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U.S. DEPARTMENT OF ENERGY NEVADA OPERATIONS OFFICE ENVIRONMENTAL MONITORING PROGRAM SUMMARY DATA REPORT-FIRST AND SECOND CALENDAR QUARTERS 1994

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DISCLAIMER

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1.0 RADIOLOGICAL ENVIRONMENTAL SURVEILLANCE

During the first and second calendar quarters of 1994 air samples were collected and analyzed from 54 air particulate/halogen sampling stations, 10 noble gas sampling stations, and 19 tritiated water vapor sampling stations. Surface water samples were collected and analyzed from 12 open water supply reservoirs, 8 natural springs, 2 wastewater containment ponds, and 9 sewage lagoons. Groundwater samples were obtained from 10 potable and 1 non-potable supply wells, and 8 drinking water consumption points. Ambient radiation levels were measured at 193 locations.

1.1 RADIOACTIVITY IN AIR

The 54 air particulate/halogen sampling stations were operated continuously. Samples were collected weekly on glass fiber filters (for particulates) and charcoal cartridges (for halogens). The filters were counted for gamma and gross beta activity, composited monthly, and then analyzed for ^{238}Pu and $^{239+240}Pu$. The charcoal cartridge was counted for gamma activity.

Samples for the noble gases ^{85}Kr and ^{133}Xe were collected weekly at ten fixed locations. A distillation process separated the krypton and xenon gases for measurement.

Tritiated water vapor was monitored continuously at 19 locations. Samples were collected every two weeks and analyzed for ^{3}H using liquid scintillation counting.

Measured quantities of radioactivity were compared to the Derived Concentration Guides (DCG) found in DOE Order 5400.5 for limiting radiation exposure to the general public. In making these comparisons, the following assumptions were made:

- The chemical species of the radionuclides were unknown so the most restrictive DCG values were used. These values used are listed in Table 1.1.
- For air sampling results, all of the gross beta activity detected was assumed to be ^{90}Sr.

1.1.1 AIR PARTICULATE/HALOGEN SAMPLING RESULTS

There were no changes in air sampling locations during the first and second quarters of 1994.

1.1.1.1 GROSS BETA

Air particulate samples, except for Gate 200 in Area 5, were held for five to seven days prior to gross beta counting and gamma spectrum analysis to allow for the decay of radon and radon daughters. Samples collected at Gate 200 in Area 5 were not held for decay of radon daughters. The results from this station provide a quick indication of any anomalous concentrations. Summary data for gross beta results are shown in Table 1.2. All results exceeded their applicable minimum detectable concentration (MDC). Mean station concentrations ranged from 1.40 to 2.09 x 10^{-14} µCi/mL (0.52 to 0.77 mBq/m^3), excluding Gate 200. The network mean gross beta concentration was 1.8 x 10^{-14} µCi/mL (0.67 mBq/m^3), comparable to the network mean value measured in 1993. This concentration is 2.0 percent of the DCG in DOE Order 5400.5 adjusted to an annual Effective Dose Equivalent (EDE) of 10 mrem (10 mSv) in accordance with the requirements of 40 C.F.R. 61.

The same trend observed in 1993 (i.e., an initial drop in network values at the beginning of the year, followed by a steady increase in values during the year) was seen. Investigation into the cause of this trend is continuing.

1.1.1.2 PLUTONIUM

Monthly composite samples from each particulate sampling location were analyzed for ^{238}Pu and $^{239+240}Pu$. Summary data for ^{238}Pu and $^{239+240}Pu$ are shown in Tables 1.3 and 1.4, respectively. Mean station average concentrations for ^{238}Pu and $^{239+240}Pu$ ranged from -0.007 to 0.97 x 10^{-17} µCi/mL and 0.07 to 76 x 10^{-17} µCi/mL (-0.026 to 3.6 x 10^{-7} and 0.26 to 281 x 10^{-7} Bq/m^3), respectively. The network mean concentration of ^{238}Pu was 0.10 x 10^{-17} µCi/mL (0.37 x 10^{-7} Bq/m^3), comparable to the 1993 network mean. Ninety-six (96) percent of the ^{238}Pu values were below their limit of detection. The network mean concentration of $^{239+240}Pu$ was 5.6 x 10^{-17} µCi/mL (21 x 10^{-7} Bq/m^3), comparable to the 1993 network mean. Forty-eight (48) percent of the $^{239+240}Pu$ values were below their limit of detection.

The maximum mean concentration values of both ^{238}Pu and $^{239+240}Pu$ were measured at the Area 9, 9-300 Bunker sampling location, the same as in 1993. These maximum mean values for ^{238}Pu and $^{239+240}Pu$ represent 0.24 percent and 19 percent, respectively, of the DCG's adjusted to an annual EDE of 10 mrem.

1.1.1.3 GAMMA

The charcoal cartridges used to collect halogen gases and the glass fiber filters used to collect particulates were analyzed by gamma spectroscopy. All radionuclides detected were naturally occurring in the environment (^{40}K, ^{7}Be, and members of the uranium and thorium series). No nuclear event related radioactivity was detected by the gamma spectroscopy analyses.

1.1.2 NOBLE GAS (^{85}Kr and ^{133}Xe) SAMPLING RESULTS

Noble gas samplers were operated continuously throughout the first and second quarters except for those at the Area 19, Pahute Substation, Area 20 Camp, and Area 20, DDZ77 Transformer. Due to the closing of Areas 19 and 20 during the winter months, these stations did not begin sampling until the second quarter of 1994.

1.1.2.1 KRYPTON-85

Summary data for ^{85}Kr results are shown in Table 1.5. Mean station concentrations ranged from 23 to 29 x 10^{-12} µCi/mL (0.89 to 1.1 Bq/m^3). The network mean concentration was 25 x 10^{-12} µCi/mL (0.92 Bq/m^3). These levels of ^{85}Kr are comparable to those measured in 1993 and are attributable to world-wide nuclear power and fuel processing operations, with some minor contribution from underground nuclear tests at the NTS. The highest mean concentration occurred at the Area 20, DDZ77 Transformer. This location is in the northern portion of the NTS in the proximity of the sites where seepage of noble gases from the ground has been observed in the past. This maximum mean concentration was less than 0.01 percent of the DCG adjusted to an annual dose equivalent of 10 mrem.

1.1.2.2 XENON-133

Summary data for ^{133}Xe results are shown in Table 1.6. Mean station concentrations ranged from 1.5 to 56 x 10^{-12} µCi/mL (0.06 to 2.1 Bq/m^3). The network mean concentration was 17 x 10^{-12} µCi/mL (0.63 Bq/m^3). These maximum mean station and network concentrations are significantly higher than values measured in 1993. These higher values for the first and second quarters of 1994 were greatly influenced by several anomalously high values. These anomalous values are being investigated to verify their accuracy. No nuclear testing has occurred at the NTS since September 1992. Due to its short half-life (5.27 days), any ^{133}Xe created at, or before, that time would have been reduced by more than a factor of 10^{26}. Accordingly, any detectable ^{133}Xe would be attributable to statistical or analytical anomalities. The maximum mean station concentration is only 0.11 percent of the applicable DCG adjusted to an annual EDE of 10 mrem.

1.1.3 TRITIATED WATER VAPOR

Summary data for tritiated water vapor sampling are shown in Table 1.7. Mean station concentrations ranged from 0.21 to 13 x 10^{-12} µCi/mL (7.8 to 481 mBq/m^3). The network mean concentration was 2.6 x 10^{-12} µCi/mL (96 mBq/m^3). The nine (9) stations associated with the Area 5, Radioactive Waste Management Site (RWMS), and the Area 15, EPA station had mean concentrations above their detection limits. The mean concentrations for the remaining stations were below their detection limits. The highest mean value was measured at the Area 5, RWMS No. 4 Station. This mean value was only 0.13 percent of the DCG for tritium adjusted for an annual EDE of 10 mrem.

1.2 RADIOACTIVITY IN SURFACE WATER

Sampling was discontinued at Area 18, Well 8 reservoir, Area 19, Well UE-19c reservoir, and Area 20, Well 20A reservoir due to a lack of water. Routine sampling was reestablished at Area 15, Tub Spring. Sampling of containment ponds was limited to Area 12, E Tunnel effluent and E Tunnel pond No. 1 due to lack of water at other previously sampled containment ponds. Results from surface water sampling for open reservoirs and natural springs were compared to DCG values adjusted to the Safe Drinking Water Act (SDWA) standard of 4 mrem per year even though none of these surface waters supplied drinking water.

1.2.1 OPEN RESERVOIRS

Summary data for open reservoirs are shown in Table 1.8. Station mean gross beta concentrations ranged from 3.9 to 11 x 10^{-9} µCi/mL (0.14 to 0.41 Bq/L) with a network mean of 7.4 x 10^{-9} µCi/mL (0.27 Bq/L). All results were above their detection limits. The maximum station means at Area 5, Well 5B reservoir, and Area 6, Well 3 reservoir, were both 22 percent of the applicable SDWA compliance limit.

Station mean tritium concentrations ranged from -110 to 250 x 10^{-9} µCi/mL (-4.1 to 9.2 Bq/L) with a network mean of 29 x 10^{-9} µCi/mL (1.1 Bq/L). All station mean values were less than the mean detection limit. The highest station mean value was at Area 2, Mud Plant, and was 0.31 percent of the adjusted DCG.

Station mean ^{238}Pu and $^{239+240}Pu$ concentrations ranged from -0.0019 to 0.0080 x 10^{-9} µCi/mL and 0.0006 to 0.012 x 10^{-9} µCi/mL (-0.07 to 0.30 mBq/L and 0.02 to 0.44 mBq/L), respectively. The network means for ^{238}Pu and $^{239+240}Pu$ were 0.0016 and 0.0045 x 10^{-9} µCi/mL (0.06 and 0.17 mBq/L), respectively. All station mean values for both ^{238}Pu and $^{239+240}Pu$ were less than the applicable mean detection limit. The highest station mean value for ^{238}Pu was at Area 25, Well J-12 reservoir, and was 0.40 percent of the applicable adjusted DCG. The highest station mean value for $^{239+240}Pu$ was at Area 3, Mud Plant, and was 1.2 percent of the applicable adjusted DCG.

All water samples were analyzed by gamma spectroscopy. All radionuclides detected were naturally occurring in the environment (^{40}K, ^{7}Be, and members of the uranium and thorium series). No nuclear event related radioactivity was detected by the gamma spectroscopy analyses.

The results for open reservoirs discussed above are comparable with the results for 1993. All of the network means are within the range of means measured during the past five years (1989 - 1993).

1.2.2 NATURAL SPRINGS

Of the nine natural springs found onsite, (i.e. spring-supplied pools located within the NTS) eight were sampled. These springs are not used for drinking water supplies, but are a source of water for wild animals on the NTS. Summary data for these springs are shown in Table 1.9.

Station mean gross beta concentrations ranged from 5.1 to 28 x 10^{-9} µCi/mL (0.19 to 1.0 Bq/L) with a network mean of 12 x 10^{-9} µCi/mL (0.44 Bq/L). All results were above their detection limits. The maximum station mean at Area 12, Gold Meadows, was 56 percent of the applicable SDWA compliance limit.

Station mean tritium concentrations ranged from -230 to 340 x 10^{-9} µCi/mL (-8.5 to 13 Bq/L) with a network mean of 28 x 10^{-9} µCi/mL (1.0 Bq/L). All station mean values were less than the mean detection limit. The highest station mean value was at Area 29, Topopah Spring, and was 0.42 percent of the applicable adjusted DCG.

Station mean ^{238}Pu and $^{239+240}Pu$ concentrations ranged from -0.0020 to 0.11 x 10^{-9} µCi/mL and 0.0 to 4.7 x 10^{-9} µCi/mL (-0.07 to 4.1 mBq/L and 0.0 to 174 mBq/L), respectively. The network means for ^{238}Pu and $^{239+240}Pu$ were 0.027 and 0.60 x 10^{-9} µCi/mL (1.0 and 22 mBq/L), respectively. The mean values for both ^{238}Pu and $^{239+240}Pu$ were above the mean detection limits at both Area 7, Reitmann Seep, and Area 29, Topopah Spring. The single $^{239+240}Pu$ value at Area 12, Captain Jack, was also above the detection limit. The highest station mean value for ^{238}Pu was at Area 29, Topopah Spring, and was 5.5 percent of the adjusted DCG. The highest station mean value for $^{239+240}Pu$ was at Area 7, Reitmann Seep, and was 470 percent of the applicable adjusted DCG.

All water samples were analyzed by gamma spectroscopy. All radionuclides detected were naturally occurring in the environment (^{40}K, ^{7}Be, and members of the uranium and thorium series). No nuclear event related radioactivity was detected by the gamma spectroscopy analyses.

The results for natural springs discussed above are comparable with the results for 1993, and the network means are within the range of means measured during the past five years (1989 - 1993), except for the $^{239+240}$Pu results. The network mean $^{239+240}$Pu value is higher than any value in the previous five years. This high mean value is due to high results measured at Area 7, Reitmann Seep.

1.2.3 CONTAINMENT PONDS

As noted above only two containment ponds contained sufficient water to sample. At the Area 12, E Tunnel complex, a grab sample was taken from containment pond No. 1 and at the effluent discharge point. Summary data for these two locations are shown in Table 1.8.

The mean gross beta concentration was 59 x 10^{-9} µCi/mL (2.2 Bq/L) with the containment pond slightly higher than the effluent discharge point. The tritium concentrations at both locations were 1.8 x 10^{-3} µCi/mL (6.7 x 10^{4} Bq/L).

Mean ^{238}Pu and $^{239+240}$Pu concentrations were 0.68 x 10^{-9} µCi/mL and 5.6 x 10^{-9} µCi/mL (0.03 and 0.21 Bq/L), respectively. Values for both ^{238}Pu and $^{239+240}$Pu were slightly higher for the containment point versus the discharge point.

All water samples were analyzed by gamma spectroscopy. Low levels of ^{137}Cs were detected in two samples, one from the effluent discharge point, and one from containment pond No. 1.

The results for E Tunnel complex discussed above are comparable with the results for 1993, except for the $^{239+240}$Pu results which are significantly lower than the 1993 results.

1.2.4 SEWAGE LAGOONS

Each of the lagoons is part of a closed system used for evaporative treatment of sanitary waste. The lagoons are located in Areas 6, 12, 22, 23, and 25. There was no known contact by the working population during the year. Summary data for sewage lagoons are shown in Table 1.10.

Station mean gross beta concentrations ranged from 9.2 to 34 x 10^{-9} µCi/mL (0.34 to 1.3 Bq/L) with a network mean of 22 x 10^{-9} µCi/mL (0.81 Bq/L). All results were above their detection limits. The maximum station mean was at Area 22, Sewage Pond.

Station mean tritium concentrations ranged from 49 to 240 x 10^{-9} µCi/mL (1.8 to 8.9 Bq/L) with a network mean of 150 x 10^{-9} µCi/mL (5.6 Bq/L). All station mean values were less than the mean detection limit. The highest station mean value was at Area 6, LANL Sewage.

Station mean ^{238}Pu and $^{239+240}$Pu concentrations ranged from -0.0017 to 0.0 x 10^{-9} µCi/mL and -0.00001 to 0.0092 x 10^{-9} µCi/mL (-0.06 to 0.0 mBq/L and 0.0004 to 0.34 mBq/L), respectively. The network means for ^{238}Pu and $^{239+240}$Pu were -0.0010 and 0.0025 x 10^{-9} µCi/mL (- 0.04 and 0.09 mBq/L), respectively. All ^{238}Pu values were less or equal to 0.0. All station mean values for $^{239+240}$Pu were less than the applicable mean detection limit. The highest station mean value for $^{239+240}$Pu was at Area 23, Sewage Pond.

All water samples were analyzed by gamma spectroscopy. All radionuclides detected were naturally occurring in the environment (^{40}K, ^{7}Be, and members of the uranium and thorium series). No nuclear event related radioactivity was detected by the gamma spectroscopy analyses.

The results for sewage lagoons discussed above are comparable with the results for 1993. All of the network means are within the range of means measured during the past five years (1989 - 1993), except for the ^{238}Pu and $^{239+240}Pu$ values which are below the previous five year range of mean values.

1.3 RADIOACTIVITY IN SUPPLY WELL WATER

The NTS water system currently consists of 11 supply wells, 10 of which supply potable water to onsite distribution systems. The eleventh supply well (Area 5, Well UE-5c) supplies water for industrial purposes. Summary data for these supply wells are given in Table 1.11. These results are compared to the DCG's in DOE 5400.5 as adjusted to meet federal Safe Drinking Water Act (SDWA) regulations.

1.3.1 GROSS BETA

The station means for gross beta for potable supply wells ranged from 4.2 to 20 x 10^{-9} µCi/mL (0.16 to 0.74 Bq/L) with a network mean of 9.7 x 10^{-9} µCi/mL (0.36 Bq/L). The station mean for the single non-potable well was 35 x 10^{-9} µCi/mL (1.3 Bq/L). All results were above their detection limits. The maximum potable station mean was at Area 5, Well 5C, and was 40 percent of the SDWA compliance limit.

1.3.2 TRITIUM

The station means for tritium for potable supply wells ranged from -2.7 to 4.6 x 10^{-9} µCi/mL (-0.10 to 0.17 Bq/L) with a network mean of 2.0 x 10^{-9} µCi/mL (0.07 Bq/L). The station mean for the single non-potable well was 2.8 x 10^{-9} µCi/mL (0.10 Bq/L). All results were less than their detection limits. The maximum station mean was at Area 5, Well 5B, and was less than 0.01 percent of the applicable adjusted DCG.

1.3.3 PLUTONIUM

The station means for ^{238}Pu for potable supply wells ranged from -0.00003 to 0.0024 x 10^{-9} µCi/mL (-0.001 to 0.09 mBq/L) with a network mean of -0.0005 x 10^{-9} µCi/mL (-0.02 mBq/L). The station mean for the non-potable well was 0.011 x 10^{-9} µCi/mL (0.41 mBq/L). The station means for $^{239+240}Pu$ for potable supply wells ranged from -0.0021 to 0.0052 x 10^{-9} µCi/mL (-0.08 to 0.19 mBq/L) with a network mean of 0.0021 x 10^{-9} µCi/mL (0.08 mBq/L). The station mean for $^{239+240}Pu$ for the non-potable well was 0.011 x 10^{-9} µCi/mL (0.41 mBq/L). All station means for both ^{238}Pu and $^{239+240}Pu$ were below the mean detection limits. The maximum potable station mean for ^{238}Pu, Area 6, Well C, was 0.12 percent of the applicable adjusted DCG. The maximum potable station mean for $^{239+240}Pu$, Area 5, Well 5C, was 0.52 percent of the applicable adjusted DCG.

1.3.4 GROSS ALPHA & RADIUM

The station means for gross alpha for potable supply wells ranged from 0.93 to 8.0 x 10^{-9} µCi/mL (0.03 to 0.30 Bq/L) with a network mean of 4.6 x 10^{-9} µCi/mL (0.17 Bq/L). The non-potable station mean was 11 x 10^{-9} µCi/mL (0.41 Bq/L). All results except for a single value at Area 18, Well HTH No. 8, were above their detection limits. The potable station means for ^{226}Ra ranged from 0.64 to 2.3 x 10^{-9} µCi/mL (0.02 to 0.09 Bq/L) with a network mean of 1.4 x 10^{-9} µCi/mL (0.05 Bq/L). The single non-potable station result was 0.36 x 10^{-9} µCi/mL (0.01 Bq/L). The potable station means for ^{228}Ra ranged from -0.077 to 0.44 x 10^{-9} µCi/mL (-0.003 to 0.016 Bq/L) with a network mean of 0.18 x 10^{-9} µCi/mL (0.007 Bq/L). The single non-potable station result for ^{228}Ra was -0.046 x 10^{-9} µCi/mL (-0.002 Bq/L). The maximum station mean for ^{226}Ra, Area 16, Well UE-16d, was 58 percent of the applicable adjusted DCG. The maximum station mean for ^{228}Ra, Area 6, Well C-1, was 11 percent of the applicable adjusted DCG.

1.3.5 STRONTIUM

The station means for potable supply wells for ^{90}Sr ranged from 0.022 to 0.22 x 10^{-9} µCi/mL (0.81 to 8.1 mBq/L) with a network mean of 0.11 x 10^{-9} µCi/mL (4.1 mBq/L). The non-potable station mean was 0.12 x 10^{-9} µCi/mL (4.4 mBq/L). The maximum station mean was at Area 18, Well HTH No. 8, and was 0.55 percent of the applicable adjusted DCG.

1.3.6 GAMMA SPECTROSCOPY

All water samples were analyzed by gamma spectroscopy. All radionuclides detected were naturally occurring in the environment (^{40}K, ^{7}Be, and members of the uranium and thorium series). No nuclear event related radioactivity was detected by the gamma spectroscopy analyses.

The results for supply wells discussed above are generally comparable with the results for 1993. The network means for tritium, ^{238}Pu, $^{239+240}$Pu, $^{226+228}$Ra, and ^{90}Sr are within the range of means measured during the past five years (1989 - 1993). The network mean for gross beta is slightly above the range for the previous five years, while the network mean for gross alpha is slightly below its five year range.

1.4 RADIOACTIVITY IN DRINKING WATER

As a check on any effect the water distribution system might have on water quality, eight drinking water consumption end-points were sampled. Seven of these end-points were supplied by one or more of the supply wells discussed above. Water from the eighth end-point, Area 6, Bottled Water, is provided by a commercial vendor. Summary data for these end-points are given in Table 1.12. These results are compared to the DCG's in DOE 5400.5 as adjusted to meet federal SDWA regulations.

1.4.1 GROSS BETA

The station means for gross beta ranged from 0.16 to 7.6 x 10^{-9} µCi/mL (0.006 to 0.28 Bq/L) with a network mean of 5.0 x 10^{-9} µCi/mL (0.18 Bq/L). All station means except for Area 6, Bottled Water, were above their mean detection limits. The maximum station mean at Area 6, Cafeteria, was 15 percent of the SDWA compliance limit.

1.4.2 TRITIUM

The station means for tritium ranged from -38 to 240 x 10^{-9} µCi/mL (-1.4 to 8.9 Bq/L) with a network mean of 57 x 10^{-9} µCi/mL (2.1 Bq/L). All station means were less than the mean detection limit. The maximum station mean at Area 1, Building 101, was 0.30 percent of the applicable adjusted DCG.

1.4.3 PLUTONIUM

The station means for ^{238}Pu ranged from -0.0011 to 0.0021 x 10^{-9} µCi/mL (-0.041 to 0.078 mBq/L) with a network mean of 0.0004 x 10^{-9} µCi/mL (0.015 mBq/L). The station means for $^{239+240}$Pu ranged from 0.0 to 0.0064 x 10^{-9} µCi/mL (0.0 to 0.24 mBq/L) with a network mean of 0.0025 x 10^{-9} µCi/mL (0.09 mBq/L). All station means for both ^{238}Pu and $^{239+240}$Pu were below the mean detection limits. The maximum station mean for ^{238}Pu, Area 1, Building 101, was 0.10 percent of the applicable adjusted DCG. The maximum station mean for $^{239+240}$Pu, Area 6, Building 6-900, was 0.64 percent of the applicable adjusted DCG.

1.4.4 GROSS ALPHA

The station means for gross alpha ranged from -0.038 to 7.5 x 10^{-9} µCi/mL (-0.001 to 0.28 Bq/L) with a network mean of 3.3 x 10^{-9} µCi/mL (0.12 Bq/L).

1.4.5 GAMMA SPECTROSCOPY

All water samples were analyzed by gamma spectroscopy. All radionuclides detected were naturally occurring in the environment (^{40}K, ^{7}Be, and members of the uranium and thorium series). No nuclear event related radioactivity was detected by the gamma spectroscopy analyses.

The results for consumption end-points discussed above are generally comparable with the results for 1993. All network means are within the range of means measured during the past five years (1989 - 1993), except for the mean for gross alpha which is slightly below the range for the previous five years.

2.0 NON-RADIOLOGICAL EFFLUENT MONITORING

2.1 DRINKING WATER SYSTEMS

Water sampling was conducted for analysis of bacteria, volatile organic compounds (VOCs), inorganic constituents, and water quality as required by the federal Safe Drinking Water Act and state of Nevada regulations. Samples were taken at various locations throughout all drinking water distribution systems on the NTS. Common sampling points were rest room and cafeteria sinks. Analyses were performed in accordance with Nevada Administrative Code (NAC) 445 and 40 C.F.R. Part 141.

2.1.1 BACTERIOLOGICAL SAMPLING

All water systems were tested once a month, with the number of people being served determining the number of samples collected. All samples were analyzed for the presence of coliform bacteria and residual chlorine (RC).

Sample results for first and second quarters of 1994 for coliform and RC are given in Table 1.13, along with applicable state of Nevada permit numbers. The RC results are paired with the coliform results from each specific sample. No coliform bacteria were detected in any sample. All RC results were within state permit limits.

2.1.2 CHEMICAL ANALYSIS

Chemical analyses of water samples have either not yet been completed or compiled, and therefore, are not included in this report.

2.1.3 VOLATILE ORGANIC COMPOUND ANALYSIS

Samples for volatile organic compounds (VOCs) were collected during first and second quarters of 1994 from all NTS potable water wells. The samples were analyzed by Westech Laboratory Services of Phoenix, Arizona. These analyses did not indicate the presence of any VOCs above quantitation limits.

2.2 SEWAGE LAGOONS

During January 1994 sampling was conducted for sewage lagoon systems at the NTS in accordance with state of Nevada operating permits (OPs) (OPs Nos. NV87059, NV87060, NV87069, and NV87076). Water parameters monitored included flow rate, pH, biochemical oxygen demand (BOD), and total suspended solids (TSS). The flow rate and pH were estimated or measured onsite, and the BOD and TSS were determined by a state approved laboratory, Atlas Chemical Testing, in Las Vegas, Nevada. The analytical results for this sewage lagoon systems sampling in January 1994 are shown in Table 1.14. The pH and flow results were all within state limits. There were no standards for BOD and TSS.

Effective February 1, 1994, the above four permits were consolidated in a single state of Nevada General Permit, GNEV93001. This permit required quarterly monitoring of water depth in infiltration basins, quarterly monitoring of influent quality and organic loading rates in sewage lagoons, and annual monitoring for influent toxics in sewage lagoons receiving industrial wastewater.

The results for water depth measurements are shown in Table 1.15, and are all within permit limits. Influent quality data are shown in Table 1.16. An abnormally high influent biochemical oxygen demand (BOD) concentration of 900 mg/L was obtained for February at the Area 23, Mercury facility. A sample taken at the same facility in January had a more typical BOD value of 280 mg/L. A loading rate of 272 kg/day for this facility for the first quarter was calculated based on the average of these two BOD values. The high February value may have been

due to cleaning of sewer lines. No operational problems have been noted with the Mercury facility indicating the high February value is not representative for influent flow over an extended period of time. The average BOD value for 1993 was 405 mg/L resulting in an average loading rate of 160 kg/day. The Area 6, Yucca Lake Facility showed an abnormally high BOD for the second quarter. Prior samples taken at this facility in October 1993 and March 1994 showed more typical BOD values of 380 mg/L and 185 mg/L, respectively. No operational problems with the facultative pond system were noted indicating the high second quarter BOD value is not representative of the influent flow over an extended time period. Both of these abnormally high BOD values have been reported to the state of Nevada.

The results of influent toxics sampling and analyses are shown in Table 1.17. All results were within permit limits.

The results of organic loading rates are shown in Table 1.18. Due to the high BOD value for the Yucca Lake Facility for the second quarter, a loading rate above the permit limit for this facility was calculated. Additional sampling will be performed to verify that this BOD, and subsequent loading rate, value is atypical. An investigation will be performed to determine possible causes of this high BOD value.

2.3 NON-HAZARDOUS SOLID WASTE DISPOSAL

Monitoring of the three sanitary landfills was limited to recording daily refuse amounts by weight. All waste disposed of in the Area 23 landfill was weighed at the Gate 100 weighing station. Weights indicated for the Area 9 landfill are estimations. Approximately 9200 tons of waste were disposed of in the Areas 6, 9, and 23 sanitary landfills during the first and second quarters of 1994 as shown in Table 1.19.

3.0 NATIONAL ENVIRONMENTAL POLICY ACT

The National Environmental Policy Act (NEPA) of 1969 requires all federal facilities, including the NTS, to account for environmental impacts, and potential alternatives, in conducting and planning their operations. In accordance with NEPA, DOE/NV activities are evaluated for their potential environmental impacts and to ensure the proper level of NEPA documentation is initiated. During the first and second quarters of 1994 NTS-related NEPA activities included actions on seven Environmental Impact Statements (EIS), 12 Environmental Assessments (EA) and 31 Categorical Exclusions (CE). Of these, six EIS's, three EA's, and all 31 CE's were initiated in 1994. These NEPA documents are listed in chronological order in Table 1.20, with their assigned number and present status.

4.0 OCCURRENCE REPORTING

Occurrences are environmental, health, and/or safety-related events which are reported in several categories in accordance with the requirements of DOE Order 5000.3A, "Occurrence Reporting and Processing of Operations Information." Eight occurrences were reported for NTS facilities during the first and second quarters of 1994. A listing of these occurrences, including report number, description, and status, appears in Table 1.21.

TABLES

Table 1.1 Derived Limits for Radionuclides in Air and Water (DOE Order 5400.5)

Radionuclide	DCG (air)[a] (μCi/mL)	DCG (water)[b] (μCi/mL)
^{3}H	1×10^{-8}	8×10^{-5}
^{40}K	9×10^{-11}	3×10^{-7}
^{85}Kr	3×10^{-7} [c]	--
^{89}Sr	3×10^{-11}	8×10^{-7}
^{90}Sr	9×10^{-13}	4×10^{-8}
^{133}Xe	5×10^{-8}	--
^{226}Ra	1×10^{-13}	4×10^{-9}
^{238}Pu	4×10^{-15}	2×10^{-9}
$^{239+240}Pu$	4×10^{-15}	1×10^{-9}

(a) DCG - Derived Concentration Guides are reference values for conducting radiological protection programs at operational DOE facilities and sites. The DCG values for air are for an effective dose equivalent of 10 mrem (10 mSv) (inhalation) for a year as required by 40 C.F.R. 61.92 and DOE Order 5400.5.

(b) The values listed for beta and photon emitters in the table are based on 4 mrem committed effective dose equivalent for the radionuclide taken into the body by ingestion of water during one year (730 L). Gross beta levels less than or equal to 50 pCi/L are in compliance with 40 C.F.R. 141 (SDWA).

(c) Nonstochastic value.

Table 1.2 Summary Data For Particulate Air Sampling Stations: Gross Beta Concentrations - 1994

Sampling Location	Number	Gross Beta Concentration (10^{-14} μCi/mL) Minimum	Maximum	Arithmetic Mean	Standard Deviation
Area 1, BJY	26	1.24	2.55	1.86	0.36
Area 1, Gravel Pit	26	1.24	2.46	1.85	0.35
Area 2, 2-1 Substation	26	1.16	2.19	1.72	0.30
Area 2, Complex	26	1.07	2.24	1.66	0.35
Area 3, Complex	21	1.17	3.75	1.84	0.62
Area 3, Complex No. 2	24	1.21	2.59	1.87	0.37
Area 3, Mud Plant	26	1.39	2.73	1.95	0.35
Area 3, U-3ah/at East	26	1.14	3.34	1.68	0.45
Area 3, U-3ah/at North	22	1.05	2.64	1.60	0.39
Area 3, U-3ah/at South	26	1.03	2.14	1.52	0.33
Area 3, U-3ah/at West	25	0.94	2.31	1.60	0.35
Area 5, DOD Yard	26	1.12	2.79	1.82	0.37
Area 5, Gate 200 South*	26	1.18	7.44	2.22	1.16

* Samples from this location not always held standard 5-7 days to allow for decay of radon daughter products

Table 1.2 (Summary Data For Particulate Air Sampling Stations: Gross Beta Concentrations - 1994, cont.)

Sampling Location	Number	Gross Beta Concentration (10^{-14} µCi/mL) Minimum	Maximum	Arithmetic Mean	Standard Deviation
Area 5, RWMS No. 1	26	1.13	2.47	1.68	0.30
Area 5, RWMS No. 2	26	1.05	2.54	1.74	0.40
Area 5, RWMS No. 3	26	1.10	2.87	2.09	0.45
Area 5, RWMS No. 4	26	1.28	3.09	1.99	0.43
Area 5, RWMS No. 5	26	1.11	3.59	1.98	0.50
Area 5, RWMS No. 6	26	1.39	2.93	1.99	0.31
Area 5, RWMS No. 7	22	1.25	2.87	2.05	0.40
Area 5, RWMS No. 8	25	1.24	2.97	1.97	0.40
Area 5, RWMS No. 9	25	1.01	2.95	2.06	0.38
Area 5, RWMS Pit No. 3	26	1.39	3.04	1.99	0.41
Area 5, RWMS Pit No. 4	26	1.19	2.53	1.89	0.34
Area 5, RWMS TP North	26	1.37	2.63	1.90	0.31
Area 5, RWMS TP Northeast	26	1.22	2.67	1.88	0.37
Area 5, RWMS TP Northwest	26	1.24	2.70	1.79	0.34
Area 5, RWMS TP South	26	1.16	2.42	1.81	0.32
Area 5, RWMS TP Southeast	25	0.77	3.29	1.86	0.48
Area 5, RWMS TP Southwest	26	1.41	3.03	1.94	0.39
Area 5, Well 5B	26	1.19	3.07	1.91	0.37
Area 6, Building 6-900	25	1.29	2.89	1.94	0.40
Area 6, CP-6	26	1.37	3.08	1.93	0.38
Area 6, Well 3 Complex	25	1.06	2.14	1.61	0.30
Area 6, Yucca Waste Pond	26	0.85	1.98	1.40	0.30
Area 6, DAF Northeast	26	1.02	2.57	1.73	0.40
Area 6, DAF South-southeast	26	0.79	3.33	1.82	0.53
Area 7, Ue7ns	26	1.43	2.55	1.92	0.31
Area 9, 9-300 Bunker	18	1.20	2.81	1.81	0.40
Area 10, Gate 700	26	1.09	2.36	1.75	0.35
Area 11, Gate 293	24	1.04	2.51	1.75	0.37
Area 12, Complex	26	1.04	2.17	1.58	0.29
Area 15, EPA Farm	25	1.34	2.43	1.79	0.32
Area 16, 3545 Substation	25	1.25	2.49	1.66	0.29
Area 19, Echo Peak	13	1.11	2.61	1.76	0.38
Area 19, Pahute Substation	13	1.22	2.20	1.71	0.32
Area 20, Dispensary	9	1.16	2.18	1.82	0.34
Area 23, Building 790	26	1.13	2.71	1.72	0.39
Area 23, Building 790 No. 2	24	1.24	2.72	1.79	0.36
Area 23, East Boundary	26	1.10	2.51	1.79	0.32
Area 23, H & S Building	26	1.13	3.52	1.80	0.61
Area 25, E-MAD North	26	1.24	2.46	1.85	0.30
Area 25, NRDS Warehouse	26	1.14	3.49	1.94	0.51
Area 27, Cafeteria	25	1.16	2.39	1.73	0.34
NETWORK (54 Locations)	1325	0.77	7.44	1.82	0.43

Mean Minimum Detectable Concentration (MDC): 0.16

Table 1.3 Summary Data For Particulate Air Sampling Stations: ^{238}Pu Concentrations - 1994

Sampling Location	Number	^{238}Pu Concentration (10^{-17} µCi/mL) Minimum	Maximum	Arithmetic Mean	Standard Deviation
Area 1, BJY	6	-0.07	0.55	0.16	0.23
Area 1, Gravel Pit	6	0.0	0.24	0.09	0.10
Area 2, 2-1 Substation	6	-0.15	0.12	-0.02	0.09
Area 2, Complex	6	-0.11	0.36	0.06	0.16
Area 3, Complex	6	-1.1	0.33	-0.03	0.52
Area 3, Complex No. 2	6	0.12	1.6	0.50	0.58
Area 3, Mud Plant	5	0.0	1.4	0.57	0.62
Area 3, U-3ah/at East	6	0.0	0.79	0.23	0.31
Area 3, U-3ah/at North	6	0.0	1.3	0.42	0.53
Area 3, U-3ah/at South	6	0.0	0.81	0.28	0.30
Area 3, U-3ah/at West	6	0.0	1.2	0.40	0.51
Area 5, DOD Yard	6	-0.07	0.0	-0.01	0.03
Area 5, Gate 200 South	6	0.0	0.09	0.03	0.04
Area 5, RWMS No. 1	6	0.0	0.09	0.02	0.04
Area 5, RWMS No. 2	6	0.0	0.0	0.0	0.0
Area 5, RWMS No. 3	6	0.0	0.16	0.04	0.07
Area 5, RWMS No. 4	5	0.0	0.14	0.05	0.07
Area 5, RWMS No. 5	6	0.0	0.06	0.01	0.03
Area 5, RWMS No. 6	6	0.0	0.08	0.01	0.03
Area 5, RWMS No. 7	6	0.0	0.07	0.001	0.003
Area 5, RWMS No. 8	6	-0.07	0.0	-0.01	0.03
Area 5, RWMS No. 9	6	-0.09	0.12	0.005	0.07
Area 5, RWMS Pit No. 3	6	0.0	0.33	0.09	0.15
Area 5, RWMS Pit No. 4	6	0.0	0.55	0.09	0.22
Area 5, RWMS TP North	6	0.0	0.35	0.11	0.18
Area 5, RWMS TP Northeast	6	0.0	0.25	0.06	0.10
Area 5, RWMS TP Northwest	6	0.0	0.23	0.04	0.09
Area 5, RWMS TP South	6	0.0	0.10	0.02	0.04
Area 5, RWMS TP Southeast	6	0.0	0.13	0.04	0.07
Area 5, RWMS TP Southwest	6	0.0	0.37	0.10	0.14
Area 5, Well 5B	6	0.0	0.0	0.0	0.0
Area 6, Building 6-900	6	-0.10	0.30	0.03	0.13
Area 6, CP-6	6	-0.08	0.12	-0.007	0.07
Area 6, Well 3 Complex	6	-0.12	0.11	0.004	0.09
Area 6, Yucca Waste Pond	6	0.0	0.16	0.05	0.07
Area 6, DAF Northeast	6	0.0	0.26	0.06	0.11
Area 6, DAF South-southeast	6	0.0	0.0	0.0	0.0
Area 7, Ue7ns	6	-0.11	0.0	-0.04	0.06
Area 9, 9-300 Bunker	6	0.0	2.6	0.97	1.1
Area 10, Gate 700	6	-0.12	0.24	0.02	0.14
Area 11, Gate 293	6	-0.08	0.35	0.10	0.19
Area 12, Complex	6	-0.09	0.12	0.02	0.08
Area 15, EPA Farm	6	0.0	0.88	0.36	0.33
Area 16, 3545 Substation	6	-0.09	0.10	0.0004	0.06

Table 1.3 (Summary Data For Particulate Air Sampling Stations: ^{238}Pu Concentrations - 1994, cont.)

		^{238}Pu Concentration (10^{-17} µCi/mL)			
Sampling Location	Number	Minimum	Maximum	Arithmetic Mean	Standard Deviation
Area 19, Echo Peak	3	0.21	0.41	0.31	0.10
Area 19, Pahute Substation	3	0.0	0.0	0.0	0.0
Area 20, Dispensary	2	0.0	0.28	0.14	0.20
Area 23, Building 790	6	0.0	0.33	0.05	0.13
Area 23, Building 790 No. 2	6	0.0	0.12	0.02	0.05
Area 23, East Boundary	6	0.0	0.0	0.0	0.0
Area 23, H & S Building	6	0.0	0.44	0.09	0.17
Area 25, E-MAD North	6	-0.08	0.13	0.008	0.07
Area 25, NRDS Warehouse	6	-0.08	0.14	0.01	0.07
Area 27, Cafeteria	6	-0.08	0.10	0.004	0.06
NETWORK (54 Locations)	312	-1.1	2.6	0.10	0.30
Mean MDC	0.61				

Table 1.4 Summary Data for Particulate Air Sampling Stations: $^{239+240}Pu$ Concentrations - 1994

		$^{239+240}Pu$ Concentration (10^{-17} µCi/mL)			
Sampling Location	Number	Minimum	Maximum	Arithmetic Mean	Standard Deviation
Area 1, BJY	6	0.80	13	5.4	5.2
Area 1, Gravel Pit	6	0.0	1.1	0.45	0.41
Area 2, 2-1 Substation	6	0.24	5.9	2.4	2.0
Area 2, Complex	6	0.11	1.7	0.75	0.66
Area 3, Complex	6	0.16	17	9.2	6.0
Area 3, Complex No. 2	6	0.12	110	29	40
Area 3, Mud Plant	5	5.9	68	31	25
Area 3, U-3ah/at East	6	1.3	28	14	11
Area 3, U-3ah/at North	6	0.48	110	31	43
Area 3, U-3ah/at South	6	1.3	34	13	12
Area 3, U-3ah/at West	6	1.0	44	18	18
Area 5, DOD Yard	6	0.0	0.72	0.30	0.25
Area 5, Gate 200 South	6	0.0	0.73	0.31	0.25
Area 5, RWMS No. 1	6	0.22	0.88	0.49	0.29
Area 5, RWMS No. 2	6	0.0	3.4	0.94	1.4

Table 1.4 (Summary Data for Particulate Air Sampling Stations: $^{239+240}Pu$ Concentrations - 1994, cont.)

Sampling Location	Number	$^{239+240}Pu$ Concentration (10^{-17} µCi/mL) Minimum	Maximum	Arithmetic Mean	Standard Deviation
Area 5, RWMS No. 3	6	0.11	0.78	0.37	0.23
Area 5, RWMS No. 4	6	0.23	2.9	1.0	1.1
Area 5, RWMS No. 5	6	0.10	4.2	0.99	1.6
Area 5, RWMS No. 6	6	0.31	6.0	1.7	2.2
Area 5, RWMS No. 7	6	0.23	0.91	0.49	0.29
Area 5, RWMS No. 8	6	0.08	0.84	0.40	0.34
Area 5, RWMS No. 9	6	0.0	6.2	1.4	2.4
Area 5, RWMS Pit No. 3	6	0.0	3.0	1.2	1.3
Area 5, RWMS Pit No. 4	6	0.0	2.7	0.78	.97
Area 5, RWMS TP North	6	0.0	7.1	1.5	2.8
Area 5, RWMS TP Northeast	6	0.0	0.62	0.37	0.22
Area 5, RWMS TP Northwest	6	0.0	2.6	0.93	0.98
Area 5, RWMS TP South	6	0.0	5.6	1.6	2.1
Area 5, RWMS TP Southeast	6	0.17	1.9	0.67	0.65
Area 5, RWMS TP Southwest	6	0.26	13	2.7	5.2
Area 5, Well 5B	6	0.28	12	2.4	4.8
Area 6, Building 6-900	6	0.0	6.4	2.6	2.3
Area 6, CP-6	6	0.0	1.7	0.78	0.57
Area 6, Well 3 Complex	6	0.24	2.9	1.1	0.94
Area 6, Yucca Waste Pond	6	0.47	2.9	1.7	0.79
Area 6, DAF Northeast	6	0.0	2.5	0.78	0.92
Area 6, DAF South-southeast	6	0.41	2.1	0.88	0.61
Area 7, Ue7ns	6	0.0	12	4.6	4.3
Area 9, 9-300 Bunker	6	26	160	76	59
Area 10, Gate 700	6	0.13	1.4	0.82	0.55
Area 11, Gate 293	6	0.14	11	3.6	4.2
Area 12, Complex	6	0.0	0.71	0.26	0.26
Area 15, EPA Farm	6	1.8	40	12	15
Area 16, 3545 Substation	6	-0.09	0.84	0.33	0.39
Area 19, Echo Peak	3	0.0	0.28	0.16	0.14
Area 19, Pahute Substation	3	0.25	0.32	0.29	0.04
Area 20, Dispensary	2	0.0	0.14	0.07	0.10
Area 23, Building 790	6	0.0	11	2.0	4.5
Area 23, Building 790 No. 2	6	0.0	4.3	1.0	1.6
Area 23, East Boundary	6	0.0	0.45	0.20	0.15
Area 23, H & S Building	6	0.0	68	11	28
Area 25, E-MAD North	6	0.0	0.62	0.26	0.20
Area 25, NRDS Warehouse	6	0.0	0.72	0.20	0.26
Area 27, Cafeteria	6	0.0	0.37	0.21	0.17
NETWORK (54 Stations)	312	-0.09	160	5.6	17
Mean MDC	0.61				

Table 1.5 Summary Data for Noble Gas Air Sampling Stations: ^{85}Kr Concentrations - 1994

Location	Number	^{85}Kr Concentration (10^{-12} µCi/mL) Minimum	Maximum	Arithmetic Mean	Standard Deviation
Area 1, BJY	25	2.8	37	25	8.9
Area 1, Gravel Pit	25	7.7	34	25	6.8
Area 5, Gate 200 South	23	-3.3	35	24	8.2
Area 12, Complex	23	9.9	36	23	6.1
Area 15, EPA Farm	20	23	33	28	2.8
Area 18, Gate 400	22	0.2	32	23	7.3
Area 19, Pahute Substation	13	20	36	27	4.6
Area 20, Dispensary	12	18	37	26	6.6
Area 20, DDZ77	10	22	41	29	5.8
Area 25, E-MAD North	21	8.9	36	26	6.9
NETWORK (10 Stations)	194	-3.3	41	25	6.9
Mean MDC:	2.7				

Table 1.6 Summary Data of for Noble Gas Air Sampling Stations: ^{133}Xe Concentrations - 1994

Location	Number	^{133}Xe Concentrations (10^{-12} µCi/mL) Minimum	Maximum	Arithmetic Mean	Standard Deviation
Area 1, BJY	25	-25	64	8.9	23
Area 1, Gravel Pit	24	-220	140	1.5	56
Area 5, Gate 200 South	24	-41	190	20	48
Area 12, Complex	25	-18	42	7.3	16
Area 15, EPA Farm	21	-47	48	5.0	20
Area 18, Gate 400	22	-33	750	45	160
Area 19, Pahute Substation	13	-33	180	21	54
Area 20, Dispensary	10	-19	41	16	19
Area 20, DDZ77	9	-70	310	56	120
Area 25, E-MAD North	24	-6.8	120	18	26
NETWORK (10 Locations)	197	-220	750	17	68
Mean MDC	17				

Table 1.7 Summary Data for Tritium Air Sampling Stations: Tritium Concentrations - 1994

Sampling Location	Number	Tritium Concentration (10^{-12} µCi/mL) Minimum	Maximum	Arithmetic Mean	Standard Deviation
Area 1, BJY	11	-0.03	2.7	0.64	0.79
Area 5, RWMS No. 1	13	1.3	5.8	3.6	1.4
Area 5, RWMS No. 2	13	1.1	13	5.6	3.9
Area 5, RWMS No. 3	13	0.98	5.9	2.8	1.4
Area 5, RWMS No. 4	13	3.1	47	13	13
Area 5, RWMS No. 5	13	1.3	6.7	2.9	1.5
Area 5, RWMS No. 6	13	-0.46	4.7	2.0	1.8
Area 5, RWMS No. 7	13	0.70	4.6	2.7	1.2
Area 5, RWMS No. 8	11	0.22	3.7	1.5	0.96
Area 5, RWMS No. 9	12	3.5	8.6	5.0	1.4
Area 6, DAF Northeast	12	-0.22	1.8	0.52	0.67
Area 6, DAF South-southeast	13	-1.2	1.6	0.25	0.75
Area 10, Gate 700	13	-0.65	2.2	0.70	0.82
Area 12, Complex	12	-1.1	2.6	0.35	1.1
Area 15, EPA Farm	12	2.3	12	6.9	2.7
Area 23, Building 790	12	-1.0	1.9	0.70	.87
Area 23, East Boundary	12	-0.71	1.2	0.33	0.62
Area 23, H & S Building	12	-0.48	1.7	0.34	0.61
Area 25, E-MAD North	13	-1.5	2.4	0.21	1.4
NETWORK (19 Locations)	236	-1.5	47	2.6	4.4
Mean MDC	1.25				

Table 1.8 Summary Data For Water Sampling Stations: Reservoirs and Containment Ponds - 1994

Location	Gross Beta	^{3}H	^{238}Pu	$^{239+240}Pu$
	Average Concentrations (10^{-9} µCi/mL)			
	Reservoirs			
Area 2, Mud Plant	3.9	250	0.0011	0.0023
Area 2, Well 2 Reservoir	3.9	110	0.0013	0.002
Area 3, Mud Plant	10	130	0.0014	0.012
Area 3, Well A Reservoir	9.4	33	0.0001	0.0075
Area 5, Well 5B Reservoir	11	-2.3	0.0029	0.0009
Area 5, UE-5c Reservoir	7.5	-11	-0.0016	0.0008
Area 6, Well 3 Reservoir	11	20	0.00007	0.011
Area 6, Well C-1 Reservoir	8.6	28	-0.0010	0.0050
Area 18, Camp 17 Reservoir	4.4	-110	-0.0019	0.0038
Area 18, Well 8 Reservoir	Not Monitored - DRY			
Area 19, UE-19c Reservoir	Not Monitored - DRY			
Area 20, Well 20A Reservoir	Not Monitored - DRY			
Area 23, Swimming Pool	7.8	50	-0.0003	0.0006

Table 1.8 (Summary Data For Water Sampling Stations: Reservoirs and Containment Ponds 1994, cont.)

Location	Average Concentrations (10^{-9} µCi/mL) Gross Beta	^{3}H	^{238}Pu	$^{239+240}Pu$
	Reservoirs, *(cont.)*			
Area 25, Well J-11 Reservoir	4.8	-61	0.0058	0.0034
Area 25, Well J-12 Reservoir	5.9	-67	0.0080	0.0047
NETWORK (12 Locations)	7.4	29	0.0016	0.0045
Mean MDC	0.75	460	0.013	0.013
	Containment Ponds			
Area 12, E Tunnel Effluent	54	1.8×10^{6}	0.66	5.0
Area 12, E Tunnel Pond No. 1	64	1.8×10^{6}	0.69	5.6
NETWORK (2 Locations)	59	1.8×10^{6}	0.68	5.3
Mean MDC	16	460	0.020	0.020

Table 1.9 Summary Data For Water Sampling Stations: Natural Springs - 1994

Location	Average Concentrations (10^{-9} µCi/mL) Gross Beta	^{3}H	^{238}Pu	$^{239+240}Pu$
Area 5, Cane Spring	5.5	-84	0.0073	0.0073
Area 7, Reitmann Seep	22	170	0.084	4.7
Area 12, Captain Jack	10	140	0.0023	0.014
Area 12, Gold Meadows	28	-230	0.0	0.0
Area 12, White Rock	8.0	-110	-0.0020	0.0024
Area 15, Tub Spring	8.2	80	0.0019	0.0
Area 16, Tippipah Spring	5.1	-86	0.015	0.0069
Area 29, Topopah Spring	8.1	340	0.11	0.052
NETWORK (8 Locations)	12	28	0.027	0.60
Mean MDC	0.74	460	0.013	0.013

Table 1.10 Summary Data For Water Sampling Stations: Sewage Lagoons - 1994

Location	Average Concentrations (10^{-9} µCi/mL) Gross Beta	^{3}H	^{238}Pu	$^{239+240}Pu$
Area 6, Yucca Sewage	22	190	-0.0012	0.00014
Area 6, LANL Sewage	26	240	-0.0011	0.0039
Area 6, P-72 Sewage	23	130	-0.0011	0.0015
Area 6, Sewage Pond	20	160	-0.0011	0.0023
Area 6, DAF Sewage	9.2	49	0.0	-0.00001
Area 12, Sewage Pond	17	130	-0.0017	0.0066
Area 22, Sewage Pond	34	180	0.0	-0.0015
Area 23, Sewage Pond	19	140	-0.0013	0.0092
Area 25, Central Sewage	26	140	-0.0012	-0.00006
NETWORK (9 Locations)	22	150	-0.0010	0.0025
Mean MDC	0.72	460	0.013	0.013

Table 1.11 Summary Data For Water Sampling Stations: Supply Wells - 1994

Location	Gross Beta	^{3}H	^{238}Pu	$^{239+240}Pu$	Gross Alpha	^{90}Sr	Ra 226/228
			Average Concentrations (10^{-9} µCi/mL)				
			Potable Water Supply Wells				
Area 5, Well 5B	19	4.4	-0.0012	-0.0012	4.7	0.19	1.2/0.0
Area 5, Well 5C	20	0.56	0.0004	0.0052	8.0	0.022	0.64/-0.06
Area 6, Well C	12	4.6	0.0024	0.0023	6.4	0.075	1.8/0.40
Area 6, Well No. 4	5.4	-1.8	-0.00013	0.0024	5.9	0.11	1.3/0.27
Area 6, Well C-1	15	3.9	-0.0011	0.0011	6.6	0.12	1.3/0.44
Area 16, Well UE-16d	6.6	-1.1	-0.00003	0.0044	6.0	0.11	2.3/0.18
Area 18, Well HTH No. 8	4.6	0.03	-0.0011	0.0043	0.93	0.22	1.2/-0.077
Area 22, Army Well No. 1	5.7	-2.7	-0.0011	-0.0021	3.7	0.078	1.5/0.50
Area 25, Well J-12	4.4	0.05	-0.0013	0.0034	1.3	0.050	1.2/0.14
Area 25, Well J-13	4.2	12	-0.0008	0.0011	2.2	0.12	1.2/0.023
NETWORK (10 Locations)	9.7	2.0	-0.0005	0.0021	4.6	0.11	1.4/0.18
			Non-Potable Water Supply Wells				
Area 5, UE-5c	35	2.8	0.011	0.011	11	0.12	0.36/-0.046
Mean MDC	0.81	14	0.013	0.013	0.98	0.1	0.80/0.60

Table 1.12 Summary Data For Water Sampling Stations: Consumption End Points - 1994

Location	Average Concentrations (10^{-9} µCi/mL) Gross Beta	^{3}H	^{238}Pu	$^{239+240}Pu$	Gross Alpha
Area 1, Building 101	5.5	240	0.0021	0.0015	6.1
Area 2, Rest room	3.4	62	0.0007	0.0020	0.26
Area 6, Bottled Water	0.16	67	0.0	0.0	-0.038
Area 6, Cafeteria	7.6	-38	0.0	0.0018	7.5
Area 6, Building 6-900	7.4	46	0.0	0.0064	6.3
Area 12, Building 12-23	3.8	99	-0.0011	0.0031	0.69
Area 23, Cafeteria	6.2	42	0.0017	0.0	4.2
Area 25, Building 4221	4.2	-14	0.0	0.0026	1.3
NETWORK (8 Locations)	5.0	57	0.0004	0.0025	3.3
Mean MDC	0.78	460	0.014	0.014	0.89

Table 1.13 Monthly Monitoring Results for NTS Potable Water Systems - 1994[a]

Area/ Building	JAN	FEB	MAR	APR	MAY	JUN
			PERMIT NY-360-12C			
Area 22						
RC	0.6	0.5	0.8	1.1	1.0	1.0
Coliform	0	0	0	0	0	0
RC	--	--	--	--	--	--
Coliform	--	--	--	--	--	--
Area 23						
RC	0.9	1.0	0.9	1.1	1.0	2.0
Coliform	0	0	0	0	0	0
RC	0.9	1.0	0.9	1.1	1.0	1.0
Coliform	0	0	0	0	0	0
RC	0.9	1.0	0.9	1.1	1.4	.08
Coliform	0	0	0	0	0	0
RC	--	--	--	--	1.4	.08
Coliform	--	--	--	--	0	0
			PERMIT NY-4098-12N			
Area 25						
RC	1.1	0.5	2.0	1.1	1.0	1.0
Coliform	0	0	0	0	0	0

(a) RC - residual chlorine in parts per million (ppm): coliform colony count is in number/100 mL
(b) In February 1994 sampling was discontinued in both Areas 2 and 3 due to the relocation of personnel to Area 6.

Table 1.13 (Monthly Monitoring Results for NTS Potable Water Systems - 1994[a], cont.)

Area/ Building	JAN	FEB	MAR	APR	MAY	JUN
			PERMIT NY-4099 12N			
Area 2[b]						
RC	0.6					
Coliform	0					
Area 12						
RC	0.6	1.0	1.0	0.8	.05	.08
Coliform	0	0	0	0	0	0
RC	0.6	1.0	1.0	0.8	.05	.05
Coliform	0	0	0	0	0	0
			PERMIT NY-5000-12N			
Area 6						
RC	1.0	0.5	0.6	1.2	.05	1.0
Coliform	0	0	0	0	0	0
RC	1.0	0.5	0.6	1.2	.05	1.0
Coliform	0	0	0	0	0	0
RC	1.0	0.5	0.6	1.2	1.0	1.0
Coliform	0	0	0	0	0	0
			PERMIT NY-5000-12N			
Area 6	Fill Stand					
RC	--	--	3.0	--	--	--
Coliform	--	--	0	--	--	--
RC	--	--	3.0	--	--	--
Coliform	--	--	0	--	--	--
Area 6	Sample of Water at Area 27					
RC	0.9	0.5	.08	0.0	.05	.05
Coliform	0	0	0	0	0	0
RC	--	--	--	1.0	--	--
Coliform	--	--	--	0	--	--
RC	--	--	--	1.0	--	--
Coliform	--	--	--	0	--	--
RC	--	--	--	1.5	--	--
Coliform	--	--	--	0	--	--
			PERMIT NY-5024-12N			
Area 1						
RC	0.8	0.6	1.1	0.5	1.0	1.0
Coliform	0	0	0	0	0	0
			PERMIT NY-4097-12N			
Area 3[b]						
RC	1.0					
Coliform	0					
RC	0.6					
Coliform	0					
RC	0.4					
Coliform	0					

(a) RC - residual chlorine in parts per million (ppm): coliform colony count is in number/100 mL
(b) In February 1994 sampling was discontinued in both Areas 2 and 3 due to the relocation of personnel to Area 6.

Table 1.14 pH, BOD, Flow Rate and TSS in NTS Sewage Lagoon Influents - 1994

	JAN	State Limits
pH		
Yucca Lake	---	6.0 to 9.0
Area 6, CP-6	---	6.0 to 9.0
Area 6, CP-72	---	6.0 to 9.0
Area 6 LANL	---	6.0 to 9.0
Area 6 DAF	---	6.0 to 9.0
Area 2	---	6.0 to 9.0
Area 12	---	6.0 to 9.0
Area 22, Gate	8.37	6.0 to 9.0
Area 23	8.31	6.0 to 9.0
Area 25, Reactor Control	---	6.0 to 9.0
Area 25, Central Support	---	6.0 to 9.0
Area 25, Engine Test Stand	---	6.0 to 9.0
Area 25, Test Cell "C"	---	6.0 to 9.0
FLOW RATE (in millions of gallons per day)		
Area 6, Yucca Lake	.00565	0.01
Area 6, CP-6	.0008	0.0078
Area 6, CP-72	.0002	0.0006
Area 6 DAF	.0004	0.0055
Area 6 LANL	DRY	0.0066
Area 2	--	0.0009
Area 12	.0012	0.072
Area 22, Gate	.0012	0.0015
Area 23	.136	0.227
Area 25, Reactor Control	DRY	0.0015
Area 25, Central Support	.0012	0.0036
Area 25, Engine Test Stand	DRY	0.0012
Area 25, Test Cell "C"	DRY	0.0008
BOD (mg/L)		
Area 6, Yucca Lake	---	No Standard
Area 12	---	No Standard
Area 23	280	No Standard
Area 25, Reactor Control	---	No Standard
TSS (mg/L)		
Area 6, Yucca Lake	---	No Standard
Area 12	---	No Standard
Area 23	104	No Standard
Area 25, Reactor Control	---	No Standard

--- = No sampling required

Table 1.15 Pond Water Depths in Infiltration Basins

Impound	Maximum Operating Depth, cm	Average Depth, cm (1st Quarter)	Average Depth, cm (2nd Quarter)
Gate 100, Basin	90	46	18
Mercury, Basin	180	DRY	0
Yucca Lake			
North Basin	140	56	13
South Basin	140	26	37
Tweezer			
East Basin	244	DRY	0
West Basin	244	DRY	0
CP-6			
East Basin	90	5	2
West Basin	90	15	0
CP-72	90	DRY	0
DAF			
Basin 1	150	DRY	0
Basin 2	150	DRY	0
Reactor Control, Basin	130	DRY	0
Test Stand 1, Basin	90	DRY	0
Test Cell C, Basin	90	DRY	0
Base Camp 25, Basin	100	DRY	0
Base Camp 12, Basin 1	120	DRY	0
Base Camp 12, Basin 2	120	DRY	0
Base Camp 12, Basin 3	120	DRY	0
Base Camp 12, Basin 4	120	DRY	0
Base Camp 12, Basin 5	120	DRY	0
Base Camp 2, Basin	90	DRY	0

Table 1.16 Influent Quality

	1st Quarter		2nd Quarter	
Facility	BOD5 (mg/L)	S.C. (µmhos/cm)	BOD5 (mg/L)	S.C. (µmhos)
Gate 100	225	1.04	256	1.43
Mercury	590	1.07	328	.97
Yucca Lake	185	1.31	761*	1.49
Tweezer	0	0	188	1.43
CP-6	280	1.69	131	1.29
CP-72	0	0	0	0
DAF	220	.71	76	.54
Reactor Control	0	0	0	0
Test Stand 1	0	0	0	0
Base Camp 25	470	.99	163	.92
Base Camp 12	0	0	188	.29
Base Camp 2	0	0	0	0
Area 2 Camp			0	0

* Considered to be an anomalous result (See Section 2.2 for discussion)

Table 1.17 Influent Toxics, Appendix I for Facilities that Receive Industrial Wastewater

Area 23 Sewage Lagoons

Parameter	Compliance Limit (mg/L)	Measurement (mg/L)
Arsenic	5.0	ND
Barium	100	0.042
Cadmium	1.0	ND
Chromium	5.0	ND
Lead	5.0	ND
Mercury	0.2	ND
Selenium	1.0	ND
Silver	5.0	<0.067
Benzene	0.5	ND
Carbon Tertachloride	0.5	ND
Chlorobenzene	100	ND
Chloroform	6.0	ND
1,4,-dichlorobenzene	7.5	ND
1,2-dichlorobenzene	0.5	ND
1,1-dichloroethylene	0.7	ND
Methylethyl Ketone	200	ND
Pyridine	5.0	ND
Tetrachloroethylene	0.7	ND
Trichloroethylene	0.5	ND
Vinyl Chloride	0.2	ND
Cresol, total	200	ND
2,4-dinitrotoluene	0.13	ND
Hexachlorobenzene	0.13	ND
Hexachlorobutadiene	0.5	ND
Nitrobenzene	2.0	ND
Pentachlorophenol	100	ND
2,4,5-trichlorophenol	400	ND
2,4,6-trichlorophenol	2.0	ND
Chlorodane	0.03	ND
Endrin	0.02	ND
Heptachlor	0.008	ND
Lindane	0.4	ND
Methoxychlor	10.0	ND
Toxaphene	0.5	ND
2,4-D	10.0	ND
2,4,5-TP (Silvex)	1.0	ND

ND - not detected

Note: Volatile samples were taken from each primary lagoon as they can not be composited. No volatiles were detected during this reporting period. Future measurements for volatile samples from facilities with multiple primary lagoons will be average values.

Table 1.17 (Influent Toxics, Appendix I for Facilities that Receive Industrial Wastewater, cont.)

Area 25 Central Support Sewage Lagoons

Parameter	Compliance Limit (mg/L)	Measurement (mg/L)
Arsenic	5.0	ND
Barium	100	0.031
Cadmium	1.0	ND
Chromium	5.0	ND
Lead	5.0	ND
Mercury	0.2	<0.00043
Selenium	1.0	ND
Silver	5.0	<0.067
Benzene	0.5	ND
Carbon Tertachloride	0.5	ND
Chlorobenzene	100	ND
Chloroform	6.0	ND
1,4,-dichlorobenzene	7.5	ND
1,2-dichlorobenzene	0.5	ND
1,1-dichloroethylene	0.7	ND
Methylethyl Ketone	200	ND
Pyridine	5.0	ND
Tetrachloroethylene	0.7	ND
Trichloroethylene	0.5	ND
Vinyl Chloride	0.2	ND
Cresol, total	200	ND
2,4-dinitrotoluene	0.13	ND
Hexachlorobenzene	0.13	ND
Hexachlorobutadiene	0.5	ND
Nitrobenzene	2.0	ND
Pentachlorophenol	100	ND
2,4,5-trichlorophenol	400	ND
2,4,6-trichlorophenol	2.0	ND
Chlorodane	0.03	ND
Endrin	0.02	ND
Heptachlor	0.008	ND
Lindane	0.4	ND
Methoxychlor	10.0	ND
Toxaphene	0.5	ND
2,4-D	10.0	ND
2,4,5-TP (Silvex)	1.0	ND

ND - not detected

Note: Volatile samples were taken from each primary lagoon as they can not be composited. No volatiles were detected during this reporting period. Future measurements for volatile samples from facilities with multiple primary lagoons.

Table 1.17 (Influent Toxics, Appendix I for Facilities that Receive Industrial Wastewater, cont.)

Area 06 D.A.F

Parameter	Compliance Limit (mg/L)	Measurement (mg/L)
Arsenic	5.0	ND
Barium	100	0.012
Cadmium	1.0	ND
Chromium	5.0	ND
Lead	5.0	ND
Mercury	0.2	0.0006
Selenium	1.0	ND
Silver	5.0	ND
Benzene	0.5	ND
Carbon Tertachloride	0.5	ND
Chlorobenzene	100	ND
Chloroform	6.0	ND
1,4,-dichlorobenzene	7.5	ND
1,2-dichlorobenzene	0.5	ND
1,1-dichloroethylene	0.7	ND
Methylethyl Ketone	200	12
Pyridine	5.0	ND
Tetrachloroethylene	0.7	ND
Trichloroethylene	0.5	ND
Vinyl Chloride	0.2	ND
Cresol, total	200	ND
2,4-dinitrotoluene	0.13	ND
Hexachlorobenzene	0.13	ND
Hexachlorobutadiene	0.5	ND
Nitrobenzene	2.0	ND
Pentachlorophenol	100	ND
2,4,5-trichlorophenol	400	ND
2,4,6-trichlorophenol	2.0	ND
Chlorodane	0.03	ND
Endrin	0.02	ND
Heptachlor	0.008	ND
Lindane	0.4	ND
Methoxychlor	10.0	ND
Toxaphene	0.5	ND
2,4-D	10.0	ND
2,4,5-TP (Silvex)	1.0	ND

ND - not detected

Note: Volatile samples were taken from each primary lagoon as they can not be composited. No volatiles were detected during this reporting period. Future measurements for volatile samples from facilities with multiple primary lagoons will be average values.

Table 1.17 (Influent Toxics, Appendix I for Facilities that Receive Industrial Wastewater, cont.)

Area 06 CP-06

Parameter	Compliance Limit (mg/L)	Measurement (mg/L)
Arsenic	5.0	ND
Barium	100	0.019
Cadmium	1.0	ND
Chromium	5.0	ND
Lead	5.0	ND
Mercury	0.2	ND
Selenium	1.0	ND
Silver	5.0	ND
Benzene	0.5	ND
Carbon Tertachloride	0.5	ND
Chlorobenzene	100	ND
Chloroform	6.0	ND
1,4,-dichlorobenzene	7.5	ND
1,2-dichlorobenzene	0.5	ND
1,1-dichloroethylene	0.7	ND
methylethyl Ketone	200	ND
Pyridine	5.0	ND
Tetrachloroethylene	0.7	ND
Trichloroethylene	0.5	ND
Vinyl Chloride	0.2	ND
Cresol, total	200	ND
2,4-dinitrotoluene	0.13	ND
Hexachlorobenzene	0.13	ND
Hexachlorobutadiene	0.5	ND
Nitrobenzene	2.0	ND
Pentachlorophenol	100	ND
2,4,5-trichlorophenol	400	ND
2,4,6-trichlorophenol	2.0	ND
Chlorodane	0.03	ND
Endrin	0.02	ND
Heptachlor	0.008	ND
Lindane	0.4	ND
Methoxychlor	10.0	ND
Toxaphene	0.5	ND
2,4-D	10.0	ND
2,4,5-TP (Silvex)	1.0	ND

ND - not detected

Note: Volatile samples were taken from each primary lagoon as they can not be composited. No volatiles were detected during this reporting period. Future measurements for volatile samples from facilities with multiple primary lagoons will be average values.

Table 1.17 (Influent Toxics, Appendix I for Facilities that Receive Industrial Wastewater, cont.)

Area 06 LANL

Parameter	Compliance Limit (mg/L)	Measurement (mg/L)
Arsenic	5.0	ND
Barium	100	0.077
Cadmium	1.0	ND
Chromium	5.0	ND
Lead	5.0	ND
Mercury	0.2	<0.00043
Selenium	1.0	ND
Silver	5.0	ND
Benzene	0.5	ND
Carbon Tertachloride	0.5	ND
Chlorobenzene	100	ND
Chloroform	6.0	ND
1,4-dichlorobenzene	7.5	ND
1,2-dichlorobenzene	0.5	ND
1,1-dichloroethylene	0.7	ND
Methylethyl Ketone	200	ND
Pyridine	5.0	ND
Tetrachloroethylene	0.7	ND
Trichloroethylene	0.5	ND
Vinyl Chloride	0.2	ND
Cresol, total	200	ND
2,4-dinitrotoluene	0.13	ND
Hexachlorobenzene	0.13	ND
Hexachlorobutadiene	0.5	ND
Nitrobenzene	2.0	ND
Pentachlorophenol	100	ND
2,4,5-trichlorophenol	400	ND
2,4,6-trichlorophenol	2.0	ND
Chlorodane	0.03	ND
Endrin	0.02	ND
Heptachlor	0.008	ND
Lindane	0.4	ND
Methoxychlor	10.0	ND
Toxaphene	0.5	ND
2,4-D	10.0	ND
2,4,5-TP (Silvex)	1.0	ND

ND - not detected

Note: Volatile samples were taken from each primary lagoon as they can not be composited. No volatiles were detected during this reporting period. Future measurements for volatile samples from facilities with multiple primary lagoons will be average values.

Table 1.17 (Influent Toxics, Appendix I for Facilities that Receive Industrial Wastewater, cont.)

Area 06 YUCCA LAKE

Parameter	Compliance Limit (mg/L)	Measurement (mg/L)
Arsenic	5.0	ND
Barium	100	0.034
Cadmium	1.0	ND
Chromium	5.0	ND
Lead	5.0	ND
Mercury	0.2	ND
Selenium	1.0	ND
Silver	5.0	ND
Benzene	0.5	ND
Carbon Tertachloride	0.5	ND
Chlorobenzene	100	ND
Chloroform	6.0	ND
1,4,-dichlorobenzene	7.5	ND
1,2-dichlorobenzene	0.5	ND
1,1-dichloroethylene	0.7	ND
Methylethyl Ketone	200	ND
Pyridine	5.0	ND
Tetrachloroethylene	0.7	ND
Trichloroethylene	0.5	ND
Vinyl Chloride	0.2	ND
Cresol, total	200	ND
2,4-dinitrotoluene	0.13	ND
Hexachlorobenzene	0.13	ND
Hexachlorobutadiene	0.5	ND
Nitrobenzene	2.0	ND
Pentachlorophenol	100	ND
2,4,5-trichlorophenol	400	ND
2,4,6-trichlorophenol	2.0	ND
Chlorodane	0.03	ND
Endrin	0.02	ND
Heptachlor	0.008	ND
Lindane	0.4	ND
Methoxychlor	10.0	ND
Toxaphene	0.5	ND
2,4-D	10.0	ND
2,4,5-TP (Silvex)	1.0	ND

ND - not detected

Note: Volatile samples were taken from each primary lagoon as they can not be composited. No volatiles were detected during this reporting period. Future measurements for volatile samples from facilities with multiple primary lagoons will be average values.

Table 1.18 Organic Loading Rates

Facility	Limit (Kg/day)	(Feb-Mar 1994) Mean Daily Load	(Apr-June 1994) Mean Daily Load
		Metered Rates	
Mercury	172	272*	129
Yucca Lake	8.6	4.38	23.2*
Base Camp 12	54	N/A**	1.75
		Calculated Rates	
CP-6	8.7	0.90	0.69
CP-72	1.1	0	0**
DAF	7.6	0.21	1.54
Reactor Control	4.2	N/A**	0**
Eng Test Stand	2.3	N/A**	0**
Test Cell C	1.3	N/A**	0**
Base Camp 25	7.4	2.03	1.54
Base Camp 2	1.2	N/A**	0**
Gate 100	2.4	1.02	1.07
LANL on Tweezer	5.0	N/A***	0.96

* Considered to be anomalous values (see Section 2.2 for discussion)
** Samples not taken due to inadequate or nonexistent flow
*** Sampling scheduled for April 1994

Table 1.19 Quantity of Waste Disposed of in Landfills - 1994

Month	Quantity (in pounds) Area 9	Area 23	Area 6
January	1,367,600	--	1,45,200
February	1,407,200	192,100	500,300
March	2,782,800	292,700	1,896,300
April	954,500	224,600	2,298,700
May	765,600	237,200	363,700
June	1,767,500	235,600	2,957,300
Total	9,045,200	1,182,100	8,161,500

Table 1.20 NEPA Documentation, 1989-1994

File Number	Description	Category	Review Status
NV-89-07	Mixed Waste Management Unit, Area 5	Environmental Assessment	Pending
NV-89-21	Device Assembly Facility, Area 6	Environmental Assessment	Pending
NV-90-51	Liquified Gaseous Fuels Spill Test Facility, Area 5	Environmental Assessment	Pending
NV-91-001	Demonstrated Decontaminating Technology for Pu-contaminated Soils	Environmental Assessment	Pending
NV-92-009	EG&G Kirtland Area Office	Environmental Assessment	Pending
NV-92-020	Environmental Restoration and Waste Management, NTS	Environmental Impact Statement	Pending
NV-93-004	Transuranic (TRU) Waste Certification Building, Area 5	Environmental Assessment	Pending
NV-93-007	Waste Examination Building, Area 5	Environmental Assessment	Pending
NV-93-008	Sewage Lagoon at RWMS, Area 5	Environmental Assessment	Pending
NV-93-025	Fire Training Facility, Area 23	Environmental Assessment	Pending
NV-94-001	Extension of Equipment Support Yard, Area 23	Categorical Exclusion	Approved 01/26/94
NV-94-002	Quonset 800 Steam Cleaning Pad, Temporary Holding Tank, Area 23	Categorical Exclusion	Approved 01/26/94
NV-94-003	Control Building, Rainier Mesa Substation, Area 12	Categorical Exclusion	Approved 01/26/94
NV-94-004	Temporary Gas Station, Area 23	Categorical Exclusion	Approved 01/26/94
NV-94-005	Replacement of Circuit Breakers, Area 23	Categorical Exclusion	Approved 04/12/94
NV-94-006	Sewer Line Repair, Area 23	Categorical Exclusion	Approved 06/03/94
NV-94-007	Conduct Aerial Radiological Surveys During 1994, U.S	Categorical Exclusion	Approved 03/04/94
NV-94-008	Process Water Recycling System, NLVF	Categorical Exclusion	Approved 03/04/94
NV-94-009	Power Upgrades, Area 25	Categorical Exclusion	Approved 03/31/94
NV-94-010	Installation of Conduit and Cable Protectors Area 6	Categorical Exclusion	Approved 03/04/94
NV-94-011	Sewer Line and Fencing Upgrades, Building 1010, Area 22	Categorical Exclusion	Approved 03/04/94
NV-94-012	Construction of Tortoise Proof Fence, Area 23	Categorical Exclusion	Approved 03/04/94

Table 1.20 (NEPA Documentation - 1989-1994, cont.)

File Number	Description	Category	Review Status
NV-94-013	Solid Waste Disposal, NTS	Environmental Assessment	Pending
NV-94-014	Cleanup of Waste Sites, NTS	Categorical Exclusion	Approved 03/15/94
NV-94-015	Remote Sensor Test Range for the CALIOPE Program, NTS	Categorical Exclusion	Approved 06/09/94
NV-94-016	25-Year Flood Berm Site Characterization, Area 5	Categorical Exclusion	Approved 04/01/94
NV-94-017	Secondary Containment, Diesel Oil Tank Area 1	Categorical Exclusion	Approved 03/31/94
NV-94-018	Conduct Scientific Research, NTS	Categorical Exclusion	Approved 03/31/94
NV-94-019	INEL SNF/ERWM EIS, DOE	Environmental Impact Statement	Pending
NV-94-020	Pantex Site-Wide EIS, DOE	Environmental Impact Statement	Pending
NV-94-021	Installation of Septic Tanks and Leachfields, Area 3, 6	Categorical Exclusion	Approved 04/12/94
NV-94-022	Upgrade Tweezer Road, Area 6	Categorical Exclusion	Approved 04/12/94
NV-94-023	Transportation of BOMARC Missile Site Contaminated Material, Area 5	Environmental Assessment	Pending
NV-94-024	Building Demolition and Removal, NTS	Categorical Exclusion	Approved 06/03/94
NV-94-025	Handshake One Federal Radiological Management and Assessment Center (FRMAC) Field Drill at the NTS, Areas 1-12, 15, 17, 18, 22, 23, 27	Categorical Exclusion	Approved 05/04/94
NV-94-026	Liquid Waste Treatment Facility, Area 6	Environmental Assessment	Pending
NV-94-027	Upgrades to 5-07 Road, NTS	Categorical Exclusion	Approved 06/03/94
NV-94-028	Retrofitting HVAC/Chiller Systems Within DOE Facilities, DOE	Categorical Exclusion	Pending
NV-94-030	Installation of Office Trailer, Area 23	Categorical Exclusion	Approved 06/03/94
NV-94-031	TAISIR Project - Experiments at the BREN Tower, Area 25	Categorical Exclusion	Approved 06/03/94
NV-94-032	Ballistic Missile Defense Organization PEIS, DOE	Environmental Impact Statement	Pending
NV-94-033	Storage and Disposition of Fissile Nuclear Materials, DOE	Environmental Impact Statement	Pending

Table 1.20 (NEPA Documentation - 1989-1994, cont.)

File Number	Description	Category	Review Status
NV-94-034	Geotechnical Investigations for the Proposed Liquid Waste Treatment System, Area 6	Categorical Exclusion	Approved 05/20/94
NV-94-035	Building 752 Eyewash/Shower Installation, Area 23	Categorical Exclusion	Pending
NV-94-036	Pull Test Facility, Phase 3 Characterization, Area 2	Categorical Exclusion	Pending
NV-94-037	Underground Storage Tank Modifications, NTS	Categorical Exclusion	Pending
NV-94-038	Site Characterization EOD Unit, Area 27	Categorical Exclusion	Approved 05/20/94
NV-94-039	Operable Unit 3, Fernald Management Project (Draft ROD, March 1994), Fernald	Environmental Impact Statement	Pending
NV-94-040	Operable Unit 4, Fernald Management Project (Final EIS-0195D, February 1994), Fernald	Environmental Impact Statement	Pending
NV-94-041	Conduct Scientific Research, NTS	Categorical Exclusion	Pending

Table 1.21 Environmental Occurrences at NTS Facilities - 1994

Date	Report Number	Description	Status
03/16/94	NVOO-LLNV-NEAF 1994-0001	Hydrocarbon contaminated soil discovered beneath Underground Storage Tank 27-5310-1	Pending
03/24/94	NVOO-REEC-EMD2 1994-0001	Petroleum leakage from Underground Storage Tanks, Area 25	Complete
02/17/94	NVOO-REEC-OMD1 1994-0001	Stained soil beneath removed Underground Storage Tank, Area 12	Complete
01/12/94	NVOO-REEC-OMD2 1994-0001	Historical hydrocarbon spill reportable to state of Nevada, Area 1	Complete
02/23/94	NVOO-REEC-OMD2 1994-0003	Unleaded gasoline spill at Area 23 Salvage Yard	Complete
04/28/94	NVOO-REEC-OMD2 1994-0004	Hydraulic oil spill from grader in Area 6	Complete
05/18/94	NVOO-REEC-OMD3 1994-0001	Hydraulic fluid spill from dump trailer in Area 23	Pending
06/01/94	NVOO-REEC-OMD3 1994-0002	Diesel fuel spill, overflow of generator in Area 23	Pending

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