

Attachment 9.1 Gross Alpha in Water - 1996

| <u>Sampling Location</u> | <u>Collection Date</u> | <u>μCi/mL × 10⁻⁹</u> | | |
|--------------------------|------------------------|---------------------------------|---------------------------|------------|
| | | <u>Concentration</u> | <u>Standard Deviation</u> | <u>MDC</u> |
| SUPPLY WELLS | | | | |
| Area 5, Well 5B | 01/17/96 | 6.99 | 0.807 | 1.56 |
| Area 5, Well 5B | 05/09/96 | 6.27 | 0.734 | 1.35 |
| Area 5, Well 5B | 07/15/96 | 5.27 | 0.688 | 1.41 |
| Area 5, Well 5B | 10/07/96 | 5.95 | 0.776 | 1.64 |
| Area 5, Well 5C | 01/17/96 | 8.43 | 0.906 | 1.69 |
| Area 5, Well 5C | 05/09/96 | 15.20 | 1.132 | 1.52 |
| Area 5, Well 5C | 07/15/96 | 9.81 | 0.898 | 1.48 |
| Area 5, Well 5C | 10/07/96 | 14.50 | 1.146 | 1.79 |
| Area 6, Well No. 4A | 01/17/96 | 11.20 | 0.946 | 1.49 |
| Area 6, Well No. 4A | 06/04/96 | 9.56 | 0.913 | 1.58 |
| Area 6, Well No. 4A | 07/15/96 | 7.78 | 0.762 | 1.32 |
| Area 6, Well No. 4A | 10/07/96 | 11.10 | 0.932 | 1.51 |
| Area 6, Well No. 4 | 01/17/96 | 9.35 | 0.874 | 1.49 |
| Area 6, Well No. 4 | 05/09/96 | 10.80 | 0.913 | 1.35 |
| Area 6, Well No. 4 | 07/15/96 | 8.19 | 0.811 | 1.41 |
| Area 6, Well No. 4 | 10/07/96 | 8.77 | 0.921 | 1.73 |
| Area 6, Well C-1 | 01/17/96 | 2.52 | 0.266 | 0.49 |
| Area 6, Well C-1 | 05/09/96 | 14.80 | 1.880 | 3.64 |
| Area 6, Well C-1 | 07/15/96 | 3.80 | 0.606 | 1.38 |
| Area 6, Well C-1 | 10/07/96 | 12.00 | 1.758 | 4.00 |
| Area 16, Well UE-16d | 01/17/96 | 2.19 | 0.235 | 0.44 |
| Area 16, Well UE-16d | 05/09/96 | 7.48 | 0.853 | 1.55 |
| Area 16, Well UE-16d | 07/15/96 | 8.17 | 0.886 | 1.64 |
| Area 16, Well UE-16d | 10/07/96 | 8.79 | 0.967 | 1.87 |
| Area 18, Well HTH No. 8 | 01/17/96 | 1.08 | 0.313 | 0.89 |
| Area 18, Well HTH No. 8 | 05/09/96 | 0.92 | 0.291 | 0.83 |
| Area 18, Well HTH No. 8 | 07/15/96 | 0.66 | 0.271 | 0.83 |
| Area 18, Well HTH No. 8 | 10/07/96 | 0.41 | 0.271 | 0.90 |
| Area 22, Army Well No. 1 | 01/17/96 | 4.11 | 0.711 | 1.69 |
| Area 22, Army Well No. 1 | 05/07/96 | 2.86 | 0.505 | 1.16 |
| Area 22, Army Well No. 1 | 07/15/96 | 2.93 | 0.560 | 1.37 |
| Area 22, Army Well No. 1 | 10/07/96 | 11.70 | 0.971 | 1.56 |
| Area 25, Well J-12 | 01/17/96 | 0.69 | 0.377 | 1.21 |
| Area 25, Well J-12 | 05/09/96 | 1.78 | 0.410 | 1.05 |
| Area 25, Well J-12 | 07/15/96 | 1.61 | 0.405 | 1.10 |
| Area 25, Well J-12 | 10/07/96 | 1.83 | 0.449 | 1.22 |
| Area 25, Well J-13 | 01/17/96 | 2.21 | 0.507 | 1.34 |
| Area 25, Well J-13 | 05/09/96 | 1.25 | 0.360 | 1.00 |
| Area 25, Well J-13 | 07/15/96 | 4.54 | 0.606 | 1.26 |
| Area 25, Well J-13 | 10/07/96 | 1.33 | 0.466 | 1.39 |

Attachment 9.1 (Gross Alpha in Water - 1996, cont.)

| <u>Sampling Location</u> | <u>Collection Date</u> | <u>μCi/mL × 10⁻⁹</u> | | |
|------------------------------|------------------------|---------------------------------|---------------------------|------------|
| | | <u>Concentration</u> | <u>Standard Deviation</u> | <u>MDC</u> |
| INDUSTRIAL WELLS | | | | |
| Area 5, Well UE-5c | 01/31/96 | 10.50 | 0.908 | 1.46 |
| Area 5, Well UE-5c | 05/09/96 | 9.17 | 0.848 | 1.34 |
| Area 5, Well UE-5c | 07/15/96 | 4.50 | 0.643 | 1.38 |
| Area 5, Well UE-5c | 10/07/96 | 5.28 | 0.718 | 1.55 |
| Area 20, Well U-20 | 01/29/96 | 8.36 | 0.790 | 1.35 |
| Area 20, Well U-20 | 05/09/96 | | Out of Service | |
| Area 20, Well U-20 | 07/15/96 | | Out of Service | |
| Area 20, Well U-20 | 10/07/96 | | Out of Service | |
| POTABLE WATER | | | | |
| Area 1, Building 101 | 01/09/96 | 6.96 | 0.769 | 1.45 |
| Area 1, Building 101 | 05/09/96 | 7.48 | 0.830 | 1.50 |
| Area 1, Ice House | 07/11/96 | 7.56 | 0.847 | 1.59 |
| Area 1, Building 101 | 10/01/96 | 8.07 | 0.920 | 1.81 |
| Area 2, Restroom | 01/09/96 | 1.10 | 0.361 | 1.05 |
| Area 2, Restroom | 05/09/96 | 0.89 | 0.299 | 0.87 |
| Area 2, Restroom | 07/11/96 | 0.54 | 0.292 | 0.93 |
| Area 2, Restroom | 10/01/96 | 1.53 | 0.360 | 0.97 |
| Area 6, Cafeteria | 01/09/96 | 10.7 | 0.926 | 1.49 |
| Area 6, Cafeteria | 05/14/96 | 5.69 | 0.725 | 1.43 |
| Area 6, Cafeteria | 07/11/96 | 12.4 | 0.936 | 1.35 |
| Area 6, Cafeteria | 10/01/96 | 6.59 | 0.738 | 1.44 |
| Area 6, Building 6-900 | 01/09/96 | 8.25 | 0.833 | 1.49 |
| Area 6, Building 6-900 | 05/14/96 | 9.78 | 0.851 | 1.31 |
| Area 6, Building 6-900 | 07/11/96 | 8.85 | 0.823 | 1.38 |
| Area 6, Building 6-900 | 10/01/96 | 5.85 | 0.720 | 1.48 |
| Area 12, Building 12-23 | 01/09/96 | 0.71 | 0.346 | 1.09 |
| Area 12, Medical Aid Station | 05/09/96 | 1.05 | 0.299 | 0.83 |
| Area 12, Building 12-23 | 07/11/96 | 0.53 | 0.228 | 0.70 |
| Area 12, Ice House | 10/01/96 | 1.31 | 0.361 | 1.01 |
| Area 23, Mercury | 01/09/96 | 7.21 | 0.836 | 1.62 |
| Area 23, Mercury | 05/14/96 | 5.83 | 0.737 | 1.45 |
| Area 23, Mercury | 07/11/96 | 6.35 | 0.740 | 1.43 |
| Area 23, Mercury | 10/01/96 | 6.54 | 0.817 | 1.69 |
| Area 25, Building 4221 | 01/09/96 | 1.38 | 0.469 | 1.37 |
| Area 25, Building 4221 | 05/14/96 | 1.65 | 0.433 | 1.17 |
| Area 25, Building 4221 | 07/11/96 | 1.45 | 0.414 | 1.16 |
| Area 25, Building 4221 | 10/01/96 | 2.31 | 0.534 | 1.42 |

Attachment 9.2 Gross Beta in Water - 1996

| <u>Sampling Location</u> | <u>Collection Date</u> | <u>μCi/mL × 10⁻⁹</u> | | |
|--------------------------|------------------------|---------------------------------|---------------------------|------------|
| | | <u>Concentration</u> | <u>Standard Deviation</u> | <u>MDC</u> |
| SUPPLY WELLS | | | | |
| Area 5, Well 5B | 01/17/96 | 12.20 | 0.51 | 1.22 |
| Area 5, Well 5B | 05/09/96 | 11.70 | 0.49 | 1.19 |
| Area 5, Well 5B | 07/15/96 | 10.90 | 0.49 | 1.18 |
| Area 5, Well 5B | 10/07/96 | 13.10 | 0.53 | 1.27 |
| Area 5, Well 5C | 01/17/96 | 6.65 | 0.45 | 1.23 |
| Area 5, Well 5C | 05/09/96 | 9.23 | 0.49 | 1.29 |
| Area 5, Well 5C | 07/15/96 | 8.62 | 0.46 | 1.18 |
| Area 5, Well 5C | 10/07/96 | 8.88 | 0.48 | 1.27 |
| Area 6, Well No. 4A | 01/17/96 | 6.12 | 0.44 | 1.22 |
| Area 6, Well No. 4A | 06/04/96 | 6.07 | 0.47 | 1.32 |
| Area 6, Well No. 4A | 07/15/96 | 6.94 | 0.42 | 1.13 |
| Area 6, Well No. 4A | 10/07/96 | 7.34 | 0.47 | 1.26 |
| Area 6, Well No. 4 | 01/17/96 | 6.77 | 0.45 | 1.22 |
| Area 6, Well No. 4 | 05/09/96 | 6.90 | 0.47 | 1.28 |
| Area 6, Well No. 4 | 07/15/96 | 7.36 | 0.52 | 1.41 |
| Area 6, Well No. 4 | 10/07/96 | 7.38 | 0.53 | 1.47 |
| Area 6, Well C-1 | 01/17/96 | 14.30 | 0.52 | 1.19 |
| Area 6, Well C-1 | 05/09/96 | 16.30 | 1.36 | 3.86 |
| Area 6, Well C-1 | 07/15/96 | 5.23 | 0.42 | 1.18 |
| Area 6, Well C-1 | 10/07/96 | 19.30 | 1.19 | 3.16 |
| Area 16, Well UE-16d | 01/17/96 | 2.39 | 0.36 | 1.10 |
| Area 16, Well UE-16d | 05/09/96 | 7.30 | 0.47 | 1.27 |
| Area 16, Well UE-16d | 07/15/96 | 7.07 | 0.46 | 1.26 |
| Area 16, Well UE-16d | 10/07/96 | 8.77 | 0.50 | 1.31 |
| Area 18, Well HTH No. 8 | 01/17/96 | 3.24 | 0.40 | 1.22 |
| Area 18, Well HTH No. 8 | 05/09/96 | 3.75 | 0.43 | 1.28 |
| Area 18, Well HTH No. 8 | 07/15/96 | 3.41 | 0.44 | 1.31 |
| Area 18, Well HTH No. 8 | 10/07/96 | 3.89 | 0.43 | 1.27 |
| Area 22, Army Well No. 1 | 01/17/96 | 5.67 | 0.44 | 1.23 |
| Area 22, Army Well No. 1 | 05/07/96 | 3.06 | 0.41 | 1.23 |
| Area 22, Army Well No. 1 | 07/15/96 | 5.30 | 0.41 | 1.15 |
| Area 22, Army Well No. 1 | 10/07/96 | 5.35 | 0.43 | 1.21 |
| Area 25, Well J-12 | 01/17/96 | 4.67 | 0.42 | 1.22 |
| Area 25, Well J-12 | 05/09/96 | 4.27 | 0.42 | 1.23 |
| Area 25, Well J-12 | 07/15/96 | 4.50 | 0.41 | 1.17 |
| Area 25, Well J-12 | 10/07/96 | 4.74 | 0.45 | 1.29 |
| Area 25, Well J-13 | 01/17/96 | 4.32 | 0.42 | 1.22 |
| Area 25, Well J-13 | 05/09/96 | 4.54 | 0.42 | 1.21 |
| Area 25, Well J-13 | 07/15/96 | 4.42 | 0.41 | 1.17 |
| Area 25, Well J-13 | 10/07/96 | 5.04 | 0.45 | 1.30 |

Attachment 9.2 (Gross Beta in Water - 1996, cont.)

| <u>Sampling Location</u> | <u>Collection Date</u> | <u>μCi/mL×10⁻⁹</u> | | |
|------------------------------|------------------------|-------------------------------|---------------------------|------------|
| | | <u>Concentration</u> | <u>Standard Deviation</u> | <u>MDC</u> |
| INDUSTRIAL WELLS | | | | |
| Area 5, Well UE-5c | 01/31/96 | 8.76 | 0.46 | 1.19 |
| Area 5, Well UE-5c | 05/09/96 | 6.31 | 0.46 | 1.27 |
| Area 5, Well UE-5c | 07/15/96 | 6.39 | 0.43 | 1.18 |
| Area 5, Well UE-5c | 10/07/96 | 9.00 | 0.47 | 1.21 |
| Area 20, Well U-20 | 01/29/96 | 2.68 | 0.44 | 1.37 |
| POTABLE WATER | | | | |
| Area 1, Building 101 | 01/09/96 | 4.80 | 0.42 | 1.22 |
| Area 1, Building 101 | 05/09/96 | 6.47 | 0.44 | 1.20 |
| Area 1, Ice House | 07/11/96 | 7.05 | 0.43 | 1.14 |
| Area 1, Building 101 | 10/01/96 | 6.60 | 0.48 | 1.32 |
| Area 2, Restroom | 01/09/96 | 2.84 | 0.40 | 1.22 |
| Area 2, Restroom | 05/09/96 | 3.92 | 0.41 | 1.19 |
| Area 2, Restroom | 07/11/96 | 3.73 | 0.38 | 1.12 |
| Area 2, Restroom | 10/01/96 | 4.42 | 0.42 | 1.21 |
| Area 6, Cafeteria | 01/09/96 | 7.20 | 0.45 | 1.22 |
| Area 6, Cafeteria | 05/14/96 | 8.00 | 0.46 | 1.22 |
| Area 6, Cafeteria | 07/11/96 | 7.14 | 0.43 | 1.13 |
| Area 6, Cafeteria | 10/01/96 | 5.28 | 0.43 | 1.22 |
| Area 6, Building 6-900 | 01/09/96 | 7.12 | 0.45 | 1.22 |
| Area 6, Building 6-900 | 05/14/96 | 6.96 | 0.45 | 1.20 |
| Area 6, Building 6-900 | 07/11/96 | 7.18 | 0.44 | 1.18 |
| Area 6, Building 6-900 | 10/01/96 | 7.08 | 0.45 | 1.22 |
| Area 12, Building 12-23 | 01/09/96 | 3.12 | 0.41 | 1.22 |
| Area 12, Medical Aid Station | 05/09/96 | 4.47 | 0.41 | 1.19 |
| Area 12, Building 12-23 | 07/11/96 | 3.69 | 0.38 | 1.12 |
| Area 12, Ice House | 10/01/96 | 3.54 | 0.42 | 1.27 |
| Area 23, Mercury Cafeteria | 01/09/96 | 9.31 | 0.48 | 1.22 |
| Area 23, Mercury Cafeteria | 05/14/96 | 10.20 | 0.49 | 1.24 |
| Area 23, Mercury Cafeteria | 07/11/96 | 10.20 | 0.46 | 1.13 |
| Area 23, Mercury Cafeteria | 10/01/96 | 12.00 | 0.53 | 1.31 |
| Area 25, Building 4221 | 01/09/96 | 4.81 | 0.43 | 1.22 |
| Area 25, Building 4221 | 05/14/96 | 5.19 | 0.42 | 1.17 |
| Area 25, Building 4221 | 07/11/96 | 5.01 | 0.40 | 1.12 |
| Area 25, Building 4221 | 10/01/96 | 3.81 | 0.41 | 1.22 |
| RESERVOIRS | | | | |
| Area 2, Mud Plant | 07/22/96 | 5.25 | 0.44 | 1.24 |
| Area 2, Well 2 Reservoir | 07/22/96 | | Dry | |
| Area 3, Mud Plant | 07/15/96 | | Dry | |
| Area 3, Well A Reservoir | 07/22/96 | 18.80 | 0.55 | 1.15 |
| Area 5, Well 5B Reservoir | 07/15/96 | 15.10 | 0.55 | 1.24 |

Attachment 9.2 (Gross Beta in Water - 1996, cont.)

| <u>Sampling Location</u> | <u>Collection Date</u> | <u>μCi/mL×10⁻⁹</u> | | |
|--------------------------------|------------------------|-------------------------------|---------------------------|------------|
| | | <u>Concentration</u> | <u>Standard Deviation</u> | <u>MDC</u> |
| (RESERVOIRS, cont.) | | | | |
| Area 5, UE-5C Reservoir | 07/15/96 | 8.57 | 0.45 | 1.17 |
| Area 6, Well 3 Reservoir | 07/15/96 | 17.70 | 0.55 | 1.19 |
| Area 6, Well C-1 Reservoir | 07/15/96 | 17.40 | 0.54 | 1.15 |
| Area 18, Well HTH #8 Reservoir | 07/15/96 | | Dry | |
| Area 18, Camp 17 Reservoir | 07/22/96 | 14.50 | 0.56 | 1.31 |
| Area 19, UE-19c Reservoir | 07/15/96 | | Dry | |
| Area 20, Well 20A Reservoir | 07/15/96 | | Dry | |
| Area 23, Swimming Pool | 07/15/96 | | Dry | |
| Area 25, Well J11 Reservoir | 07/15/96 | 4.63 | 0.41 | 1.18 |
| Area 25, Well J12 Reservoir | 07/15/96 | 5.18 | 0.43 | 1.21 |
| NATURAL SPRINGS | | | | |
| Area 5, Cane Spring | 07/15/96 | 12.10 | 0.55 | 1.33 |
| Area 7, Reitman Seep | 07/15/96 | 13.40 | 0.59 | 1.45 |
| Area 12, White Rock Spring | 07/22/96 | 9.00 | 0.46 | 1.16 |
| Area 12, Capt Jack Spring | 07/22/96 | 7.80 | 0.44 | 1.16 |
| Area 12, Gold Meadows Spring | 07/15/96 | | Dry | |
| Area 15, Tub Springs | 07/22/96 | 8.06 | 0.50 | 1.34 |
| Area 16, Tippipah Spring | 07/15/96 | 6.26 | 0.43 | 1.16 |
| Area 29, Topopah Spring | 07/15/96 | 7.88 | 0.47 | 1.24 |
| CONTAINMENT PONDS | | | | |
| Area 12, E Tunnel Effluent | 02/07/96 | 225.0 | 2.86 | 3.67 |
| Area 12, E Tunnel Effluent | 05/30/96 | 61.20 | 1.48 | 2.87 |
| Area 12, E Tunnel Effluent | 07/25/96 | 96.10 | 1.05 | 1.19 |
| Area 12, E Tunnel Effluent | 10/31/96 | 99.60 | 1.09 | 1.25 |
| Area 12, E Tunnel Pond 2 | 10/31/96 | 92.60 | 1.06 | 1.29 |
| Area 12, E Tunnel Pond 1 | 02/07/96 | 136.0 | 2.11 | 3.14 |
| Area 12, E Tunnel Pond 1 | 07/25/96 | 134.0 | 1.23 | 1.20 |
| LAGOONS | | | | |
| Area 5, RWMS Sewage Pond | 02/13/96 | 14.80 | 0.56 | 1.33 |
| Area 5, RWMS Sewage Pond | 05/07/96 | 34.80 | 0.80 | 1.49 |
| Area 5, RWMS Sewage Pond | 08/08/96 | 41.60 | 0.82 | 1.38 |
| Area 5, RWMS Sewage Pond | 11/06/96 | 28.00 | 0.63 | 1.18 |
| Area 6, Yucca Sewage Pond | 02/13/96 | 16.70 | 0.62 | 1.45 |
| Area 6, Yucca Sewage Pond | 05/07/96 | 24.30 | 0.65 | 1.32 |
| Area 6, Yucca Sewage Pond | 08/08/96 | 22.20 | 0.68 | 1.44 |

Attachment 9.2 (Gross Beta in Water - 1996, cont.)

| <u>Sampling Location</u> | <u>Collection Date</u> | <u>μCi/mL×10⁻⁹</u> | | |
|-------------------------------|------------------------|-------------------------------|---------------------------|------------|
| | | <u>Concentration</u> | <u>Standard Deviation</u> | <u>MDC</u> |
| (LAGOONS cont.) | | | | |
| Area 6, Yucca Sewage Pond | 11/06/96 | 4.56 | 0.40 | 1.16 |
| Area 6, DAF Sewage Pond | 02/13/96 | 32.20 | 0.70 | 1.27 |
| Area 6, DAF Sewage Pond | 05/07/96 | 22.70 | 0.65 | 1.35 |
| Area 6, DAF Sewage Pond | 08/08/96 | 18.90 | 0.65 | 1.46 |
| Area 6, DAF Sewage Pond | 11/06/96 | 19.60 | 0.58 | 1.22 |
| Area 11, LANL Sewage Pond | 02/13/96 | 28.40 | 0.71 | 1.42 |
| Area 11, LANL Sewage Pond | 05/07/96 | 30.20 | 0.76 | 1.49 |
| Area 11, LANL Sewage Pond | 08/08/96 | 39.30 | 0.83 | 1.47 |
| Area 11, LANL Sewage Pond | 11/06/96 | 22.60 | 0.59 | 1.18 |
| Area 12, Sewage Pond | 02/13/96 | 5.66 | 0.49 | 1.40 |
| Area 12, Sewage Pond | 05/07/96 | 11.50 | 0.54 | 1.35 |
| Area 12, Sewage Pond | 08/08/96 | 8.24 | 0.53 | 1.43 |
| Area 12, Sewage Pond | 11/06/96 | 5.43 | 0.43 | 1.22 |
| Area 22, Sewage Pond | 02/13/96 | 29.00 | 0.66 | 1.26 |
| Area 22, Sewage Pond | 05/07/96 | 45.40 | 0.79 | 1.28 |
| Area 22, Sewage Pond | 08/08/96 | 22.00 | 0.68 | 1.45 |
| Area 22, Sewage Pond | 11/06/96 | 36.90 | 0.70 | 1.19 |
| Area 23, Sewage Pond | 02/13/96 | 16.90 | 0.56 | 1.24 |
| Area 23, Sewage Pond | 05/07/96 | 44.70 | 0.84 | 1.40 |
| Area 23, Sewage Pond | 08/08/96 | 17.30 | 0.60 | 1.35 |
| Area 23, Sewage Pond | 11/06/96 | 22.60 | 0.61 | 1.24 |
| Area 25, Reactor Control Pond | 02/13/96 | 14.00 | 0.53 | 1.24 |
| Area 25, Reactor Control Pond | 11/06/96 | 15.50 | 1.01 | 2.74 |
| Area 25, Central Supply Pond | 02/13/96 | 12.70 | 0.51 | 1.24 |
| Area 25, Central Supply Pond | 05/07/96 | 25.90 | 0.66 | 1.32 |
| Area 25, Central Supply Pond | 08/08/96 | 16.40 | 0.53 | 1.15 |
| Area 25, Central Supply Pond | 11/06/96 | 12.70 | 0.50 | 1.18 |