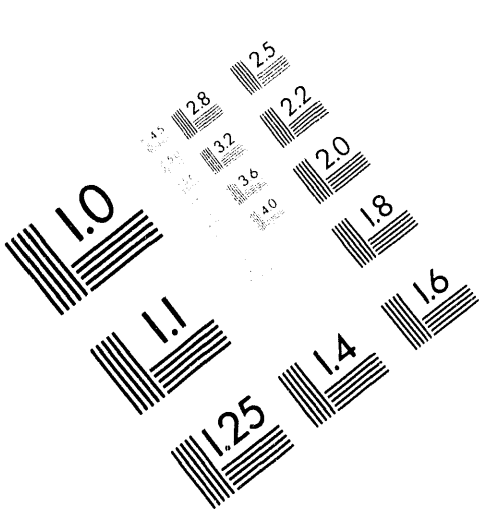

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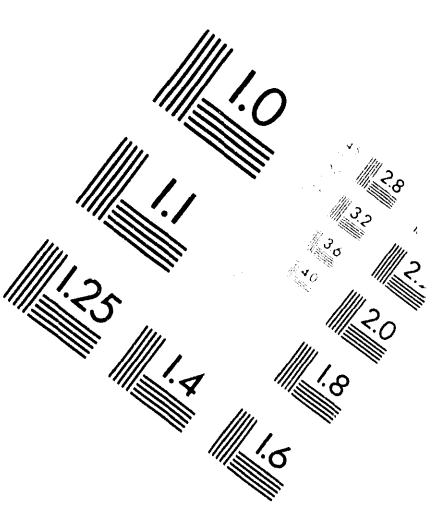

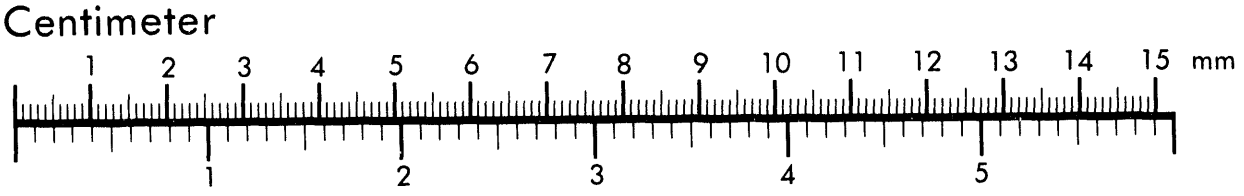

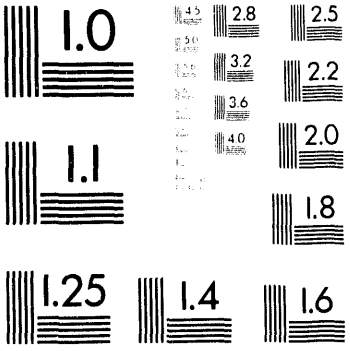

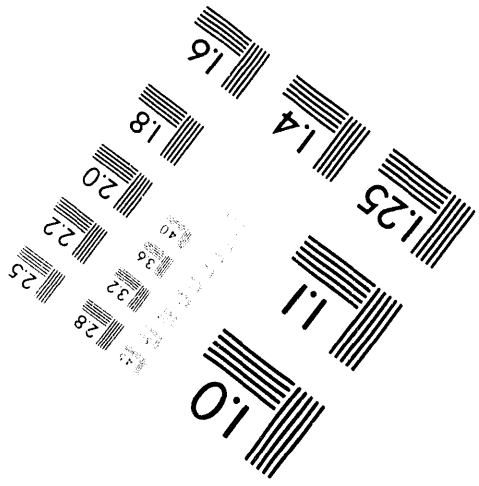

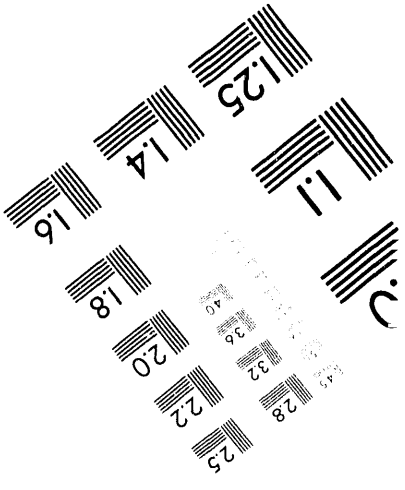

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Publication Date: May 1994

Annual Radioactive Waste Tank Inspection Program - 1993(U)

Westinghouse Savannah River Company
Savannah River Site
Aiken, SC 19808

SAFETY • RESPONSIBILITY • SECURITY
SRS
SAVANNAH RIVER SITE

Prepared for the U.S. Department of Energy under Contract No. DE-AC09-89SR18035

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F. G. McNatt, Sr.

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Introduction

Aqueous radioactive wastes from Savannah River Site (SRS) separations processes are contained in large underground carbon steel tanks. Inspections made during 1993 to evaluate these vessels, and evaluations based on data accrued by inspections made since the tanks were constructed, are the subject of this report.

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Summary

The 1993 inspection program revealed that the condition of the Savannah River Site waste tanks had not changed significantly from that reported in the previous annual report. No new leaksites were observed. No evidence of corrosion or materials degradation was observed in the waste tanks. However, degradation was observed on covers of the concrete encasements for the out-of-service transfer lines to Tanks 1 through 8.

In 1993 a total of 5623 photographs were made and 71 visual and video inspections were performed.

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Inspection Program

Background

Alkaline aqueous radioactive wastes produced at the Savannah River Site are stored in underground tanks. The waste comes primarily from nuclear fuel reprocessing operations in the separations areas (F and H) and contains most of the radioactive fission products from SRS operations. The waste in the tanks is present in three phases: sludge, supernate, and salt formed by supernate evaporation and cooling. The supernate and salt phases consist primarily of $NaNO_3$ and $NaNO_2$. The fission product content is up to 20 curies per gallon for the supernate and up to 60 curies per gallon for the salt. The sludge consists primarily of MnO_2 and $Fe(OH)_2$ with a fission product content up to 500 curies per gallon.

Waste tank leak detection capabilities are essential to meet the primary objective of the SRS radioactive waste management program: to manage the waste in such a manner as to minimize the radiation exposure and associated risk to man and his environment over the lifetime of the radionuclides.

The detection of leaked waste is based on two principles: disappearance of material from its proper location and appearance of material in an improper location. At SRS, primary reliance is on the latter because the quantity of the waste detectable in an improper location is much less than that detectable by inventory change in a large tank. Capacity of SRS tanks is 0.75 to 1.3 million gallons. Although rigorous tank inventory surveillance is practiced, primary leak detection methods rely on automatic surveillance of those areas into which the leaked waste is most likely to migrate.

The annulus of each double-wall tank is equipped with at least two single-point conductivity probes for leak detection. These probes are located at the bottom of the annulus and on opposite sides of the tank. The single-wall tanks are built on slabs with a network of leak collection channels that drain to a common sump. Continuous sump level monitoring and frequent sump liquid sampling provide the leak detection. Besides the automatic surveillance, routine direct visual surveys are made in the annular spaces, and nonroutine direct visual surveys are made in primary tanks through opened access risers and/or inspection holes in the roof.

In 1961-62, following leakage of waste into the annulus of Tanks 9, 10, 14 and 16, the first remote imaging inspections were made in the annuli of some of the waste tanks, using a periscope. Random inspections continued through 1970. A program was initiated in November 1971 to periodically inspect all waste tanks using remote visual imagery techniques to monitor for corrosion and other degradation, waste leakage, anomalies of any type, and to investigate process or equipment concerns.

Steel thickness measurements have been made periodically of waste tanks using ultrasonic techniques to monitor for general corrosion. An analog-type instrument was used in 1967 and 1969 to measure the thickness of the primary wall of selected double-wall tanks. In 1972, a more precise instrument was put in service. About 24,000 measurements made over a period of 14 years (1972 through 1985) indicated that no thinning of SRS tanks has occurred. The only tank at SRS that has experienced detectable corrosion is Tank 23, a tank with a unique service history. The upper wall interior surfaces show general corrosion with mild pitting. The pitting is broad but shallow. This tank is used to receive contaminated water from 244H, the Receiving Basin for Off-Site Fuels, and 245H, the Resin Regeneration Facility.

Inspections are complicated by factors such as radiation and contamination, remote operation as far as 40 feet below grade, and insertion of equipment through small (generally 5 to 8-inch-diameter) access openings. Inspection techniques to circumvent these difficulties have been developed; they yield good quality photographic records and thickness measurements. The techniques include periscopic systems, direct photographic systems, closed circuit television systems, and a system to measure waste tank wall and bottom plate thicknesses.

Waste tank inspection has been important in leak detection. The leaksites in eight of the ten cracked tanks have been detected by direct visual inspection or by one of the remote inspection techniques. Since the inspection program was initiated in 1971, five tanks were found to have leaksites that were not recognized before inspection. The annulus conductivity probes were not activated by these leaks because of the small amount of leakage. The leaked waste evaporated to dryness, sealing the cracks before any leaked waste reached a conductivity probe. However, remote inspections detected the dry deposits of leaked waste on the walls of these tanks.

The waste tanks in-service inspection program is comprised of visual imagery inspections and ultrasonic steel thickness measurements. This report gives results of the 1993 visual imagery inspections. No ultrasonic measurements were scheduled or performed in 1993. This report also summarizes foregone inspections and measurements for each waste tank.

Tank Description

SRS has subsurface storage tanks of four different designs. All of the tanks are constructed of carbon steel and reinforced concrete. They serve as containment vessels for storage and processing of radioactive wastes. Appendix A lists tank location, design type, project number, and construction period. A brief description of the different tank designs is given in the following paragraphs.

Type I Tanks

The 12 original storage tanks constructed between 1951 and 1953 are designated type I tanks. Tanks 1 through 8 are in F Area and Tanks 9 through 12 are in H Area. Each primary tank has a capacity of 750,000 gallons, is 75 feet in diameter, and 24 1/2 feet high. Figure 1 shows the essential features of type I tanks, including the primary tank, the secondary pan, and the concrete support structure.

The primary container is a closed cylindrical tank with flat top and bottom constructed from 1/2-inch-thick steel plates. The top and bottom are joined to the cylindrical sidewall by curved knuckle plates. The primary tank is set within a circular pan of 1/2-inch-thick steel plates. The annulus pan is 5 feet deep and 5 feet larger in diameter than the tank, thus forming an annular space 2 1/2 feet wide. The tank and pan are set on a 30-inch-thick base slab and are enclosed by a cylindrical 22-inch-thick reinforced concrete wall and a flat concrete roof, also 22 inches thick. There are twelve 2-foot-diameter concrete columns within the primary tank to support the roof. Each column has a flared capital and is encased in 1/2-inch-thick steel plate.

A 9-foot layer of earth was placed over the tanks for radiation shielding. Cooling for each type I tank is provided by 36 parallel (water pipe) cooling coils.

A dehumidification duct in the annulus of each tank is routed from the tank top to the bottom of the annulus where it encircles the tank. The duct has distribution outlets and its cross-sectional area decreases as the distance from the air supply increases. Access to the tank interior is provided at eight locations, and to the annular space at four locations, through riser pipes. Each of the 12 riser pipes is capped at the top with a concrete plug. Each plug is provided with two 5-inch-diameter ports equipped with removable plugs. Some of these ports provide access for inspections.

All welds in the pan and primary tank were radiographically inspected, defects were corrected, and the welds were rechecked radiographically. The welds in the flat bottoms of both the pan and the tank were vacuum-tested for leaks. Additionally, both vessels were hydrostatically

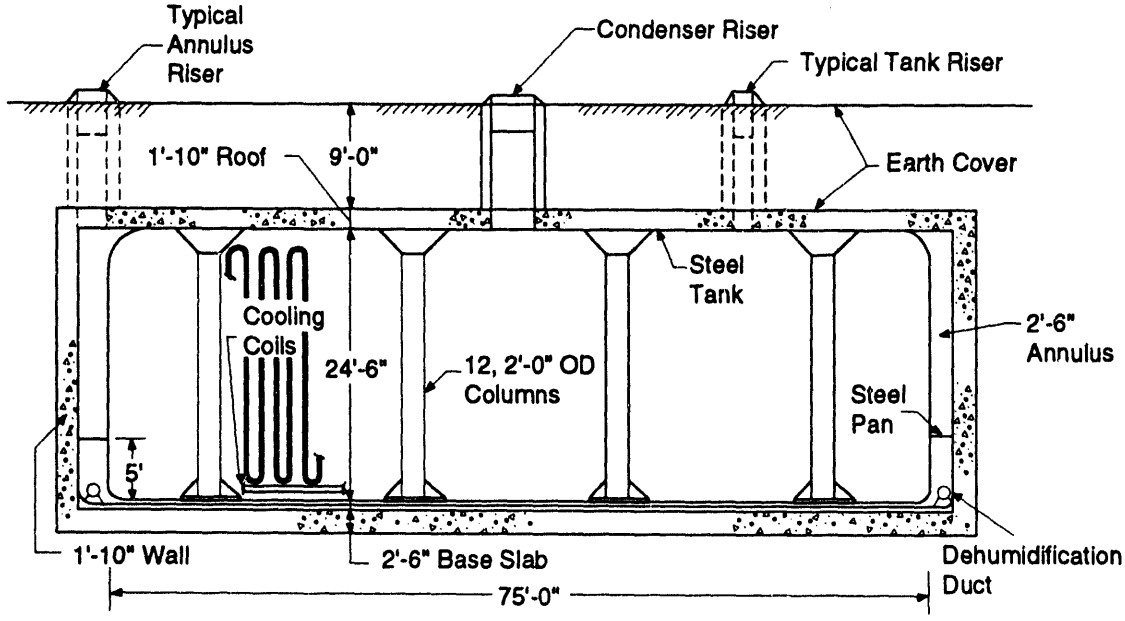

Figure 1. Cooled Waste Storage Tank, Type I (Original 750,000 Gallons).

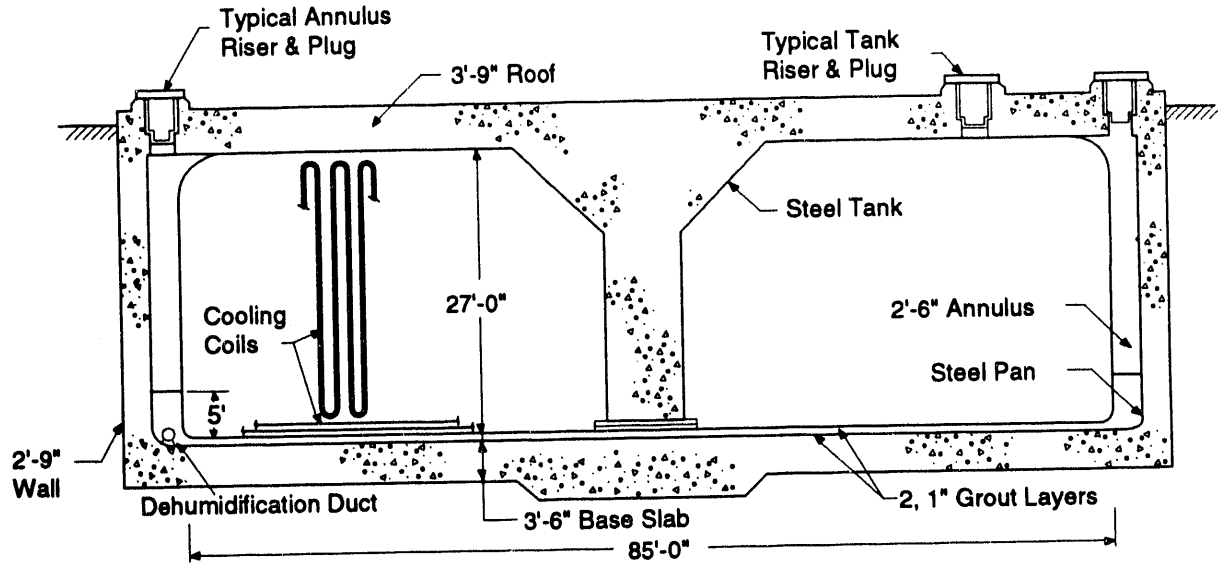

Figure 2. Cooled Waste Storage Tank, Type II (Original 1,030,000 Gallons).

tested. The water was maintained at full height in the tank for 24 hours before inspection for leaks was made. Cooling water piping was hydrostatically tested at 300 psig and then leak-tested with 100 psig air pressure in the piping.

Type II Tanks

Tanks 13 through 16, constructed in H Area in 1955 and 1956, are designated type II tanks. Figure 2 is a cross section of this type. Each primary tank has a capacity of 1,030,000 gallons and is 85 feet in diameter and 27 feet high.

The primary container for type II tanks consists of two concentric steel cylinders assembled with a flat bottom and a flat top into a form somewhat like a doughnut. The top and bottom are joined to the outer cylinder by rings of curved knuckle plates. The inner cylinder is flared at the top to accommodate the roof support column. This cylinder is joined to the flat steel top with a continuous butt weld, and to a base fastened to the bottom with a continuous T-weld. Steel thicknesses are:

Plate	Thickness, inch
Top and bottom	1/2
Upper knuckle	9/16
Wall	5/8
Lower knuckle	7/8

The primary tank is set on a 1-inch sand bed within a circular pan of 1/2-inch-thick steel plate, 5 feet deep and 5 feet larger in diameter than the tank, thus forming an annular space 2 1/2 feet wide. The tank and pan assembly is surrounded by a cylindrical reinforced concrete enclosure with a 33-inch-thick wall and a flat concrete roof that is 45 inches thick. The tank and pan assembly and the surrounding wall are set on a foundation slab that is 42 inches thick. The roof is supported by both the wall and a central concrete column that fits within the inner cylinder of the vessel. The 45-inch-thick concrete roof provides radiation shielding; therefore, no earth overburden is required. Cooling for each type II tank is provided by 44 parallel (water pipe) cooling coils. Access to the tank interior is provided at eight locations, and to the annular space at four locations, through riser pipes. Each of the 12 riser pipes is capped at the top with a concrete plug. Each plug is provided with two 5-inch-diameter ports equipped with removable plugs. The ports provide access for inspection. In addition to the four annulus risers, other access openings (10 to 14 additional openings per tank) have been drilled into the annulus of each of these tanks to permit inspection of seventy-three to ninety-six percent of the exterior walls of the primary vessels.

A dehumidification duct in the annulus of each tank is routed from the tank top to the bottom of the annulus where it encircles the tank. The duct has distribution outlets and its cross-sectional area decreases as the distance from the air supply increases.

All welds in the primary tanks were radiographically inspected, defects were corrected, and the welds were rechecked radiographically. However, the annulus pans were not inspected radiographically. The welds in the flat bottoms of these pans and the primary tanks were vacuum-tested for leaks, and the primary and secondary vessels

were hydrostatically tested. Cooling water piping was hydrostatically tested at 300 psig and then leak-tested, with 100 psig air pressure in the piping.

Type IV Tanks

Tanks 17 through 24 are single-wall uncooled tanks. These tanks were designed for storage of waste that does not require auxiliary cooling. Tanks 17 through 20 were constructed in F Area in 1958 and Tanks 21 through 24 were constructed in H Area between 1959 and 1961. Each tank has a capacity of 1,300,000 gallons and is 85 feet in diameter and 34 feet high (Figure 3).

Each type IV tank is basically a steel-lined, prestressed-concrete tank in the form of a vertical cylinder with a domed roof. Carbon steel plates, 3/8 inch thick, were used to form the cylindrical sides and flat bottom portion of the steel liners. The knuckle plates at the junction of the bottom and the sidewall are 7/16 inch thick. Concrete was built up around the steel vessel by the "shotcrete" technique.

Radiation shielding of the type IV tanks in F Area was accomplished by applying at least 32 inches of earth over each of the 7-inch-thick concrete domes. H-Area tanks were shielded similarly, except that the earth cover was at least 44 inches thick to accommodate a somewhat higher radiation level from the waste.

Access to the interior of the tank is provided at six locations through riser pipes. Each riser pipe is capped at the top with a concrete plug. Some of these risers provide access for inspection.

All welds in the steel liners were radiographically inspected. All of the welded tank-bottom seams and the upper seams of the knuckle rings were vacuum leak-tested. Prior to the back-filling operation, each tank was hydrostatically tested by filling with water to the normal fill line. The tank was allowed to remain filled until it was to be placed in use for waste storage.

Type III Tanks

The most recently constructed tanks are designated as type III tanks (Figure 4). Twenty-seven tanks were built between 1967 and 1981. Tanks 25 through 28, 33 and 34, and 44 through 47 are located in F Area. Tanks 29 through 32, 35 through 43 and 48 through 51 are located in H Area.

The type III tank design was developed after an investigation into the causes of the leaks from the primary vessel of the type I and type II tanks. The study concluded that the leak-producing mechanism was nitrate stress-corrosion cracking at sites in or near the weld seams, and that stress relieving after fabrication should eliminate the cracking. For the type III tanks, means were provided for heating each finished tank to relieve the stresses generated during fabrication. In addition, some stress patterns were avoided, or minimized, by mounting the roof supporting column on the foundation pad rather than on the bottom of the primary tank (as in types I and II), and by providing an annular clearance around the roof supporting column. Each

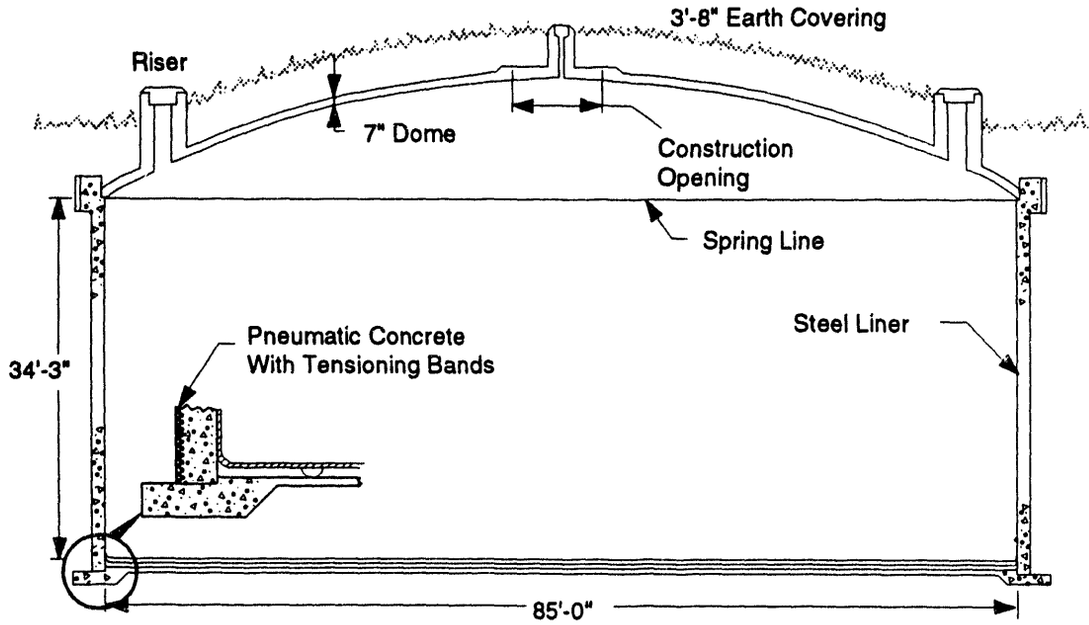

Figure 3. Uncooled Waste Storage Tank, Type IV (Prestressed Concrete Walls, 1,300,000 Gallons).

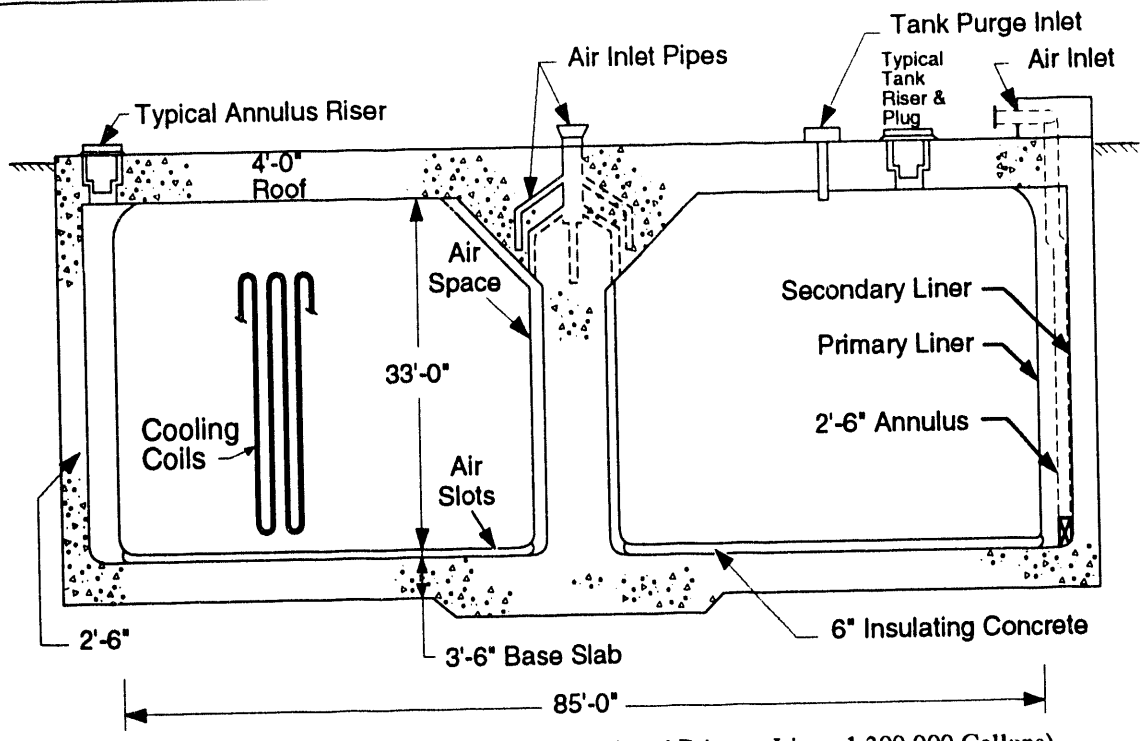

Figure 4. Cooled Waste Storage Tank, Type III (Stress Relieved Primary Liner, 1,300,000 Gallons).

primary tank holds 1,300,000 gallons and is 85 feet in diameter and 33 feet high.

Type III tanks are similar to the doughnut-like design of type II tanks. Each primary vessel is made of two concentric cylinders joined to washer-shaped top and bottom plates by curved knuckle plates. Steel thicknesses are:

Plate	Thickness, inch
Top and bottom	1/2
Upper knuckle	1/2
Outer wall	
Upper band	1/2
Middle band	5/8
Lower band	3/4
Inner wall	
Upper band	1/2
Lower band	5/8
Lower knuckle	
Outer	7/8 (25 - 28 and 33 - 51) 1 (tanks 29 through 32)
Inner	5/8

The primary tank is set on a 6-inch bed of insulating concrete within the secondary containment vessel. The concrete bed is grooved radially so that ventilating air can flow from the inner to the outer annulus, if any waste were to leak from the tank bottom or center annulus wall, liquid would move through the grooves, facilitating detection in the outer annulus.

The secondary vessel is 5 feet larger in diameter than the tank, thus providing an outer annulus 2 1/2 feet wide. The secondary vessel is made of 3/8-inch-thick steel throughout. Its sidewalls rise to the full height of the primary tank. The nested two-vessel assembly is surrounded by a cylindrical reinforced concrete enclosure with a 30-inch-thick wall. The enclosure has a 48-inch-thick flat reinforced concrete roof that is supported by the concrete wall and a central column that fits within the inner cylinder of the vessel. The 48-inch-thick concrete provides radiation shielding; hence, no earth overburden is required.

Cooling for the type III tank is provided by either deployable (water pipe) cooling coil bundles installed through risers in the tank top, or 23 parallel (water pipe) cooling coils distributed throughout the tank.

A dehumidification duct in the annulus of each tank is routed from the tank top to the bottom of the annulus where it encircles the tank. The duct has distribution outlets and its cross-sectional area decreases as distance from the air supply increases. In these tanks, additional airflow is directed through the inner annulus, passing beneath the primary tank through radial grooves in the concrete base slab, and is exhausted into the outer annulus.

Tanks 29 through 34 were placed in service prior to 1976. These tanks were constructed with annulus riser pipes at four locations providing inspection access through 5-inch-diameter ports. All other type III tanks were placed in service after 1976 and have annulus riser pipes at 18 locations that are 8-inches in diameter. These ports are equidistant around the tank and provide for inspection of all of the exterior wall of the primary vessel. In 1982, fourteen to sixteen additional 8-inch diameter ports per tank were drilled in the tops of Tanks 29 through 34 to provide adequate access ports for inspection of all of the exterior walls of their primary vessels. All type III tanks have interior riser pipes at various locations, which provide inspection access through ports having diameters of 5 to 8 inches. All inspection access ports are equipped with removable plugs.

All butt welds on the primary tanks were radiographically inspected except welds on the horizontal roof surface. On the secondary vessels of Tanks 29 through 34, all butt welds joining bottom plates, knuckle plates, and the lowest courses of center-column and outer-wall plates, were radiographically inspected. On all other type III tanks, all plate welds in the secondary tanks were radiographically inspected. All defects were corrected and the welds were rechecked radiographically.

The Quality Assurance Program included inspection of all radiographs by two independent groups of certified weld inspectors, and all radiographs were permanently stored for future reference. All spots on the inside or outside of the primary tanks and the inside of the secondary tanks, where clips or lugs were removed and where other excisions were made, were examined by magnetic particle or liquid penetrant techniques, and any defects were repaired.

All butt welds on the secondary tanks were vacuum leak-tested. All welds in the bottom assemblies of the primary tanks, including knuckle rings and lowest course welds, were vacuum leak-tested before each bottom assembly was lowered into final position, and then tested a second time after the stress-relieving operation. A full hydrostatic test, the filling of each primary tank to a depth of 32 ft and allowing it to stand 48 hours, was conducted after stress relieving. No leaks were found by the hydrostatic tests. All circumferential welds in the pipe loops of the deployable cooling coil bundles below the 1/2-inch-thick plate at the base of the riser plug were radiographed. The assembled cooler piping was tested hydrostatically to 500 psig and halide leak-tested at 300 psig. Welds in the distributed cooling coils were radiographed and similarly leak-tested.

The primary tank was stress-relieved in place after all high temperature work (other than roof attachments) had been completed. Full stress relief, at 1100°F, was accomplished in accordance with the general requirements of the ASME Boiler and Pressure Vessel code.

Inspection Methods

Techniques have been developed for remote examination and evaluation of the waste tanks and ancillary equipment. For visual imaging, direct photography systems developed at SRS were the primary method used. Optical periscopes, boroscopes, and closed circuit television systems were also used where direct photography was not possible, or where these systems provided a more comprehensive examination. Only the direct photography systems will be described, since the other systems were used less frequently and are similar to systems used widely in the nuclear industry. Thickness measuring equipment will not be discussed since steel thickness measurements were not made during 1993.

Wide-angle direct photography was used for general inspections of double-wall tank annuli and the primary vessels of both double-wall tanks and single-wall tanks. This technique uses a 35mm Zeiss-Ikon Hologon Ultrawide camera that surveys a large area in a single photograph. The lens is a 15mm f/8 fixed aperture and fixed focus with a field of focus from 18 1/2 inches to infinity. The lens is distortion free with a 100-degree field of view. A bank of four electronic flash units are synchronized with the camera to provide illumination. The camera is not shielded since residence time in a tank is only a few seconds.

Another direct photography technique was used for detailed inspections. The camera is shielded to reduce the degrading effect of ionizing radiation on the photographic film. The camera's residence time in a waste tank for this technique is longer than for the wide-angle direct photographic technique, i.e., a few minutes versus a few seconds; hence, shielding is required. The camera used is the 35mm Leitz's Leica CL. It is a rangefinder camera with interchangeable lenses. Normally a 21mm lens is used for tank inspection. Alternate lenses are available with focal lengths of 28mm and 35mm. Illumination is provided by a single electronic flash unit.

Program Implementation

Visual Imagery

The 1993 inspection program used three visual imagery techniques: photography, closed circuit television, and periscopic inspection. The primary inspection methods were direct photography techniques, e.g., making a series of photographs providing detailed views of the tank, and wide-angle photography for obtaining overviews of large areas. Closed circuit television systems and periscopes were generally used to further investigate conditions found during scheduled inspections, and to troubleshoot process problems in tanks and ancillaries.

The primary purpose of the inspection program is the continuing evaluation of the condition of waste tanks. This objective was satisfied in 1993 by photographic documentation. The policy developed for photographic inspections in 1972 specified biennial inspection in the annuli of all waste tanks, and annual inspection of those tanks in which waste had breached the primary vessel. Biennial inspections do not include all annulus risers. Therefore, the time required to inspect a tank through all annulus risers could be as long as four years. However, the wide-angle direct photography method developed in 1974 was used to make annual inspections through all risers where inspections were not made by other photographic methods. Hence, inspections were made through all accessible annulus risers of the double-wall tanks, and at least one inspection was made in the interior of each single-wall tank.

Inspections in Tanks 1 through 12 are limited to approximately 25% of the exterior of the primary vessel walls and their annular spaces. This is considered adequate since the tanks are inactive, i.e., waste is not routinely transferred to or from them. These tanks are continuously monitored for leakage by instrumentation installed in their annuli. Additionally, for those tanks that have known leaksites in the primary vessel, the supernate phase has been removed, minimized, or the level lowered below the level of known leaksites.

1993 Inspection Results

The 1993 inspection program was successfully completed. The annuli of all double-wall tanks and the interiors of single-wall tanks were inspected at accessible risers by at least one photographic technique. Other inspections were made as required by operating conditions and equipment performance. All inspections made in 1993 are listed in Appendix B.

The inspections made in 1993 revealed that the condition of the waste tanks was virtually unchanged since inspection in 1992. No new leaksites were found and no evidence was observed that any of the existing leaksites had leaked since inspection in 1992. No significant corrosion of the tanks was evidenced, by the lack of change on the steel surfaces.

Inspections made in the concrete encasement for the out-of-service transfer lines to Tanks 1 through 8 revealed some degradation of the encasement covers. Surface cracks and minor spalling were observed on the bottom of one of the 12-inch-thick concrete covers. Another cover had cracked and slumped down into the encasement a few inches. These observations were made in November and December 1993. Inspections and structural integrity evaluation continued beyond the December 31 cutoff date of this report.

Rainwater continued to leak into the annuli of several tanks. Water inleakage was evidenced by surface stains and occasionally by calcite deposits. The leakage was primarily due to poor seals at riser plug gaskets and failed seals where process pipes penetrate the tank annuli below grade.

Summary of Inspection Results

The following is a brief description of tank conditions as revealed by inspections and examinations made through 1993.

Tank 1

Tank 1 was placed in service in 1954. A small amount of dry waste was observed on the annulus floor in 1969. Subsequent inspections have revealed no additional leakage. Inspection of the exterior wall of the primary vessel is limited to 25% using existing inspection techniques through the four risers that provide access to the annulus. Examination of the observable portion of the tank wall has not revealed the location of the leak(s). Inspection photographs of the steel surface of the tank and the annulus have shown no significant surface corrosion or other anomalies. Ultrasonic measurements made in 1978, 1979, 1981,

1983, and 1985 showed that no detectable thinning of the tank wall had occurred.

Tank 2

Tank 2 was placed in service in 1955. Examinations of the observable portion (25%) of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic measurements made in 1967, 1972, 1973, 1977, 1981, and 1985 showed no detectable thinning of the tank wall.

Tank 3

Tank 3 was placed in service in 1956. Examinations of the observable portion (25%) of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic measurements made in 1973, 1977, 1981, and 1985 showed no detectable thinning of the tank wall.

Tank 4

Tank 4 was placed in service in 1961. Examinations of the observable portion (25%) of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic measurements made in 1973, 1977, 1981, and 1985 showed no detectable thinning of the tank wall.

Tank 5

Tank 5 was placed in service in 1959. Examinations of the observable portion (25%) of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic measurements made in 1973, 1977, 1981, and 1985 showed no detectable thinning of the tank wall.

Tank 6

Tank 6 was placed in service in 1964. Examinations of the observable portion (25%) of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic measurements made in 1974, 1977, 1978, 1979, 1981, and 1985 showed no detectable thinning of the tank wall.

Tank 7

Tank 7 was placed in service in 1954. Examinations of the observable portion (25%) of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic measurements made in 1974, 1979, 1981, 1983, and 1985 showed no detectable thinning of the tank wall.

Tank 8

Tank 8 was placed in service in 1956. Examinations of the observable portion (25%) of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic measurements made in 1973, 1977, 1981, and 1985 showed no detectable thinning of the tank wall.

Tank 9

Tank 9 was placed in service in 1955. Leakage from the tank primary vessel into the annulus pan may have occurred as early as 1955 when the "necklace" alarm, a conductivity leak detection device, shorted out permanently. Leakage was not certain until liquid waste was observed in the annulus pan in 1957. Currently, the annulus pan contains 8 to 10 inches of dry leaked waste. Examinations of the observable portion (25%) of the exterior of the primary vessel wall have shown three leaksites high on the tank wall; 269, 271, and 276 inches above the tank bottom. None of these leaksites is the source of the leaked waste in the annulus pan. The waste leaked at these sites was only enough to form localized small nodules. The leak(s) that is the source of the waste in the annulus pan has not been observed. Inspections have shown no significant surface corrosion, and the ultrasonic measurements made in 1979 and 1983 showed no detectable thinning of the tank wall.

Tank 10

Tank 10 was placed in service in 1955. The first indication that Tank 10 had leaked was in 1959 when dry waste was discovered in the annulus pan during a visual inspection. Currently, the annulus pan contains about 2 inches of dry leaked waste. Examinations of the observable portion (25%) of the exterior of the primary vessel wall have not shown the source of the leaked waste or any other leaksite(s). Inspections have shown no significant surface corrosion, and the ultrasonic measurements made in 1979 and 1983 showed no detectable thinning of the tank wall.

Tank 11

Tank 11 was placed in service in 1955. Twenty-five percent of the exterior of the primary vessel wall is observable via the four risers that provide access to the annulus. Inspections performed in 1974 revealed two leaksites. The leaksites are 189 and 235 inches above the tank bottom. Inspections have shown no significant surface corrosion and ultrasonic measurements made in 1973, 1977, 1981, and 1985 showed no detectable thinning of the tank wall.

Tank 12

Tank 12 was placed in service in 1956. Twenty-five percent of the exterior of the primary vessel wall is observable via the four risers that provide access to the annulus. Inspections in 1974 revealed two leaksites. The leaksites are 93 and 105 inches above the tank bottom. Inspections have shown no significant surface corrosion and ultrasonic measurements made in 1972, 1973, 1977, 1981, 1983, and 1985 showed no detectable thinning of the tank wall.

Tank 13

Tank 13 was placed in service in 1956. Ninety percent of the exterior of the primary vessel wall is observable via the 13 risers that provide access to the annulus. Inspections in 1977 revealed a leaksite 279 inches above the tank bottom. In 1980 another leaksite was discovered 269 inches above the tank bottom. Inspections have shown no significant surface corrosion and ultrasonic measurements made in 1974, 1979, and 1985 showed no detectable thinning of the tank wall.

Tank 14

Tank 14 was placed in service in 1957. The first indication that tank 14 had leaked was in 1959 when dry leaked waste was observed in the annulus pan. Currently the annulus pan contains 12 to 13 inches of dry leaked waste. Eighty-nine percent of the exterior of the primary vessel wall is observable via the 18 risers that provide access to the annulus. Inspections have located 33 leaksites and it is estimated that there are about 50 leaksites in this tank. All of the observed leaksites are near the bottom circumferential weld that is 2.5 feet above the tank bottom, except one leaksite that was observed approximately 24 feet above the tank bottom Inspections have shown no significant surface corrosion and ultrasonic measurements made in 1979 and 1983 showed no detectable thinning of the tank wall.

Tank 15

Tank 15 was placed in service in 1960. Inspections in 1972 below one of the four risers providing access to the annulus revealed two leaksites near the bottom circumferential weld about 2.5 feet above the tank bottom. Twelve additional risers were installed increasing the observable portion of the primary vessel wall from 25% to 96%. Inspections in 1973 via the additional risers revealed eleven other leaksites. No additional leaksites have been found since 1973. Inspections have shown no significant surface corrosion and ultrasonic measurements made in 1972, 1977, 1980, and 1984 showed no detectable thinning of the tank wall.

Tank 16

Tank 16 was placed in service in 1959. Liquid waste was detected in the annulus pan in 1959. Seventy-three percent of the exterior wall of the primary vessel is observable via the sixteen risers that provide access to the annulus. Inspections in 1961 and 1962, through 13 risers, revealed about 175 leaksites in the tank wall. In October 1961 and March 1962, two 5 3/4-inch-diameter samples were cut from the top horizontal circumferential weld of the tank wall about 40 feet apart. Metallurgical examination indicated the cause of the cracks was nitrate induced stress corrosion. Extensive inspection performed since 1972 indicated that the primary vessel wall has 300 to 350 leaksites. In 1978, 70% of the leaked waste in the annulus pan was removed, leaving an insoluble heel containing approximately 30,000 curies of 137Cs. Waste removal from the interior of the primary vessel was completed in 1980. Inspections have shown no significant surface corrosion. No ultrasonic steel thickness measurements of the tank were made because of the number of leaksites and the presence of leaked waste deposits on the primary vessel exterior. This tank is "out of service".

Tank 17

Tank 17 was placed in service in 1961. Examinations of the steel liner have shown no evidence of failure, significant surface corrosion, or other anomalies.

Tank 18

Tank 18 was placed in service in 1959. Examinations of the steel liner have shown no evidence of failure, significant surface corrosion or other anomalies. Ultrasonic measurements made in 1977, 1980, and 1983 showed no detectable thinning of the liner bottom.

Tank 19

Tank 19 was placed in service in 1961. Examinations of the steel liner have shown no evidence of failure, significant surface corrosion, or other anomalies. Ultrasonic measurements made in 1982 and 1985 showed no detectable thinning of the liner bottom.

Tank 20

Tank 20 was placed in service in 1960. Examinations of the steel liner have revealed four failure sites. In 1983, leaksites were observed in the wall of the steel liner at heights of 22, 24.5, and 26.5 feet. In 1990, a leaksite was confirmed in the liner wall at a height of 26.25 feet. This site had been suspect since 1984.

This is a single-wall tank with no annulus. The leaksites in the steel liner were detected by inspections made from the tank interior, since inspection of the exterior was not possible. Artifacts observed on the interior wall indicated that water had leaked through the steel liner into the tank. It is possible that a small quantity of waste may have leaked from the steel liner. However, groundwater monitoring has given no indication that waste escaped the encasement.

Tank 21

Tank 21 was placed in service in 1961. Examinations of the steel liner have shown no evidence of failure, significant surface corrosion, or other anomalies. Ultrasonic measurements made in 1973, 1977, 1980, and 1983 showed no detectable thinning of the liner bottom.

Tank 22

Tank 22 was placed in service in 1965. Examinations of the steel liner have shown no evidence of failure, significant surface corrosion, or other anomalies. Ultrasonic measurements made in 1974, 1977, 1980, and 1983 showed no detectable thinning of the liner bottom.

Tank 23

Tank 23 was placed in service in 1964. Examinations of the steel liner have revealed corrosion but no evidence of failure. Ultrasonic measurements made in 1973, 1977, 1980, and 1983 showed no detectable thinning of the liner bottom. Examinations of the steel liner have shown rust and tubercles on the surface of the upper portion. This tank serves as a receiver tank for inhibited contaminated water from buildings 244H (the Receiving Basin for Off-Site Fuels) and 245H (the Resin Regeneration Facility). The tank was filled to less than 50% capacity to reserve the remaining space for emergency use. This mode of operation exposed only the lower half of the tank to the inhibited contents, and exposed the upper half of the tank to a warm humid atmosphere. In 1984, rust and tubercles were cleaned from two small areas, exposing the steel surface. The cleaned liner surface was generally corroded, with mild pitting. The pits were broad and shallow.

Tank 24

Tank 24 was placed in service in 1963. Examinations of the steel liner have shown no evidence of failure, significant surface corrosion, or other anomalies. Ultrasonic measurements made in 1984 showed no detectable thinning of the liner bottom.

Tank 25

Tank 25 was placed in service in 1980. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1979 and 1983 showed no detectable thinning of the tank wall.

Tank 26

Tank 26 was placed in service in 1980. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1979 and 1983 showed no detectable thinning of the tank wall.

Tank 27

Tank 27 was placed in service in 1980. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1979 and 1983 showed no detectable thinning of the tank wall.

Tank 28

Tank 28 was placed in service in 1980. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1979 and 1983 showed no detectable thinning of the tank wall.

Tank 29

Tank 29 was placed in service in 1971. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1973 and 1974 showed no detectable thinning of the tank wall.

Tank 30

Tank 30 was placed in service in 1974. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1975 showed no detectable thinning of the tank wall.

Tank 31

Tank 31 was placed in service in 1972. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies.

Tank 32

Tank 32 was placed in service in 1971. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies.

Tank 33

Tank 33 was placed in service in 1969. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies.

Tank 34

Tank 34 was placed in service in 1972. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies.

Tank 35

Tank 35 was placed in service in 1977. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1977, 1981, and 1985 showed no detectable thinning of the tank wall.

Tank 36

Tank 36 was placed in service in 1977. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1977, 1981, and 1985 showed no detectable thinning of the tank wall.

Tank 37

Tank 37 was placed in service in 1978. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1977, 1981, and 1985 showed no detectable thinning of the tank wall.

Tank 38

Tank 38 was placed in service in 1981. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1980, 1981, and 1984 showed no detectable thinning of the tank wall.

Tank 39

Tank 39 was placed in service in 1982. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1980, 1981, 1984, and 1985 showed no detectable thinning of the tank wall.

Tank 40

Tank 40 was placed in service in 1986. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1980, 1981, and 1984, before putting the tank in service, showed no change in the wall thickness.

Tank 41

Tank 41 was placed in service in 1982. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1980, 1981, and 1984 showed no detectable thinning of the tank wall.

Tank 42

Tank 42 was placed in service in 1982. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1980, 1981, 1984, 1985, and 1990 showed no detectable thinning of the tank wall.

Tank 43

Tank 43 was placed in service in 1982. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1980, 1981, 1984, and 1985 showed no detectable thinning of the tank wall.

Tank 44

Tank 44 was placed in service in 1982. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1980, 1981, and 1984 showed no detectable thinning of the tank wall.

Tank 45

Tank 45 was placed in service in 1982. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1980, 1981, and 1984 showed no detectable thinning of the tank wall.

Tank 46

Tank 46 was placed in service as an emergency spare tank in 1980. The tank has remained empty. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no significant surface corrosion or other anomalies. Ultrasonic thickness measurements made in 1980, 1981, and 1984 showed no detectable thinning of the tank wall.

Tank 47

Tank 47 was placed in service in 1980. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1980, 1981, and 1984 showed no detectable thinning of the tank wall.

Tank 48

Tank 48 was placed in service in 1983. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1982, prior to placing the tank in service, provide reference measurements for the future.

Tank 49

Tank 49 was placed in service in 1983. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1982, prior to placing the tank in service, provide reference measurements for the future.

Tank 50

Tank 50 was placed in service in 1983. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1982, prior to placing the tank in service, provide reference measurements for the future.

Tank 51

Tank 51 was placed in service in 1986. Examinations of 100% of the exterior of the primary vessel wall and the annulus have shown no leakage, significant surface corrosion, or other anomalies. Ultrasonic thickness measurements made in 1982, prior to placing the tank in service, provide reference measurements for the future.

Appendix A—Waste Tanks at SRS

Table 1. SRS Waste Tank Specifications

Number	Location	Type	Project Number	Construction Period	Type of Construction*
1-8	F	I	8980	1951-1953	Double wall-cooled
9-12	H	I	8980	1951-1953	Double wall-cooled
13-16	H	II	8980 P.W.O.	1955-1956	Double wall-cooled
17-20	F	IV	981031	1958	Single wall-uncooled
21-24	H	IV	981089	1962	Single wall-uncooled
25-28	F	III	951493 (75-1-a)	1975-1978	Double wall-cooled
29-32	H	III	981232	1967-1970	Double wall-cooled
33-34	F	III	950974	1969-1972	Double wall-cooled
35-37	H	III	951463 (74-1-a)	1974-1977	Double wall-cooled
38-43	H	III	951618 (76-8-a)	1976-1980	Double wall-cooled
44-47	F	III	951747	1977-1980	Double wall-cooled
48-51	H	III	951828 (78-18-b)	1978-1981	Double wall-cooled

* Tanks 32 and 35 have removable, roof-supported cooling coils. Tanks 30, 33, and 34 have bottom-supported deployable cooling coils. Tanks 29 and 31 have some deployable and some close-packed cooling assemblies, all bottom supported. All other cooled tanks have permanently installed cooling coils, roof-supported in Type I and II and bottom-supported in Type III tanks.

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Appendix B–Summary of 1993 Inspections

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
F	01	East	A	06/30/93		7324:01-19		Tank condition had not changed.
		East	A	12/11/93				CCTV inspection was made to validate deployment of the thermocouple. Two thermocouples were observed from the east riser. Both were improperly positioned. The inspection was documented on File Tape #264.
		East	A	12/13/93				CCTV inspection was made to verify correct repositioning of the thermocouple since 12-11-93. The thermocouple was observed attached to the tank wall but improperly located. The inspection was documented on File Tape #264.
		North	A	06/30/93	7325:01			Tank condition had not changed.
		South	A	06/30/93	7325:02			Tank condition had not changed.
		West	A	06/30/93		7323:01-17		Tank condition had not changed.
		West	A	12/11/93				CCTV inspection was made to validate deployment of the conductivity probe. Verification of proper deployment was inconclusive because a mass of cables above the annulus floor obstructed visibility. Further investigation will be made. The inspection was documented on File Tape #264.
		West	A	12/13/93				Inspection was made to validate deployment of the conductivity probe. The probe was deployed between the ventilation duct and the tank wall. The inspection was documented on File Tape #264.

Note: The numbers listed under WAP, DP, and PSP identify photographs in the HLWE files.
WAP = wide angle photography; DP = direct photography; PSP = periscopic photography; B = diversion box; WLE = waste line encasement; EVAP = evaporator; CTS = concentrate transfer system; LDB = leak detection box; PP = pump pit; SSMH = storm sewer manhole.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
F	01	Center	I	01/20/93	7174:01-05			Inspection was made to document conditions in the tank after a discrepancy in waste level measurements was reported.
		Center	I	01/22/93	7176:01			Inspection was made to investigate discrepancy in waste level measurements. Photographs revealed uneven salt formations beneath the steel tape riser that could cause inconsistent measurements.
F	02	East	A	06/28/93		7318:01-17		Tank condition was normal. Stains and marks on the ventilation duct were caused by water inleakage. The thermocouple was properly positioned on the tank wall.
		North	A	06/28/93	7315:02			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		South	A	06/28/93	7315:03			Tank condition was normal.
		South	A	12/11/93				CCTV inspection was made to validate deployment of the conductivity probe. The probe was properly deployed on the annulus floor between the ventilation duct and the tank wall. The inspection was documented on File Tape #264.
		West	A	06/28/93		7317:01-17		Tank condition was normal.
		West	A	06/28/93	7315:01			Tank condition was normal.
F	03	East	A	06/30/93		7322:01-18		Tank condition was normal. Stains and marks on the ventilation duct were caused by water inleakage.
		North	A	06/30/93	7326:01			Tank condition was normal. The conductivity probe was deployed on the annulus floor between the ventilation duct and the pan wall.
		South	A	06/30/93	7326:02			Tank condition was normal.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Type of Inspection and Identification Numbers: Date	WAP	DP	PSP	Remarks
F	03	South	A	12/11/93				CCTV inspection was made to validate deployment of the conductivity probe. The probe was properly deployed on the annulus floor between the ventilation duct and the tank wall. The inspection was documented on File Tape #264.
		West	A	06/30/93		7321:01-20		Tank condition was normal. The thermocouple was properly positioned on the tank wall.
		Center	I	02/23/93	7185:01-07			Inspection was made to investigate discrepancy in waste level measurements. Photographs revealed the salt surface throughout the tank varied enough to cause inconsistent measurements.
F	04	East	A	06/28/93		7320:01-18		Changes in the stains and water marks on the tank wall and ventilation duct were caused by water inleakage. No other change was observed in the tank condition.
		East	A	06/28/93	7316:02			Tank condition was normal. The thermocouple was properly positioned on the tank wall.
		North	A	06/28/93	7316:01			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		South	A	06/28/93	7316:03			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		West	A	06/28/93		7319:01-17		Tank condition was normal. Stains and marks on the ventilation duct and annulus floor were caused by water inleakage.
		Center	I	08/12/93	7363:01-09			Inspection was made to investigate discrepancy in waste level measurements. Photographs revealed the waste surface was liquid and should not cause a discrepancy.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
F	05	East	A	07/01/93		7330:01-18		Tank condition was normal.
		North	A	07/01/93		7331:01-17		Tank condition was normal. Visual inspection validated the conductivity probe was properly deployed on the annulus floor.
		South	A	07/01/93	7334:01			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		West	A	07/01/93	7334:02			Tank condition was normal.
		West	A	12/11/93				CCTV inspection was made to validate deployment of the thermocouple. The thermocouple was properly affixed near the bottom girth weld. The inspection was documented on File Tape #263.
		Center	I	03/01/93	7201:01-06			Inspection was made to investigate discrepancy in waste level measurements. Photographs revealed salt surface throughout the tank varied enough to cause inconsistent measurements.
F	06	East	A	07/08/93		7332:01-18		Tank condition was normal. The thermocouple was properly positioned on the tank wall.
		North	A	06/29/93	7335:01			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		South	A	06/29/93	7335:02			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		West	A	06/29/93	7335:03			Tank condition was normal.
		West	A	07/15/93		7336:01-17		Tank condition was normal.
		Center	I	03/01/93	7202:01-04			Inspection was made to investigate discrepancy in waste level measurements. Photographs revealed salt surface throughout the tank varied enough to cause inconsistent measurements.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
F	07	North	A	10/06/93		7457:01-18		Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage. Visual inspection validated the conductivity probe was properly deployed on the annulus floor.
		South	A	07/08/93	7333:01			Tank condition was normal. The conductivity probe was improperly deployed on the annulus floor.
		West	A	07/08/93	7333:02			Tank condition was normal. The thermocouple was properly positioned on the tank wall.
		04	I	01/29/93	7179:01-04			Inspection was made to check for obstruction that would prevent the installation of a transfer pump. Inspection revealed no obstruction above the liquid level.
F	08	East	A	06/30/93		7328:01-17		Tank condition was normal.
		East	A	12/11/93				CCTV inspection was made to validate deployment of the thermocouple. The thermocouple was positioned too high on the tank wall. The inspection was documented on File Tap #264.
		North	A	06/29/93	7327:01			Tank condition was normal. The conductivity probe was deployed on the annulus floor between the ventilation duct and the pan wall.
		South	A	06/29/93	7327:02			Tank condition was normal. The conductivity probe was deployed on the annulus floor between the ventilation duct and the pan wall.
		West	A	06/29/93	7327:03			Tank condition was normal.
		West	A	06/30/93		7329:01-20		Tank condition was normal.
		Center	I	01/29/93	7178:01-05			Inspection was made to investigate discrepancy in waste level measurements. Inspection revealed the salt surface throughout the tank varied enough to cause inconsistent measurements.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	09	South	A	01/14/93		7172:01-17		The annulus was dry. Condition of the tank steel surface remained unchanged. No significant surface corrosion or other anomaly was observed.
		South	A	04/02/93				Visual inspection validated the conductivity probe was properly deployed on the annulus floor.
		South	A	05/05/93		7258:01-04		Tank condition had not changed.
		South	A	05/05/93	7257:01			Tank condition had not changed.
		South	A	08/05/93				After installation of a new conductivity probe, a visual inspection validated the probe was properly deployed on the annulus floor.
		West	A	04/19/93	7229:01			Tank condition had not changed.
		West	A	12/01/93				Visual inspection validated the conductivity probe was properly deployed on the annulus floor.
		West.	A	12/01/93				Visual inspection was made to validate deployment of the thermocouple. The thermocouple was properly positioned on the tank wall.
		Center	I	03/22/93	7211:01-06			Inspection was made to investigate discrepancy in waste level measurements. Photographs revealed salt surface throughout the tank varied enough to cause inconsistent measurements.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	10	East	A	01/14/93		7173:01-17		The tank and annulus condition appeared unchanged since inspected on 03-05-91 except for the stains and marks observed on the tank wall and vertical duct. Changes in the stains and water marks were caused by the inleakage of rain and ground water. These changes have been documented by periodic inspections made since 03-05-91. The thermocouple was properly affixed to the tank wall near the bottom girth weld.
		East	A	03/08/93		7204:01-04		Tank condition had not changed.
		East	A	03/19/93		7210:01-04		Tank condition had not changed.
		East	A	04/02/93		7213:01-04		Tank condition had not changed
		East	A	04/08/93		7220:01-04		Tank condition had not changed.
		East	A	05/05/93		7260:01-04		Tank condition had not changed.
		East	A	06/23/93		7314:01-04		Tank condition had not changed.
		East	A	07/30/93		7359:01-03		Tank condition had not changed.
		East	A	08/10/93		7365:01-04		Tank condition had not changed.
		East	A	09/09/93		7406:01-04		Tank condition had not changed.
		East	A	09/23/93		7455:01-04		Tank condition had not changed.
		East	A	11/03/93		7466:01-05		Tank condition had not changed.
		East	A	12/01/93				Visual inspection validated the conductivity probe was properly deployed on the annulus floor.
		East	A	12/02/93		7475:01-04		Tank condition had not changed.
		North	A	04/19/93	7230:02			Tank condition had not changed.
		North	A	12/01/93				Visual inspection validated the conductivity probe was properly deployed on the annulus floor.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	10	West	A	01/14/93		7171:01-04		Tank condition had not changed.
		West	A	02/23/93		7187:01-04		Tank condition had not changed.
		West	A	03/08/93		7203:01-04		Tank condition had not changed.
		West	A	03/19/93		7209:01-04		Tank condition had not changed.
		West	A	04/02/93		7214:01-04		Water was observed in the annulus after heavy rainfall. (4.4 inches of rain fell during the preceeding week.)
		West	A	04/08/93		7219:01-04		No water was observed.
		West	A	04/19/93	7230:01			Tank condition had not changed.
		West	A	05/05/93		7259:01-04		Tank condition had not changed.
		West	A	06/23/93		7313:01-04		Tank condition had not changed.
		West	A	07/30/93		7360:01-04		Tank condition had not changed.
		West	A	08/06/93		7361:01-04		Tank condition had not changed.
		West	A	08/10/93		7366:01-04		Tank condition had not changed.
		West	A	09/09/93		7407:01-04		Tank condition had not changed.
		West	A	09/23/93		7456:01-04		Tank condition had not changed.
		West	A	11/03/93		7465:01-04		Tank condition had not changed.
		West	A	12/02/93		7476:01-04		Tank condition had not changed.
H	11	East	A	01/14/93		7169:01-18		Inspection was made to look for evidence of steam leakage into the annulus since there was indication that the steam preheater had failed. No evidence of steam leakage into the annulus was observed. However, the annulus floor was wet when inspected. Historically, water has leaked into the annulus during periods of heavy rainfall like those that occurred prior to this inspection.
		East	A	04/19/93	7231:01			Tank condition had not changed.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	11	North	A	01/14/93		7168:01-17		Inspection was made to look for evidence of steam leakage into the annulus since there was indication that the steam preheater had failed. No evidence of steam leakage into the annulus was observed. The tank condition had not changed; however, the annulus floor was wet when inspected. Historically, water has leaked into the annulus during periods of heavy rainfall like those that occurred prior to this inspection.
		North	A	04/19/93	7231:02			Tank condition had not changed. The conductivity probe was properly deployed in the annulus floor.
		South	A	01/14/93		7170:01-18		Inspection was made to look for evidence of steam leakage into the annulus since there was indication that the steam preheater had failed. No evidence of steam leakage into the annulus was observed. The tank condition had not changed; however, the annulus floor was wet when inspected. Historically, water had leaked into the annulus during periods of heavy rainfall like those that occurred prior to this inspection.
		South	A	01/14/93				Visual inspection was made to validate deployment of the conductivity probe. The probe was properly deployed on the annulus floor.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	11	West	A	01/14/93		7167:01-18		Inspection was made to look for evidence of steam leakage into the annulus since there was indication that the steam preheater had failed. No evidence of steam leakage into the annulus was observed. The tank condition had not changed; however, the annulus floor was wet when inspected. Historically, water had leaked into the annulus during periods of heavy rainfall like those that occurred prior to this inspection.
		West	A	01/14/93		7167:01-18		The thermocouple was properly positioned on the tank wall.
		06	I	09/15/93	7424:01-03			Photographs were made to document jet deployment at riser 7. A photograph showed the jet extending below the tank top.
H	12	East	A	03/08/93				Visual inspection verified the thermocouple on the tank wall was properly positioned.
		East	A	04/02/93		7215:01-17		Tank condition had not changed.
		North	A	04/19/93	7232:01			Tank condition had not changed.
		North	A	12/01/93				Visual inspection validated the conductivity probe was properly deployed on the annulus floor.
		South	A	03/08/93				Visual inspection validated the conductivity probe was properly deployed on the annulus floor.
		South	A	04/08/93		7216:01-17		Tank condition had not changed.
		West	A	04/19/93	7232:02			Tank condition had not changed.
		Center	I	03/22/93	7212:01-06			Inspection was made to investigate discrepancy in waste level measurements. Photographs revealed salt surface throughout the tank varied enough to cause inconsistent measurements.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Type of Inspection and Identification Numbers: Date	WAP	DP	PSP	Remarks
H	13	010	A	04/28/93	7267:03			Tank condition had not changed.
		032	A	04/28/93	7267:04			Tank condition had not changed.
		055	A	04/28/93	7267:05			Tank condition had not changed.
		071	A	04/28/93	7267:06			Tank condition had not changed.
		107	A	08/18/93		7368:01-17		Tank condition had not changed.
		151	A	04/28/93	7267:07			Tank condition had not changed.
		175	A	08/18/93		7369:01-17		Tank condition had not changed.
		207	A	08/18/93		7370:01-17		Tank condition had not changed.
		228	A	04/28/93	7267:08			Tank condition had not changed.
		East	A	03/08/93				Visual inspection verified the thermocouple on the tank wall was properly positioned.
		East	A	08/26/93		7388:01-17		Tank condition had not changed.
		North	A	04/28/93	7267:01			Tank condition had not changed.
		North	A	08/26/93				Visual inspection was made to validate deployment of the conductivity probe. The probe was properly deployed on the annulus floor.
		North	A	12/01/93				Visual inspection was made to validate deployment of the thermocouple. The thermocouple was properly affixed to the tank wall near the bottom girth weld.
		South	A	03/08/93				Visual inspection validated the conductivity probe was properly deployed on the annulus floor.
		South	A	04/28/93	7267:02			Tank condition had not changed.
		South	A	12/01/93				Visual inspection was made to validate deployment of the conductivity probe. The probe was properly deployed on the annulus floor.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	13	West	A	08/26/93		7387:01-17		Tank condition had not changed.
		4A	I	09/14/93	7422:01-06			Inspection was made to determine if an obstruction was present that could interfere with reel tape measurements. Photographs revealed no obstruction and that the waste surface was liquid throughout the tank.
H	14	013	A	08/24/93		7381:01-17		Salt masses had formed atop the layer of leaked waste in the annulus. The inleakage of rainwater had reconfigured the surface of the waste. The tank condition had not changed.
		032	A	04/29/93	7268:01			Changes in the surface of the dry leaked waste in the annulus indicate water had leaked in the annulus. The tank condition had not changed.
		032	A	08/20/93		7375:01-04		Salt masses had formed atop the layer of leaked waste in the annulus. The inleakage of rainwater had reconfigured the surface of the waste. The tank condition had not changed.
		065	A	04/29/93	7268:02			Changes in the surface of the dry leaked waste in the annulus indicate water had leaked in the annulus. The tank condition had not changed.
		065	A	08/25/93		7383:01-17		Salt masses had formed atop the layer of leaked waste in the annulus. The inleakage of rainwater had reconfigured the surface of the waste. The tank condition had not changed.
		108	A	04/29/93	7268:03			Tank condition had not changed.
		108	A	08/25/93		7384:01-17		Tank condition had not changed.
		118	A	04/29/93	7268:04			Tank condition had not changed.
		118	A	08/25/93		7385:01-15		Tank condition had not changed.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	14	125	A	04/29/93	7268:05			Tank condition had not changed.
		125	A	08/25/93		7386:01-16		Tank condition had not changed.
		151	A	08/24/93		7379:01-17		Salt masses had formed atop the layer of leaked waste in the annulus. The inleakage of rainwater had reconfigured the surface of the waste. The tank condition had not changed.
		170	A	08/24/93		7378:01-16		Salt masses had formed atop the layer of leaked waste in the annulus. The inleakage of rainwater had reconfigured the surface of the waste. The tank condition had not changed.
		207	A	08/20/93		7377:01-18		Salt masses had formed atop the layer of leaked waste in the annulus. The inleakage of rainwater had reconfigured the surface of the waste. The tank condition had not changed.
		235	A	08/20/93		7376:01-16		Sal masses had formed atop the layer of leaked waste in the annulus. The inleakage of rainwater had reconfigured the surface of the waste. The tank condition had not changed.
		235	A	09/20/93		7433:01-04		Tank condition had not changed.
		235	A	10/08/93		7459:01-04		Tank condition had not changed.
		235	A	11/03/93		7464:01-04		Tank condition had not changed.
		259	A	08/24/93		7382:01-17		Salt masses had formed atop the layer of leaked waste in the annulus. The inleakage of rainwater had reconfigured surface of the waste. The tank condition had not changed.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	14	East	A	08/24/93		7380:01-17		Salt masses had formed atop the layer of leaked waste in the annulus. The inleakage of rainwater had reconfigured the surface of the waste. The tank condition had not changed.
		East	A	12/01/93				Visual inspection validated the conductivity probe was properly deployed on the annulus floor.
		North	A	11/29/93		7142:01-18		Tank condition had not changed. The thermocouple was properly positioned on the tank wall.
		North	A	12/01/93				Visual inspection validated the conductivity probe was properly deployed on the annulus floor.
		001	I	09/15/93	7423:01-03			Inspection was made to determine the composition of the waste surface. Photographs revealed the surface was salts except for a small pool of liquid on the salt beneath the 01 riser.
H	15	010	A	09/01/93		7398:01-17		Tank condition had not changed.
		032	A	04/28/93	7265:04			Tank condition had not changed.
		071	A	04/28/93	7265:06			Tank condition had not changed.
		107	A	08/31/93		7395:01-17		Tank condition had not changed.
		117	A	08/31/93		7396:01-17		Tank condition had not changed.
		137	A	08/31/93		7397:01-17		Tank condition had not changed.
		171	A	09/01/93		7399:01-17		Tank condition had not changed.
		182	A	09/01/93		7400:01-16		Tank condition had not changed.
		207	A	04/28/93	7265:07			Tank condition had not changed.
		223	A	04/28/93	7265:08			Tank condition had not changed.
		242	A	12/17/93				Visual inspection verified the thermocouple on the tank wall was properly positioned.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	15	East	A	04/28/93	7265:02			Tank condition had not changed.
		North	A	04/28/93	7265:01			Tank condition had not changed.
		North	A	09/03/93				Visual inspection verified the thermocouple on the tank was properly positioned.
		South	A	09/01/93				Visual inspection validated the conductivity probe was properly deployed on the annulus floor.
		South	A	09/03/93		7401:01-17		Tank condition had not changed.
		West	A	04/28/93	7265:03			Tank condition had not changed.
H	16	035	A	08/26/93		7391:01-17		Changes in the water marks and stains were caused by condensate and humid conditions that prevailed for a short time after the preheater failed on the annulus ventilation system. No other change was observed in the tank.
		118	A	08/26/93		7392:01-17		Changes in the water marks and stains were caused by condensate and humid conditions that prevailed for a short after the preheater failed on the annulus ventilation system. No other change was observed in the tank.
		207	A	07/19/93		7344:01-05		Inspection made to investigate an annulus leak detection alarm. The annulus was dry when inspected.
		207	A	08/26/93		7389:01-18		Changes in the water marks and stains were caused by condensate and humid conditions that prevailed for a short time after the preheater failed on the annulus ventilation system. No other change was observed in the tank.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	16	262	A	08/26/93		7390:01-17		Changes in the water marks and stains were caused by condensate and humid conditions that prevailed for a short time after the preheater failed on the annulus ventilation system. No other change was observed in the tank.
		East	A	08/11/93		7367:01-17		Changes in the stains and deposits observed on the secondary wall, the annulus floor and duct were caused by water inleakage. No other change was observed in the tank.
		East	A	08/27/93		7393:01-17		Changes in the stains and deposits observed on the secondary wall, the annulus floor and duct were caused by water inleakage. No other change was observed in the tank.
		East	A	12/17/93				Visual inspection validated the conductivity probe was properly deployed on the annulus floor.
		West	A	08/27/93		7394:01-17		Changes in the stains and deposits observed on the annulus floor and duct were caused by water inleakage. No other change was observed in the tank.
F	17	East	I	08/12/93			7364:01-35	Tank condition was normal.
F	18	Center	I	11/19/93	7471:01-12			Tank condition was normal.
F	19	NE	I	07/22/93			7347:01-36	Tank condition was normal.
		SW	I	02/04/93			7182:01-05	Inspection was made to monitor a spot that was wet when observed on 12-08-92. The wet area was on the west wall approximately 317 inches above the tank bottom. Photographs revealed that the area was damp.
		SW	I	03/10/93			7241:01-04	Inspection was made to monitor the area observed wet on 12-08-92. Photographs revealed that the area was dry.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
F	19	SW	I	03/29/93			7217:01-06	Inspection was made to monitor the area observed wet on 12-08-92. Photographs revealed that the area was dry.
		SW	I	04/02/93			7218:01-08	Inspection was made to monitor the area observed wet on 12-08-92. Photographs revealed that the area was dry.
		SW	I	04/22/93			7242:01-02	Inspection was made to monitor the area observed wet on 12-08-92. Photographs revealed the wall was dry and the surface appeared normal.
		SW	I	07/22/93			7346:01-37	Tank condition was normal.
F	20	SW	I	08/05/93			7358:01-46	Tank condition had not changed.
H	21	NE	I	10/22/93			7461:01-48	Tank condition was normal.
H	22	NE	I	11/02/93			7467:01-48	Tank condition was normal.
H	23	SW	I	10/14/93			7460:01-24	Tank condition was normal.
H	24	SW	I	10/06/93			7462:01-46	Tank condition was normal.
F	25	A-01	A	07/15/93	7337:01			Tank condition was normal.
		A-02	A	07/15/93	7337:02			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	07/15/93	7337:03			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	07/15/93	7337:04			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		P-01	A	07/20/93		7362:01-23		Tank condition was normal.
		P-01	A	08/18/93		7373:01-25		Tank condition was normal.
		P-02	A	08/18/93		7371:01-25		Tank condition was normal.
		P-03	A	07/15/93	7337:05			Tank condition was normal.
		P-04	A	07/15/93	7337:06			Tank condition was normal.
		P-05	A	07/15/93	7337:07			Tank condition was normal.
		P-06	A	07/15/93	7337:08			Tank condition was normal.
		P-07	A	07/26/93		7350:01-25		Tank condition was normal.
		P-08	A	07/26/93		7351:01-25		Tank condition was normal.
		P-09	A	08/20/93		7374:01-25		Tank condition was normal.
		P-10	A	07/15/93	7337:09			Tank condition was normal.
		P-11	A	07/15/93	7337:10			Tank condition was normal.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
F	25	P-12	A	07/15/93	7337:11			Tank condition was normal.
		P-13	A	07/15/93	7337:12			Tank condition was normal.
		P-14	A	07/15/93	7337:13			Tank condition was normal.
F	26	A-01	A	07/15/93	7338:01			Tank condition was normal.
		A-02	A	07/15/93	7338:02			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	07/15/93	7338:03			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	07/15/93	7338:04			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		P-01	A	07/15/93	7338:05			Tank condition was normal.
		P-01	A	07/16/93		7339:01-25		Tank condition was normal.
		P-02	A	07/15/93	7338:06			Tank condition was normal.
		P-03	A	07/26/93		7349:01-25		Tank condition was normal.
		P-04	A	07/26/93		7352:01-25		Tank condition was normal.
		P-05	A	07/15/93	7338:08			Tank condition was normal.
		P-06	A	07/15/93	7338:09			Tank condition was normal.
		P-07	A	07/15/93	7338:07			Tank condition was normal.
		P-08	A	07/15/93	7338:11			Tank condition was normal.
		P-09	A	07/15/93	7338:12			Tank condition was normal.
		P-10	A	07/26/93		7353:01-25		Tank condition was normal.
		P-11	A	07/26/93		7354:01-25		Tank condition was normal.
		P-12	A	07/15/93	7338:13			Tank condition was normal.
		P-13	A	07/15/93	7338:14			Tank condition was normal.
		P-14	A	07/15/93	7338:15			Tank condition was normal.
F	27	A-01	A	07/16/93	7345:01			Tank condition was normal.
		A-02	A	07/16/93	7345:02			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	07/16/93	7345:03			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	07/16/93	7345:04			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		P-01	A	07/16/93		7339:01-25		Tank condition was normal.
		P-02	A	07/16/93		7340:01-25		Tank condition was normal.
		P-03	A	07/16/93	7345:05			Tank condition was normal.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
F	27	P-04	A	07/16/93	7345:06			Tank condition was normal.
		P-05	A	07/16/93	7345:07			Tank condition was normal.
		P-06	A	07/16/93	7345:08			Tank condition was normal.
		P-07	A	07/16/93		7341:01-25		Tank condition was normal.
		P-08	A	07/16/93		7342:01-25		Tank condition was normal.
		P-09	A	07/16/93		7343:01-24		Tank condition was normal.
		P-10	A	07/16/93	7345:09			Tank condition was normal.
		P-11	A	07/16/93	7345:10			Tank condition was normal.
		P-12	A	07/16/93	7345:11			Tank condition was normal.
		P-13	A	07/16/93	7345:12			Tank condition was normal.
		P-14	A	07/16/93	7345:13			Tank condition was normal.
F	28	A-01	A	01/25/93	7177:14			Tank condition was normal.
		A-02	A	01/25/93	7177:05			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	01/25/93	7177:08			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	01/25/93	7177:11			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		P-01	A	01/25/93	7177:01			Tank condition was normal.
		P-02	A	01/25/93	7177:02			Tank condition was normal.
		P-03	A	07/27/93		7355:01-25		Tank condition was normal.
		P-04	A	01/25/93	7177:03			Tank condition was normal.
		P-05	A	01/25/93	7177:04			Tank condition was normal.
		P-06	A	07/27/93		7356:01-25		Tank condition was normal.
		P-07	A	01/25/93	7177:06			Tank condition was normal.
		P-08	A	07/27/93		7357:01-24		Tank condition was normal.
		P-09	A	01/25/93	7177:07			Tank condition was normal.
		P-10	A	01/25/93	7177:09			Tank condition was normal.
		P-11	A	01/25/93	7177:10			Tank condition was normal.
		P-12	A	08/18/93		7372:01-25		Tank condition was normal.
		P-13	A	01/25/93	7177:12			Tank condition was normal.
		P-14	A	01/25/93	7177:13			Tank condition was normal.
H	29	A-01	A	03/09/93	7205:01			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-02	A	04/21/93	7205:13			Tank condition was normal. An absorbent wipe was observed on the annulus floor.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Type of Inspection and Identification Numbers: Date	WAP	DP	PSP	Remarks
H	29	A-02	A	12/02/93				Visual inspection validated the conductivity probe was properly deployed on the annulus floor.
		A-03	A	03/09/93	7205:02			Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage.
		A-04	A	03/09/93	7205:03			Tank condition was normal. The probe was properly deployed on the annulus floor. The thermocouple was properly positioned on the tank wall.
		P-01	A	03/09/93	7205:04			Tank condition was normal.
		P-02	A	05/05/93		7244:01-25		Tank condition was normal.
		P-03	A	03/09/93	7205:05			Tank condition was normal.
		P-04	A	03/09/93	7205:06			Tank condition was normal.
		P-05	A	05/03/93		7245:01-25		Tank condition was normal.
		P-06	A	03/09/93	7205:07			Tank condition was normal.
		P-07	A	03/09/93	7205:08			Tank condition was normal. Stains and marks observed on the secondary steel wall were caused by water inleakage. Recent excavation made adjacent to the tank evidently allowed rainwater to enter the annulus where lines below grade penetrate the annulus near P-07. The annulus was dry when inspected.
		P-08	A	05/03/93		7246:01-25		Tank condition was normal.
		P-09	A	03/09/93	7205:09			Tank condition was normal.
		P-10	A	03/09/93	7205:10			Tank condition was normal.
		P-11	A	03/09/93	7205:11			Tank condition was normal.
		P-11	A	05/03/93		7247:01-25		Tank condition was normal.
		P-12	A	05/04/93		7248:01-25		Tank condition was normal. Stains and marks observed on the annulus wall and duct were caused by water inleakage.
		P-13	A	03/09/93	7205:12			Tank condition was normal.
		P-14	A	05/03/93		7249:01-25		Tank condition was normal.
H	30	A-01	A	03/11/93	7204:01			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-02	A	04/21/93	7204:13			Tank condition was normal.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Type of Inspection and Identification Numbers: Date	WAP	DP	PSP	Remarks
H	30	A-02	A	12/02/93				Visual inspection validated the conductivity probe was properly deployed on the annulus floor.
		A-03	A	03/11/93	7204:02			Tank condition was normal.
		A-04	A	03/11/93	7204:03			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	12/02/93				Visual inspection verified the thermocouple on the tank wall was properly positioned.
		P-01	A	03/11/93	7204:04			Tank condition was normal.
		P-02	A	05/04/93		7261:01-25		Tank condition was normal. An absorbent wipe was observed atop the annulus duct.
		P-03	A	03/11/93	7204:05			Tank condition was normal.
		P-04	A	03/11/93	7204:06			Tank condition was normal.
		P-05	A	05/04/93		7262:01-25		Tank condition was normal.
		P-06	A	03/11/93	7204:07			Tank condition was normal.
		P-07	A	03/11/93	7204:08			Tank condition was normal.
		P-08	A	05/04/93		7263:01-25		Tank condition was normal.
		P-09	A	03/11/93	7204:09			Tank condition was normal.
		P-10	A	03/11/93	7204:10			Tank condition was normal.
		P-11	A	03/11/93	7204:11			Tank condition was normal.
		P-12	A	03/11/93	7204:12			Tank condition was normal.
		P-13	A	03/11/93	7204:13			Tank condition was normal.
		P-14	A	05/04/93		7264:01-25		Tank condition was normal.
H	31	A-01	A	03/11/93	7207:01			Tank condition was normal. An absorbent wipe was observed on the annulus floor. The conductivity probe was properly deployed on the annulus floor.
		A-02	A	03/11/93	7207:02			Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage.
		A-02	A	12/02/93				Visual inspection validated the conductivity probe was properly deployed on the annulus floor.
		A-03	A	03/11/93	7207:03			Tank condition was normal.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	31	A-04	A	03/11/93	7207:04			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	12/02/93				Visual inspection verified the thermocouple on the tank wall was properly positioned.
		P-01	A	03/11/93	7207:05			Tank condition was normal.
		P-02	A	05/04/93		7252:01-25		Tank condition was normal.
		P-03	A	03/11/93	7207:06			Tank condition was normal.
		P-04	A	03/11/93	7207:07			Tank condition was normal.
		P-05	A	05/04/93		7253:01-25		Tank condition was normal.
		P-06	A	03/11/93	7207:08			Tank condition was normal.
		P-07	A	03/11/93	7207:09			Tank condition was normal.
		P-08	A	05/04/93		7254:01-25		Tank condition was normal.
		P-09	A	03/11/93	7207:10			Tank condition was normal.
		P-10	A	03/11/93	7207:11			Tank condition was normal.
		P-11	A	03/11/93	7207:12			Tank condition was normal.
		P-12	A	05/04/93		7254:01-25		Tank condition was normal.
		P-13	A	04/21/93	7207:13			Tank condition was normal.
		P-14	A	05/04/93		7256:01-25		Tank condition was normal.
H	32	A-01	A	03/11/93	7208:01			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-02	A	03/11/93	7208:02			Tank condition was normal.
		A-02	A	12/02/93				Visual inspection validated the conductivity probe was properly deployed on the annulus floor.
		A-03	A	03/11/93	7208:03			Tank condition was normal.
		A-04	A	03/11/93	7208:04			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	12/02/93				Visual inspection verified the thermocouple on the tank wall was properly positioned.
		P-01	A	03/11/93	7208:05			Tank condition was normal.
		P-02	A	05/07/93		7271:01-25		Tank condition was normal.
		P-03	A	03/11/93	7208:06			Tank condition was normal.
		P-04	A	03/11/93	7208:07			Tank condition was normal
		P-05	A	05/07/93		7272:01-25		Tank condition was normal.
		P-06	A	03/11/93	7208:08			Tank condition was normal.
		P-07	A	03/11/93	7208:09			Tank condition was normal.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Type of Inspection and Identification Numbers: Date	WAP	DP	PSP	Remarks
H	32	P-08	A	05/07/93		7273:01-25		Tank condition was normal.
		P-09	A	03/11/93	7208:10			Tank condition was normal.
		P-10	A	03/11/93	7208:11			Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage.
		P-11	A	03/11/93	7208:12			Tank condition was normal.
		P-12	A	05/07/93		7274:01-25		Tank condition was normal.
		P-13	A	03/11/93	7208:13			Tank condition was normal.
		P-14	A	05/10/93		7281:01-25		Tank condition was normal.
		P-15	A	05/10/93		7282:01-25		Tank condition was normal.
F	33	A-01	A	09/10/93	7409:01			Tank condition was normal. Stains and marks observed on the annulus duct were caused by water inleakage. The conductivity probe was properly deployed on the annulus floor.
		A-02	A	09/10/93	7409:02			Tank condition was normal. Stains and marks observed on the annulus duct were caused by water inleakage. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	09/10/93	7409:03			Tank condition was normal.
		A-04	A	09/10/93	7409:04			Tank condition was normal. An absorbent wipe was observed atop the annulus duct. The thermocouple was properly positioned on the tank wall.
		P-01	A	09/10/93	7409:05			Tank condition was normal.
		P-02	A	09/14/93		7434:01-25		Tank condition was normal.
		P-03	A	09/10/93	7409:06			Tank condition was normal.
		P-04	A	09/10/93	7409:07			Tank condition was normal.
		P-05	A	09/14/93		7435:01-25		Tank condition was normal.
		P-06	A	09/10/93	7409:08			Tank condition was normal. Stains and marks observed on the ventilation duct were caused by water inleakage.
		P-07	A	09/10/93	7409:09			Tank condition was normal.
		P-08	A	09/14/93		7436:01-25		Tank condition was normal.
		P-09	A	09/10/93	7409:10			Tank condition was normal.
		P-10	A	09/10/93	7409:11			Tank condition was normal.
		P-11	A	09/10/93	7409:12			Tank condition was normal.
		P-12	A	09/14/93		7437:01-25		Tank condition was normal.
		P-13	A	09/10/93	7409:13			Tank condition was normal.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Type of Inspection and Identification Numbers: Date	WAP	DP	PSP	Remarks
F	33	P-14	A	09/14/93		7438:01-25		Tank condition was normal. Stains and deposits observed on the secondary vessel wall were caused by water inleakage.
		P-15	A	09/14/93		7439:01-25		Tank condition was normal.
		P-16	A	09/10/93	7409:14			Tank condition was normal.
		C-01	I	10/15/93				CCTV was used to determine the type jet installed in the C-1 riser. The inspection determined that the jet connector assembly was per print number W239656. The inspection was documented on File Tape #261.
F	34	A-01	A	09/10/93	7410:01			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-02	A	09/10/93	7410:02			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	09/10/93	7410:03			Tank condition was normal.
		A-04	A	09/10/93	7410:04			Tank condition was normal. The thermocouple was properly positioned on the tank wall.
		P-01	A	09/10/93	7410:05			Tank condition was normal.
		P-02	A	09/15/93		7425:01-25		Tank condition was normal.
		P-03	A	09/10/93	7410:06			Tank condition was normal.
		P-04	A	09/10/93	7410:07			Tank condition was normal.
		P-05	A	09/15/93		7426:01-25		Tank condition was normal.
		P-06	A	09/10/93	7410:08			Tank condition was normal.
		P-07	A	09/10/93	7410:09			Tank condition was normal.
		P-08	A	09/15/93		7427:01-25		Additional stains and marks observed on the tank wall and ventilation duct were caused by water inleakage since inspected on 03-16-89. No other change was observed in the tank.
		P-09	A	09/10/93	7410:10			Tank condition was normal. Stains and marks observed on the ventilation duct were caused by water inleakage.
		P-10	A	09/10/93	7410:11			Tank condition was normal.
		P-11	A	09/10/93	7410:12			Tank condition was normal.
		P-12	A	09/15/93		7428:01-25		Tank condition was normal.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
F	34	P-13	A	09/10/93	7410:13			Tank condition was normal.
		P-14	A	09/15/93		7429:01-25		Tank condition was normal.
		P-15	A	09/15/93		7430:01-25		Tank condition was normal. Additional stains and marks observed on the annulus floor were caused by water inleakage since inspected on 03-16-89.
		P-16	A	09/10/93	7410:14			Tank condition was normal.
		C-01	I	10/14/93				CCTV was used to determine the type connector assembly on the jet installed in the C-1 riser. The inspection determined that the jet connector assembly was per print number W23764. The inspection was documented on File Tape #257.
H	35	A-01	A	04/13/93	7221:01			Tank condition was normal.
		A-02	A	04/28/93	7266:02			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	04/13/93	7221:02			Tank condition was normal.
		A-03	A	12/02/93				Visual inspection validated the conductivity probe was properly deployed on the annulus floor.
		A-04	A	04/28/93	7266:01			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		P-01	A	04/13/93	7221:03			Tank condition was normal.
		P-02	A	04/13/93	7221:04			Tank condition was normal.
		P-03	A	04/13/93	7221:05			Tank condition was normal.
		P-04	A	04/13/93	7221:06			Tank condition was normal.
		P-05	A	05/17/93		7286:01-25		Tank condition was normal.
		P-06	A	04/13/93	7221:07			Tank condition was normal.
		P-07	A	05/17/93		7287:01-25		Tank condition was normal.
		P-08	A	04/13/93	7221:08			Tank condition was normal.
		P-09	A	05/18/93		7291:01-25		Tank condition was normal.
		P-10	A	04/13/93	7221:09			Tank condition was normal.
		P-11	A	05/18/93		7292:01-25		Tank condition was normal.
		P-12	A	04/13/93	7221:10			Tank condition was normal.
		P-13	A	05/18/93		7293:01-25		Stains observed on the tank wall were caused by water inleakage. No other change was observed in the tank condition.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	35	P-14	A	04/13/93	7221:11			Tank condition was normal.
H	36	A-01	A	04/13/93	7240:01			Tank condition was normal.
		A-02	A	04/13/93	7240:02			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	04/13/93	7240:03			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	04/13/93	7240:04			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		P-01	A	04/13/93	7240:05			Tank condition was normal.
		P-02	A	04/13/93	7240:06			Tank condition was normal.
		P-03	A	04/13/93	7240:07			Tank condition was normal.
		P-04	A	04/13/93	7240:08			Tank condition was normal.
		P-05	A	05/10/93		7275:01-25		Tank condition was normal.
		P-06	A	04/13/93	7240:09			Tank condition was normal.
		P-07	A	05/10/93		7277:01-25		Tank condition was normal.
		P-08	A	04/13/93	7240:10			Tank condition was normal.
		P-09	A	05/10/93		7278:01-25		Tank condition was normal.
		P-10	A	04/13/93	7240:11			Tank condition was normal.
		P-11	A	05/20/93		7279:01-25		Tank condition was normal.
		P-12	A	04/13/93	7240:12			Tank condition was normal.
		P-13	A	05/10/93		7280:01-25		Tank condition was normal.
		P-14	A	04/13/93	7240:13			Tank condition was normal.
		G	I	05/14/93				CCTV inspection was made to document conditions after an unexplained level increased occurred. No unusual conditions were observed. The inspection was documented on File Tape #246.
		G	I	05/25/93				CCTV inspection was made to document conditions following a 5 inch transfer of waste from the tank. No unusual condition was observed. The inspection was documented on File Tape #248.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	36	H	I	05/14/93				CCTV inspection was made to document conditions after an unexplained level increase occurred. No unusual condition was observed. The inspection was documented of File Tape #245.
		H	I	05/25/93				CCTV inspection was made to document conditions following a 5 inch transfer of waste from the tank. No unusual condition was observed. The inspection was documented on File Tape #248.
		H	I	09/20/93				CCTV inspection was made to investigate discrepancy in waste level measurements. Cause of the discrepancy was not observed. The inspection was documented on File Tape #255.
H	37	A-01	A	04/13/93	7243:01			Tank condition was normal.
		A-02	A	04/13/93	7243:02			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	04/13/93	7243:03			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	04/13/93	7243:04			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		P-01	A	04/13/93	7243:05			Tank condition was normal.
		P-02	A	04/13/93	7243:06			Tank condition was normal.
		P-03	A	04/13/93	7243:07			Tank condition was normal.
		P-04	A	04/13/93	7243:08			Tank condition was normal.
		P-05	A	05/10/93		7283:01-25		Tank condition was normal.
		P-06	A	04/13/93	7243:09			Tank condition was normal.
		P-07	A	05/10/93		7284:01-25		Tank condition was normal.
		P-08	A	04/13/93	7243:10			Tank condition was normal.
		P-09	A	05/10/93		7285:01-25		Tank condition was normal. A piece of tygon tubing was observed on the annulus floor.
		P-10	A	04/13/93	7243:11			Tank condition was normal.
		P-11	A	05/18/93		7294:01-25		Tank condition was normal.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	37	P-12	A	04/13/93	7243:12			Tank condition was normal.
		P-13	A	05/18/93		7295:01-25		Tank condition was normal
		P-14	A	04/13/93	7243:13			Tank condition was normal.
H	38	A-01	A	04/15/93	7228:01			Tank condition was normal.
		A-02	A	04/15/93	7228:02			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	04/15/93	7228:03			Stains and marks observed on the annulus floor were caused by water inleakage. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	04/15/93	7228:04			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		P-01	A	04/15/93	7228:05			Tank condition was normal.
		P-02	A	04/15/93	7228:06			Tank condition was normal.
		P-03	A	04/15/93	7228:07			Tank condition was normal.
		P-04	A	04/15/93	7228:08			Tank condition was normal.
		P-05	A	04/15/93	7228:09			Tank condition was normal.
		P-06	A	04/15/93	7228:10			Tank condition was normal.
		P-07	A	04/15/93	7228:11			Tank condition was normal.
		P-08	A	04/15/93	7228:12			Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage.
		P-09	A	04/15/93	7228:13			Tank condition was normal.
		P-10	A	02/24/93		7189:01-25		Tank condition was normal.
		P-11	A	02/24/93		7190:01-25		Tank condition was normal.
		P-12	A	02/24/93		7193:01-25		Tank condition was normal.
		P-13	A	02/24/93		7194:01-25		Tank condition was normal.
		P-14	A	03/01/93		7195:01-25		Tank condition was normal.
H	39	A-01	A	02/03/93	7181:01			Tank condition was normal.
		A-02	A	02/03/93	7181:02			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	02/03/93	7181:03			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	02/03/93	7181:04			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	39	P-01	A	02/03/93	7181:05			Tank condition was normal.
		P-02	A	02/03/93	7181:06			Tank condition was normal.
		P-03	A	02/03/93	7181:07			Tank condition was normal.
		P-04	A	02/03/93	7181:08			Stains and marks observed on the annulus floor were caused by water inleakage. No other change was observed in the tank condition.
		P-05	A	02/03/93	7181:09			Tank condition was normal. Additional inspection required to identify the object on the annulus floor.
		P-05	A	02/24/93				Visual inspection was made to identify an object observed on the annulus floor in a photograph made on 02-03-93. The investigation revealed pieces of thin sheets of plastic on the annulus floor.
		P-06	A	02/03/93	7181:10			Tank condition was normal.
		P-07	A	02/03/93	7181:11			Tank condition was normal.
		P-08	A	02/03/93	7181:12			Tank condition was normal.
		P-09	A	02/03/93	7181:13			Tank condition was normal.
		P-10	A	02/03/93	7181:14			Tank condition was normal.
		P-11	A	03/01/93		7196:01-25		Tank condition was normal.
		P-12	A	03/01/93		7197:01-25		Tank condition was normal.
		P-13	A	03/01/93		7198:01-25		Tank condition was normal.
		P-14	A	04/21/93		7199:01-25		Tank condition was normal.
H	40	A-01	A	02/03/93	7180:01			Tank condition was normal.
		A-01	A	09/21/93		7447:01-22		Tank condition was normal.
		A-02	A	02/03/93	7180:02			Tank condition was normal.
		A-02	A	09/21/93		7441:01-23		Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	02/03/93	7180:03			Tank condition was normal.
		A-03	A	09/21/93		7448:01-25		Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	09/21/93		7449:01-24		Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		P-01	A	09/22/93	7450:01			Tank condition was normal.
		P-02	A	04/21/93		7233:01-25		Tank condition was normal.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	40	P-03	A	02/03/93	7180:04			Tank condition was normal.
		P-04	A	02/03/93	7180:05			Tank condition was normal.
		P-05	A	02/03/93	7180:06			Tank condition was normal.
		P-06	A	02/03/93	7180:07			Tank condition was normal.
		P-07	A	02/03/93	7180:08			Tank condition was normal.
		P-08	A	02/03/93	7180:09			Tank condition was normal.
		P-09	A	02/03/93	7180:10			Tank condition was normal.
		P-10	A	02/03/93	7180:11			Tank condition was normal.
		P-11	A	02/03/93	7180:12			Stains and marks observed on the annulus wall were caused by water inleakage. No other change was observed in the tank.
		P-12	A	04/21/93		7234:01-25		Tank condition was normal.
		P-13	A	09/29/93		7235:01-23		Tank condition was normal.
		P-14	A	02/03/93	7180:13			Tank condition was normal.
H	41	A-01	A	05/03/93	7269:01			Tank condition was normal.
		A-02	A	05/03/93	7269:02			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	05/03/93	7269:03			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	05/03/93	7269:04			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		P-01	A	05/03/93	7269:05			Tank condition was normal.
		P-02	A	05/03/93	7269:06			Tank condition was normal.
		P-03	A	05/03/93	7269:07			Tank condition was normal.
		P-04	A	05/03/93	7269:08			Tank condition was normal.
		P-05	A	05/03/93	7269:09			Tank condition was normal.
		P-06	A	05/03/93	7269:10			Tank condition was normal.
		P-07	A	09/22/93	7451:01			Additional stains and marks observed on the annulus floor were caused by water inleakage. No other change was observed in the tank.
		P-08	A	05/03/93	7269:11			Tank condition was normal.
		P-09	A	05/03/93	7269:12			Tank condition was normal.
		P-10	A	04/12/93		7222:01-25		Tank condition was normal.
		P-11	A	04/12/93		7223:01-25		Tank condition was normal.
		P-12	A	04/12/93		7224:01-25		Tank condition was normal.
		P-13	A	04/21/93		7236:01-25		Tank condition was normal.
		P-14	A	04/21/93		7237:01-25		Tank condition was normal.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Type of Inspection and Identification Numbers: Date	WAP	DP	PSP	Remarks
H	41	B-03	I	04/24/93				CCTV inspection during transfer revealed no salt present above liquid surface after 5 inches of supernate was transferred from the tank. The inspection was documented of File Tape #244.
		E-01	I	05/18/93				CCTV inspection was made to document conditions after an unexplained level increase occurred. No unusual condition was observed.
H	42	A-01	A	09/21/93		7442:01-23		Tank condition was normal.
		A-02	A	09/13/93	7432:01			Tank condition was normal.
		A-02	A	12/17/93		7479:01-22		Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	09/13/93	7432:02			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	09/21/93		7443:01-24		Tank condition was normal.
		A-04	A	09/13/93	7432:03			Tank condition was normal.
		A-04	A	09/21/93		7444:01-23		Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		P-01	A	09/13/93	7432:04			Tank condition was normal.
		P-02	A	09/13/93	7432:05			Tank condition was normal.
		P-03	A	09/13/93	7432:06			Tank condition was normal.
		P-04	A	09/13/93	7432:07			Tank condition was normal.
		P-05	A	09/13/93	7432:08			Tank condition was normal.
		P-06	A	09/13/93	7432:09			Tank condition was normal.
		P-07	A	09/13/93	7432:10			Tank condition was normal.
		P-08	A	09/13/93	7432:11			Tank condition was normal.
		P-09	A	09/13/93	7432:12			Tank condition was normal.
		P-10	A	09/13/93	7432:13			Tank condition was normal.
		P-11	A	09/13/93	7432:14			Tank condition was normal.
		P-12	A	09/29/93		7458:01-24		Tank condition was normal.
		P-13	A	09/22/93		7445:01-25		Tank condition was normal.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	42	P-14	A	09/22/93		7446:01-25		Stains and deposits observed on the ventilation duct were caused by water inleakage. No other change was observed in the tank.
H	43	A-01	A	05/06/93	7276:01			Tank condition was normal.
		A-02	A	05/06/93	7276:02			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	05/06/93	7276:03			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	05/06/93	7276:04			Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		P-01	A	05/06/93	7276:05			Tank condition was normal.
		P-02	A	05/06/93	7276:06			Tank condition was normal.
		P-03	A	11/30/93	7478:01			Tank condition was normal. Stains on the annulus floor were caused by water inleakage.
		P-04	A	05/06/93	7276:07			Tank condition was normal.
		P-05	A	05/06/93	7276:08			Tank condition was normal.
		P-06	A	05/06/93	7276:09			Tank condition was normal.
		P-07	A	05/06/93	7276:10			Tank condition was normal.
		P-08	A	05/06/93	7276:11			Tank condition was normal. Stains and marks observed on the annulus floor and ventilation duct were caused by water inleakage.
		P-09	A	05/06/93	7276:12			Tank condition was normal. Stains and marks observed on the annulus floor and ventilation duct were caused by water inleakage.
		P-10	A	04/29/93		7250:01-25		Tank condition was normal.
		P-11	A	04/29/93		7251:01-25		Tank condition was normal.
		P-12	A	04/12/93		7225:01-25		Tank condition was normal. The quantity of gilsulate observed on the annulus floor had increased since inspected last year.
		P-13	A	04/12/93		7226:01-25		Tank condition was normal. The quantity of gilsulate observed on the annulus floor had increased since inspected last year.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	43	P-14	A	04/12/93		7227:01-25		Tank condition was normal. The quantity of gilsulate observed on the annulus floor had increased since inspected last year.
F	44	A-01	A	09/10/93		7411:01-25		Stains and marks observed near the top of the secondary wall were caused by water inleakage. No other change was observed in the tank.
		A-02	A	09/10/93		7412:01-25		Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	09/14/93		7440:01-25		Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	09/10/93		7413:01-25		Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		P-01	A	02/24/93	7191:01			Tank condition was normal.
		P-02	A	02/24/93	7191:02			Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage.
		P-03	A	02/24/93	7191:03			Tank condition was normal.
		P-04	A	02/24/93	7191:04			Tank condition was normal.
		P-05	A	02/24/93	7191:05			Tank condition was normal.
		P-06	A	02/24/93	7191:06			Tank condition was normal.
		P-07	A	02/24/93	7191:07			Tank condition was normal.
		P-08	A	02/24/93	7191:08			Tank condition was normal.
		P-09	A	02/24/93	7191:09			Tank condition was normal.
		P-10	A	02/24/93	7191:10			Tank condition was normal.
		P-11	A	02/24/93	7191:11			Tank condition was normal.
		P-12	A	02/24/93	7191:12			Tank condition was normal.
		P-13	A	02/24/93	7191:13			Tank condition was normal.
		P-14	A	02/24/93	7191:14			Tank condition was normal.
F	45	A-01	A	09/09/93		7402:01-24		Stains and deposits observed on the tank wall were caused by water inleakage. No other change was observed in the tank.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
F	45	A-01	A	09/10/93	7408:01-03			Inspection was made to determine source of the water causing stains and deposits on the tank wall. Water had entered the annulus between the annulus cover plates and the tank top.
		A-02	A	09/09/93		7403:01-25		Deposits observed on the tank wall were caused by water inleakage. A plastic respirator bag was observed on the annulus floor adjacent to the conductivity probe. No other change was observed in the tank. The conductivity probe was properly deployed on the annulus floor.
		A-02	A	09/10/93	7408:04-06			Inspection was made to determine source of the water causing stains and deposits on the tank wall. Water had entered the annulus between the annulus cover plates and the tank top.
		A-03	A	09/09/93		7404:01-25		Stains and deposits observed on the tank wall and near the top of the secondary wall were caused by water inleakage. No other change was observed in the tank. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	09/10/93	7408:07-09			Inspection was made to determine source of the water causing stains and deposits observed on the tank wall. Water had entered the annulus between the annulus cover plates and the tank top.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
F	45	A-04	A	09/09/93		7405:01-26		Stains and deposits observed on the secondary wall were caused by water inleakage. A short piece (about 2-3 feet) of twisted rope was observed on the annulus floor. No other change was observed in the tank. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	09/10/93	7408:10-12			Inspection was made to determine source of the water causing stains and deposits on the secondary wall. Water had entered the annulus between the annulus cover plates and the secondary wall.
		P-01	A	02/18/93	7186:01			Tank condition was normal.
		P-02	A	02/18/93	7186:02			Tank condition was normal.
		P-03	A	02/18/93	7186:03			Tank condition was normal.
		P-04	A	02/18/93	7186:04			Tank condition was normal.
		P-05	A	02/18/93	7186:05			Tank condition was normal.
		P-06	A	02/18/93	7186:06			Tank condition was normal.
		P-07	A	02/18/93	7186:07			Tank condition was normal.
		P-08	A	02/18/93	7186:08			Tank condition was normal.
		P-09	A	02/18/93	7186:09			Tank condition was normal. Investigation will be made via the A1, A2, A3, and A4 risers to determine the source of stains and marks observed on the tank and annulus walls.
		P-10	A	03/08/93	7186:10			Tank condition was normal. Investigation will be made via the A1, A2, A3 and A4 risers to determine the source of stains and marks observed on the tank and annulus walls.
		P-11	A	02/18/93	7186:11			Tank condition was normal.
		P-12	A	02/18/93	7186:12			Tank condition was normal.
		P-13	A	02/18/93	7186:13			Tank condition was normal.
		P-14	A	02/18/93	7186:14			Tank condition was normal.
F	46	A-01	A	09/13/93		7414:01-25		Tank condition was normal.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
F	46	A-02	A	09/13/93		7415:01-25		Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	09/13/93		7416:01-25		Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	09/13/93		7417:01-25		Tank condition was normal. About three feet of tygon tubing was observed on the annulus floor next to the conductivity probe. The conductivity probe was properly deployed on the annulus floor.
		P-01	A	03/08/93	7184:01			Tank condition was normal.
		P-02	A	03/08/93	7184:02			Tank condition was normal.
		P-03	A	03/08/93	7184:03			Tank condition was normal.
		P-04	A	02/17/93	7184:04			Tank condition was normal.
		P-05	A	02/17/93	7184:05			Tank condition was normal.
		P-06	A	02/17/93	7184:06			Tank condition was normal.
		P-07	A	02/17/93	7184:07			Tank condition was normal.
		P-08	A	02/17/93	7184:08			Tank condition was normal.
		P-09	A	02/17/93	7184:09			Tank condition was normal.
		P-10	A	03/08/93	7184:10			Tank condition was normal.
		P-11	A	02/17/93	7184:11			Tank condition was normal.
		P-12	A	03/08/93	7184:12			Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage.
		P-13	A	02/17/93	7184:13			Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage.
		P-14	A	02/17/93	7184:14			Tank condition was normal.
		C-01	I	05/27/93				CCTV was used to determine if a plug was installed in the discharge line in riser C-01 (The WF line on drawing W-703659). No plug was observed.
F	47	A-01	A	09/13/93		7418:01-25		Tank condition was normal.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
F	47	A-02	A	09/13/93		7419:01-24		Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	09/13/93		7420:01-25		Tank condition was normal. Changes in the surface stains and marks on the annulus floor indicate additional water inleakage since last inspected on 01-04-89. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	09/13/93		7421:01-23		Tank condition was normal. Stains and marks observed on the secondary wall and annulus floor were caused by water inleakage. A riser plug gasket was observed atop the ventilation duct. The conductivity probe was properly deployed on the annulus floor.
		P-01	A	02/24/93	7192:01			Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage.
		P-02	A	02/24/93	7192:02			Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage. About three feet of tygon tubing was observed on the annulus floor.
		P-02	A	03/16/93				CCTV was used to perform a leak test of the repaired seal where the WC1 line (per drawing W703660) penetrates the concrete vault below grade. During the hydrotest no water leaked past the new seal.
		P-03	A	03/08/93	7192:03			Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage.
		P-04	A	03/08/93	7192:04			Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
F	47	P-05	A	02/24/93	7192:05			Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage.
		P-06	A	02/24/93	7192:06			Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage.
		P-07	A	02/24/93	7192:07			Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage.
		P-08	A	03/08/93	7192:08			Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage.
		P-09	A	03/08/93	7192:09			Tank condition was normal.
		P-10	A	03/08/93	7192:10			Tank condition was normal.
		P-11	A	03/08/93	7192:11			Tank condition was normal.
		P-12	A	03/08/93	7192:12			Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage.
		P-13	A	03/08/93	7192:13			Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage.
		P-14	A	03/08/93	7192:14			Tank condition was normal. Stains and marks observed on the annulus floor were caused by water inleakage.
H	48	A-01	A	06/03/93		7269:01-25		Tank condition was normal.
		A-02	A	06/03/93		7297:01-25		Tank condition was normal. Stains and marks on the ventilation duct were caused by water inleakage. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	06/03/93		7298:01-26		Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	06/03/93		7299:01-25		Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		P-01	A	05/11/93	7288:08			Tank condition was normal.
		P-02	A	05/11/93	7288:09			Tank condition was normal.
		P-03	A	05/11/93	7288:13			Tank condition was normal.

Area	Tank or Ancillary	Type of Inspection and Identification Numbers: Inspection Port	Annulus or Interior	Date	WAP	DP	PSP	Remarks
H	48	P-04	A	05/11/93	7288:12			Tank condition was normal.
		P-05	A	05/11/93	7288:11			Tank conditions was normal.
		P-06	A	05/11/93	7288:10			Tank conditions was normal.
		P-07	A	09/22/93	7452:01			Tank condition was normal.
		P-08	A	05/11/93	7288:01			Tank condition was normal.
		P-09	A	05/11/93	7288:02			Tank condition was normal.
		P-10	A	05/11/93	7288:03			Tank condition was normal.
		P-11	A	05/11/93	7288:04			Tank condition was normal.
		P-12	A	05/11/93	7288:05			Tank condition was normal.
		P-13	A	05/11/93	7288:06			Tank condition was normal.
		P-14	A	05/11/93	7288:07			Tank condition was normal.
H	49	A-01	A	06/03/93		7300:01-25		Tank condition was normal.
		A-02	A	06/03/93		7301:01-25		Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-03	A	06/03/93		7302:01-24		Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	06/03/93		7303:01-25		Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		P-01	A	05/03/93	7270:01			Tank condition was normal.
		P-02	A	05/03/93	7270:02			Tank condition was normal.
		P-03	A	05/03/93	7270:03			Tank condition was normal.
		P-04	A	05/03/93	7270:04			Tank condition was normal.
		P-05	A	05/03/93	7270:05			Stains observed on the tank wall were caused by water inleakage. No other change was observed in the tank condition.
		P-06	A	05/03/93	7270:06			Tank condition was normal.
		P-07	A	09/22/93	7453:01			Tank condition was normal.
		P-08	A	05/03/93	7270:08			Tank condition was normal.
		P-09	A	05/03/93	7270:09			Tank condition was normal.
		P-10	A	05/03/93	7270:10			Tank condition was normal.
		P-11	A	05/03/93	7270:11			Tank condition was normal.
		P-12	A	05/03/93	7270:12			Tank condition was normal.
		P-13	A	05/03/93	7270:13			Tank condition was normal.
		P-14	A	05/03/93	7270:14			Tank condition was normal.
H	50	A-01	A	06/03/93		7304:01-25		Tank condition was normal.
		A-02	A	06/03/93		7305:01-23		Tank condition was normal.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	50	A-03	A	05/03/93	7283:03-04			Stains and marks on the tank wall were caused by leakage from cooling coil #41. No other change was observed in the tank.
		A-03	A	06/03/93		7306:01-25		Chromate stain on the tank wall was caused by the failure of cooling coil #14. The coil was identified as a leaker on 05-03-93 and taken out of service. No other change was observed in the tank. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	06/03/93		7307:01-25		Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		P-01	A	01/20/93	7175:01			Tank condition was normal.
		P-02	A	01/20/93	7175:02			Tank condition was normal.
		P-03	A	01/20/93	7175:03			Tank condition was normal.
		P-04	A	01/20/93	7175:04			Tank condition was normal.
		P-05	A	01/20/93	7175:05			Tank condition was normal.
		P-05	A	05/03/93	7238:01-02			Stains and marks observed on the tank wall were caused by leakage from cooling coil #14. No other change was observed in the tank.
		P-05	A	05/03/93			7239:01-13	Inspection determined the liquid observed on the annulus floor was cooling water. Cooling coil #14 was identified as the leaking coil.
		P-06	A	01/20/93	7175:06			Tank condition was normal.
		P-07	A	01/20/93	7175:07			Tank condition was normal.
		P-08	A	05/11/93	7290:01			Tank condition was normal.
		P-09	A	01/20/93	7175:08			Tank condition was normal.
		P-10	A	01/20/93	7175:09			Tank condition was normal.
		P-11	A	01/20/93	7175:10			Tank condition was normal.
		P-12	A	01/20/93	7175:11			Tank condition was normal.
		P-13	A	01/29/93	7175:12			Tank condition was normal.
		P-14	A	01/20/93	7175:13			Tank condition was normal.
H	51	A-01	A	06/03/93		7308:01-25		Tank condition was normal.
		A-02	A	06/03/93		7309:01-25		Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.

Area	Tank or Ancillary	Type of Inspection and Identification Numbers: Inspection Port	Annulus or Interior	Date	WAP	DP	PSP	Remarks
H	51	A-03	A	06/03/93		7310:01-25		Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		A-04	A	09/29/93		7311:01-23		Tank condition was normal. The conductivity probe was properly deployed on the annulus floor.
		P-01	A	05/11/93	7289:01			Tank condition was normal.
		P-02	A	05/11/93	7289:02			Tank condition was normal.
		P-03	A	06/03/93	7289:03			Tank condition was normal.
		P-04	A	05/11/93	7289:04			Tank condition was normal.
		P-05	A	05/11/93	7289:05			Tank condition was normal.
		P-06	A	05/11/93	7289:06			Tank condition was normal.
		P-07	A	09/22/93	7454:01			Tank condition was normal. Stains and marks observed on the ventilation duct were caused by water inleakage.
		P-08	A	05/11/93	7289:07			Tank condition was normal.
		P-09	A	05/11/93	7289:08			Tank condition was normal.
		P-10	A	05/11/93	7289:09			Tank condition was normal.
		P-11	A	05/11/93	7289:10			Tank condition was normal.
		P-12	A	05/11/93	7289:11			Tank condition was normal.
		P-13	A	05/11/93	7289:12			Tank condition was normal.
		P-14	A	05/11/93	7289:13			Tank condition was normal.
		B-03	I	10/28/93				CCTV was used to document surface velocity of the waste while operating the pumps installed in risers B-4 and H. (Documented on File Tape #260).
		B-03	I	11/22/93				CCTV was used to index the discharge from the slurry pumps installed in the B-04 and H risers.
		E-01	I	09/11/93				CCTV was used to search for a bearing water leak in the slurry pump installed in the B-1 riser. The source of the leak was not determined. Surface velocity of the waste during slurry pump operation was documented on File Tape #254.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	51	E-01	I	10/28/93				CCTV was used to document surface velocity of the waste while operating the pump installed in the G riser. (Documented on File Tape #260).
		E-01	I	11/22/93				CCTV was used to index the discharge from the slurry pumps installed in the B-01 and G risers.
H	CTS			12/22/93				CCTV was used to assist HLWO in the removal and installation of a jumper at the HCTS pit. The replacement of jumper 23/24-10A was made due to a failed gasket at the automatic valve. A video overview showing equipment configuration in the pit was documented on File Tape #265.
		SE		12/18/93				CCTV was used to identify the source of leakage in the CTS pit. The jumper from wall nozzles 23-24-10A to the draw off pump was observed leaking at the automatic valve. The leakage was due to a failed gasket. The jumper was replaced on 12-22-93. The inspection was documented on File Tape #265.
F	DB6			03/02/93				CCTV inspection was made to search for the source of water leaking into LDB2 at DB6. Source of inleakage was not determined. The inspection was documented on File Tape #242.
				04/06/93				CCTV inspection was made to search for the source of water leaking into LDB2 at DB6. Source of inleakage was not determined. The inspection was documented on File Tape #242.
H	DB7			04/07/93				Visual inspection verified jumper 22 to 5E was stored on the floor of the pit beneath the SW riser.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
H	DB7			04/28/93				CCTV was used to document the configuration of HDB7 after jumper 22 to 5E was replaced. The configuration was documented on File Tape #247.
H	EVAP1			05/26/93				CCTV was used to document conditions in the vent vault at the 1H evaporator. A pool of liquid was observed at the north end of the vault. Other areas had dried since last inspected on 03-04-92. The inspection was documented on File Tape #249.
				10/19/93				CCTV was used to document conditions in the 1H evaporator cell. No unusual condition was observed. The inspection was documented on File Tape #258.
F	EVAP2	SE		11/11/93				CCTV was used to document conditions in the 2F evaporator cell. No unusual condition was found. The inspection was documented on File Tape #258.
H	EVAP2	SW		11/01/93				CCTV was used to document conditions in the 2H evaporator cell. Condition of the cell, evaporator pot and jumpers appeared normal. A substance observed on the cell floor appeared to be mercury. Droplets and small pools of the substance as large as 2 inches in diameter were observed. The inspection was documented on File Tape #258.
F	PP1	SW		07/01/93				CCTV was used to document the quantity of debris in the sump. Inspection revealed the stainless steel pit liner was distended several inches from the concrete wall. The liner on both walls above the sump were distended.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
F	PP1	SW		11/18/93				CCTV was used to document conditions in PP1. The vessel floor was cluttered with hoses. Otherwise, conditions were normal. The inspection was documented on File Tape #262.
F	PP2			10/01/93				CCTV was used to observe 18 and 21 for leakage. Neither valve leaked when steam was introduced.
F	SSMH			12/30/93				CCTV was used to document conditions in the manhole located west of the hole created by a collapsed subsurface void near Tank 28. The sewer lines viewable from the manhole were also inspected. Silt, mud and debris approximately 5" deep was observed in the sewer lines. No other anomalies were observed in the manhole.
F	SSMH			12/30/93				CCTV was used to document conditions in the manhole located east of the hole created by a collapsed subsurface void near Tank 28. The sewer lines viewable from the manhole was also inspected. Silt, mud and debris approximately 5" deep was observed in the sewer lines. Erosion of the brick and concrete liner was observed.
F	WLE	2F		12/07/93			7474:01-72	Normal
H	WLE	2H		12/06/93			7477:01-72	Normal
F	WLE	5F		11/12/93			7468:01-19	Concrete encasement cover C-01 (Drawing W147709) adjacent to FDB1 had cracked and slumped downward a few inches.
H	WLE	5H		11/03/93			7463:01-24	Encasement structural condition was normal. Condensation was observed on the bottom of encasement covers.

Area	Tank or Ancillary	Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
F	WLE	6F		11/18/93			7470:01-36	Rust stained areas observed on the bottom surface of the C-16 (Drawing W147709) encasement cover suggest that the rebar has corroded. Hairline cracks and a void possibly caused by spalling were observed on the bottom surface of the concrete cover.
H	WLE	6H		11/16/93			7469:01-25	Encasement structural condition was normal. Condensation was observed on the bottom of encasement covers.
		7H		11/17/93			7473:01-53	Encasement structural condition was normal. Stains and marks observed on the encasement side walls were caused by water inleakage. Water was observed on the encasement floor.

Note: The numbers listed under WAP, DP, and PSP identify photographs in the HLWE files.
WAP = wide angle photography; DP = direct photography; PSP = periscopic photography; B = diversion box; WLE = waste line encasement; EVAP = evaporator; CTS = concentrate transfer system; LDB = leak detection box; PP = pump pit; SSMH = storm sewer manhole.

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DATE

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6/15/94

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