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Annual Radioactive Waste Tank Inspection Program - 1992(U)

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Aiken, SC 19808

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Contents

Introduction

Aqueous radioactive wastes from Savannah River Site (SRS) separations processes are contained in large underground carbon steel tanks. Inspections made during 1992 to evaluate these vessels and evaluations based on data accrued by inspections made since the tanks were constructed are the subject of this report.

Summary

The 1992 inspection program revealed the condition of the Savannah River Site waste tanks was basically the same as reported in the previous annual report. No new leaksites were observed. No evidence of corrosion or materials degradation was observed. However, inspection did reveal that a few cubic centimeters of waste seeped from the primary vessel of tank 15 at an old leaksite and enlarged a small nodule of dry waste on the primary vessel exterior. Subsequent inspections revealed the seepage had stopped. In 1992 a total of 5,376 photographs and 38 visual and video inspections were made.

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. The supernate and salt phases consist primarily of NaNO3 and NaNO2. 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 MnO2 and Fe (OH)2 with a fission product content of 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 second principle 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 which 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 by direct observation 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. Since that beginning, a program was initiated in November 1971 to periodically inspect all waste tanks using remote visual imagery techniques to monitor for corrosion, 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 that 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 leaked waste reached a conductivity probe.

The waste tanks in-service inspection program is comprised of visual imagery inspections and ultrasonic steel thickness measurements. This report gives results of the 1992 visual imagery inspections. No ultrasonic measurements were scheduled or performed in 1992. This report also summarizes foregone inspections and measurements for each waste tank.

Tank Description

SRS has subsurface storage tanks of four different designs. The tanks are all 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 that is 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

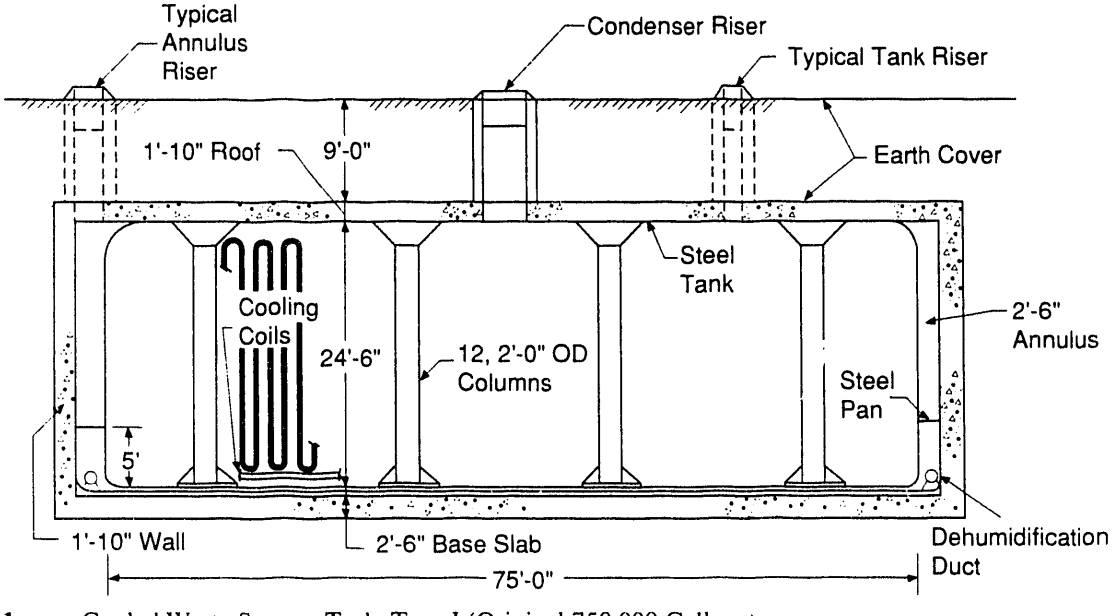

Figure 1. Cooled Waste Storage Tank, Type I (Original 750,000 Gallons).

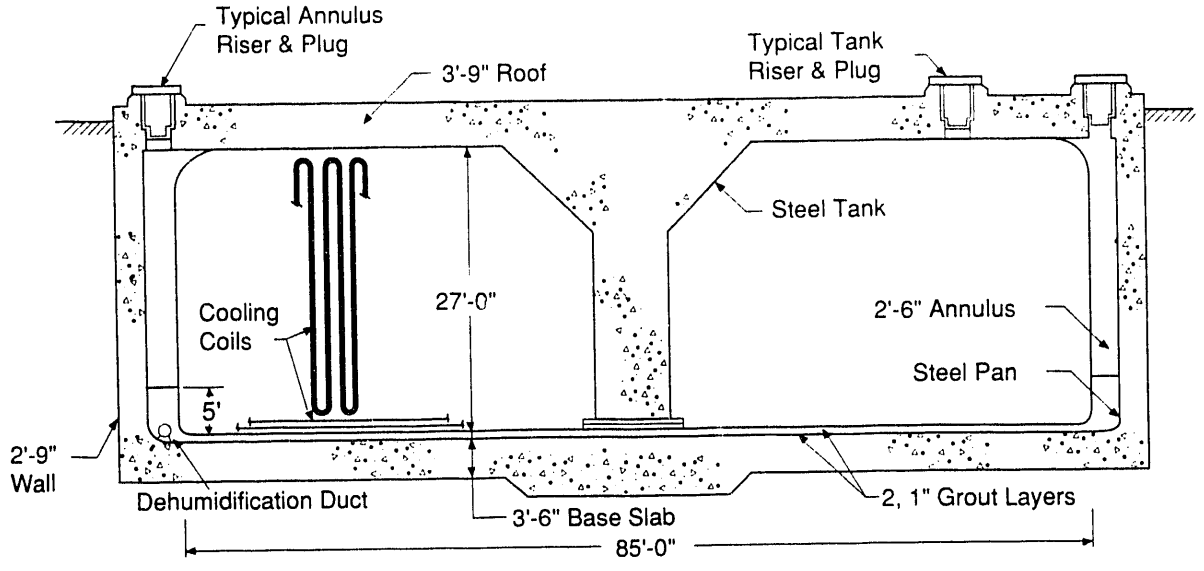

Figure 2. Cooled Waste Storage Tank, Type II (Original 1,030,000 Gallons).

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 the wall and by a central concrete column that fits within the inner cylinder of the vessel. The 45-inch-thick concrete roof provides radiation shielding; hence, 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 the 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

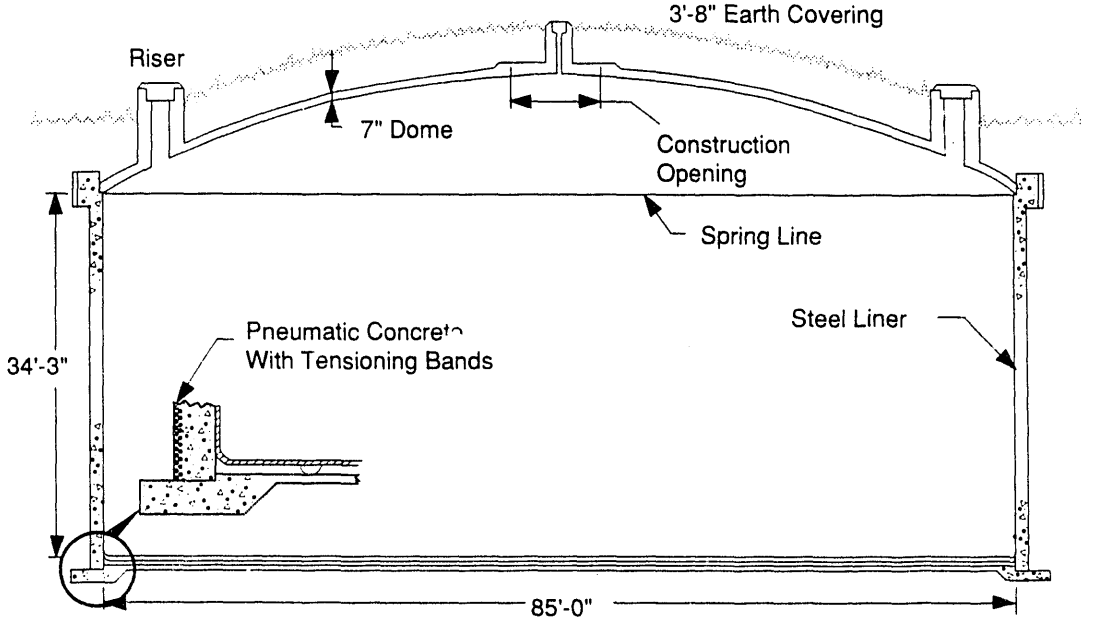

Figure 3. Uncooled Waste Storage Tank, Type IV (Prestressed Concrete Walls, 1,300,000 Gallons).

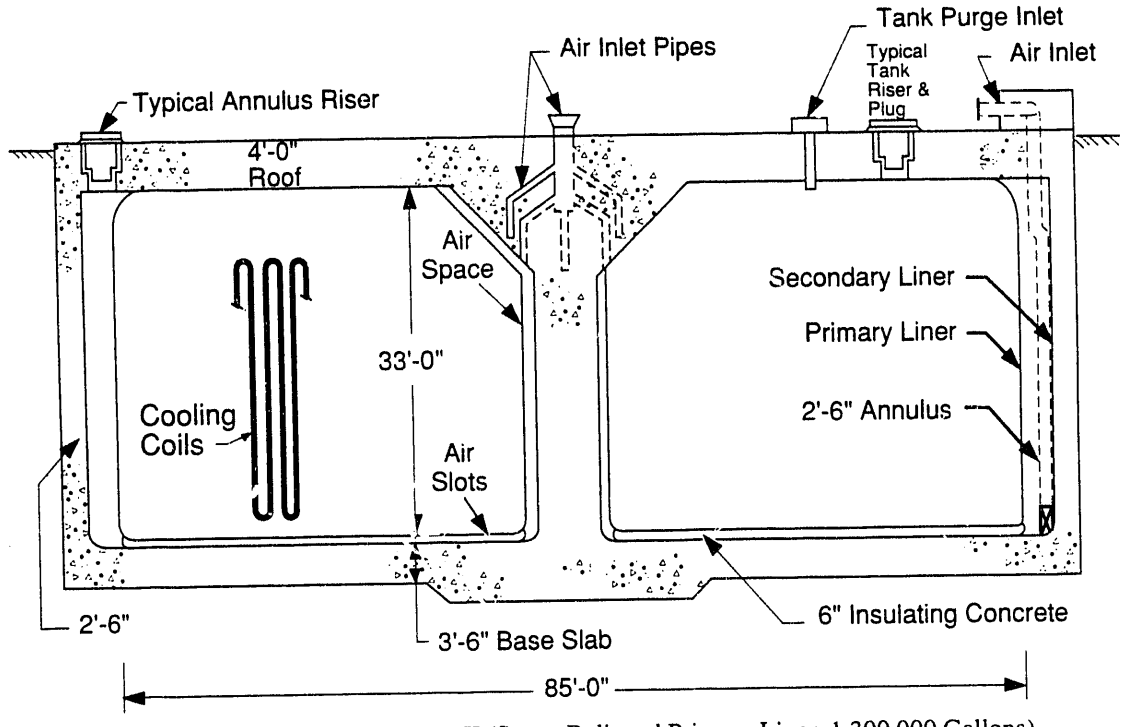

Figure 4. Cooled Waste Storage Tank, Type III (Stress Relieved Primary Liner, 1,300,000 Gallons).

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 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 annulus to the outer annulus. Liquid would move through the slots, facilitating detection at the outer annulus, if any were to leak from the tank bottom or center annulus wall.

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 which 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, passes beneath the primary tank through radial grooves in the insulating concrete slab, and is exhausted into the outer annulus.

Tanks 29 through 34 were placed in service prior to 1976 with annulus riser pipes at four locations and interior riser pipes at various locations providing inspection access through 5-inch-diameter ports. All other type III tanks were placed in service after 1976. These tanks 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. Interior riser pipes at various locations provide inspection access through ports with a diameter of from 5 to 8 inches. All 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 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 30 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 used to perform photographic documentation with cameras inserted into the spaces to be inspected. 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 on any waste tank during 1992.

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 Halogon 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 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 1992 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, ancillary cells and pipes.

The primary purpose of the inspection program is the continuing evaluation of the condition of waste tanks. This objective was satisfied in 1992 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, so 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, their liquid levels are monitored for leakage by leak detection devices. 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.

1992 Inspection Results

The 1992 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 1992 are listed in Appendix B.

These inspections revealed no significant change from the results of the 1991 inspections. No significant corrosion of the tanks was evidenced by the lack of change in the steel surfaces. No new leaksites were found; however, tank 15 had seeped at an old leaksite. A few cubic centimeters of waste had seeped from the primary vessel since it was inspected on March 21, 1991. The leaked waste enlarged a small nodule of dry waste on the exterior of the primary vessel wall to about 5 centimeters in diameter.

Rainwater continued to leak into the annuli of several tanks. Although the annuli of all tanks except 9 and 10 were dry when inspected, water inleakage was evidenced by surface stains and calcite deposits. Inleakage 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 1992.

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 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 has 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 12-13 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.

Inspection made on July 17, 1992 revealed that a nodule of dry leaked waste on the exterior of the primary vessel wall at one of the leaksites identified in 1972 had increased in size since inspected on March 21, 1991. Waste seepage had increased the volume of leaked waste by a few cubic centimeters resulting in a nodule approximately five centimeters in diameter. A subsequent inspection on August 4, 1992 indicated that seepage had stopped, i.e., the quantity of waste at this site had not changed since July 17, 1992.

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 the primary vessel wall has 300-350 leaksites. In 1978, 70% of the leaked waste in the annulus pan was removed leaving an insoluble heel containing approximately 30,000 curies 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 4 failure sites. In 1983, leak-

sites 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 is not possible. Artifacts observed on the interior wall indicated 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 indicated waste has not escaped the concrete 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 maintain 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 corro-

sion 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.

Appendix B—Summary of 1992 Inspections

Table 2. Tank or Vessel F-01

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers: WAP	DP	PSP	Remarks
East	A	08/01/92	7100:02			Inspection was made to validate proper deployment of the conductivity probe. The probe was not visible. A more comprehensive inspection will be made.
East	A	08/21/92		7120:01-08		Inspection was made to validate location of the conductivity probe. The probe was on the annulus floor between the ventilation duct and the secondary vessel wall.
North	A	04/23/92		6958:01-17		Stains and marks observed on the tank wall were caused by water inleakage.
South	A	04/23/92		6959:01-17		Normal
West	A	08/01/92	7100:01			Inspection was made to validate proper deployment of the conductivity probe. The probe was on the annulus floor between the ventilation duct and the tank wall.

Table 3. Tank or Vessel F-02

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers: WAP	DP	PSP	Remarks
East	A	04/24/92	6975:02			Normal
North	A	04/24/92	6975:01			Normal
South	A	04/24/92	6975:03			Normal
West	A	04/22/92		6960:01-17		Normal

Table 4. Tank or Vessel F-03

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
East	A	04/24/92	6976:02			Normal
North	A	04/24/92	6976:01			Normal
North	A	08/01/92	7101:01			Inspection was made to validate the location of the conductivity probe. The probe was on the annulus floor between the ventilation duct and the secondary vessel wall.
South	A	05/05/92	6992:01			Normal
South	A	08/01/92	7101:02-03			Inspection was made to validate the location of the conductivity probe. The probe was on the annulus floor between the ventilation duct and the tank wall.
West	A	04/24/92	6976:03			Normal

Table 5. Tank or Vessel F-04

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
East	A	04/22/92		6961:01-17		Stains and marks observed on the tank wall were caused by water inleakage.
East	A	04/29/92	6978:04			Normal
North	A	04/29/92	6978:03			Normal
North	A	08/01/92	7102:01-02			Inspection was made to validate location of the conductivity probe. The probe was on the annulus floor between the ventilation duct and the tank wall.
South	A	04/29/92	6978:01			Normal
South	A	08/01/92	7102:03			Inspection was made to validate location of the conductivity probe. The probe was on the annulus floor between the ventilation duct and the secondary vessel wall.
West	A	04/29/92	6978:02			Normal

Table 6. Tank or Vessel F-05

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
East	A	04/30/92	6983:01			Normal
North	A	04/30/92	6983:02			Normal
North	A	08/01/92	7103:01			Inspection was made to validate location of the conductivity probe. The probe was on the annulus floor between the ventilation duct and the secondary vessel wall.
South	A	04/30/92	6983:04			Normal
West	A	04/30/92	6983:03			Normal

Table 7. Tank or Vessel F-06

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
East	A	04/29/92	6979:01			Normal
North	A	05/05/92	6993:01			Normal
South	A	04/29/92	6979:02			Normal
South	A	08/01/92	7104:01			Inspection was made to validate location of the conductivity probe. The probe was on the annulus floor between the ventilation duct and the secondary vessel wall.
West	A	04/29/92	6979:03			Normal

Table 8. Tank or Vessel F-07

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
North	A	04/30/92	6981:01			Normal
North	A	08/01/92	7105:01			Inspection was made to validate location of the conductivity probe. The probe was on the annulus floor between the ventilation duct and the tank wall.
South	A	04/30/92	6981:02			Normal
South	A	08/01/92	7105:02			Inspection was made to validate location of the conductivity probe. The probe was on the annulus floor between the ventilation duct and the secondary vessel wall.
West	A	04/22/92		6962:01-17		Normal

Table 9. Tank or Vessel F-08

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
East	A	04/30/92	6982:01			Normal
North	A	04/30/92	6982:02			Normal
North	A	08/01/92	7106:01			Inspection was made to validate location of the conductivity probe. The probe was on the annulus floor between the ventilation duct and the secondary vessel wall.
South	A	04/30/92	6982:04			Normal
South	A	08/01/92	7106:02			Inspection was made to validate location of the conductivity probe. The probe was on the annulus floor between the ventilation duct and the secondary vessel wall.
West	A	04/30/92	6982:03			Normal
02	I	03/24/92				CCTV inspection (File Tape 223) was made to document conditions in the tank. No liquid was observed; the surface of the sludge appeared dry.
07	I	03/24/92				CCTV inspection (File Tape 223) was made to document conditions in the tank. No liquid was observed; the surface of the sludge appeared dry.
Center	I	03/24/92				CCTV inspection (File Tape 223) was made to document conditions in the tank. No liquid was observed; the surface of the sludge appeared dry.

Table 10. Tank or Vessel H-09

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
South	A	01/08/92		6772:01-04		No change
South	A	01/16/92		6783:01-04		No change
South	A	01/24/92		6792:01-04		No change
South	A	01/29/92		6806.01-04		No change
South	A	02/07/92		6822:01-04		No change
South	A	02/12/92		6829:01-04		No change
South	A	02/21/92		6845:01-04		No change
South	A	02/28/92		6876:01-04		No change
South	A	03/04/92		6880:01-04		No change
South	A	03/12/92		6886:01-04		No change
South	A	03/20/92		6905:01-04		No change
South	A	03/27/92		6909:01-04		No change
South	A	04/03/92		6920:01-04		No change
South	A	04/08/92	6935:01			No change
South	A	04/13/92		6995:01-04		No change
South	A	04/24/92		6971:01-04		No change
South	A	05/01/92		6988:01-04		No change
South	A	05/11/92		6997:01-04		No change
South	A	05/22/92		7028:01-04		No change
South	A	06/01/92		7046:01-04		No change
South	A	06/11/92		7055:01-04		No change
South	A	06/19/92		7064:01-04		No change
South	A	06/23/92		7068:01-04		No change
South	A	06/30/92		7073:01-04		No change
South	A	07/13/92		7079:01-04		No change
South	A	07/20/92		7084:01-04		No change
South	A	07/28/92		7092:01-04		No change
South	A	08/04/92		7097:01-04		No change
South	A	08/10/92		7108:01-05		No change
South	A	08/19/92		7113:01-04		Water was observed in the annulus. Approximately 5 inches of rain fell during the preceding week.
South	A	09/01/92		7117:01-04		Water was still present in the annulus.
South	A	09/09/92		7122:01-04		Water was still present in the annulus.
South	A	09/16/92		7128:01-04		Water was still present in the annulus.
West	A	01/24/92		6791:01-04		No change
West	A	01/29/92		6805:01-04		No change
West	A	02/07/92		6821:01-05		No change
West	A	02/12/92		6828:01-04		No change
West	A	02/21/92		6844:01-04		No change
West	A	02/28/92		6875:01-04		No change
West	A	03/04/92		6879:01-05		No change
West	A	03/12/92		6885:01-04		No change
West	A	03/20/92		6904:01-03		No change
West	A	03/27/92		6908:01-04		No change

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
West	A	04/03/92		6919:01-04		No change
West	A	04/13/92		6946:01-17		No change
West	A	04/24/92		6970:01-02		No change
West	A	05/01/92		6987:01-04		No change
West	A	05/11/92		6996:01-04		No change
West	A	05/22/92		7027:01-04		No change
West	A	06/01/92		7045:01-04		No change
West	A	06/11/92		7054:01-05		No change
West	A	06/19/92		7063:01-04		No change
West	A	06/23/92		7067:01-04		No change
West	A	06/30/92		7072:01-04		No change
West	A	07/13/92		7078:01-04		No change
West	A	07/20/92		7083:01-04		No change
West	A	07/28/92		7091:01-04		No change
West	A	08/04/92		7096:01-04		No change
West	A	08/10/92		7107:01-04		No change
West	A	08/19/92		7112:01-04		Water was observed in the annulus. Approximately 5 inches of rain fell during the preceding week.
West	A	09/01/92		7116:01-04		Water was still present in the annulus.
West	A	09/09/92		7121:01-04		The annulus was dry.
West	A	09/16/92		7127:01-04		No change

Table 11. Tank or Vessel H-10

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
East	A	04/08/92	6936:01			No change
East	A	08/19/92		7115:01-04		No change
East	A	09/01/92		7119:01-09		No change
East	A	09/09/92		7124:01-04		No change
East	A	09/16/92		7130:01-04		No change
East	A	09/28/92		7134:01-04		No change
East	A	10/07/92		7138:01-04		No change
East	A	11/13/92		7149:01-04		No change
East	A	12/03/92		7157:01-04		The annulus condition remained unchanged except that a damp spot caused by the inleakage of groundwater was observed on the bottom of the vertical section of the annulus ventilation duct.
East	A	12/30/92		7166:01-04		No change
North	A	01/08/92		6774:01-04		No change
North	A	01/16/92		6785:01-04		No change
North	A	01/24/92		6794:01-04		No change
North	A	01/29/92		6808:01-04		No change
North	A	02/07/92		6823:01-04		No change
North	A	02/14/92		6831:01-04		No change
North	A	02/21/92		6847:01-04		No change
North	A	02/28/92		6878:01-04		No change
North	A	03/04/92		6882:01-04		No change
North	A	03/12/92		6888:01-04		No change
North	A	03/20/92		6907:01-04		No change
North	A	03/27/92		6911:01-04		No change
North	A	04/03/92		6922:01-04		No change
North	A	04/13/92		6963:01-17		No change
North	A	04/24/92		6973:01-04		No change
North	A	05/01/92		6986:01-04		No change
North	A	05/11/92		6999:01-04		No change
North	A	05/22/92		7030:01-04		No change
North	A	06/01/92		7048:01-04		No change
North	A	06/11/92		7057:01-04		No change
North	A	06/19/92		7066:01-04		No change
North	A	06/23/92		7070:01-04		No change
North	A	07/16/92		7082:01-04		No change
North	A	07/16/92				Verification of proper deployment of the replacement conductivity probe was made visually.
North	A	07/23/92		7086:01-05		No change
North	A	07/28/92		7094:01-04		No change
North	A	08/04/92		7099:01-04		No change
North	A	08/10/92		7110:01-04		No change
West	A	01/08/92		6773:01-04		No change
West	A	01/16/92		6784:01-04		No change
West	A	01/24/92		6793:01-04		No change
West	A	01/29/92		6807:01-04		No change

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
West	A	02/07/92		6824:01-04		No change
West	A	02/14/92		6830:01-04		No change
West	A	02/21/92		6846:01-04		No change
West	A	02/28/92		6877:01-04		Rainwater had leaked into the annulus and redistributed some of the waste on the annulus floor. The annulus was dry.
West	A	03/04/92		6881:01-04		No change
West	A	03/12/92		6887:01-04		No change
West	A	03/20/92		6906:01-04		No change
West	A	03/27/92		6910:01-04		No change
West	A	04/03/92		6921:01-04		No change
West	A	04/13/92		6965:01-17		No change
West	A	04/24/92		6972:01-04		Rainwater had leaked into the annulus and redistributed some of the waste on the annulus floor. The annulus was dry.
West	A	05/01/92		6985:01-03		No change
West	A	05/11/92		6998:01-04		No change
West	A	05/22/92		7029:01-03		No change
West	A	06/01/92		7047:01-04		No change
West	A	06/11/92		7056:01-04		Water was observed in the annulus after heavy rainfall. 2.4 inches of rain fell during the preceding week.
West	A	06/19/92		7065:01-04		Water was still present in the annulus.
West	A	06/23/92		7069:01-04		Water was still present in the annulus.
West	A	06/30/92		7074:01-04		Water was still present in the annulus. 2 inches of rain fell during the preceding week.
West	A	07/13/92		7080:01-04		Water was still present in the annulus.
West	A	07/20/92		7085:01-04		Water was still present in the annulus. 3.3 inches fell during the preceding week.
West	A	07/28/92		7093:01-04		Water was still present in the annulus.
West	A	08/04/92		7098:01-04		Water was still present in the annulus.
West	A	08/10/92		7109:01-04		Water was still present in the annulus.
West	A	08/19/92		7114:01-04		Water was still present in the annulus.
West	A	09/01/92		7118:01-04		Water was still present in the annulus.
West	A	09/09/92		7123:01-04		The annulus was dry.
West	A	09/16/92		7129:01-04		No change
West	A	09/28/92		7133:01-04		No change
West	A	10/07/92		7138:01-04		No change
West	A	11/13/92		7148:01-04		No change
West	A	11/25/92		7154:01-04		No change
West	A	12/03/92		7156:01-04		No change
West	A	12/30/92		7165:01-04		No change
01	I	10/01/92	7135:03-07			Photographs were made to document salt configuration in the tank.
04	I	10/01/92	7135:01-02			Photographs were made to document salt configuration in the tank.
08	I	10/01/92	7135:08-12			Photographs were made to document salt configuration in the tank.

Table 12. Tank or Vessel H-11

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
East	A	04/13/92		6944:01-17		Tank condition remained unchanged. Additional inspection was made to investigate water marks observed on the tank wall.
East	A	05/11/92		7000:01-07		Inspection was made to determine the leak-path for water inleakage that caused the stains observed on 4-13-92. Evidence indicated that water had leaked past improperly sealed riser plug gasket.
North	A	04/13/92		6945:01-17		No change
South	A	04/08/92	6937:01			No change
West	A	04/08/92	6937:02			No change

Table 13. Tank or Vessel H-12

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
East	A	04/08/92	6938:02			No change
East	A	04/13/92		6947:01-17		No change
North	A	04/13/92		6948:01-15		No change
South	A	04/08/92	6938:01			No change
West	A	06/30/92		7075:01-17		Stains and marks on the annulus floor were caused by water inleakage.

Table 14. Tank or Vessel H-13

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
10	A	04/09/92		6950:01-17		No change
107	A	04/09/92	6943:03			No change
151	A	04/09/92		6969:01-17		No change
175	A	04/09/92	6943:04			No change
207	A	04/09/92	6943:05			No change
228	A	04/08/92		6934:01-17		No change
32	A	04/09/92		6967:01-17		No change
55	A	04/09/92		6968:01-17		No change
71	A	04/09/92		6949:01-16		No change
East	A	04/09/92	6943:02			No change
North	A	04/09/92		6966:01-17		Stains observed on the tank wall were caused by water inleakage.
South	A	04/08/92		6933:01-17		No change
West	A	04/09/92	6943:01			No change

Table 15. Tank or Vessel H-14

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
108	A	04/06/92		6930:01-17		No change
118	A	04/06/92		6931:01-17		No change
125	A	04/06/92		6932:01-17		No change
13	A	04/23/92	6974:03			No change
151	A	04/23/92	6974:04			No change
170	A	04/23/92	6974:05			No change
207	A	04/23/92	6974:06			No change
235	A	04/23/92	6974:07			No change
259	A	04/23/92	6974:08			Stains observed on the tank wall, duct and secondary wall were caused by water leaking past a riser plug gasket.
259	A	05/01/92	6984:02			Inspection was made to determine the leak-path for water that caused the stains observed on 4-23-92. Evidence indicated that water leaked past improperly sealed riser plug gasket.
32	A	05/01/92	6984:01			No change
65	A	04/06/92		6929:01-18		Changes in the configuration of the leaked waste in the annulus indicated water has leaked into the annulus.
East	A	04/23/92	6974:02			No change
North	A	04/23/92	6974:01			No change
01	I	11/19/92	7151:01-03			A small pool of liquid atop the salt cake was observed beneath the 1 riser.
3'6"	I	10/15/92	7143:01			Photographs made to document salt configuration in the tank.
4-A	I	11/19/92	7151:04-06			A small pool of liquid atop the salt cake was observed beneath the 4 and 4-A (reel tape riser) risers. The reel tape appeared to be unobstructed.

Table 16. Tank of Vessel H-15

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
10	A	04/14/92	6942:02			No change
107	A	04/14/92	6942:03			Stains and marks observed on the tank wall and annulus floor were caused by water inleakage.
117	A	04/14/92	6942:04			Stains and marks observed on the annulus floor were caused by water in- leakage.
137	A	04/14/92	6942:05			Stains and marks observed on the tank wall and annulus floor were caused by water inleakage.
137	A	07/17/92		7081:01-15		A nodule of dry waste on the tank wall increased slightly in size since inspected on 3-21-91.
137	A	07/29/92		7090:01-10		No change
137	A	08/04/92		7095:01-07		No change
171	A	04/14/92	6942:06			Stains and marks observed on the annulus floor were caused by water inleakage.
182	A	04/14/92	6942:07			Stains and marks observed on the annulus floor were caused by water inleakage.
207	A	04/27/92		6952:01-16		Stains and marks observed on the tank wall were caused by water inleakage.
223	A	04/27/92		6956:01-17		No change
32	A	04/27/92		6955:01-17		Stains and marks observed on the tank wall were caused by water inleakage.
55	A	04/27/92		6957:01-17		Water had leaked into the annulus and redistributed some waste on the annulus floor.
71	A	04/27/92		6953:01-17		Water had leaked into the annulus and redistributed some waste on the annulus floor.
East	A	04/27/92		6954:01-17		Stains and marks observed on the annulus wall were caused by water inleakage.
North	A	05/01/92		6990:01-19		No change
South	A	04/14/92	6942:01			No change
West	A	05/01/92		6991:01-17		Stains and marks observed on the annulus floor were caused by water inleakage.
01	I	10/20/92	7144:01-02			Photographs made to document conditions beneath the steel tape riser.

Table 17. Tank or Vessel H-16

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
118	A	04/22/92	6977:03			No change
207	A	04/22/92	6977:04			No change
262	A	04/22/92	6977:05			No change
35	A	04/22/92	6977:02			No change
East	A	05/01/92	6989:01			No change
West	A	04/22/92	6977:01			No change

Table 18. Tank or Vessel F-17

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
NW	I	12/15/92			7163:01-39	Normal
West	I	12/14/92			7162:01-36	Normal

Table 19. Tank or Vessel H-18

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
CTR	I	06/16/92	7059:01-12			Tank condition was normal. Stains on the tank wall were caused by water inleakage at the W and SW risers.

Table 20. Tank or Vessel F-19

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
East	I	12/04/92			7158:01-30	Normal
SW	I	12/08/92			7160:01-36	Tank conditions appeared normal. A damp area was observed on the west wall approximately 317 inches above the tank bottom, about 2 inches above the girth weld. Several subsequent inspections showed the wall dry.
West	I	12/09/92			7161:01-36	Normal

Table 21. Tank or Vessel F-20

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
East	I	11/17/92			7150:01-49	Calcite deposit on the interior of the steel liner at the leaksite on the east wall had increased since inspected on 6-22-90. This leaksite is 26.5 ft. above the tank bottom.
NE	I	11/18/92			7152:01-47	Calcite deposit on the interior of the steel liner at the leaksite on the east wall had increased since inspected on 6-22-90. This leaksite is 26.5 ft above the tank bottom. This is the same observation made for the East riser on 11-17-92.

Table 22. Tank or Vessel H-21

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
NE	I	10/27/92			7145:01-48	Normal

Table 23. Tank or Vessel H-22

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
NW	I	10/16/92			7140:01-59	Normal

Table 24. Tank or Vessel H-23

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
SW	I	11/03/92			7146:01-39	Normal

Table 25. Tank or Vessel H-24

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
NW	I	10/22/92			7141:01-49	Stains and marks observed on the tank wall were caused by water inleakage at risers.

Table 26. Tank or Vessel F-25

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers: WAP	DP	PSP	Remarks
A-01	A	03/16/92	6884:01			Normal
A-01	A	07/07/92		7076:01-25		Normal
A-02	A	03/16/92	6884:02			Normal
A-02	A	05/14/92		7004:01-25		Normal
A-03	A	03/16/92	6884:03			Normal
A-03	A	05/14/92		7005:01-25		Normal
A-04	A	03/16/92	6884:04			Normal
A-04	A	05/14/92		7006:01-25		Normal
P-01	A	03/16/92	6884:05			Normal
P-02	A	04/16/92	6884:06			Normal
P-03	A	03/16/92	6884:07			Normal
P-04	A	03/16/92	6884:08			Normal
P-05	A	03/16/92	6884:09			Normal
P-06	A	03/16/92	6884:10			Normal
P-07	A	03/16/92	6884:11			Normal
P-08	A	03/16/92	6884:12			Normal
P-09	A	03/16/92	6884:13			Normal
P-10	A	03/16/92	6884:14			Normal
P-11	A	03/16/92	6884:15			Normal
P-12	A	03/16/92	6884:16			Normal
P-13	A	03/16/92	6884:17			Normal
P-14	A	03/16/92	6884:18			Normal
B-02	I	03/16/92				CCTV was used to investigate the cause of reel tape/steel tape discrepancies. Liquid was observed beneath the reel tape riser while a layer of salt approximately 2" thick was observed beneath the steel tape riser (File Tape 225).
B-02	I	04/09/92				CCTV was deployed in the tank to observe and document salt sounding operation (File Tape 228).
B-05	I	03/16/92				CCTV was used to investigate reel tape/steel tape discrepancies. Liquid was observed beneath the reel tape riser while a layer of salt approximately 2" thick was observed beneath the steel tape riser (File Tape 225).
G	I	03/16/92				CCTV was used to investigate reel tape/steel tape discrepancies. Liquid was observed beneath the reel tape riser while a layer of salt approximately 2" thick was observed beneath the steel tape riser (File Tape 225).

Table 27. Tank or Vessel F-26

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	07/28/92	7088:01			Normal
A-02	A	04/15/92	6994:01			Normal
A-03	A	04/15/92	6994:02			Stains and marks observed on the annulus floor were caused by water inleakage.
A-04	A	04/15/92	6994:03			Normal
P-01	A	05/18/92		7032:01-25		Normal
P-02	A	05/18/92		7018:01-25		Normal
P-03	A	04/15/92	6994:04			Normal
P-04	A	04/15/92	6994:05			Normal
P-05	A	04/15/92	6994:06			Normal
P-06	A	04/15/92	6994:07			Normal
P-07	A	05/15/92		7009:01-25		Normal
P-08	A	05/15/92		7010:01-25		Normal
P-09	A	05/18/92		7033:01-25		Normal
P-10	A	04/15/92	6994:08			Stains and marks observed on the annulus floor were caused by water inleakage.
P-11	A	04/15/92	6994:09			Normal
P-12	A	04/15/92	6994:10			Normal
P-13	A	04/15/92	6994:11			Normal
P-14	A	04/15/92	6994:12			Normal

Table 28. Tank or Vessel F-27

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	05/14/92		7002:01-25		Normal
A-02	A	05/14/92		7001:01-25		Normal
A-03	A	05/14/92		7007:01-24		Normal
A-04	A	05/14/92		7003:01-25		Normal
P-01	A	03/13/92	6889:01			Normal
P-02	A	03/13/92	6889:02			Normal
P-03	A	03/13/92	6889:03			Normal
P-04	A	03/13/92	6889:04			Normal
P-05	A	03/13/92	6889:05			Normal
P-06	A	03/13/92	6889:06			Normal
P-07	A	03/13/92	6889:07			Stains and marks observed on the annulus wall and duct were caused by water inleakage.
P-08	A	03/13/92	6889:08			Stains and marks observed on the annulus wall and duct were caused by water inleakage.
P-09	A	03/13/92	6889:09			Normal
P-10	A	03/13/92	6889:10			Stains and marks observed on the annulus duct were caused by water inleakage.
P-11	A	03/13/92	6889:11			Stains and marks observed on the annulus duct were caused by water inleakage.
P-12	A	03/13/92	6889:12			Normal
P-13	A	03/13/92	6889:13			Normal
P-14	A	03/13/92	6889:14			Stains observed on the annulus floor were caused by water inleakage.

Table 29. Tank or Vessel F-28

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	04/16/92	6940:01			Normal
A-02	A	04/16/92	6940:02			Normal
A-03	A	04/16/92	6940:03			Normal
A-03	A	08/04/92	7087:01			Normal
A-04	A	04/16/92	6940:04			Normal
P-01	A	04/16/92	6940:05			Normal
P-01	A	05/18/92		7034:01-25		Normal
P-02	A	04/16/92	6940:06			Normal
P-03	A	04/16/92	6940:07			Normal
P-04	A	05/18/92		7035:01-25		Normal
P-05	A	04/16/92	6940:08			Normal
P-06	A	04/16/92	6940:09			Normal
P-07	A	05/18/92		7019:01-25		Normal
P-08	A	04/16/92	6940:10			Normal
P-09	A	04/16/92	6940:11			Normal
P-10	A	04/16/92	6940:12			Normal
P-11	A	05/18/92		7020:01-25		Normal
P-12	A	04/16/92	6940:13			Normal
P-13	A	04/16/92	6940:14			Normal
P-14	A	04/16/92	6940:15			Normal
B-05	I	03/18/92				CCTV was used to document conditions in the tank. The supernate was covered by a thin film of salt crystals except for a small area beneath the reel tape (File Tape 222).

Table 30. Tank or Vessel H-29

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	02/07/92	6861:01			Stains and marks on the annulus floor were caused by inleakage of water.
A-02	A	02/07/92	6861:02			Tank condition was normal. Absorbent wipes were observed in the annulus. These swipes were observed from the P-11 riser also.
A-03	A	02/07/92	6861:03			Normal
A-04	A	02/07/92	6861:04			Normal
P-01	A	02/20/92		6840:01-25		Normal
P-02	A	02/07/92	6861:05			Normal
P-03	A	02/07/92	6861:06			Stains on the ventilation duct were caused by inleakage of water.
P-04	A	02/20/92		6841:01-25		Normal
P-05	A	02/07/92	6861:07			Normal
P-06	A	02/07/92	6861:08			Normal
P-07	A	02/20/92		6842:01-25		Normal
P-08	A	02/07/92	6861:09			Normal
P-09	A	03/19/92	6918:01			Stains and marks observed on the annulus duct and floor were caused by water inleakage.
P-10	A	02/07/92	6861:10			Normal
P-11	A	02/07/92	6861:11			Tank condition was normal. Absorbent wipes were observed in the annulus. These wipes were observed from the A-02 riser also.
P-11	A	02/20/92		6843:01-25		Normal
P-12	A	02/07/92	6861:12			Stains on the ventilation duct were caused by inleakage of water.
P-13	A	02/07/92	6861:13			Normal
P-14	A	02/07/92	6861:14			Normal

Table 31. Tank or Vessel H-30

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	01/14/92	6782:01			Normal
A-02	A	01/14/92	6782:02			Normal
A-03	A	01/14/92	6782:03			Normal
A-04	A	01/14/92	6782:04			Normal
P-01	A	03/19/92		6896:01-25		Normal
P-02	A	01/14/92	6782:05			Normal
P-03	A	01/14/92	6782:06			Normal
P-04	A	02/20/92		6858:01-25		Normal
P-05	A	01/14/92	6782:07			Normal
P-06	A	01/14/92	6782:08			Normal
P-07	A	02/20/92		6859:01-25		Normal
P-08	A	01/14/92	6782:09			Normal
P-09	A	01/14/92	6782:10			Normal
P-10	A	01/14/92	6782:11			Normal
P-11	A	02/20/92		6860:01-25		Water marks and stains on the annulus wall were caused by inleakage of water.
P-11	A	03/23/92			6899:01-02	Inspection was made to determine the leak-path for the water that caused the stains and marks observed on the annulus wall 02-20-92. Water had leaked into the annulus between the annulus cover plate and secondary vessel wall.
P-12	A	01/06/92				A CCTV inspection (File Tape 208) was made to determine why an annulus cover plate brace had fallen to the annulus floor. The angle iron brace had been cut and left perched on the upper knuckle plate. It was dislodged and fell to the floor when inspection equipment was deployed in the riser. Investigation revealed that when construction drilled through the concrete to provide the P-12 access opening, the brace was cut since it blocked access at the bottom of the opening.
P-12	A	01/10/92				A CCTV inspection (File Tape 209) was made to determine if the angle iron brace that fell had caused any physical change (scratch, dent, or crevice) in the steel surfaces in the fall path. No change was observed in the steel surfaces.
P-12	A	01/14/92	6782:12			Normal
P-12	A	02/20/92		6869:01-09		Photographs were made to document the location of an "AA" alkaline battery on the annulus floor.
P-13	A	01/14/92	6782:13			Normal
P-14	A	01/14/92	6782:14			Normal

Table 32. Tank or Vessel H-31

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	01/14/92	6781:01			Normal
A-02	A	01/14/92	6781:02			Stains on duct caused by inleakage of water.
A-03	A	01/14/92	6781:03			Normal
A-04	A	01/14/92	6781:04			Normal
P-01	A	02/12/92		6836:01-25		Normal
P-02	A	01/14/92	6781:05			Normal
P-03	A	01/14/92	6781:06			Stains on duct caused by inleakage of water.
P-04	A	02/12/92		6837:01-25		Normal
P-05	A	01/14/92	6781:07			Normal
P-06	A	01/14/92	6781:08			Normal
P-07	A	02/12/92		6838:01-25		Normal
P-08	A	01/14/92	6781:09			Normal
P-09	A	01/14/92	6781:10			Normal
P-10	A	01/14/92	6781:11			Tank condition was normal. An absorbent wipe was observed on the annulus floor.
P-11	A	02/12/92		6839:01-25		Normal
P-12	A	01/14/92	6781:12			Normal
P-13	A	01/14/92	6781:13			Normal
P-14	A	01/14/92	6781:14			Normal

Table 33. Tank or Vessel H-32

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	02/03/92	6816:05			Normal
A-02	A	02/03/92	6816:09			Normal
A-03	A	02/03/92	6816:12			Normal
A-04	A	02/03/92	6816:02			Normal
P-01	A	02/20/92		6853:01-25		Stains and marks on the annulus wall were caused by inleakage of water.
P-02	A	02/03/92	6816:01			Normal
P-03	A	02/03/92	6816:03			Normal
P-04	A	02/20/92		6854:01-25		Stains and marks on the annulus wall were caused by inleakage of water.
P-04	A	03/24/92			6890:01-04	Inspection was made to determine the leak-path for the water that caused the stains and marks observed on the tank wall on 02-20-92. Water had leaked into the annulus between an annulus cover plate and primary wall.
P-05	A	02/03/92	6816:04			Normal
P-06	A	02/03/92	6816:06			Normal
P-07	A	02/20/92		6855:01-25		Normal
P-08	A	02/03/92	6816:07			Normal
P-09	A	02/03/92	6816:08			Stains on the annulus floor were caused by inleakage of water.
P-10	A	02/03/92	6816:10			Stains on the annulus floor were caused by inleakage of water.
P-11	A	02/20/92		6856:01-25		Changes in the stains on the annulus wall and deposits on the ventilation duct were caused by inleakage of water. Water had continued to enter the annulus near the top of the secondary wall.
P-12	A	02/03/92	6816:11			Stains on the annulus floor were caused by inleakage of water.
P-13	A	02/03/92	6816:13			Normal
P-14	A	02/03/92	6816:14			Stains on the annulus floor were caused by water inleakage.
P-15	A	02/03/92	6816:15			Stains on the annulus floor were caused by water inleakage.

Table 34. Tank or Vessel F-33

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	03/23/92	6898:01			Normal
A-02	A	03/23/92	6898:02			Normal
A-03	A	03/23/92	6898:03			Normal
A-04	A	03/23/92	6898:04			Normal
P-01	A	06/08/92		7049:01-24		Normal
P-02	A	03/23/92	6898:05			Normal
P-03	A	03/23/92	6898:06			Normal
P-04	A	06/08/92		7050:01-25		Normal
P-05	A	03/23/92	6898:07			Normal
P-06	A	03/23/92	6898:08			Normal
P-07	A	06/08/92		7051:01-25		Normal
P-08	A	03/23/92	6898:09			Normal
P-09	A	03/23/92	6898:10			Normal
P-10	A	03/23/92	6898:11			Normal
P-11	A	06/08/92		7052:01-25		Normal
P-12	A	03/23/92	6898:12			Normal
P-13	A	03/23/92	6898:13			Normal
P-14	A	03/23/92	6898:14			Normal
P-15	A	03/23/92	6898:15			Normal
P-16	A	06/08/92		7053:01-25		Normal

Table 35. Tank or Vessel F-34

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	03/23/92	6897:01			Stains and marks observed on the annulus wall were caused by water inleakage.
A-02	A	03/23/92	6897:02			Normal
A-03	A	03/23/92	6897:03			Normal
A-04	A	03/23/92	6897:04			Stains and marks on the annulus wall were caused by inleakage of water. Additional inspection was required to identify objects at the bottom of the annulus.
A-04	A	05/05/92			VISUAL	Visual inspection was made to identify the objects observed on the annulus floor in a photograph made on 3-23-92. The investigation revealed that a section of conduit about six feet long and an electrical cord were on the annulus floor.
P-01	A	07/07/92		7077:01-25		Normal
P-02	A	03/23/92	6897:05			Normal
P-03	A	03/23/92	6897:06			Normal
P-04	A	06/17 92		7059:01-25		Changes in the stains and marks in the annulus indicated that water had continued to leak into the annulus.
P-05	A	03/23/92	6897:07			Normal
P-06	A	03/23/92	6897:08			Normal
P-07	A	06/17/92		7060:01-25		Changes in the stains and marks in the annulus indicated that water had continued to leak into the annulus.
P-08	A	03/23/92	6897:09			Normal
P-09	A	03/23/92	6897:10			Normal
P-10	A	03/23/92	6897:11			Normal
P-11	A	06/17/92		7061:01-25		Changes in the stains and marks in the annulus indicated that water had continued to leak into the annulus.
P-12	A	03/23/92	6897:12			Normal
P-13	A	03/23/92	6897:13			Normal
P-14	A	03/23/92	6897:14			Normal
P-15	A	03/23/92	6897:15			Normal
P-16	A	06/17/92		7062:01-25		Changes in the stains and marks in the annulus indicated that water had continued to leak into the annulus.

Table 36. Tank or Vessel H-35

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	02/03/92	6817:02			Normal
A-02	A	02/03/92	6817:07			Normal
A-03	A	02/03/92	6817:09			Normal
A-04	A	02/03/92	6817:12			Normal
P-01	A	02/03/92	6817:01			Normal
P-02	A	02/03/92	6817:03			Normal
P-03	A	02/03/92	6817:04			Normal
P-04	A	02/03/92	6817:05			Normal
P-05	A	02/03/92	6817:06			Normal
P-06	A	02/19/92		6848:01-25		Normal
P-07	A	02/03/92	6817:08			Normal
P-08	A	03/19/92		6849:01-25		Normal
P-09	A	02/03/92	6817:10			Normal
P-10	A	02/19/92		6850:01-25		Tank condition was normal. A plastic bag was observed in the annulus.
P-11	A	02/03/92	6817:11			Tank condition was normal. An absorbent wipe was observed in the annulus.
P-12	A	02/19/92		6851:01-25		Normal
P-13	A	02/03/92	6817:13			Normal
P-14	A	02/19/92		6852:01-25		Normal

Table 37. Tank or Vessel H-36

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	02/10/92	6873:01			Normal
A-02	A	02/10/92	6873:02			Normal
A-03	A	02/10/92	6873:03			Normal
A-04	A	02/10/92	6873:04			Normal
P-01	A	02/10/92	6873:05			Normal
P-02	A	02/10/92	6873:06			Normal
P-03	A	02/10/92	6873:07			Stains and marks on the annulus floor were caused by water leaking past the riser plug gasket.
P-04	A	02/10/92	6873:08			Normal
P-05	A	02/10/92	6873:09			Normal
P-06	A	01/27/92		6809:01-25		Normal
P-07	A	02/10/92	6873:10			Normal
P-08	A	01/27/92		6810:01-25		Normal
P-09	A	02/10/92	6873:11			Normal
P-10	A	02/13/92		6833:01-25		Normal
P-11	A	02/10/92	6873:12			Normal
P-12	A	02/13/92		6834:01-25		Normal
P-13	A	02/10/92	6873:13			Normal
P-14	A	02/13/92		6835:01-25		Normal
B-04	I	05/19/92			7008:01-26	Photographs were made to document the waste surface.
B-04	I	06/01/92			7031:01-12	Photographs were made to document the waste surface.
E-02	I	05/22/92				A CCTV inspection was made to determine if there were any obstruction in the reel tape sleeve. No obstructions was found in the reel tape sleeve.
G	I	06/02/92				A video tape (File Tape 229) was made to document the waste configuration around the transfer jet.
H	I	06/02/92				A video tape (File Tape 229) was made to document the waste configuration around the reel tape.

Table 38. Tank or Vessel H-37

A-01	A	01/17/92	6786:02		Normal
A-02	A	01/17/92	6786:07		Normal
A-03	A	01/17/92	6786:09		Normal
A-04	A	01/17/92	6786:12		Normal
P-01	A	01/17/92	6786:01		Normal
P-02	A	01/17/92	6786:03		Normal
P-03	A	01/17/92	6786:04		Normal
P-04	A	01/17/92	6786:05		Normal
P-05	A	01/17/92	6786:06		Normal
P-06	A	01/21/92		6795:01-25	Normal
P-07	A	01/17/92	6786:08		Normal
P-08	A	01/21/92		6796:01-25	Normal
P-09	A	01/17/92	6786:10		Normal
P-10	A	02/19/92		6797:01-25	Normal
P-11	A	01/17/92	6786:11		Normal
P-12	A	01/21/92		6798:01-25	Normal
P-13	A	01/17/92	6786:13		Normal
P-14	A	01/17/92	6786:14		Normal
P-14	A	02/13/92		6799:01-25	Normal

Table 39. Tank or Vessel H-38

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	01/20/92	6800:01			Normal
A-02	A	01/20/92	6800:06			Normal
A-03	A	01/20/92	6800:07			Normal
A-04	A	01/20/92	6800:10			Normal
P-01	A	01/20/92	6800:02			Normal
P-02	A	01/20/92	6800:03			Tank condition was normal. A plastic bag was observed on the annulus floor.
P-03	A	01/20/92	6800:04			Normal
P-04	A	01/20/92	6800:05			Normal
P-05	A	01/06/92		6768:01-25		Normal
P-06	A	01/06/92		6769:01-25		Normal
P-07	A	01/06/92		6775:01-25		Normal
P-08	A	01/06/92		6770:01-25		Normal
P-09	A	01/06/92		6771:01-25		A few small white deposits were observed on the annulus floor. Periscopic inspection on 1-31-92 failed to determine the source of this material. The material is not leaked waste from the tank and it appears innocuous.
P-09	A	01/31/92			VISUAL	A visual examination was made to search for the source of the white material observed on the annulus floor on 1-06-92. No evidence of leakage from the tank primary vessel was evident. However, the source was not determined.
P-10	A	01/20/92	6800:08			Normal
P-11	A	01/20/92	6800:09			Normal
P-12	A	01/20/92	6800:11			Normal
P-13	A	01/20/92	6800:12			Normal
P-14	A	01/20/92	6800:13			Normal
C-03	I	10/15/92			7142:01-04	Inspection was made to determine if the GDL thermocouple was inside the thermowell. The thermocouple was observed outside the thermowell.
H	I	04/27/92	6951:01-04			Photographs were made to document the waste surface. A salt mound extending approximately 2 feet above the liquid level was observed in the NE section of the tank. The mound was 4 to 6 feet in diameter. This was the only area in the tank where salt was observed above the liquid.

Table 40. Tank or Vessel H-39

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	01/21/92	6801:01			Normal
A-02	A	01/21/92	6801:03			Normal
A-03	A	01/21/92	6801:05			Normal
A-04	A	01/21/92	6801:08			Normal
P-01	A	01/10/92		6776:01-25		Normal
P-02	A	01/21/92	6801:02			Normal
P-03	A	01/10/92		6777:01-25		Normal
P-04	A	01/21/92	6801:04			Normal
P-05	A	01/10/92		6778:01-25		Normal
P-06	A	01/21/92	6801:13			Normal
P-07	A	01/10/92		6779:01-25		Normal
P-08	A	01/10/92		6780:01-25		Normal
P-09	A	01/21/92	6801:06			Normal
P-10	A	01/21/92	6801:07			Normal
P-11	A	01/21/92	6801:09			Normal
P-12	A	01/24/92	6801:10			Normal
P-13	A	01/24/92	6801:11			Normal
P-14	A	01/24/92	6801:12			Normal

Table 41. Tank or Vessel H-40

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	01/24/92	6802:14			Normal
A-02	A	01/24/92	6802:02			Normal
A-03	A	01/24/92	6802:06			Normal
A-04	A	01/24/92	6802:09			Normal
P-01	A	01/17/92		6787:01-25		Normal
P-02	A	01/24/92	6802:01			Normal
P-03	A	01/17/92		6788:01-25		Normal
P-04	A	01/24/92	6802:03			Normal
P-05	A	01/24/92	6802:04			Normal
P-06	A	01/24/92	6802:05			Normal
P-07	A	01/17/92		6789:01-25		Normal
P-08	A	01/24/92	6802:07			Normal
P-09	A	01/17/92		6790:01-25		Normal
P-10	A	01/24/92	6802:08			Normal
P-11	A	01/24/92	6802:10			Normal
P-12	A	01/24/92	6802:11			Normal
P-13	A	01/24/92	6802:12			Normal
P-14	A	01/24/92	6802:13			Normal

Table 42. Tank or Vessel H-41

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	01/27/92	6803:13			Normal
A-02	A	01/27/92	6803:04			Normal
A-03	A	01/27/92	6803:06			Normal
A-04	A	01/27/92	6803:09			Normal
P-01	A	01/27/92	6803:01			Normal
P-02	A	01/27/92	6803:02			Normal
P-03	A	01/27/92	6803:03			Normal
P-04	A	01/27/92	6803:05			Normal
P-05	A	02/24/92		6864:01-25		Normal
P-06	A	02/24/92		6865:01-25		Normal
P-07	A	02/24/92		6866:01-25		Normal
P-08	A	02/24/92		6867:01-25		Normal
P-09	A	02/24/92		6868:01-25		Normal
P-10	A	01/27/92	6803:07			Stains and marks on the annulus wall caused by inleakage of water.
P-11	A	01/27/92	6803:08			Stains on the ventilation duct were caused by inleakage of water.
P-12	A	01/27/92	6803:10			Normal
P-13	A	01/27/92	6803:11			Stains on the ventilation duct were caused by inleakage of water.
P-14	A	01/27/92	6803:12			Normal
B-03	I	09/04/92				CCTV was used to document tank conditions and to verify proper reel tape operation.
B-03	I	09/29/92				CCTV was used to validate normal reel tape operation during additions (File Tape 232).
B-03	I	09/30/92				CCTV was used to validate normal reel tape operation after 2650 gallons of flush water was added to the tank (File Tape 232).
G	I	09/08/92			7125:01-03	Inspection was made to verify that valve 12 in HDB7 did not leak through the downcomer into tank 41. Leakage was not observed.

Table 43. Tank or Vessel H-42

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	03/05/92	6883:01			Normal
A-02	A	03/05/92	6883:02			Normal
A-03	A	03/05/92	6883:03			Normal
A-04	A	03/05/92	6883:04			Normal
P-01	A	03/05/92	6883:05			Normal
P-02	A	03/05/92	6883:06			Normal
P-03	A	03/05/92	6883:07			Normal
P-04	A	03/27/92		6912:01-25		Normal
P-05	A	03/18/92		6890:01-25		Normal
P-06	A	03/18/92		6891:01-25		Normal
P-07	A	03/05/92	6883:08			Normal
P-08	A	03/18/92		6892:01-25		Normal
P-09	A	03/05/92	6883:09			Stains and marks on the annulus wall were caused by inleakage of water.
P-10	A	03/05/92	6883:10			Stains and marks on the annulus wall were caused by inleakage of water.
P-11	A	03/05/92	6883:11			Stains and marks on the annulus wall were caused by inleakage of water.
P-12	A	03/05/92	6883:12			Normal
P-13	A	03/05/92	6883:13			Normal
P-14	A	03/05/92	6883:14			Stains and marks on the annulus wall were caused by inleakage of water.

Table 44. Tank or Vessel H-43

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	01/27/92	6804:13			Normal
A-02	A	01/27/92	6804:04			Tank condition was normal. Additional inspection was required to identify object on the annulus floor.
A-02	A	05/21/92			7017:01-07	Inspection was made to identify the object observed on the annulus floor in photographs made on 1-27-92. Inspection revealed a strip of green tape on the annulus floor.
A-03	A	01/27/92	6804:06			Normal
A-04	A	01/27/92	6804:08			Normal
P-01	A	01/27/92	6804:01			Normal
P-02	A	01/27/92	6804:02			Normal
P-03	A	01/27/92	6804:03			Normal
P-04	A	02/20/92	6874:01			Normal
P-05	A	03/27/92		6913:01-25		Normal
P-06	A	03/27/92		6914:01-25		Normal
P-07	A	03/27/92		6915:01-25		Normal
P-08	A	03/27/92		6916:01-25		Normal
P-09	A	03/27/92		6817:01-25		Normal
P-10	A	01/27/92	6804:07			Normal
P-11	A	01/27/92	6804:09			Normal
P-12	A	01/27/92	6804:10			Normal
P-13	A	01/27/92	6804:11			Normal
P-14	A	01/27/92	6804:12			Normal

Table 45. Tank or Vessel F-44

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	03/20/92	6901:01			Normal
A-01	A	07/28/92	7089:01			Normal
A-02	A	03/20/92	6901:02			Normal
A-03	A	03/20/92	6901:03			Normal
A-04	A	03/20/92	6901:04			Normal
P-02	A	03/20/92	6901:05			Normal
P-03	A	03/20/92	6901:06			Normal
P-04	A	03/20/92	6901:07			Normal
P-05	A	03/20/92	6901:08			Normal
P-06	A	03/20/92	6901:09			Normal
P-07	A	03/20/92	6901:10			Normal
P-08	A	03/20/92	6901:11			Normal
P-09	A	03/20/92	6901:12			Normal
P-10	A	05/20/92		7036:01-25		Normal
P-11	A	05/20/92		7021:01-25		Stains observed on the annulus floor were caused by water inleakage.
P-12	A	05/20/92		7011:01-25		Stains and marks observed on the secondary wall were caused by water inleakage.
P-13	A	05/20/92		7022:01-25		Normal
P-14	A	05/20/92		7037:01-25		Normal

Table 46. Tank or Vessel F-45

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	04/16/92	6941:01			Stains and marks observed on the tank wall were caused by water inleakage.
A-02	A	04/16/92	6941:02			Tank condition was normal. A plastic bag was observed on the annulus floor.
A-03	A	04/16/92	6941:03			Normal
A-04	A	04/16/92	6941:04			Normal
P-01	A	04/16/92	6941:05			Normal
P-02	A	04/16/92	6941:06			Stains and marks observed on the annulus floor were caused by water inleakage.
P-03	A	04/16/92	6941:07			Stains and marks observed on the annulus floor were caused by water inleakage.
P-04	A	04/16/92	6941:08			Stains and marks observed on the annulus floor were caused by water inleakage.
P-05	A	04/16/92	6941:09			Normal
P-06	A	04/16/92	6941:10			Normal
P-07	A	04/16/92	6941:11			Normal
P-08	A	04/16/92	6941:12			Normal
P-09	A	04/16/92	6941:13			Stains and marks observed on the tank wall were caused by water inleakage.
P-10	A	05/20/92		7038:01-25		Normal
P-11	A	05/20/92		7039:01-25		Tank condition was normal. An absorbent wipe was observed on the annulus floor.
P-12	A	05/20/92		7023:01-25		Tank condition was normal. An unidentified object was observed on the annulus floor. The object was also observed from the P-13 riser. Additional inspection was required to identify the object.
P-12	A	07/14/92			VISUAL	A visual inspection was made to identify an object observed on the annulus floor during a scheduled inspection made on 5-20-92. The inspection revealed two riser plug gaskets on the annulus floor beneath the P-12 riser.
P-13	A	05/20/92		7040:01-25		Stains and marks observed on the annulus wall were caused by water inleakage. An unidentified object was observed on the annulus floor. The object was also observed from the P-12 riser. Additional inspection was required to identify the object.

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
P-14	A	05/20/92		7041:01-25		Stains and marks observed on the annulus wall were caused by water inleakage.
C-01	I	05/04/92				A CCTV inspection was made of the transfer jet to check for leakage where it joins the connector head. Leakage was observed at both cam locks where the connector head joins the jet.
C-03	I	11/09/92			7147:01-03	Inspection was made to check flush water connectors and valve in the back flush valve assembly. Inspection revealed that the flush water was connected. The stem for the valve was not visible.
H	I	05/04/92	6980:01-04			Photographs were made to document condition of the waste surface. Salt crystals covered approximately 40-60% of the surface area.

Table 47. Tank or Vessel F-46

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	03/20/92	6903:01			Normal
A-02	A	03/20/92	6903:02			Normal
A-03	A	03/20/92	6903:03			Normal
A-04	A	03/20/92	6903:04			Normal
P-01	A	03/20/92	6903:05			Normal
P-02	A	03/20/92	6903:06			Normal
P-03	A	03/20/92	6903:07			Normal
P-04	A	03/20/92	6903:08			Normal
P-05	A	04/16/92	6903:09			Normal
P-06	A	03/20/92	6903:10			Normal
P-07	A	03/20/92	6903:11			Normal
P-08	A	03/20/92	6903:12			Normal
P-09	A	03/20/92	6903:13			Normal
P-10	A	05/21/92		7012:01-25		Normal
P-11	A	05/21/92		7042:01-25		Normal
P-12	A	05/21/92		7024:01-25		Stains and marks observed on the secondary vessel wall were caused by water inleakage.
P-13	A	05/21/92		7013:01-25		Stains and marks on the tank wall were caused by water inleakage.
P-14	A	05/21/92		7014:01-25		The stained area on the annulus floor increased in size since inspected in 1988. Inspection in 1988 revealed that water had leaked into the annulus via failed seals where lines WS, WF, and SJ1/SJ2 penetrate the annulus. The increase in the size of the stained area on the floor indicates additional leakage occurred after 1-05-88.
C-01	I	06/18/92				A CCTV inspection (File Tape 230) revealed stains and particulates on the tank floor that appeared to be residues from water washing the valve house floor into the tank. Reviews by WME and SRTC concluded that the tank has not corroded and that the stains and particulates were innocuous.

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
G	I	03/16/92				CCTV (File Tape 221) was used to document condition of the tank interior. Stains and silt was observed on the tank floor indicating that water from an undetermined source had entered the tank. The tank was dry when inspected.
G	I	06/18/92				CCTV (File Tape 230) was used to guide and document the process and results of cleaning and area of the tank floor. The cleaned steel surface showed no evidence of corrosion.
H	I	03/04/92				CCTV (File Tape 211) was used to document condition of the tank interior. Stains and silt was observed on the tank floor indicating that water from an undetermined source entered the tank. The tank was dry when inspected.
H	I	03/13/92				A CCTV inspection (File Tape 214) was made to document condition of the tank interior. Stains and silt was observed on the tank floor indicating that water from an undetermined source had entered the tank. The tank was dry when inspected.

Table 48. Tank or Vessel F-47

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	02/27/92	6870:08			Normal
A-02	A	02/27/92	6870:10			Normal
A-03	A	02/27/92	6870:15			Normal
A-04	A	02/26/92			6872:01-03	Stains and marks on the annulus wall and floor were caused by water leaking past the failed seal where the WD line penetrates the annulus.
A-04	A	02/27/92	6871:01-09			Stains and marks on the annulus wall and floor were caused by water leaking past the failed seal on the WD line.
A-04	A	02/27/92	6870:02			Stains and marks on the annulus wall and floor were caused by water leaking past the failed seal on the WD line.
P-01	A	02/27/92	6870:04			Stains and marks on the annulus wall and floor were caused by water leaking past the failed seal where the WD line penetrates the annulus.
P-02	A	02/27/92	6870:03			Stains and marks on the annulus wall and floor were caused by water leaking past the failed seal where the WD line penetrates the annulus.
P-02	A	02/28/92				CCTV (File Tape 224) was used to document stains and marks observed on the annulus wall and floor. The stains and marks were caused by water leaking past the failed seal where the WD line penetrates the annulus.
P-03	A	02/27/92	6870:01			Stains and marks on the annulus wall and floor were caused by water leaking past the failed seal where the WD line penetrates the annulus.
P-04	A	02/27/92	6870:18			Stains and marks on the annulus floor were caused by inleakage of water.
P-05	A	02/27/92	6870:17			Normal
P-06	A	02/27/92	6870:16			Normal
P-07	A	02/27/92	6870:14			Normal
P-08	A	02/27/92	6870:13			Normal
P-09	A	02/27/92	6870:12			Normal
P-10	A	02/27/92	6870:11			Normal
P-10	A	05/21/92		7025:01-25		Normal
P-11	A	02/27/92	6870:09			Normal
P-11	A	05/21/92		7043:01-25		Normal
P-12	A	02/27/92	6870:07			Normal
P-12	A	05/21/92		7015:01-25		Normal
P-13	A	02/27/92	6870:06			Normal

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
P-13	A	05/21/92		7044:01-25		Normal
P-14	A	02/27/92	6870:05			Normal
P-14	A	05/21/92		7016:01-25		Normal
H	I	12/22/92	7164:01-06			Inspection made to determine reason for a 1.8 inch difference in liquid level measurements. The surface of the waste was salt; no liquid was observed. Variations in the salt levels were greater than the observed 1.8 inch difference in measurements.

Table 49. Tank or Vessel H-48

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	01/29/92	6818:01			Normal
A-02	A	01/29/92	6818:02			Normal
A-03	A	01/29/92	6818:03			Normal
A-04	A	01/29/92	6818:04			Normal
P-01	A	01/29/92	6818:05			Normal
P-02	A	01/29/92	6818:06			Normal
P-03	A	01/29/92	6818:07			Normal
P-04	A	01/29/92	6818:08			Normal
P-05	A	01/29/92	6818:09			Normal
P-06	A	01/29/92	6818:10			Normal
P-07	A	01/29/92	6818:11			Stains and marks on the annulus floor were caused by inleakage of water.
P-08	A	01/29/92	6818:12			Stains and marks on the tank wall and annulus floor were caused by water inleakage.
P-08	A	05/26/92			7026:01-07	Inspection was made to determine the leak-path for the water that caused the stains and marks observed on the tank wall on 1-29-92. Water had entered the annulus between the annulus coverplate and primary vessel wall.
P-09	A	01/29/92	6818:13			Normal
P-10	A	01/29/92	6818:14			Normal
P-11	A	04/01/92		6923:01-25		Normal
P-12	A	04/01/92		6924:01-25		Normal
P-13	A	04/01/92		6925:01-25		Normal
P-14	A	04/01/92		6926:01-25		Stains and marks observed on the tank wall were caused by water inleakage.
B-02	I	09/22/92			7132:01-02	Inspection was made to document conditions of the nitrogen distribution nozzles. The nozzles were properly installed and no abnormalities were observed.
B-02	I	11/30/92	7153:01-04			Inspection was made to document condition of the waste surface in the tank after a cold chemical run. Foam was observed floating on the liquid surface.
C-03	I	09/22/92			7131:01-02	Inspection was made to document conditions of the nitrogen distribution nozzles. The nozzles were properly installed and no abnormalities were observed.

Table 50. Tank or Vessel H-49

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	02/20/92	6857:01			Normal
A-02	A	02/20/92	6857:02			Normal
A-03	A	02/20/92	6857:03			Normal
A-04	A	02/20/92	6857:04			Normal
P-01	A	02/20/92	6857:05			Normal
P-02	A	02/20/92	6857:06			Normal
P-03	A	02/20/92	6857:07			Normal
P-04	A	02/20/92	6857:08			Normal
P-05	A	02/20/92	6857:09			Normal
P-06	A	02/20/92	6857:10			Normal
P-07	A	02/20/92	6857:11			Normal
P-08	A	02/20/92	6857:12			Normal
P-09	A	02/20/92	6857:13			Normal
P-10	A	02/04/92		6819:01-25		Normal
P-11	A	02/04/92		6820:01-25		Normal
P-12	A	02/04/92		6825:01-25		Normal
P-13	A	02/04/92		6826:01-25		Normal
P-14	A	02/04/92		6827:01-25		Normal

Table 51. Tank or Vessel H-50

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	03/05/92	6862:01			Normal
A-02	A	03/05/92	6862:02			Normal
A-03	A	03/05/92	6862:03			Stains observed on the tank wall were caused by inleakage of water.
A-04	A	03/05/92	6862:04			Normal
P-01	A	03/05/92	6862:05			Normal
P-02	A	03/05/92	6862:06			Normal
P-03	A	03/05/92	6862:07			Normal
P-04	A	03/05/92	6862:08			Normal
P-05	A	03/05/92	6862:09			Normal
P-06	A	03/05/92	6862:10			Normal
P-07	A	03/05/92	6862:11			Normal
P-08	A	03/05/92	6862:12			Stains observed on the tank wall were caused by inleakage of water.
P-09	A	03/05/92	6862:13			Stains observed on the tank wall were caused by inleakage of water.
P-10	A	02/03/92		6815:01-25		Normal
P-11	A	02/03/92		6814:01-25		Normal
P-12	A	02/03/92		6813:01-25		Normal
P-13	A	02/03/92		6812:01-25		Normal
P-14	A	02/03/92		6811:01-25		Normal

Table 52. Tank or Vessel H-51

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
A-01	A	02/20/92	6863:01			Normal
A-02	A	02/20/92	6863:02			Normal
A-03	A	02/20/92	6863:03			Normal
A-04	A	02/20/92	6863:04			Normal
P-01	A	02/20/92	6863:05			Normal
P-02	A	02/20/92	6863:06			Normal
P-03	A	02/20/92	6863:07			Normal
P-04	A	02/20/92	6863:08			Normal
P-05	A	02/20/92	6863:09			Normal
P-06	A	02/20/92	6863:10			Normal
P-07	A	02/20/92	6863:11			Normal
P-08	A	02/20/92	6863:12			Normal
P-09	A	02/20/92	6863:13			Normal
P-10	A	04/01/92		6927:01-25		Stains observed on the annulus floor were caused by water inleakage.
P-11	A	03/18/92		6893:01-25		Normal
P-12	A	03/18/92		6894:01-25		Normal
P-13	A	03/18/92		6895:01-25		Normal
P-14	A	04/01/92		6928:01-25		Normal
B-05	I	02/14/92			6832:01-02	Inspection verified that a deflector plate was installed on the inlet nozzle in the C-1 riser.
V-01	I	06/26/92				Visual inspection of the G riser slurry pump was performed to leak check the pump housing. No leakage was observed.

Table 53. Tank or Vessel H-DB6

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
		06/10/92				CCTV was used to search for possible leak paths into the pit because of unexplained level increases in the pit sump. No evidence of inleakage was observed.

Table 54. Tank or Vessel H-DB7

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
		09/08/92			7126:01-09	Inspection was made to verify that valve 12 in HDB7 did not leak. No leakage was observed during testing.
		11/30/92			7155:01-05	Inspection verified dummy connectors were installed on nozzles 21 through 25.

Table 55. Tank or Vessel H-EVAP-1

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
		03/04/92				A CCTV inspection (File Tape 212) was made in the evaporator cell to verify conditions in the vent vault. The vent vault contained approximately 6-12 inches of water and debris was observed on the floor.

Table 56. Tank or Vessel F-EVAP-2

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
NW		10/14/92				CCTV inspection made in the evaporator cell revealed residue on the north vent and lift jumper nozzle faces. Residues observed were removed remotely with a wire brush (File Tape 236).
SE		11/18/92				CCTV was used to document conditions in the 2F evaporator cell. No unusual conditions were observed (File Tape 236).

Table 57. Tank or Vessel H-EVAP-2

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
SW		11/16/92				CCTV was used to document conditions in the 2H evaporator cell. No unusual conditions were observed (File Tape 236).

Table 58. Tank or Vessel H-GDL to Tank 41

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
COP-01		10/01/92				CCTV inspection (File Tape 233) was made to determine if condensate or other liquid was present in the gravity drain line from the evaporator. No liquid was observed in the line.

Table 59. Tank or Vessel F-LDB2 at Tank 47

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
		02/14/92				CCTV was used to determine the location of a failed probe to enable Equipment Engineering to design a tool for removal.

Table 60. Tank or Vessel H-PP6

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
		10/29/92				CCTV was used to document the configuration in the pump pit after the sump jet jumper was replaced (File Tape 235).

Table 61. Tank or Vessel H-SWS

Inspection Port	Annulus or Interior	Date	Type of Inspection and Identification Numbers WAP	DP	PSP	Remarks
907-1H		11/10/92				CCTV (File Tape 241) was used to document conditions in the storm sewer between 907-1H and the junction box in the 5H sewer and inside 907-1H. The inspection revealed sand and silt 4-6 inches deep in the storm sewer from 907-1H to the junction box.
907-2H		12/08/92				CCTV (File Tape 238) was used to document conditions in the 2H storm sewers. A piece of PVC pipe approximately 4 inches in diameter and 4 feet in length was observed in the sewer line. The PVC pipe was located approximately 1 foot from manhole #9. No unusual conditions were observed in the sewer line from the 2H monitor to manhole #11. A concrete obstruction located at 907-1H sluice gates was causing water to buildup approximately 8 inches deep. There was approximately 4-6 inches of mud and silt in the sewer line from manhole #11 to 907-1H sluice gates.

The numbers listed under WAP, DP, and PSP identify photographs in the HLWE files.

WAP = wide angle photography; DP = direct photography; PSP = periscopic photography; COP = clean out port; DB = diversion box; EVAP = evaporator; GDL = gravity drain line; LDB = leak detection box; PP = pump pit; SWS = storm water sewer.

DATE
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8/19/93
END