7.0 NONRADIOLOGICAL MONITORING RESULTS

Nonradiological monitoring of the Nevada Test Site (NTS) operations was confined to onsite monitoring as there were no nonradiological discharges to the offsite environment. Types of monitoring conducted included (1) drinking water distribution systems for Safe Drinking Water Act (SDWA) compliance, (2) sewage influents to lagoons for state of Nevada permit requirements, (3) polychlorinated biphenyls (PCBs) as part of Toxic Substance Control Act compliance, (4) asbestos monitoring for asbestos removal and renovation projects, (5) groundwater monitoring under the waste site in Area 5 for Resource Conservation and Recovery Act (RCRA) compliance, and (6) environmental media for hazardous characteristics and constituents. Wild horses and chukar were also monitored as components of an NTS ecological monitoring program that is being reviewed and redesigned.

7.1 ENVIRONMENTAL SAMPLES

SAFE DRINKING WATER ACT

Water sampling was conducted for analysis of bacteria, volatile organic compounds (VOCs), inorganic constituents, and water quality as required by the SDWA and state of Nevada regulations. Samples were taken at various locations throughout all drinking water distribution systems on the NTS. Common sampling points were restroom and cafeteria sinks (see Chapter 4, Figure 4.3). All samples were collected according to accepted practices, and the analyses were performed by state approved laboratories. Analyses were performed in accordance with Nevada Administrative Code 445 and Title 40 Code of Federal Regulations (C.F.R.) Part 141.

BACTERIOLOGICAL SAMPLING

Samples were submitted to the state-approved Associated Pathologists Laboratories in Las Vegas, Nevada, for coliform analyses. All water distribution systems were tested once a month, with the number of people being served determining the number of samples collected. If coliform bacteria are present, the system must be shut down and chlorinated. In order to reopen the system, three or four consecutive samples must meet state requirements, depending again on the number of people served. There were no incidents of positive coliform bacteria results during 1996.

Residual chlorine and pH levels were determined at the collection point by using colorimetric methods approved by the state. The results were recorded in Bechtel Nevada's (BN's) drinking water sample logbook, and the chlorine residual level was recorded on an analysis form.

Samples from each truck which hauled potable water from NTS wells to work areas were also analyzed for coliform bacteria. During 1996, the state relaxed the requirement to test every truck load of water, to testing each of the three trucks weekly. There were no positive coliform sample results in 1996 that required superchlorination and resampling.

CHEMICAL ANALYSIS

Chemical analysis in 1996 consisted of (1) VOCs, (2) synthetic organic chemicals (SOCs), and (3) inorganics.

ORGANIC COMPOUND ANALYSIS

Samples for VOCs and SOCs were collected during the second quarter of 1996 from all NTS potable water wells. The samples were analyzed by a state-approved laboratory. None of the results were above quantitation limits.

INORGANIC COMPOUND ANALYSIS AND WATER QUALITY

To comply with a 1991 variance to the Area 25 water system permit, fluoride samples need to be taken annually before July 31 to confirm that the fluoride concentration is less than four parts per million. Samples taken from Area 25 wells J-12 and J-13 in the second quarter of 1996 confirmed that the fluoride concentration was acceptable.

Nitrate and nitrite samples were also collected and determined to satisfy state requirements.

CLEAN WATER ACT

NTS OPERATIONS

The NTS General Permit requires quarterly reporting for biochemical oxygen demand (BOD) and specific conductance, organic loading rates, and water depths in infiltration basins. It also requires reporting of second quarter influent toxics sampling. The results of this sampling are shown in Tables 7.1 to 7.4, respectively. All values in these tables are in compliance with the permit requirements.

The permit also requires monitoring of the infiltration basins which attain a depth of 30 cm or more in January and June for parameters listed in Appendix II of the permit. Sampling is required as soon as any other system exceeds the 30 cm. Three secondary ponds at the Area 23 facility usually contain the required depth, but are excluded as needing the sampling in Part III.C.4 of the permit. During 1996, the Yucca Lake system exceeded the 30 cm in the first two quarters, and these sampling results are given in Table 7.5.

NON-NTS SAMPLING RESULTS

Only the North Las Vegas Facility (NLVF) and the Remote Sensing Laboratory (RSL) were required by permit to sample and analyze wastewater effluent and submit self-monitoring reports.

The NLVF self-monitoring report was submitted in October 1996. Two outfalls and the burn pit batch discharge are monitored.

The Clark County Sanitation District wastewater permit for the RSL required biannual monitoring of two outfalls, quarterly pH and monthly septage reports. RSL monitoring reports were submitted in May and December 1996.

NON-HAZARDOUS SOLID WASTE DISPOSAL

Monitoring of the three 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. All waste disposed of in the U-10c Crater in Area 9 was weighed at the landfill on a new weighing station. Waste for the hydrocarbon landfill in Area 6 was weighed at the Area 6 weighing station. About 7,570 tons of waste were disposed of in the Areas 6, 9, and 23 landfills, as shown in Table 7.6.

TOXIC SUBSTANCES CONTROL ACT

During 1996, a total of 43 samples were analyzed for PCBs. No sample results were reported with concentrations greater than five parts per million.

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

During 1996, 50 bulk or general area air samples were collected and analyzed in conjunction with asbestos removal and

renovation projects at the NTS. The sample volume was divided equally between bulk and general area air samples.

RESOURCE CONSERVATION AND RECOVERY ACT

A total of 1,350 chemical analyses were performed in 1996 in support of waste management and environmental compliance activities at the NTS. Groundwater monitoring, included in these analyses, is described in the following paragraphs.

During 1992, three pilot wells (UE5PW-1, UE5PW-2, UE5PW-3) were drilled through the vadose zone into the uppermost aquifer under the Area 5 Radioactive Waste Management Site (RWMS-5). The principal purpose of these wells was to characterize the hydrogeology of the vadose zone under the waste disposal cells at RWMS-5. This characterization is consistent with the leakage-detection requirements for interim treatment, storage, and disposal (TSD) facilities required by the U.S. Environmental Protection Agency (EPA) and the state of Nevada.

In accordance with Title 40 C.F.R. 265 - Subpart F, operators of interim status TSD facilities are required to collect quarterly samples for one year from a minimum of one upgradient and three downgradient wells for characterization of background water quality. The first collection of these characterization data were performed in 1993. In 1994, and subsequently, the frequency was reduced to semi-annual and results were statistically compared with the initial characterization data.

Sampling protocols for characterization and detection data collection were based on the "RCRA Groundwater Monitoring Technical Enforcement Guidance Document" (EPA 1986). Groundwater elevation was measured prior to each sampling event. Water was withdrawn from each well with dedicated submersible double piston pumps for the purpose of purging and collecting samples. Temperature, pH, and specific conductance were monitored during purging and until the conclusion of sampling. Samples were collected and analyzed in accordance with written procedures that specified sample collection methodology, sample preservation, sample shipment, analytical procedures, and chain-of-custody control. Preservative measures were applied in the field to all samples at the time of removal from each well. Based on characterization results during 1993, and detection monitoring results for 1994 through 1996, the uppermost aquifer beneath the RWMS-5 disposal cells is suitable for use as drinking water or for agricultural purposes. The analyses performed for these samples can be found in Table 7.7. No chemical or radiological contaminants attributable to either U.S. Department of Energy, Nevada Operations Office's (DOE/NV's) weapons testing or waste management activities have been detected in the three wells.

SPECIAL STUDIES

Four series of tests were conducted involving 28 different chemicals at the Hazardous Materials Spill Center (HSC) in 1996. Pursuant to the agreement between HSC and the state of Nevada, the EPA is invited to participate in both the spill test advisory panels and the field monitoring. Although substantial amounts of the chemicals were released during the tests, no hazardous concentrations were detected at the NTS boundary by EPA monitors.

7.2 ECOLOGICAL CONDITIONS

All components of the DOE/NV-sponsored Basic Environmental Compliance and Monitoring Program were evaluated in 1995 for their ability to meet current DOE/NV objectives given changes in NTS missions and DOE policy. Work began on developing a comprehensive NTS ecological monitoring program focused on site-specific compliance with the National Environmental Policy Act and the new Federal Land and Facility Use

Management Policy. During data evaluations and program development efforts, field data on annual and perennial plants, reptiles, small mammals, and deer were not collected. Data collection was resumed in part, as necessary, under the revised monitoring program initiated in 1996. The revised program and an adaptable guidance document for ecological monitoring were completed in May 1996. The new program is designated as the Ecological Monitoring and Compliance Program. The ecological monitoring tasks which were selected for 1996 included vegetation mapping within the range of the desert tortoise, characterizing the natural springs on the NTS, censuring horse and chukar populations, and periodically monitoring man-made water sources to assess their affects on wildlife. In addition, the Environmental Assessment for the HSC calls for ecological monitoring of certain spill tests, and a monitoring plan was developed and implemented in 1996.

FLORA

In January, BN published and distributed the DOE/NV topical report titled, "Current Distribution, Habitat, and Status of Category 2 Candidate Plant Species on and near the U.S. Department of Energy's Nevada Test Site." This report represents the culmination of several years of intensive field surveys and literature reviews on 11 Category 2 candidate plant species. The results of these surveys and a previous report on the Category 1 species, Beatley's milkvetch (*Astragalus beatleyae*), contributed to the removal of these species from the U.S. Fish and Wildlife Service candidate list in February 1996.

HABITAT MAPPING

Several spatial coverages or vegetation maps of plant communities and tortoise habitats at the NTS were developed during 1996. The first was a geo-referenced (i.e., corrected for Universal Transverse Mercator [UTM coordinates]) and Geographical Information System (GIS)-compatible revision of Janice Beatley's 1976 vegetation map showing major plant associations at the NTS. This map, although relatively generalized, permits usage with GIS software and correlation to other GIS data collected on the NTS. The second mapping effort involved refining the classification of vegetation on the NTS to identify habitat and nonhabitat for desert tortoises and other sensitive species. Using regular and multi-spectral aerial photographs of the NTS, ecological landform units (ELUs) were identified. These are areas with similar slope, aspect, soil, hydrology, vegetation, and wildlife. These areas were then described during field surveys. Within each ELU, one or more 200-m transects were sampled for the frequency of perennial shrubs by species. At each sample transect, UTM coordinates were taken to establish their location, and photographs of the ground-level landscape were taken. This information was entered into computer databases for ease of access. The locations of the nearly 500 vegetation sampling transects were then linked to database tables and site photographs. This information database can display the distribution of every plant species identified along the transects within the southern third of the NTS, which roughly corresponds to the range of the desert tortoise on the NTS. The ELU data will also facilitate correlation of tortoise sign and presence with vegetation, soils, geology, and other site features that may be important to identify habitats that sustain tortoise populations or other sensitive species.

FAUNA

Field surveys were conducted in 1996 for some of these former candidate animal species to determine their abundance and distribution. Information gathered will be helpful to prevent possible listing of the species in the future. These species included the chuckwalla (*Sauromalus obesus*), western burrowing owl (*Speotyto cunicularia*), and seven species of bats. The seven species of bats included the small-

footed myotis (*Myotis ciliolabrum*), long-eared myotis (*M. evotis*), fringed myotis (*M. thysanodes*), long-legged myotis (*M. volans*), big free-tailed bat (*Nyctinomops macrotis*), pale Townsend's big-eared bat (*Plecotus townsendii pattescens*), and the spotted bat (*Euderma maculatum*). A GIS map of this year's survey sites and survey data was prepared in September 1996.

HORSE SURVEYS

Surveys were conducted in 1996 to monitor the size of the NTS horse population. Two techniques for estimating horse abundance were compared in 1996: a count of all horses observed versus mark-recapture sampling. Based on the counting technique, 42 horses were identified during 12 days of field surveys. The population estimate based on six days of mark-recapture sampling was 40 horses. The 95 percent likelihood interval for this population estimate was 33 to 41. The mark-recapture sampling technique yielded as accurate a population estimate as the direct count of horses in half the time. It was determined that the mark-recapture technique will be used for subsequent surveys.

Only one foal was observed during the summer of 1996. The number of foals born this spring is unknown. Ten adults and one foal observed in 1995 were missing in 1996, representing a 20 percent decline in the population. Over the past three years, the feral horse population at the NTS has declined 25 percent from 56 to 42 horses.

CHUKAR SURVEYS

The Nevada Department of Wildlife (NDOW) did not request permission this year to trap and remove chukar from the NTS. Therefore, summer brood surveys, similar to those conducted last year, were not performed. However, biologists recorded all opportunistic sightings of chukar while performing other field tasks on the NTS. Low numbers of adults (less than 40) and no young were observed around springs and the forward areas of the NTS. The largest group of chukar observed was at Topopah Spring in September, which numbered about 150 birds. Chukar surveys are still planned during years when NDOW personnel request permission to trap and remove them.

FIELD SURVEYS FOR FORMER CANDIDATE SPECIES

Chuckwalla surveys were conducted every month from May through August of 1996. Seventeen chuckwallas were observed in May, one in July, and one in August. Chuckwalla scat was found at 93 separate locations (62 percent) searched. The 19 chuckwallas were observed at only 18 separate locations (12 percent) searched. Overall, chuckwalla activity was detected at 104 of 150 locations (69 percent) searched. A GIS chuckwalla distribution map was developed based on the survey results. Chuckwalla are restricted to an area which roughly corresponds to the distribution of the desert tortoise. A detailed report of survey findings will be prepared in 1997.

Burrowing owl surveys were conducted weekly for 12 weeks ending in mid-July. Fifteen burrowing owl pairs were found. Burrowing owls were not observed on the NTS at elevations higher than 1,400 m (approximately 4,600 ft) and occur in open habitat of low-lying shrubs or grasslands. A GIS map of the distribution of all known burrowing owls on the NTS was prepared in September. A detailed report of survey findings will be prepared in 1997.

Mist netting for bats took place at eight sites on the NTS for more than 14 nights from May through July of 1996. The eight sites included Pahute Lake, Well J-12, Pond C-1, Reitman's Seep, Area 17 Pond, NUWAX Pond, Area 2 Mudplant, and J-11 Pond. At Pahute Lake, three spotted bats (*Euderma maculatum*) were captured and their feeding vocalizations were heard throughout the night. The spotted bat is a current state-protected species as well as a former Category 2 candidate species. At Area 17 Pond, one spotted bat was also captured, and this species' feeding vocalizations were

recorded on July 1 and July 17, 1996. In addition, a spotted bat vocalization was heard on July 1,1996, over Boullion Sumps by biologists listening for bat vocalizations. These are the first capture records of this species on the NTS, and historically only a few capture records exist for southern Nevada. A total of 1,083 bats, representing ten species, were captured across all sites. Six of the species captured are former Category 2 candidate species. A GIS map of the trap locations and trap results was prepared in September 1996. A detailed report of survey findings will be prepared in 1997.

OTHER MONITORING

A total of three coyotes and five mule deer were found dead as a result of drowning or entrapment in plastic-lined sumps. Of the three canines, one was found in a sump at drill site ER-6-1, one in a sump at ER-20-5, and one in a sump at ER-20-6. The mule deer were found in sumps at ER-20-6. All of these sumps had one animal ladder (made of plastic fencing). The sumps at ER-20-5 and ER-20-6 are ponds which contain tritiated groundwater. The fences around the sumps at these sites are in good condition, yet they do not deter coyotes or mule deer from entry. No animal mortalities were observed in any of the earthen or cement-lined sumps or ponds. It was recommended that an ecological risk assessment be conducted to evaluate risks associated with wildlife exposure to tritiated water versus those associated with entrapment and the cost of preventing entrapment. The following mitigation measures are being considered: (1) To prevent wildlife access or death from entrapment, chain link fences ten-feet high will be constructed around sumps of contaminated water to effectively exclude mule deer and coyotes; (2) To prevent wildlife death from entrapment, fill material will be dumped on top of the lining along one side of lined sumps to form a gradual earthen access and escape ramp.

Selected water sources on the NTS were surveyed to evaluate their effect on the distribution of horses. Camp 17 Pond in Area 18, and Captain Jack Spring in Area 12 received the heaviest use by horses in 1996. Well 2 Pond was dry during 1996, and 12 horses appeared to shift their major summer use to Captain Jack Spring. Limited use was made of the Area 2 Mud Plant Pond. An estimated 30 horses appear dependent on Camp 17 Pond during summer and fall in years when Gold Meadows Spring becomes dry. Monitoring of horse use of selected springs and well reservoirs at the NTS suggests that the distribution of horses in 1996 has not changed significantly from that observed in previous years.

Table 7.1 Influent Quality - 1996

	1st Quarter		2nd Quarter		3rd Quarter		4th Quarter	
Facility	BOD5[a] (mg/L)	S.C.[b] (µmhos/cm)	BOD5 (mg/L)	S.C. (µmhos/cm)	BOD5 (mg/L)	S.C. (µmhos)	BOD5 (mg/L)	S.C. (µmhos/cm)
Gate 100	294	1.58	476	1.40	159	1.00	313	1.13
Mercury	173	0.80	98	0.80	137	0.87	194	0.64
Yucca Lake	392	0.73	98	0.86	75	0.77	95	0.38
Tweezer	199	1.16	81	0.76	214	1.54	308	1.09
CP-6	0	0	0	0	0	0	0	0
CP-72	0	0	0	0	0	0	0	0
DAF	120	1.50	20	1.22	132	0.97	76	0.81
Reactor Control	350	0.94	0	0	0	0	60	0.30
Test Stand 1	0	0	0	0	0	0	0	0
Base Camp 25	264	0.80	164	0.91	44	0.68	92	0.61
Base Camp 12	20	0.29	13	0.48	6	0.30	6	0.28
Test Cell C	0	0	0	0	0	0	0	0
RWMS Site 5	1236	1.21	391	1.30	80	0.68	60	0.95

(a) Biochemical Oxygen Demand - 5-day Incubation.
(b) Specific Conductance.

Table 7.2 Organic Loading Rates - 1996

		Metered Rates			
Facility	Limit (Kg/day)	(Jan-Mar) Mean Daily Load	(Apr-June) Mean Daily Load	(Jul-Sept) Mean Daily Load	(Oct-Dec) Mean Daily Load
Mercury	172	51.24	38.14	34.49	49.17
LANL on Tweezer	5.0	3.06	0.92	0.92	2.99
Yucca Lake	8.6	9.62[a]	4.48	1.73	4.64
Base Camp 12	54	0.21	0.04	0.04	0.06
RWMS Site 5	0.995	1.88[a]	0.56	0.15	0.02
		Calculated Rates			
CP-6	8.7	0	0	0	0
CP-72	1.1	0	0	0	0
DAF	7.6	0.51	0.25	2.51	0.27
Reactor Control	4.2	2.08	0	0	0.15
Eng Test Stand	2.3	0	0	0	0
Test Cell C	1.3	0	0	0	0
Base Camp 25	7.4	2.41	1.19	0.81	0.14
Gate 100	2.4	0.60	1.77	0.32	1.07

(a) Considered to be an anomalous value.

Table 7.3 Pond Water Depths in Infiltration Basins - 1996

Impound	Maximum Operating Depth, cm	Average Depth, cm (1st Quarter)	Average Depth, cm (2nd Quarter)	Average Depth, cm (3rd Quarter)	Average Depth, cm (4th Quarter)
Gate 100, Basin	90	0	0	14	25
Mercury, Basin	180	0	0	0	0
Yucca Lake					
North Basin	140	42	75	88	118
South Basin	140	42	16	0	0
Tweezer					
East Basin	244	0	0	0	0
West Basin	244	0	0	0	0
CP-6					
East Basin	90	0	0	0	0
West Basin	90	10	0	0	0
CP-72	90	0	0	0	0
DAF					
Basin 1	150	0	0	0	0
Basin 2	150	0	0	0	0
Reactor Control, Basin	130	0	0	0	0
Test Stand 1, Basin	90	0	0	0	0
Test Cell C, Basin	90	0	0	0	0
Base Camp 25, Basin	100	0	0	0	0
Base Camp 12, Basin 1	120	0	0	0	0
Base Camp 12, Basin 2	120	0	0	0	0
Base Camp 12, Basin 3	120	0	0	0	0
Base Camp 12, Basin 4	120	0	0	0	0
Base Camp 12, Basin 5	120	0	0	0	0

Table 7.4 Influent Toxics for Facilities that Received Industrial Wastewater - 1996

Parameter	Compliance Limit (mg/L)	Mercury Measurement (mg/L)	Area 25 Base Camp Measurement (mg/L)	Area 6 DAF Measurement (mg/L)	Area 5 RWMS Measurement (mg/L)	Area 6 LANL Measurement (mg/L)	Area 6 Yucca Lake Measurement (mg/L)
Arsenic	5.0	0.0205	0.0183	0.0139	0.0104	(a)	(a)
Barium	100	(a)	(a)	(a)	(a)	(a)	(a)
Cadmium	1.0	(a)	(a)	(a)	(a)	(a)	(a)
Chromium	5.0	(a)	(a)	(a)	(a)	(a)	(a)
Lead	5.0	0.0051	(a)	(a)	(a)	(a)	0.0143
Mercury	0.2	(a)	(a)	(a)	(a)	(a)	(a)
Selenium	1.0	(a)	(a)	(a)	(a)	(a)	(a)
Silver	5.0	(a)	(a)	(a)	(a)	(a)	(a)
Benzene	0.5	(a)	(a)	(a)	(a)	(a)	(a)
Carbon Tertachloride	0.5	(a)	(a)	(a)	(a)	(a)	(a)
Chlorobenzene	100	(a)	(a)	(a)	(a)	(a)	(a)
Chloroform	6.0	(a)	(a)	(a)	(a)	(a)	(a)
1,4-dichlorobenzene	7.5	(a)	(a)	(a)	(a)	(a)	(a)
1,2-dichlorobenzene	0.5	(a)	(a)	(a)	(a)	(a)	(a)
1,1-dichloroethylene	0.7	(a)	(a)	(a)	(a)	(a)	(a)
Methylethyl Ketone	200	(a)	(a)	(a)	(a)	(a)	(a)

(a) 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 7.4 (Influent Toxics for Facilities that Received Industrial Wastewater - 1996, cont.)

Parameter	Compliance Limit (mg/L)	Mercury Measurement (mg/L)	Area 25 Base Camp Measurement (mg/L)	Area 6 DAF Measurement (mg/L)	Area 5 RWMS Measurement (mg/L)	Area 6 LANL Measurement (mg/L)	Area 6 Yucca Lake Measurement (mg/L)
Pyridine	5.0	(a)	(a)	(a)	(a)	(a)	(a)
Tetrachloroethylene	0.7	(a)	(a)	(a)	(a)	(a)	(a)
Trichloroethylene	0.5	(a)	(a)	(a)	(a)	(a)	(a)
Vinyl Chloride	0.2	(a)	(a)	(a)	(a)	(a)	(a)
Cresol, total	200	0.012	(a)	(a)	(a)	0.061	0.013
2,4-dinitrotoluene	0.13	(a)	(a)	(a)	(a)	(a)	(a)
Hexachlorobenzene	0.13	(a)	(a)	(a)	(a)	(a)	(a)
Hexachlorobutadiene	0.5	(a)	(a)	(a)	(a)	(a)	(a)
Nitrobenzene	2.0	(a)	(a)	(a)	(a)	(a)	(a)
Pentachlorophenol	100	(a)	(a)	(a)	(a)	(a)	(a)
2,4,5-trichlorophenol	400	(a)	(a)	(a)	(a)	(a)	(a)
2,4,6-trichlorophenol	2.0	(a)	(a)	(a)	(a)	(a)	(a)
Chlorodane	0.03	(a)	(a)	(a)	(a)	(a)	(a)
Endrin	0.02	(a)	(a)	(a)	(a)	(a)	(a)
Heptachlor	0.008	(a)	(a)	(a)	(a)	(a)	(a)
Lindane	0.4	(a)	(a)	(a)	(a)	(a)	(a)
Methoxychlor	10.0	(a)	(a)	(a)	(a)	(a)	(a)
Toxaphene	0.5	(a)	(a)	(a)	(a)	(a)	(a)
2,4-D	10.0	(a)	(a)	(a)	(a)	(a)	(a)
2,4,5-TP (Silvex)	1.0	(a)	(a)	(a)	(a)	(a)	(a)

(a) 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 7.5 Sampling Data for Infiltration Ponds Containing 30 cm or More - 1996

Parameter	Action Level mg/L	A-6 Yucca Lake Q1 Result mg/L	A-6 Yucca Lake Q2 Result mg/L
Arsenic	0.5	0.0099	0.0086
Cadmium	0.1	<0.001	(b)
Chromium	0.5	0.0424	(b)
Lead	0.5	0.0079	(b)
Selenium	0.1	<0.003	(b)
Silver	0.5	0.0065	(b)
Nitrate Nitrogen	100	<0.02	(b)
Sulfate	5000	100	110
Chloride	1000	160	110
Fluoride	40	1.7	2.1
Tritium(a)	Monitor Only	(b)	(b)

(a) Unit for tritium is 10^{-7} µCi/cc.
(b) Not Detected.

Table 7.6 Quantity of Waste Disposed of in Landfills - 1996

Month	Quantity (in pounds) Area 9	Area 23	Area 6
January	0	402,890	0
February	278,597	267,540	15,320
March	191,835	164,070	1,100
April	864,742	236,530	129,430
May	783,690	323,100	6,200
June	412,290	257,020	47,852
July	430,000	135,000	477,200
August	810,600	277,600	2,400
September	734,600	943,200	57,800
October	070,970	316,340	51,400
November	17,400	162,680	17,400
December	805,280	1,442,580	0
Total	9,399,984	4,928,550	806,102

Table 7.7 Groundwater Monitoring Parameters at the RWMS-5 - 1996

Parameters Determining Suitability of Groundwater

Total and Dissolved Metals - As, Ba, Cd, Cr, Hg, Ag, Pb, Se
Total and Dissolved Gross Alpha/Beta

Parameters Establishing Water Quality

Chloride
Total and Dissolved Fe, Mn, Na
Phenols
Sulfate

Indicators of Contamination

pH
Conductivity
Total Organic Carbon
Total Organic Halogen

Additional Selected Parameters

Volatile Organics (8270)
Tritium