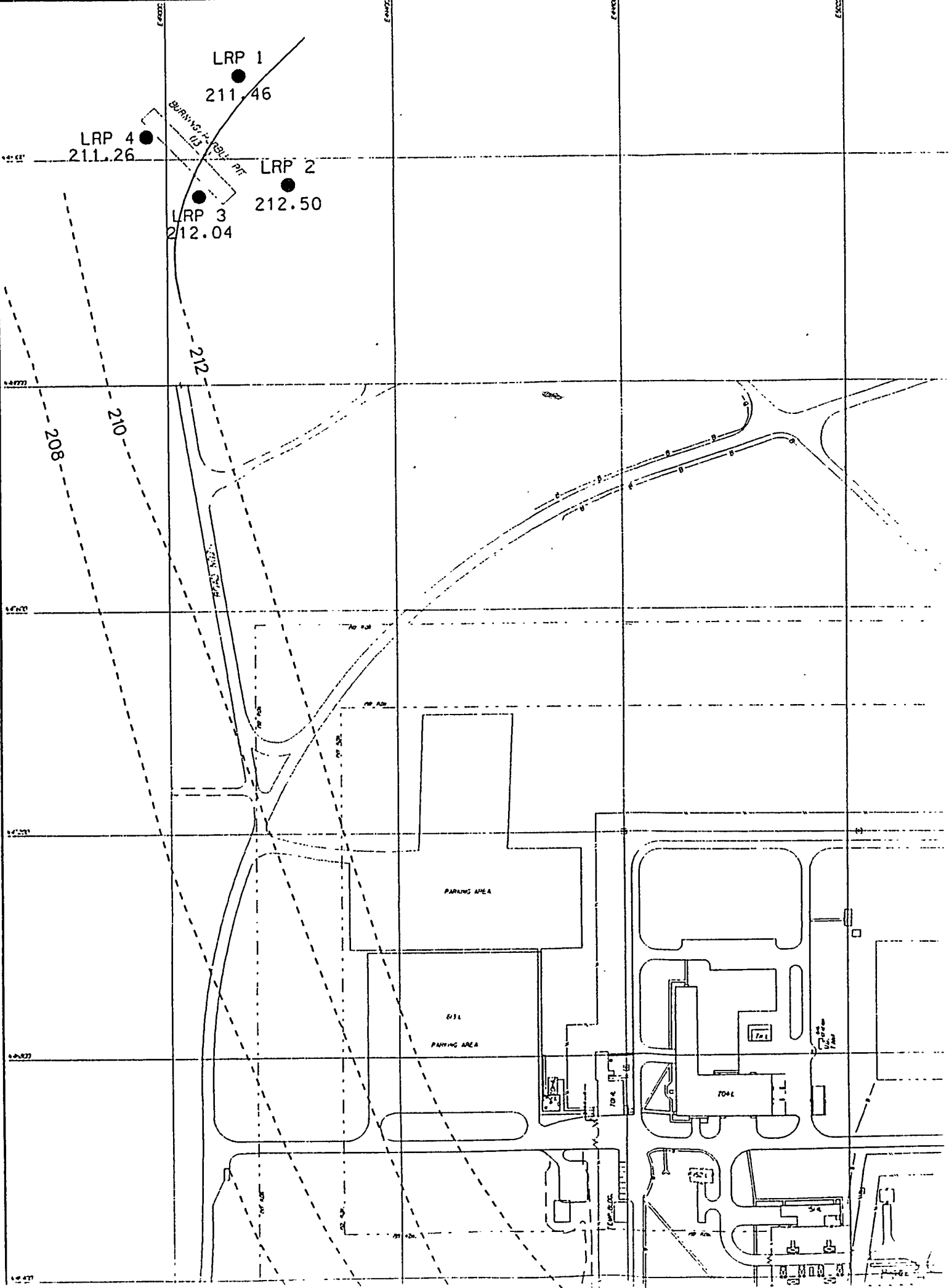
PLANT TRUE
NORTH NORTH



SCALE: FEET

DWG NO. GL1104	REV. NO. 0	REV. DATE 8-11-94	AREA L-AREA
<p>TITLE SPECIFIC CONDUCTANCE VALUES FOR L-REACTOR AREA GROUNDWATER MONITORING WELLS THIRD QUARTER 1993</p>			
CREATED BY TRACY L. MICKLEY	DATE 8-31-94	APPROVED BY NA	DATE 93
PREPARED BY C. BUTLER	DATE 8-11-94	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93

For Information Only



44437

PARKING AREA

44438

44439

44440

44441

44442

64 21

GLTF HL
374 12

LA 2C
207.77

704-4

704-5

704-6

704-4

704-4

904 21

704-4

704-4

704-4

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704-4

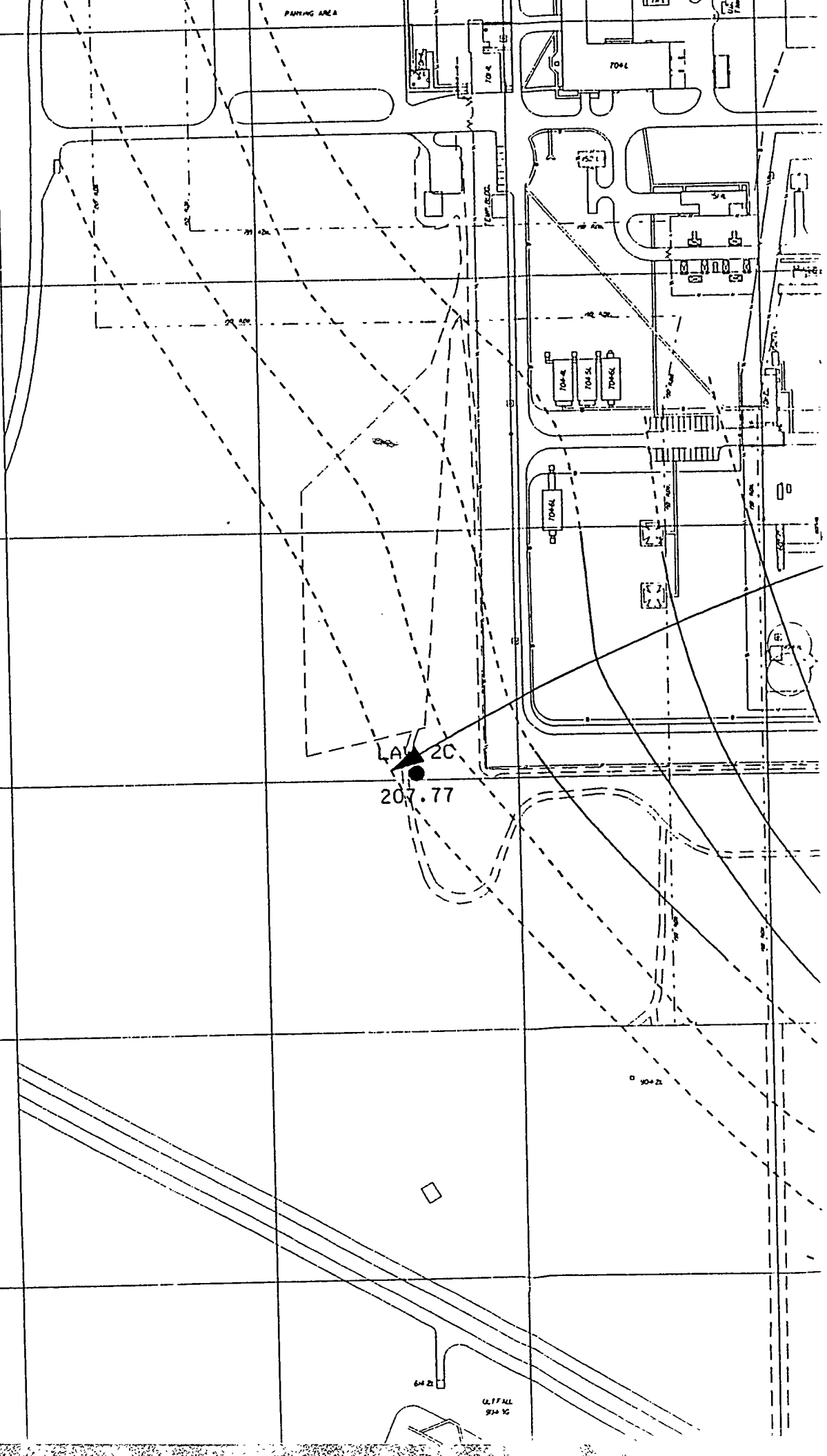
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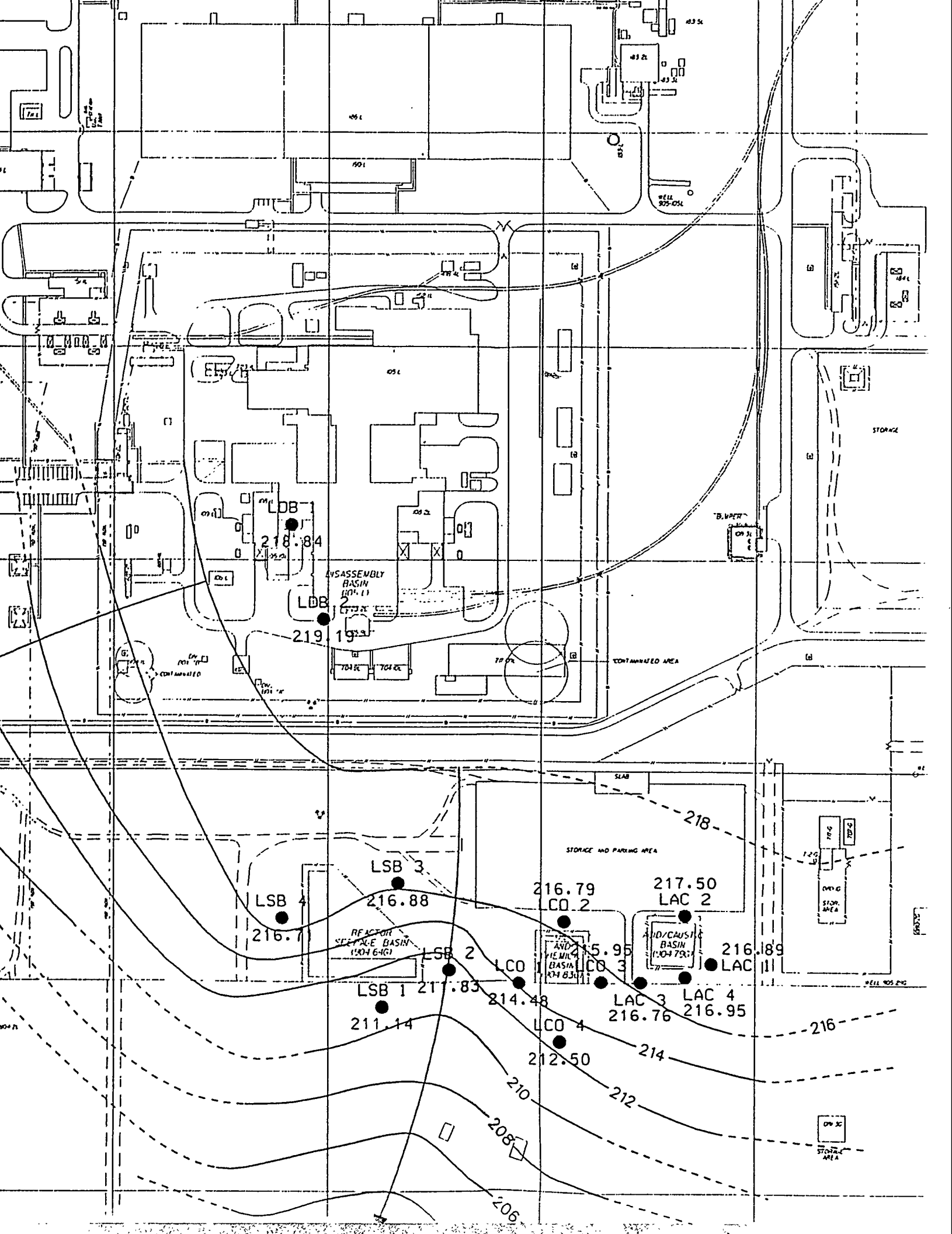
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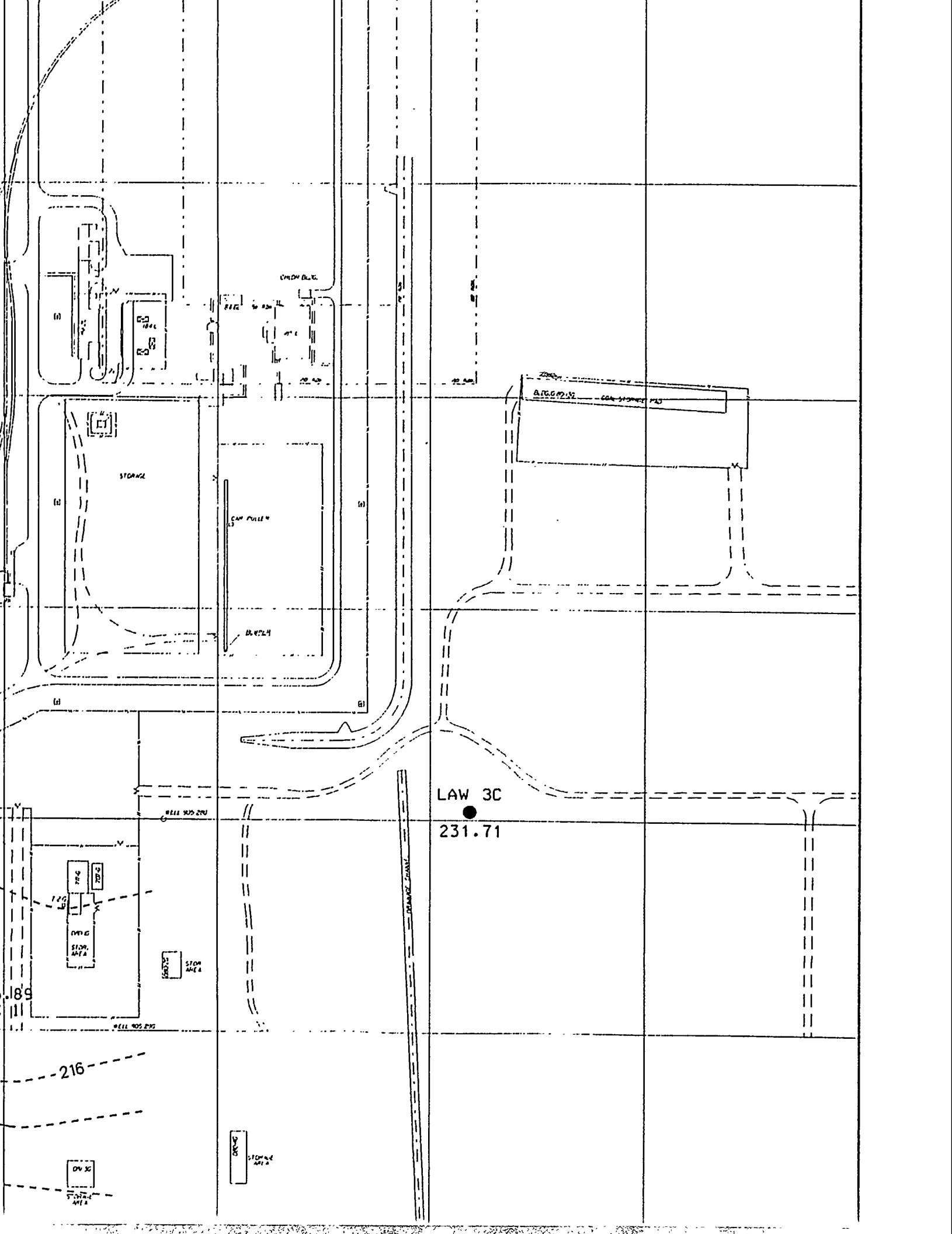
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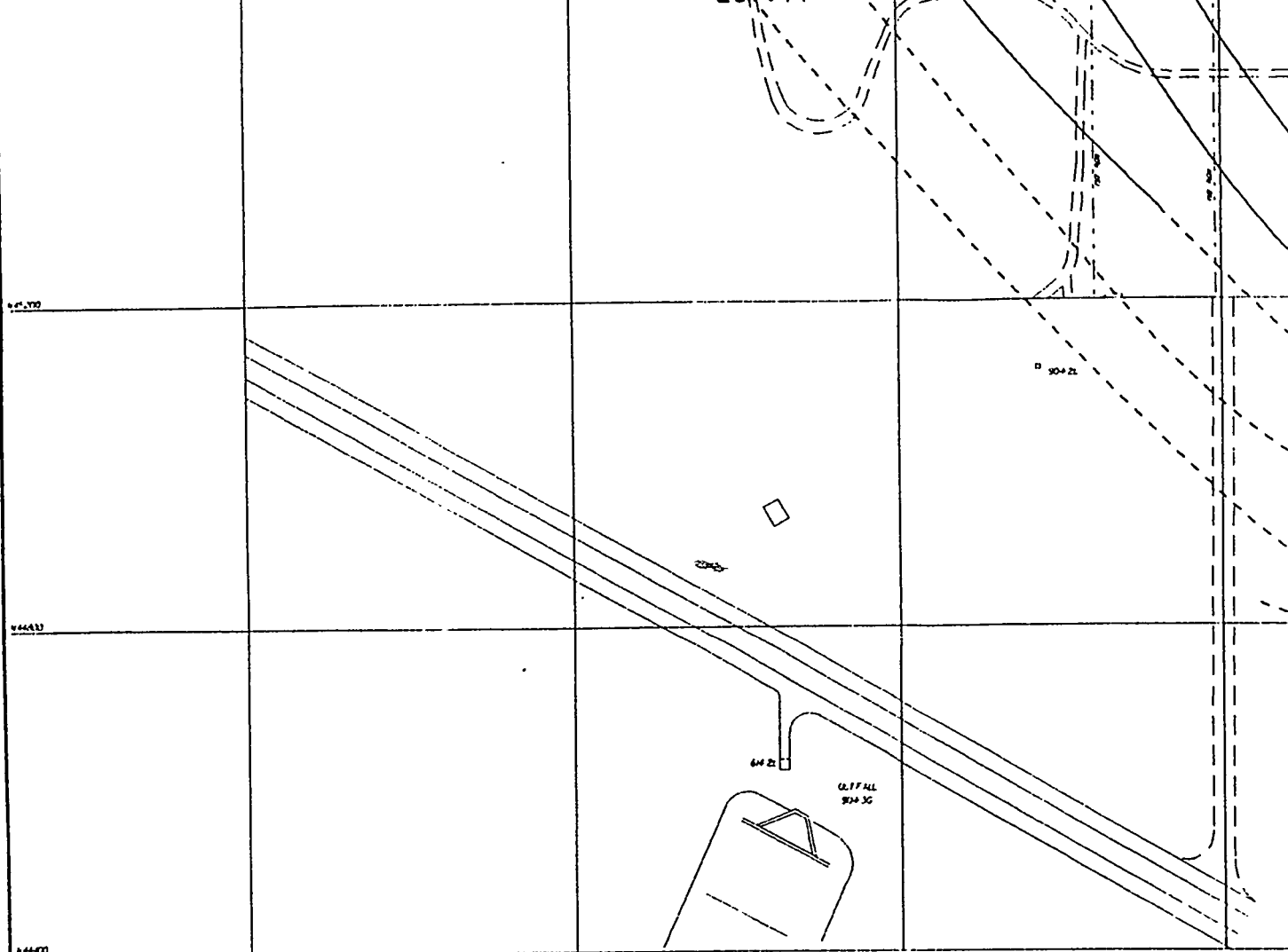
704-4

704-4









WELL SYMBOL LEGEND

- WATER TABLE AQUIFER
GROUNDWATER MONITORING WELLS

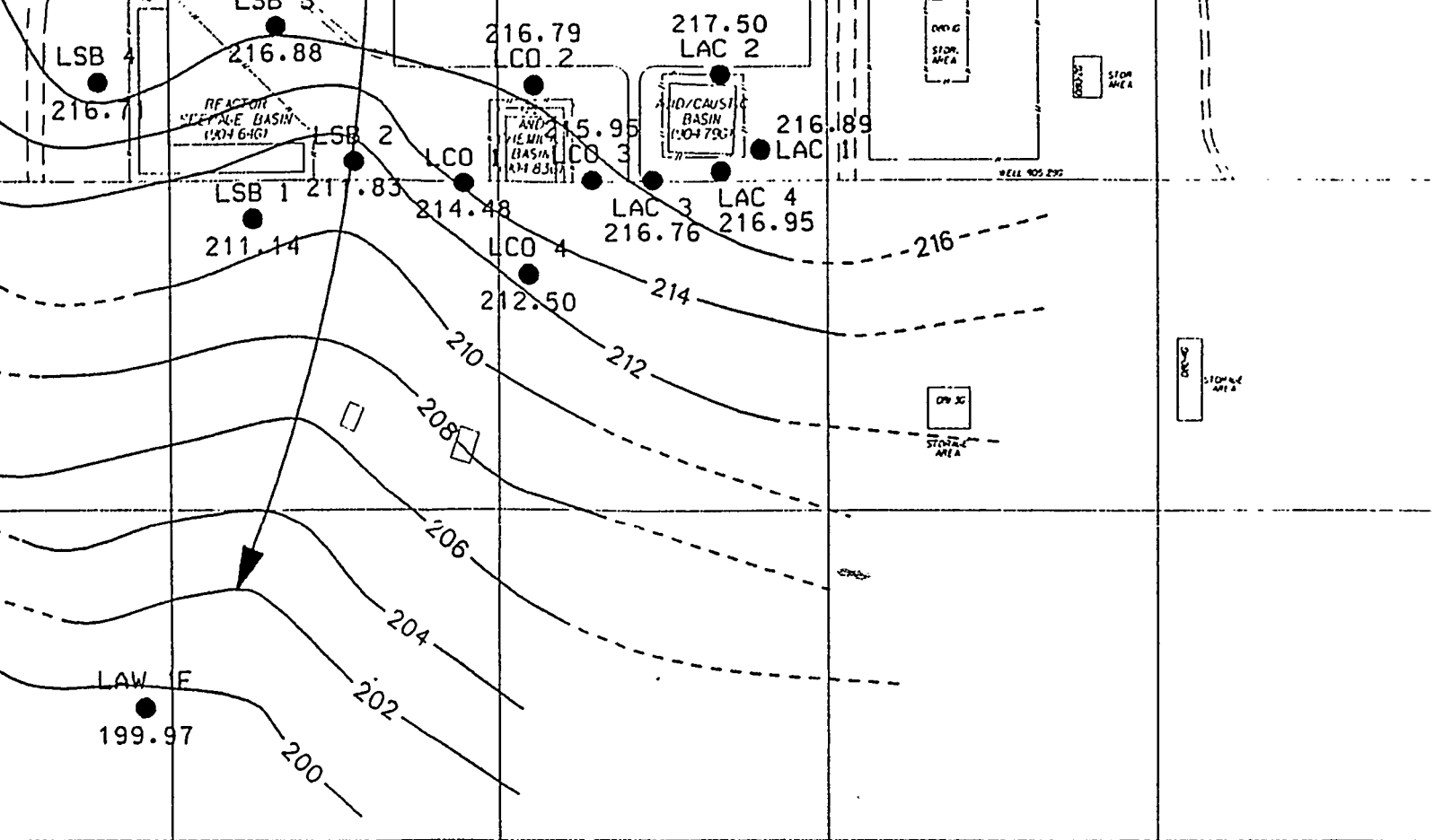
LAW2C WELL ID

CONTOUR LEGEND

CONTOUR INTERVAL: 2 FEET

UNITS: FEET ABOVE MEAN SEA LEVEL

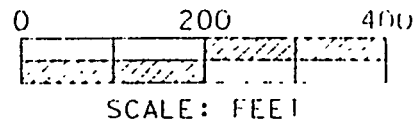
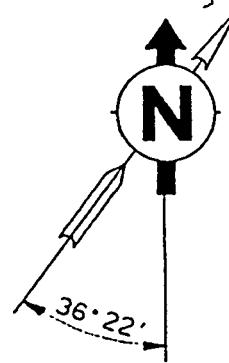
- 210 —— POTENTIOMETRIC CONTOUR
- 212 ----- INFERRED CONTOUR
- ← FLOW DIRECTION



LEGEND

- FACILITY BOUNDARY
- ROAD
- DIRT ROAD
- STREAM
- RAILROAD
- FENCE
- PIT/BASIN
- OBSERVED CONTOUR

PLANT TRUE NORTH

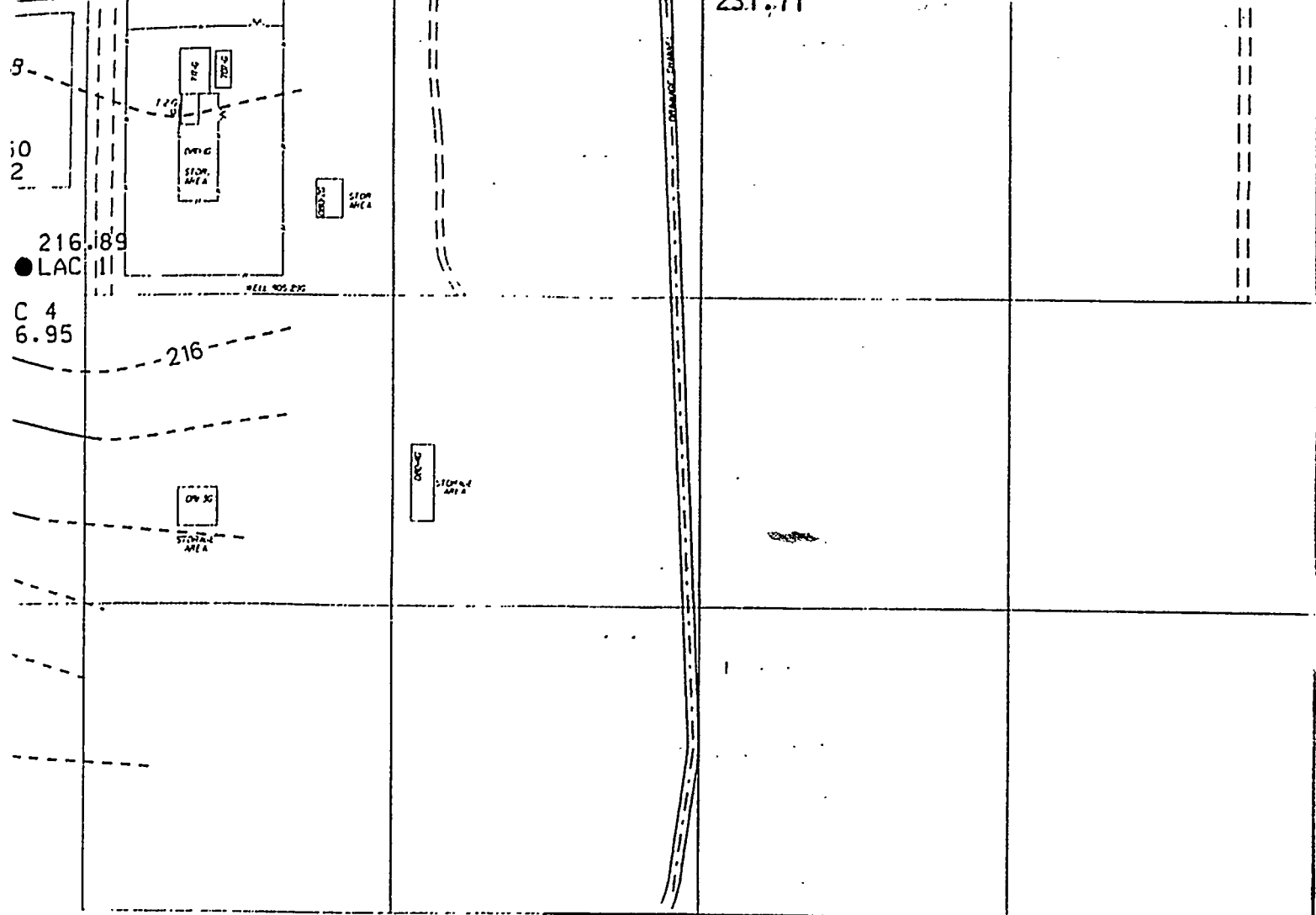


DWG NO. GL1

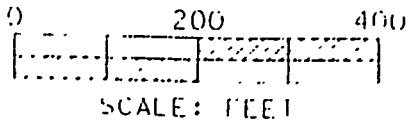
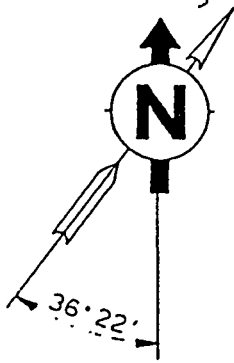
SAFETY • RES
SAV/III

TITLE

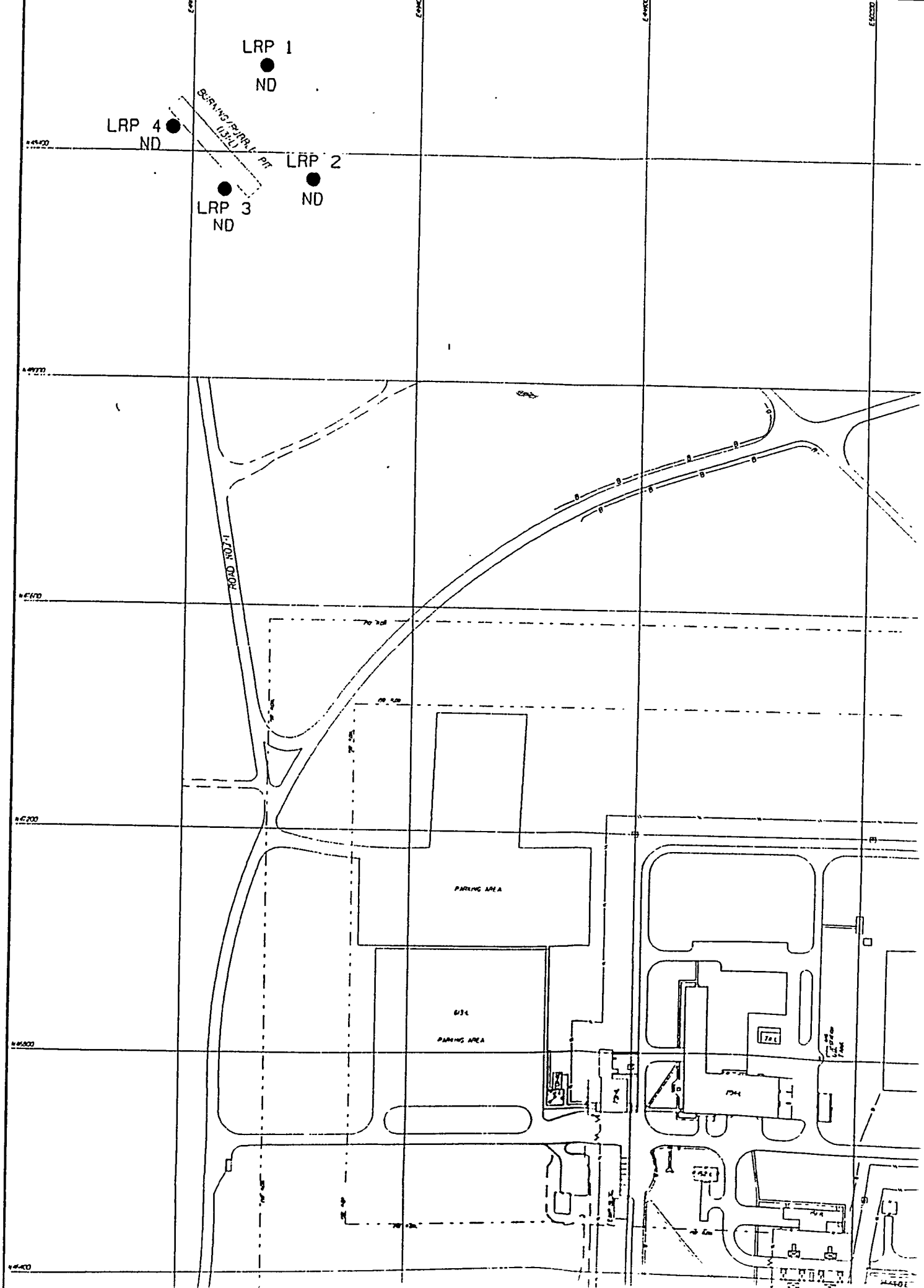
CREATED BY
TRACY L
PREPARED BY
C. BUTLER
APPROVED BY
NA
APPROVED BY
NA

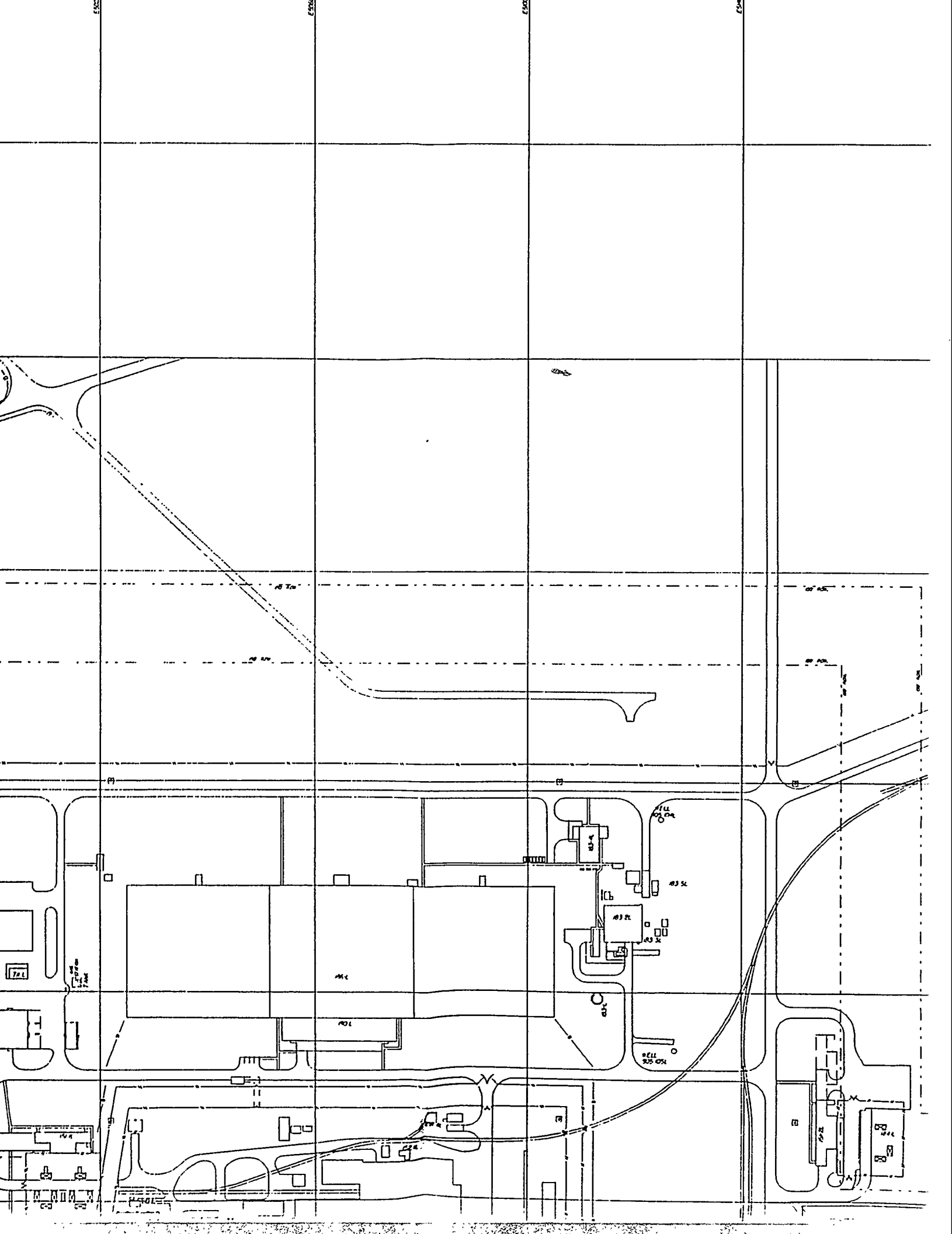


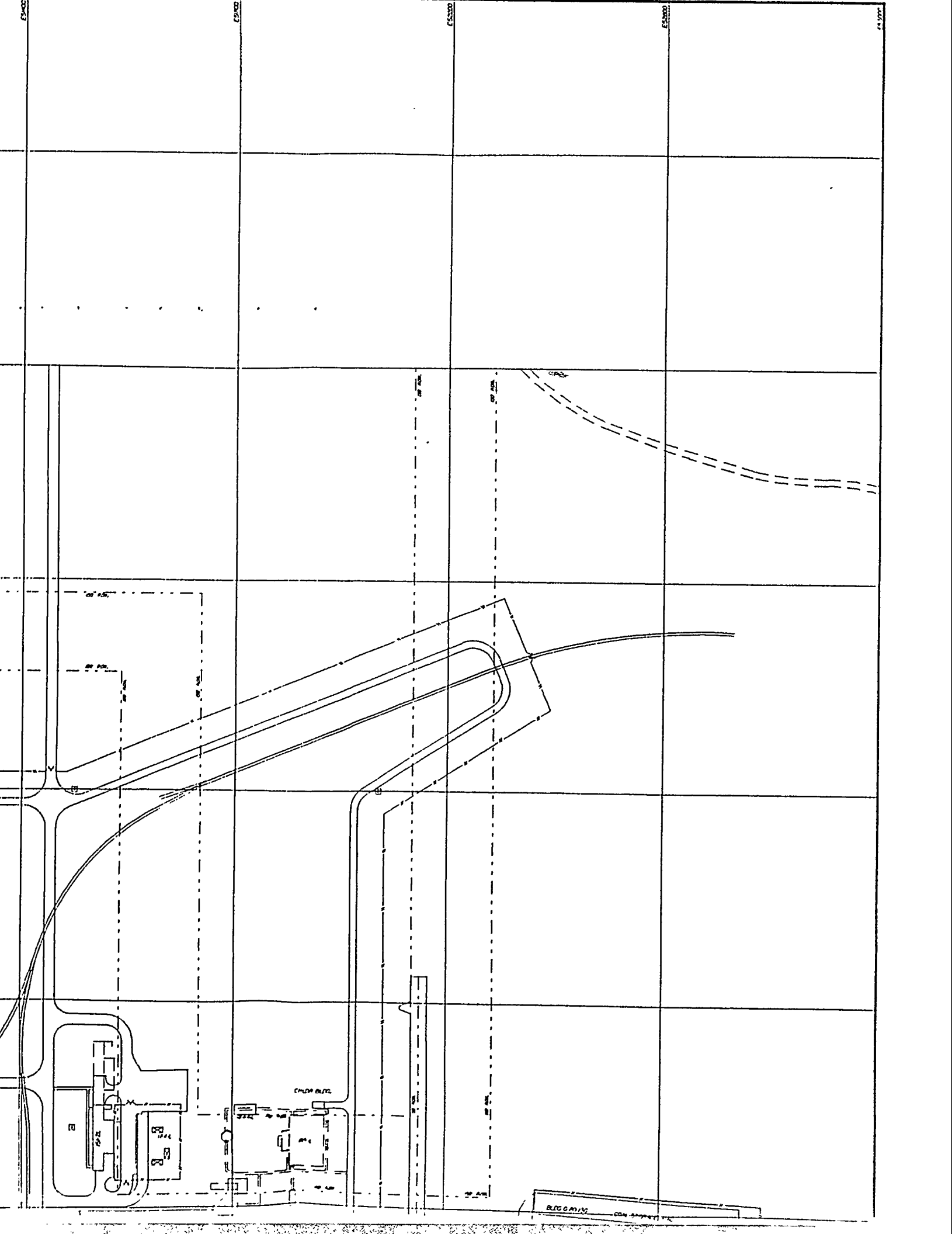
PLANT TRUE
NORTH NORTH



DWG NO. GL1105	REV. NO. 0	REV. DATE 8-11-94	AREA L-AREA
TITLE WATER TABLE SURFACE MAP FOR L-REACTOR AREA THIRD QUARTER 1993			
CREATED BY TRACY L. MICKLEY	DATE 8-30-94	APPROVED BY NA	DATE 93
PREPARED BY C. BUTLER	DATE 8-11-94	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93







E-5000

E-5001

E-5002

E-5003

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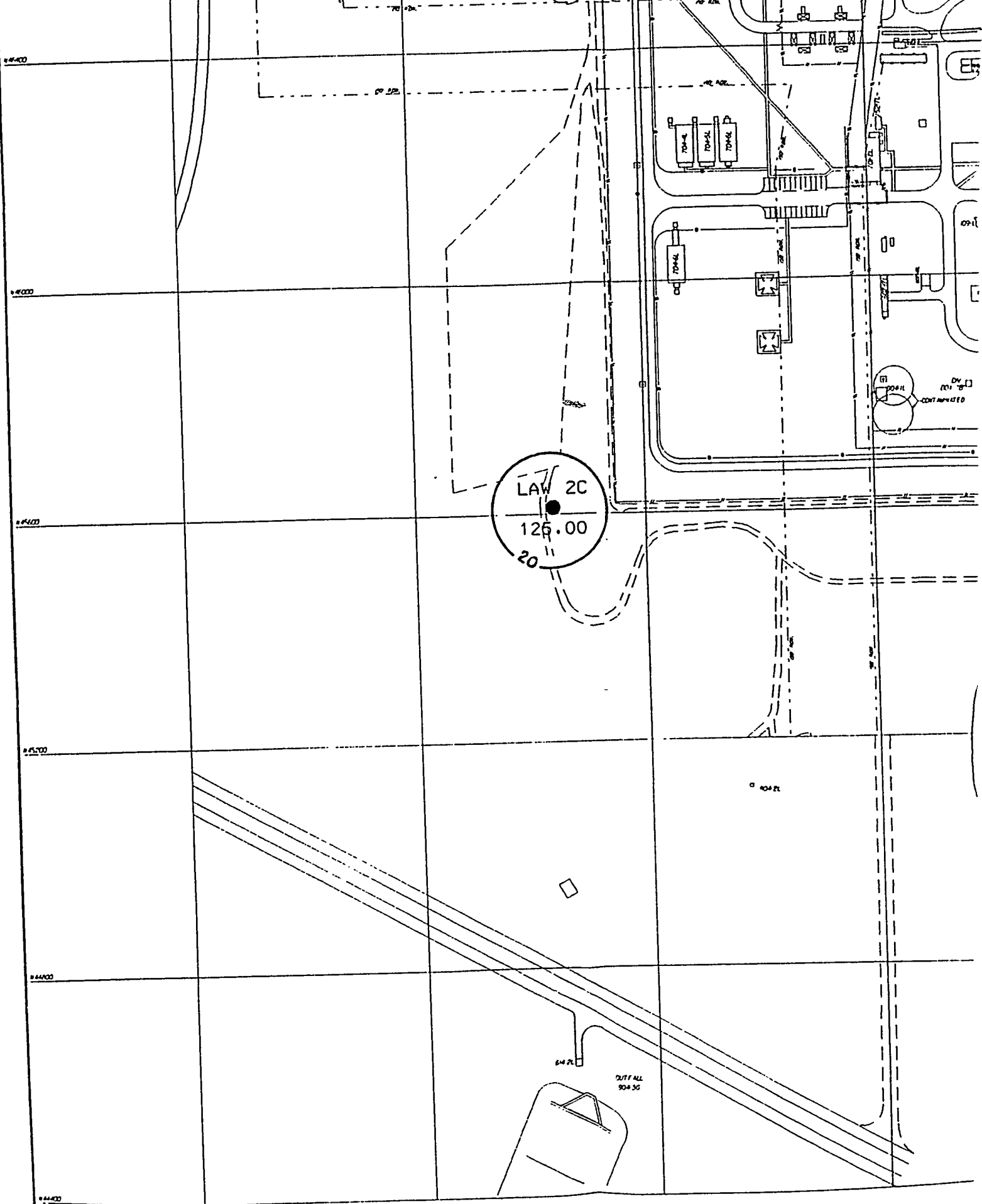
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E-5099

E-5100

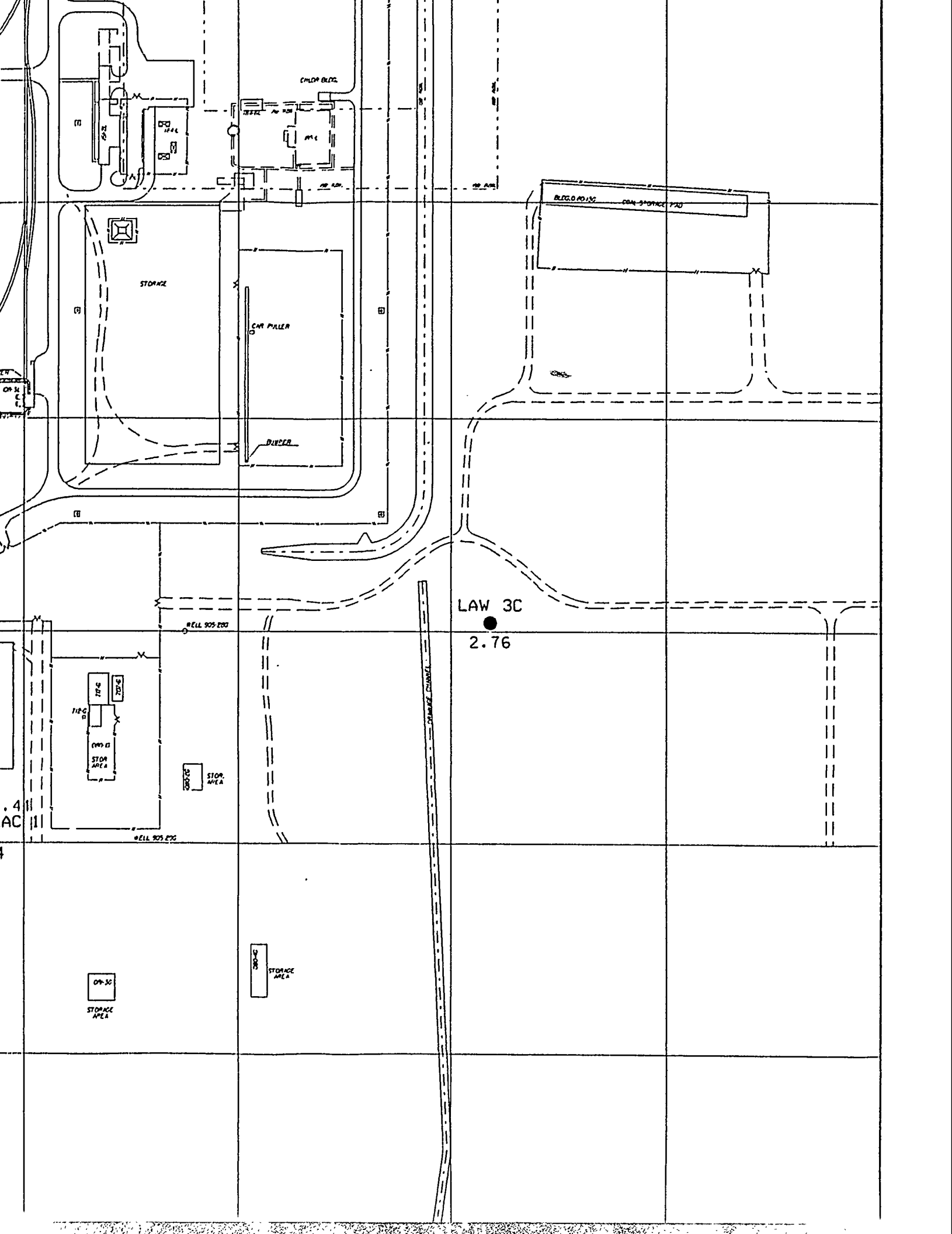
CHILD BLDG.

RECORDING



WELL SYMBOL LEGEND

- WATER TABLE AQUIFER
- GROUNDWATER MONITORING WELLS



CYLDR BLDG.

STORAGE

CAR PILLER

DINING

BLDG. 401.15

CON. STORAGE 720

WELL 905-200

LAW 3C

2.76

DRAINAGE CHANNEL

STOP AREA

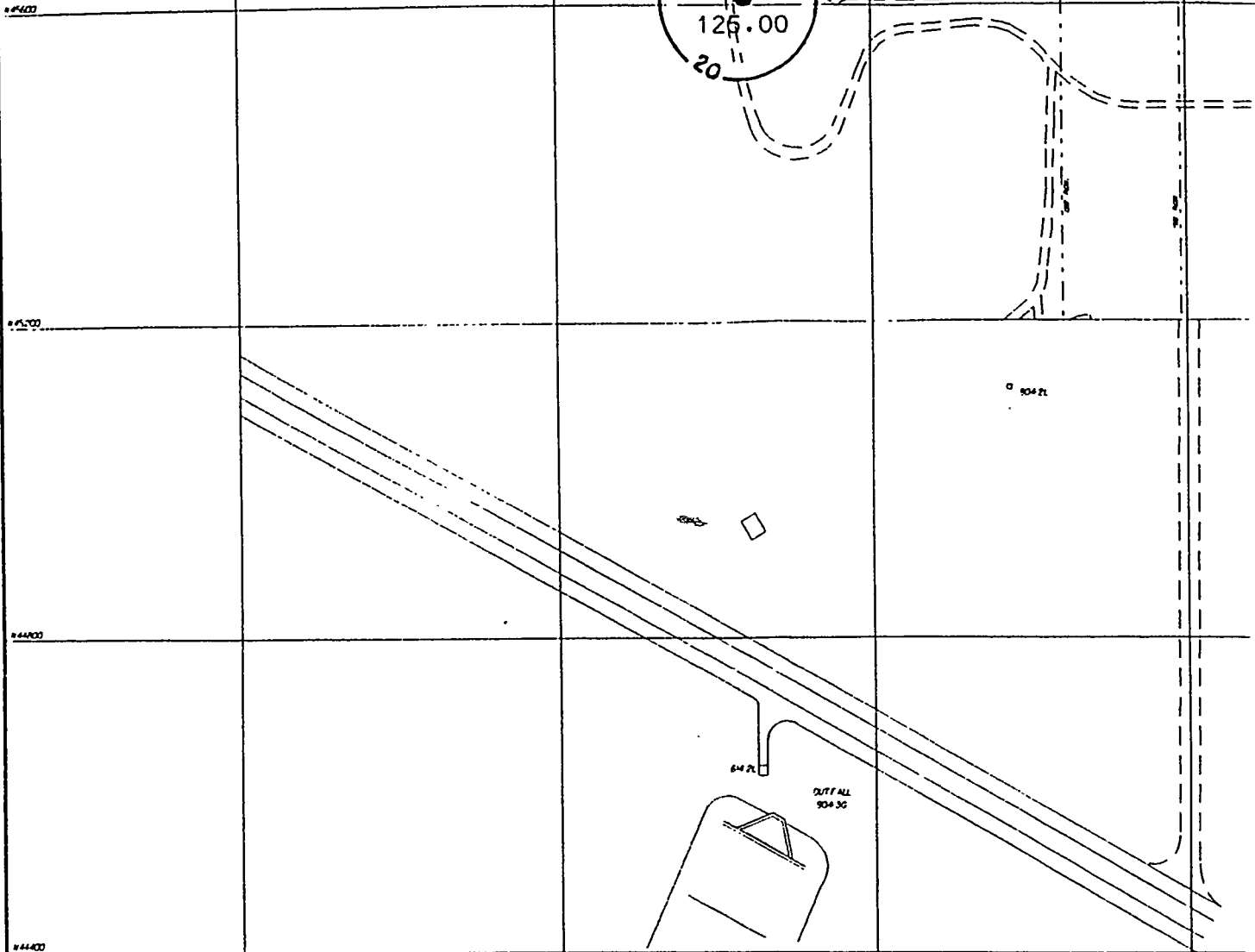
STOP AREA

WELL 905-200

STOP AREA

STOP AREA

STOP AREA



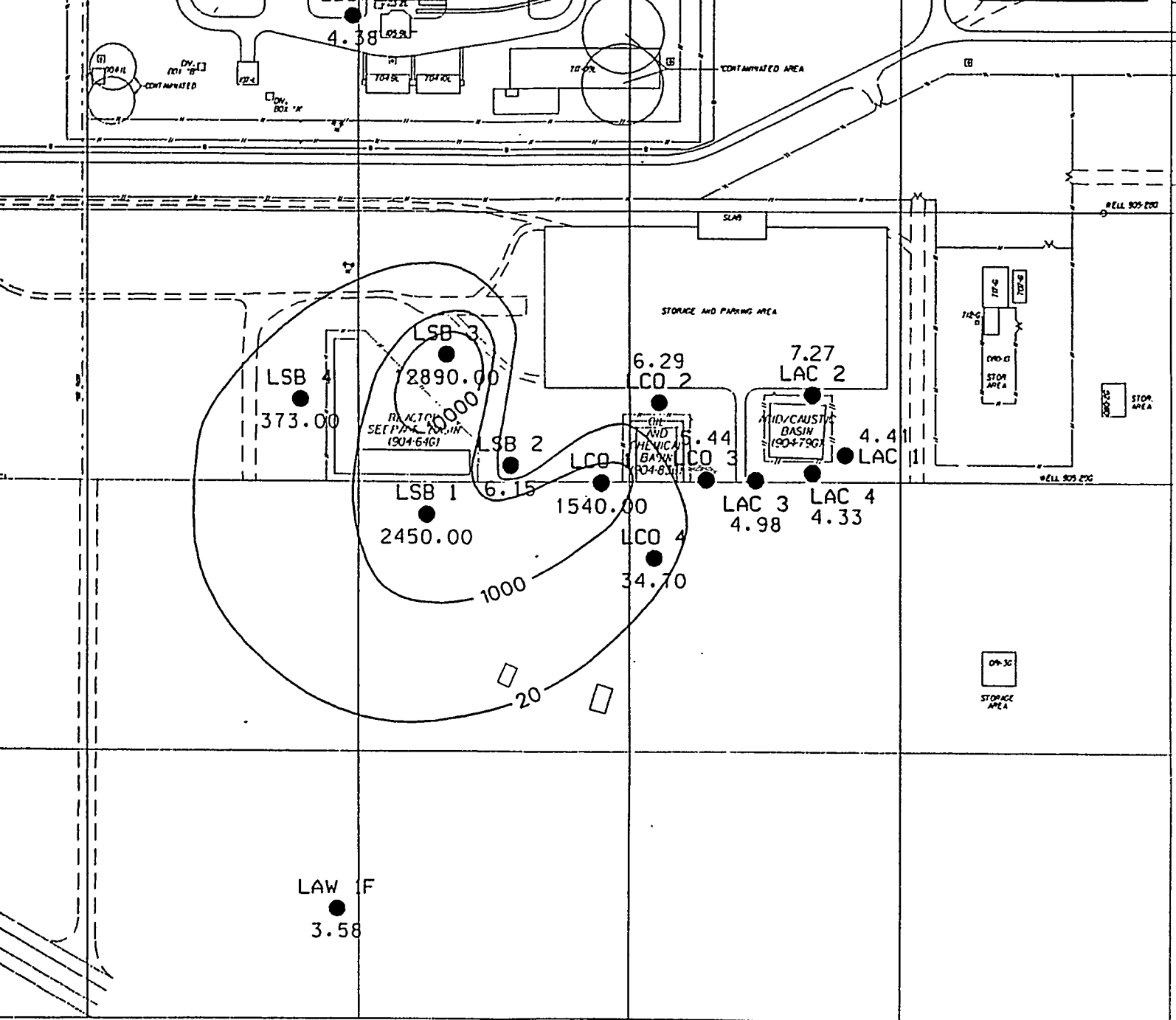
WELL SYMBOL LEGEND

- WATER TABLE AQUIFER
GROUNDWATER MONITORING WELLS

LAW2C WELL ID

CONTOUR LEGEND

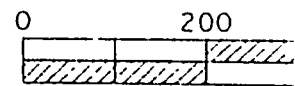
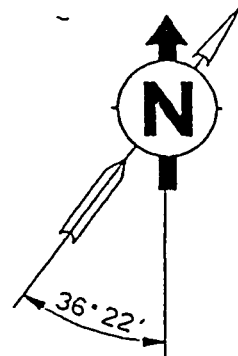
CONTOURS: 20, 1000, 10000
 UNITS: pCi/mL.
 PDWS: 20 pCi/mL
 ND: NO DATA



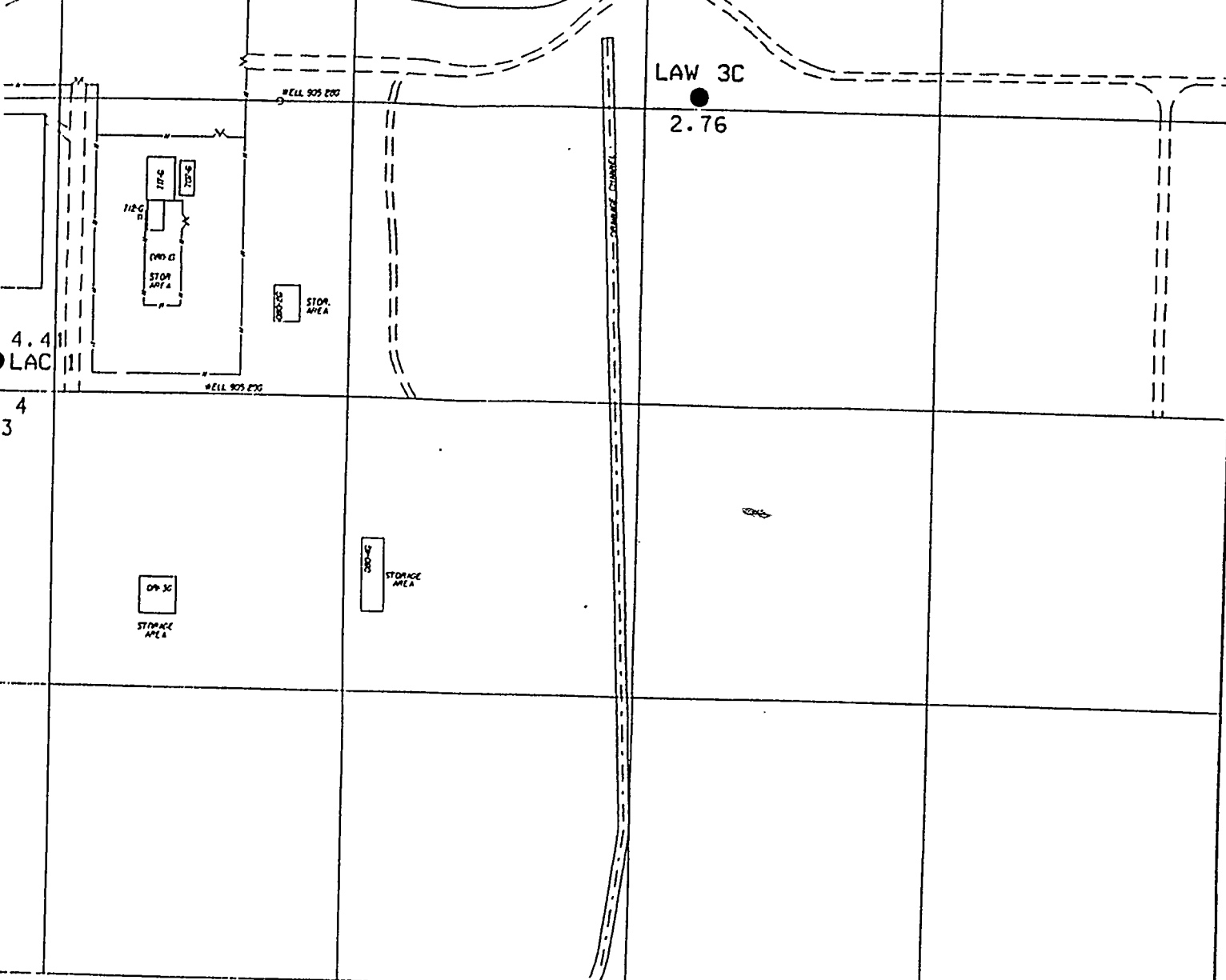
LEGEND

- FACILITY BOUNDARY
- ROAD
- - - DIRT ROAD
- - - - - STREAM
- + + + + + RAILROAD
- / - FENCE
- ▨ PIT/BASIN
- 280 — OBSERVED CONTOUR

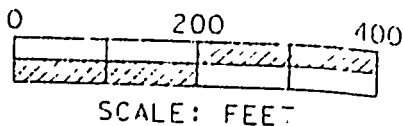
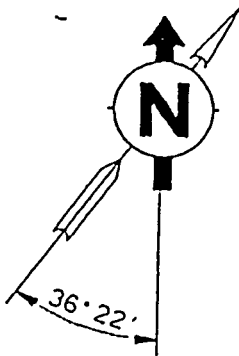
PLANT TR
NORTH NO1



SCALE: FEET



PLANT TRUE
NORTH NORTH



DWG NO. GL1106	REV. NO. 0	REV. DATE 8-11-94	AREA L-AREA
<p>TITLE</p> <p>TRITIUM ACTIVITIES FOR L-REACTOR AREA WATER TABLE AQUIFER THIRD QUARTER 1993</p>			
CREATED BY TRACY L. MICKLEY	DATE 8-30-94	APPROVED BY NA	DATE 93
PREPARED BY C. BUTLER	DATE 8-11-94	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93

LRP 1
ND

LRP 4
ND

LRP 3
ND

LRP 2
ND

PLANNING POSSIBLE PIT
(U.S.D.)

LEON CREEK

PARKING AREA

63C

PARKING AREA

704

704

704

704

704

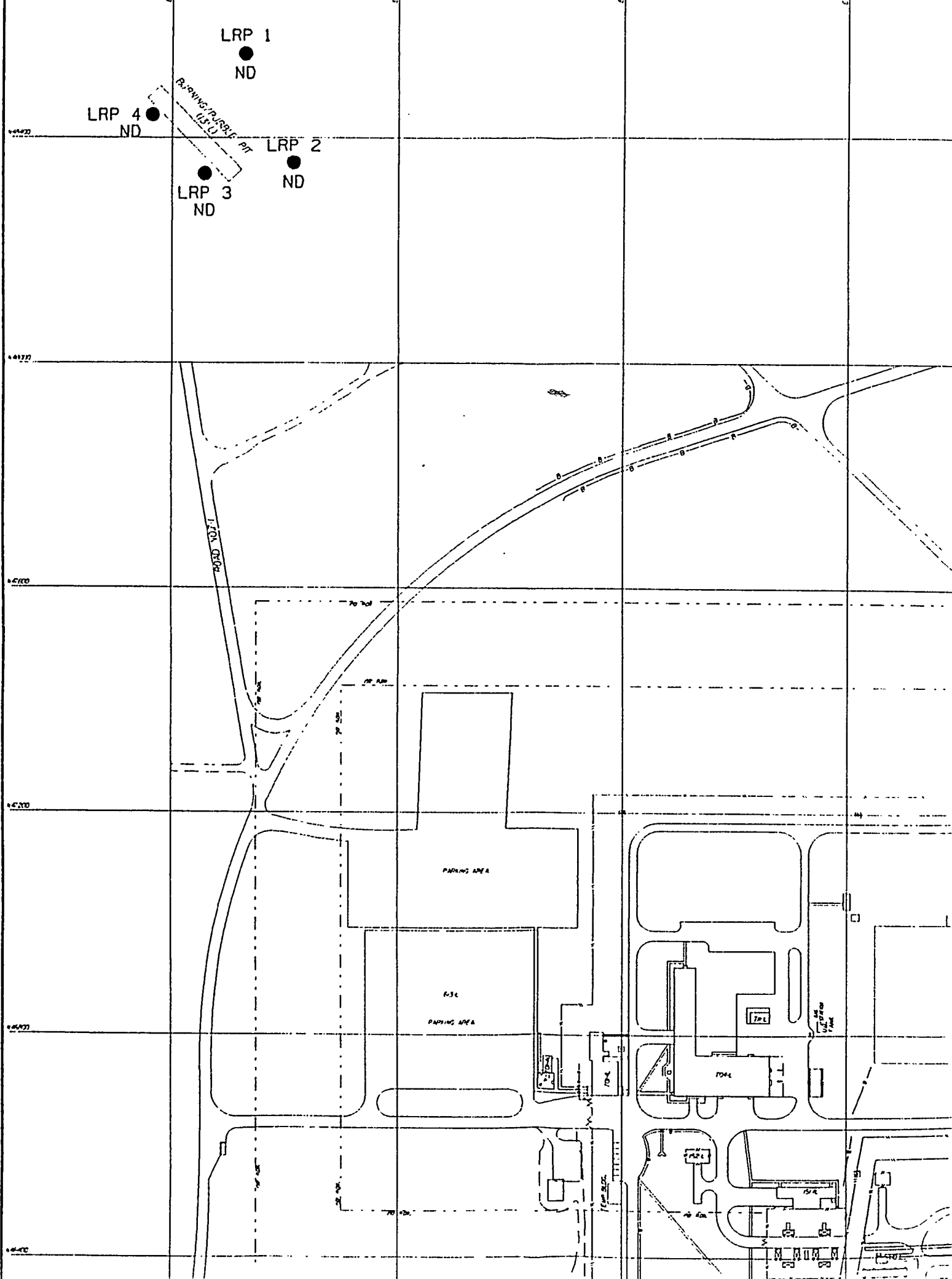
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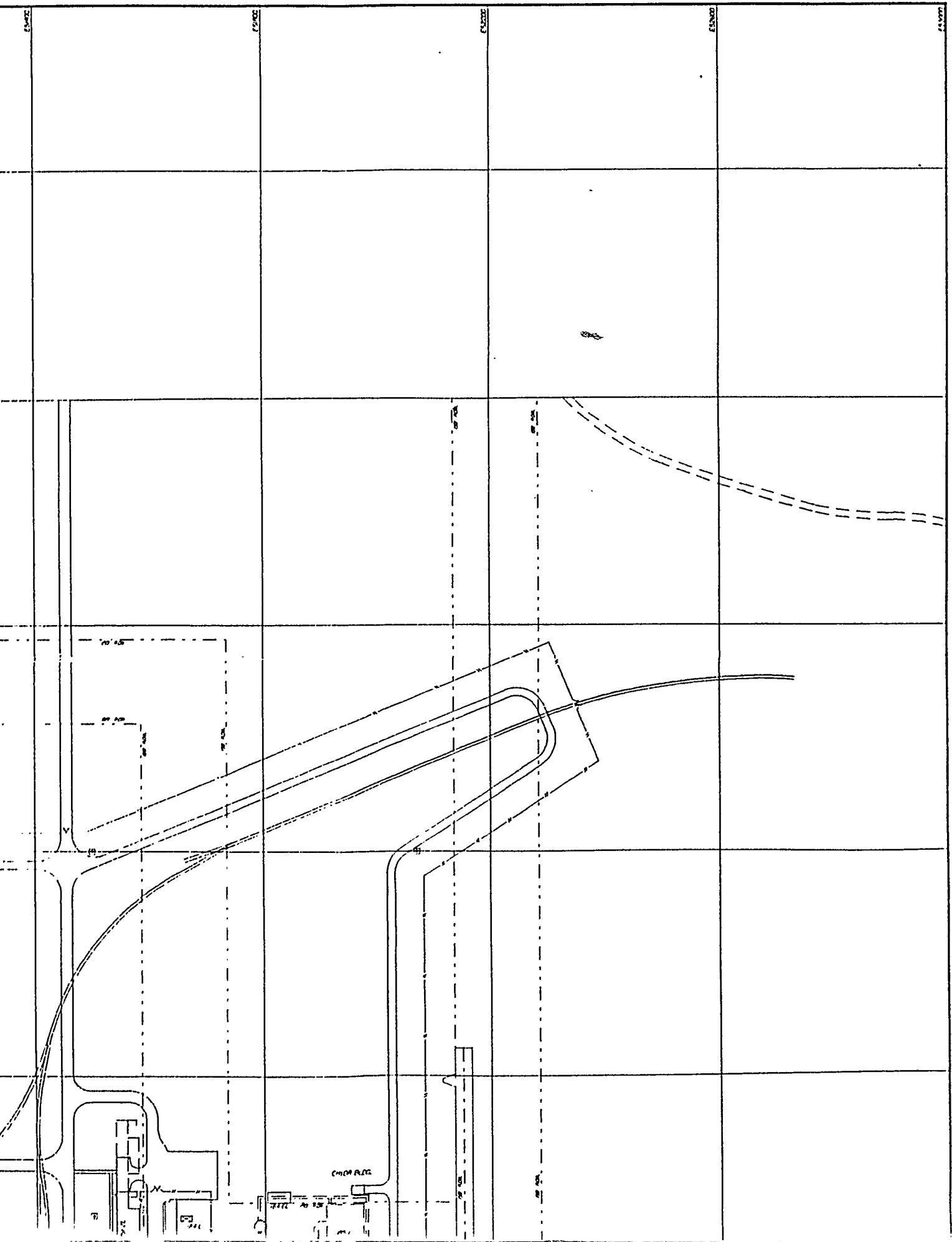
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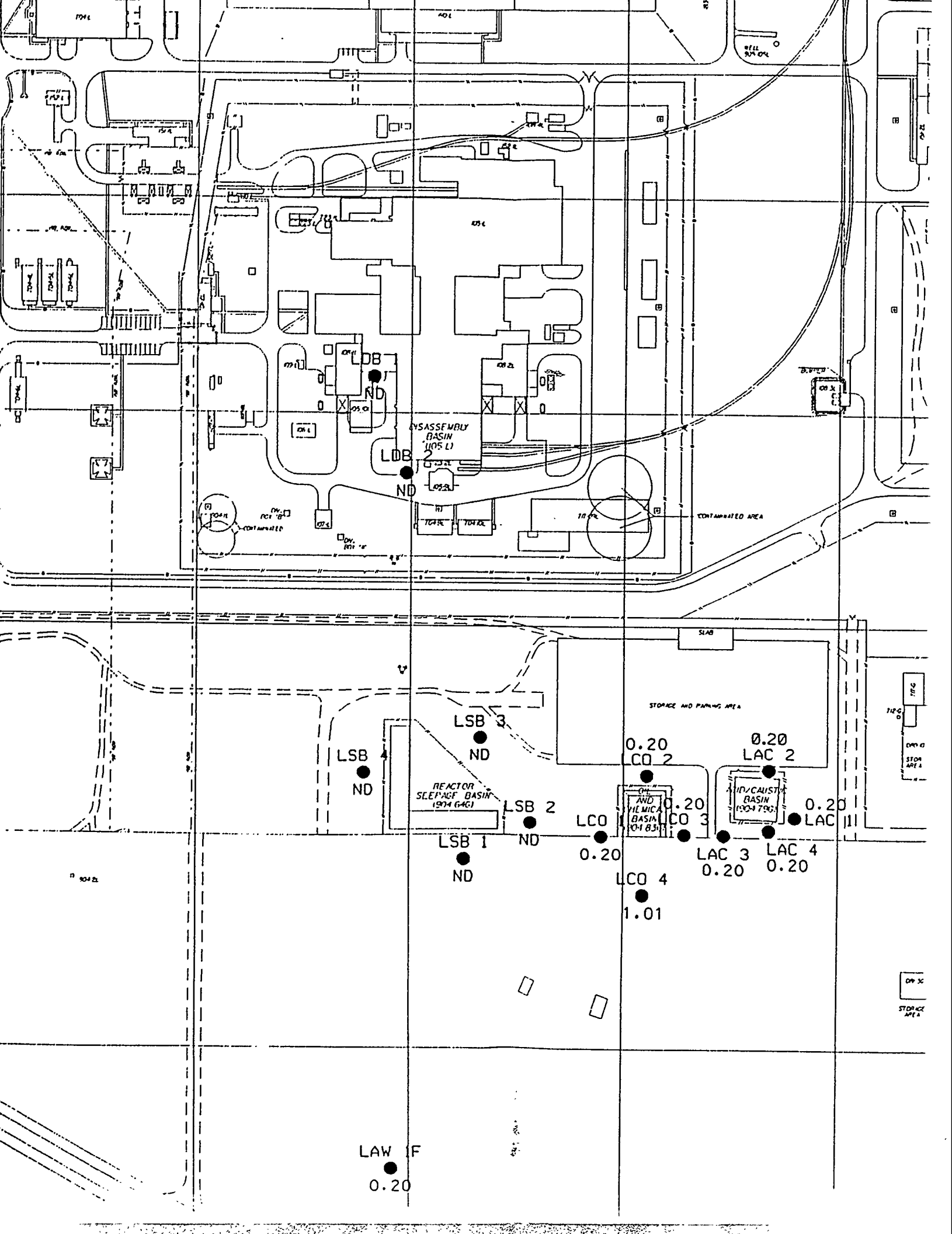
704

704

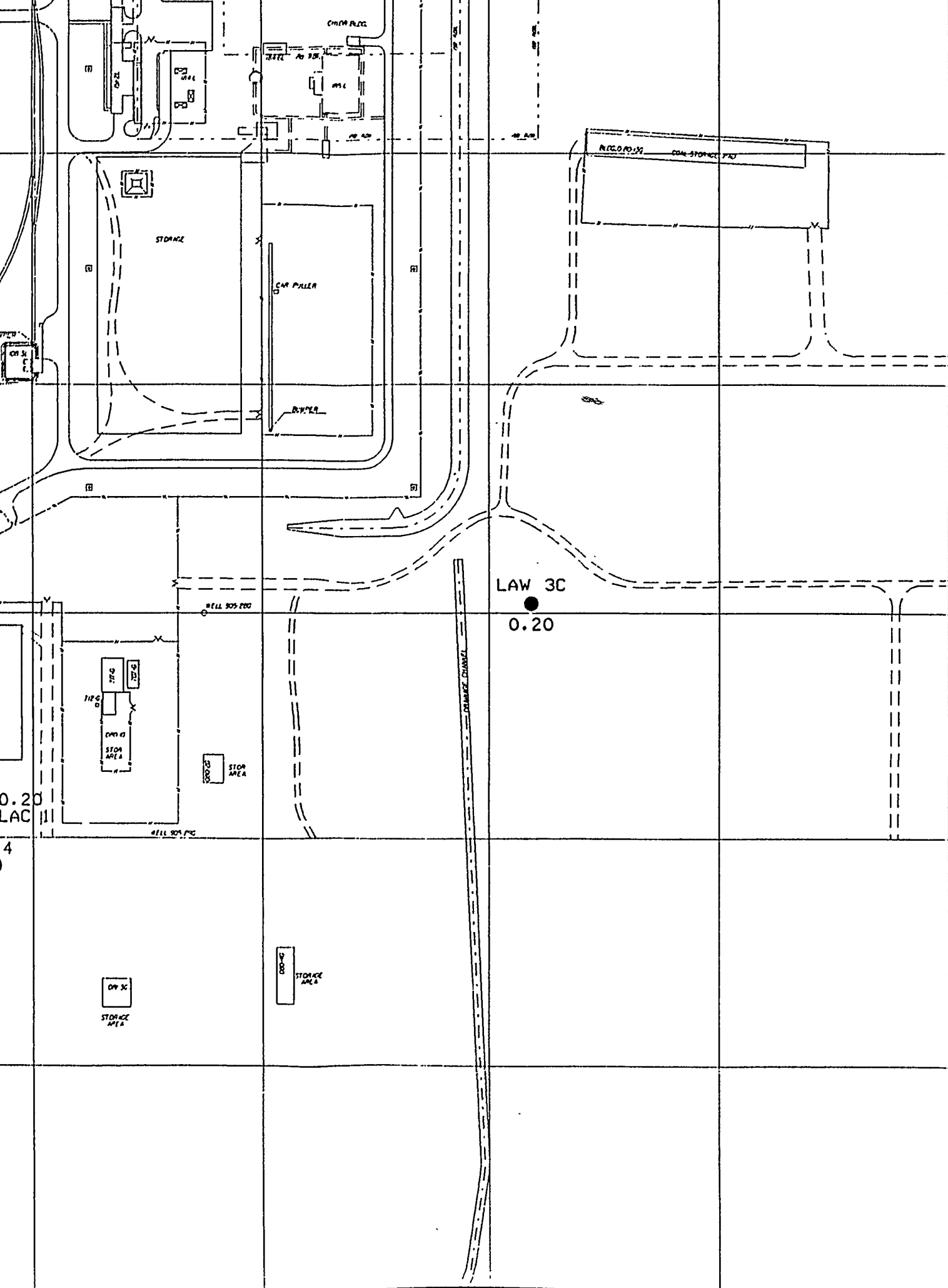
+0472
+0377
+0272
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LAW F
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 0.20

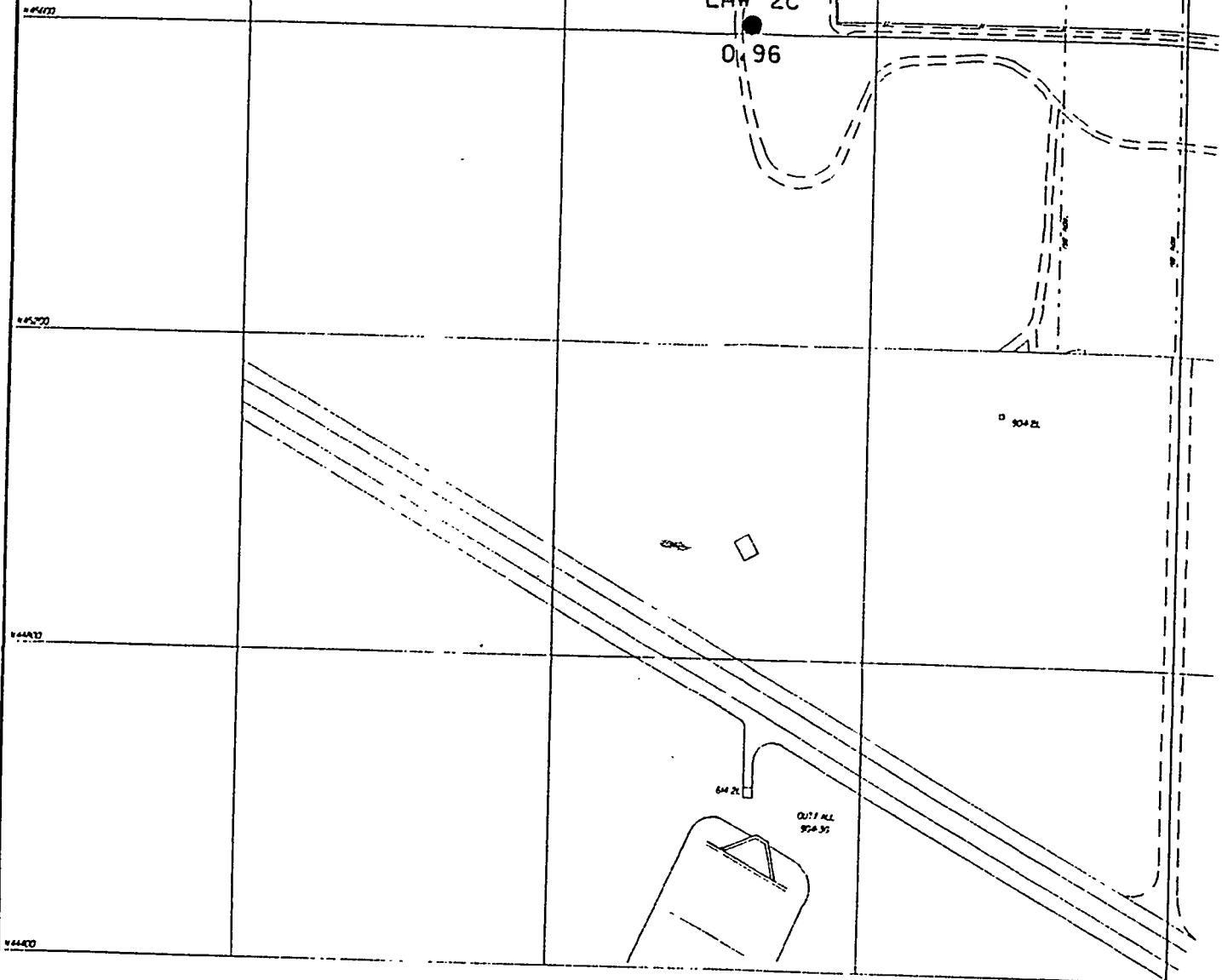


DWG NO

REV. NO.

REV. DATE

AREA

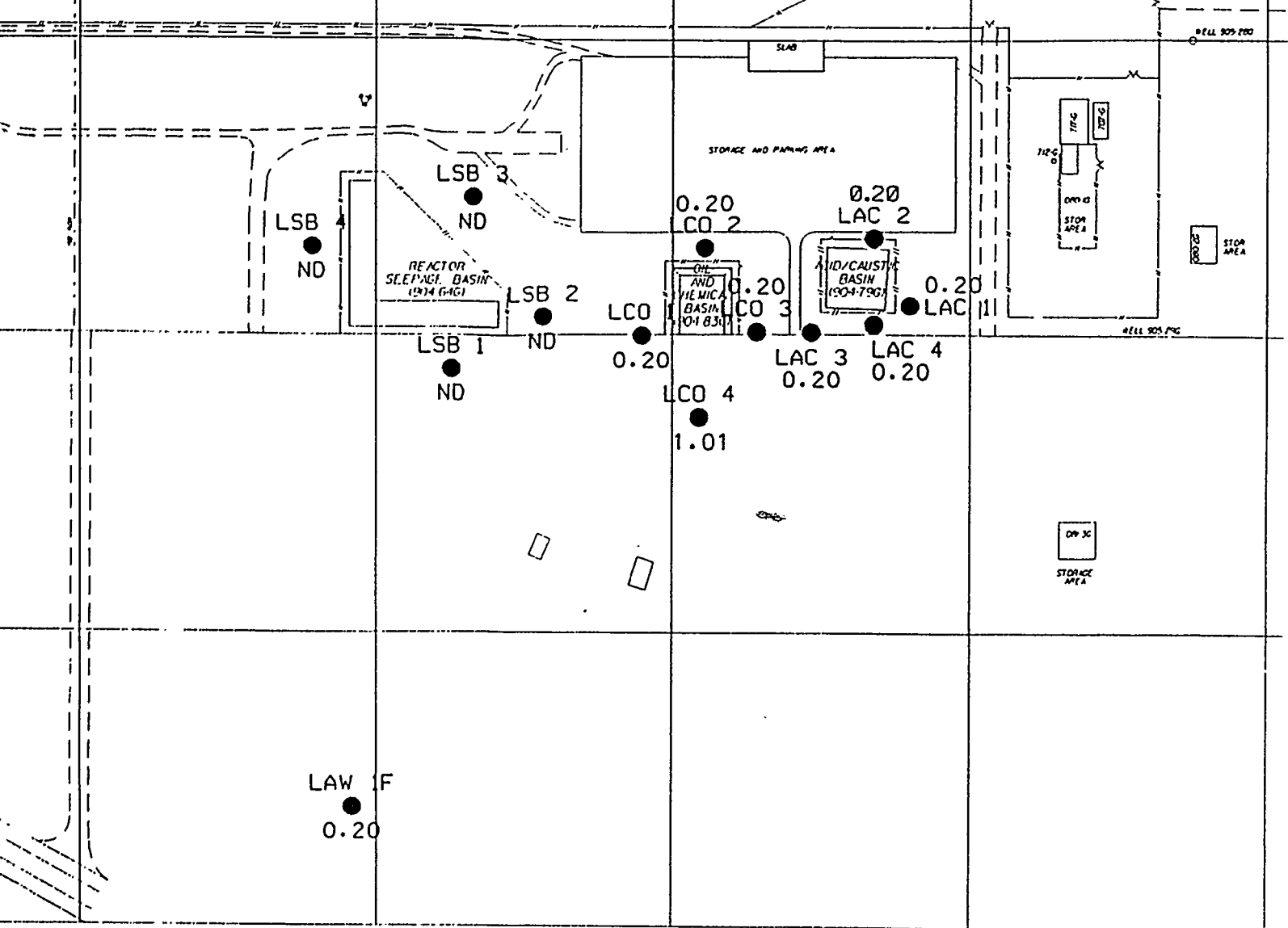


WELL SYMBOL LEGEND

- WATER TABLE AQUIFER
GROUNDWATER MONITORING WELLS
- LAW2C WELL ID

CONTOUR LEGEND

UNITS: ug/l
 PDWS: 2 ug/l
 0.20: DENOTES CONCENTRATIONS AT OR LESS THAN DETECTION LIM
 ND: NO DATA

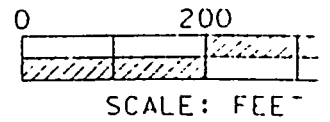
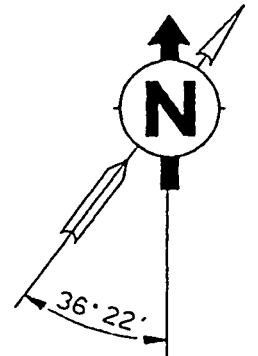


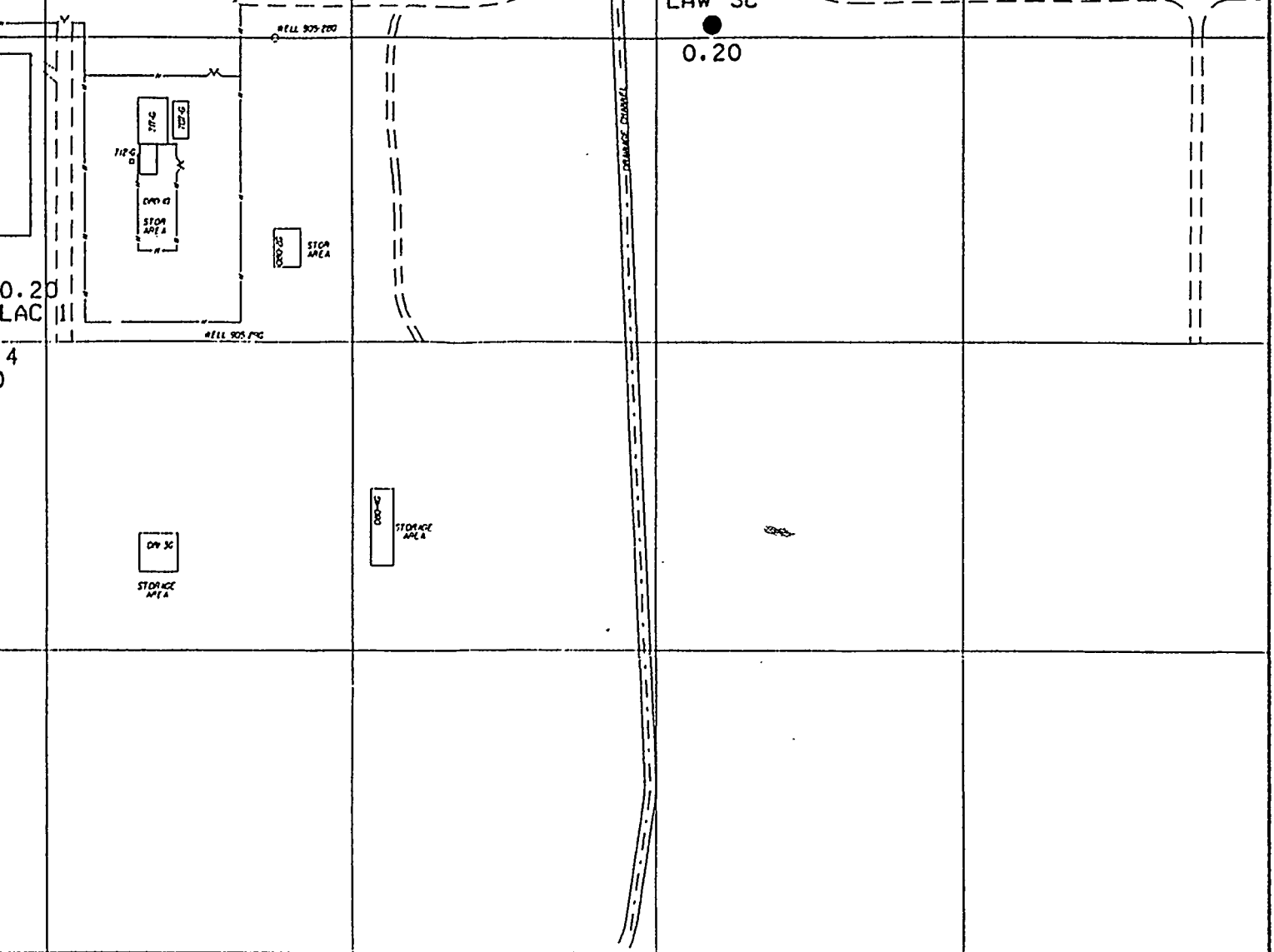
LEGEND

- FACILITY BOUNDARY
- ~~~~~ ROAD
- DIRT ROAD
- - - - - STREAM
- + + + + + RAILROAD
- FENCE
- ▨ PIT/BASIN
- 280— OBSERVED CONTOUR

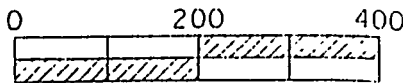
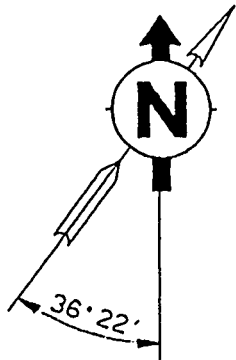
TECTION LIMIT

PLANT TRU
NORTH NOR





PLANT TRUE NORTH NORTH



SCALE: FEET

DWG NO. GL1107	REV. NO. 0	REV. DATE 8-11-94	AREA L-AREA
<p>TITLE</p> <p>MERCURY CONCENTRATIONS FOR L-REACTOR AREA GROUNDWATER MONITORING WELLS THIRD QUARTER 1993</p>			
CREATED BY TRACY L. MICKLEY	DATE 8-31-94	APPROVED BY NA	DATE 93
PREPARED BY C. BUTLER	DATE 8-11-94	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93
APPROVED BY NA	DATE 93	APPROVED BY NA	DATE 93

For Information