

**Table 99-14 . Selected Non-Radiological Constituents
in Lake Carlsbad Surface Water Samples Collected during 1998 and 1999**

See CEMRC 1999 Report "Radiological and non-radiological constituents in surface water and sediments
at selected reservoirs" for descriptions of locations and methods of data collection.

| Analyte | Collection Date and Sampling Depth | | | | | | | | |
|----------|------------------------------------|---|---------------------------------|------------------------------|------------------------------|---------------------------------|-------------------------------|------------------------------|---------------------------------|
| | March 19, 1998 (0.3 m depth) | | | March 19, 1998 (1.5 m depth) | | | August 19, 1998 (0.5 m depth) | | |
| | Method | ^a MDL (mg L ⁻¹) | Result (mg L ⁻¹) | Method | MDL (mg L ⁻¹) | Result (mg L ⁻¹) | Method | MDL (mg L ⁻¹) | Result (mg L ⁻¹) |
| Ag | ^b ICPMS | ^c NA | NA | ICPMS | NA | NA | ICPMS | NA | NA |
| Al | ^d ICPES | 2.27E-02 | 2.64E-01 | ICPES | 2.27E-02 | 3.77E-01 | ICPES | 2.27E-02 | <MDL |
| As | ^e AA | 1.35E-04 | 1.58E-03 | AA | 1.35E-04 | 1.57E-03 | AA | 1.35E-04 | 1.42E-03 |
| Ba | ICPES | 2.89E-04 | 1.75E-02 | ICPES | 2.89E-04 | 1.75E-02 | ICPES | 3.00E-04 | 3.80E-02 |
| Be | ICPES | 8.90E-04 | <MDL | ICPES | 8.90E-04 | <MDL | ICPES | 2.00E-04 | <MDL |
| Ca | ICPES | 1.19E-01 | 3.07E+02 | ICPES | 1.19E-01 | 3.12E+02 | ICPES | 1.19E-01 | 2.96E+02 |
| Cd | AA | 1.60E-04 | <MDL | AA | 1.60E-04 | <MDL | ICPES | 3.00E-04 | <MDL |
| Ce | ICPMS | NA | NA | ICPMS | NA | NA | ICPMS | NA | NA |
| Chloride | ^f IC | 3.30E-01 | 6.18E+02 | IC | 3.30E-01 | 6.22E+02 | IC | 2.10E-02 | 3.68E+02 |
| Co | ICPES | 7.19E-04 | 1.10E-02 | ICPES | 7.19E-04 | 1.18E-02 | ICPES | 4.00E-04 | <MDL |
| Cr | AA | 5.00E-04 | <MDL | AA | 5.00E-04 | <MDL | ICPES | 1.70E-03 | <MDL |
| Cu | AA | 3.00E-04 | 2.85E-03 | AA | 3.00E-04 | 2.59E-03 | ICPES | 1.90E-03 | <MDL |
| Dy | ICPMS | NA | NA | ICPMS | NA | NA | ICPMS | NA | NA |
| Er | ICPMS | NA | NA | ICPMS | NA | NA | ICPMS | NA | NA |
| Eu | ICPMS | NA | NA | ICPMS | NA | NA | ICPMS | NA | NA |
| Fe | ICPES | 1.64E-02 | 1.75E-01 | ICPES | 1.64E-02 | 2.28E-01 | ICPES | 1.64E-02 | <MDL |
| Fluoride | IC | 4.06E-02 | 1.11E+00 | IC | 4.06E-02 | 1.12E+00 | IC | 4.87E-02 | <MDL |
| Gd | ICPMS | NA | NA | ICPMS | NA | NA | ICPMS | NA | NA |
| Hg | AA | 5.00E-06 | <MDL | AA | 5.00E-06 | <MDL | AA | 1.00E-05 | <MDL |
| K | ICPES | 1.75E-02 | 5.50E+00 | ICPES | 1.75E-02 | 5.54E+00 | ICPES | 1.75E-02 | 4.27E+00 |

| | | | | | | | | | |
|-----------|-------|----------|----------|-------|----------|----------|-------|----------|----------|
| La | ICPMS | NA | NA | ICPMS | NA | NA | ICPMS | NA | NA |
| Li | ICPMS | NA | NA | ICPMS | NA | NA | ICPMS | NA | NA |
| Mg | ICPES | 1.09E-02 | 1.24E+02 | ICPES | 1.09E-02 | 1.24E+02 | ICPES | 1.09E-02 | 8.39E+01 |
| Mn | ICPES | 4.72E-04 | 1.84E-02 | ICPES | 4.72E-04 | 1.90E-02 | ICPES | 2.00E-04 | <MDL |
| Mo | ICPES | 4.78E-04 | 1.17E-03 | ICPES | 4.78E-04 | 1.19E-03 | ICPES | 3.00E-04 | 2.80E-03 |
| Na | ICPES | 1.33E-01 | 3.52E+02 | ICPES | 1.33E-01 | 3.50E+02 | ICPES | 1.33E-01 | 2.98E+02 |
| Nd | ICPMS | NA | NA | ICPMS | NA | NA | ICPMS | NA | NA |
| Ni | AA | 5.00E-04 | <MDL | AA | 5.00E-04 | <MDL | ICPES | 3.00E-04 | <MDL |
| Nitrate | IC | 5.55E-02 | 6.38E+00 | IC | 5.55E-02 | 6.53E+00 | IC | 5.88E-02 | <MDL |
| Pb | AA | 1.00E-03 | <MDL | AA | 1.00E-03 | <MDL | ICPES | 1.50E-03 | <MDL |
| Phosphate | IC | 1.02E-01 | <MDL | IC | 1.02E-01 | <MDL | IC | 2.35E-01 | <MDL |
| Pr | ICPMS | NA | NA | ICPMS | NA | NA | ICPMS | NA | NA |
| Sb | AA | 2.75E-04 | <MDL | AA | 2.75E-04 | <MDL | ICPES | 9.20E-03 | <MDL |
| Se | AA | 2.10E-04 | 4.66E-04 | AA | 2.10E-04 | 4.72E-04 | AA | 2.10E-04 | 3.16E-04 |
| Sm | ICPMS | NA | NA | ICPMS | NA | NA | ICPMS | NA | NA |
| Sn | ICPMS | NA | NA | ICPMS | NA | NA | ICPMS | NA | NA |
| Sr | ICPES | 3.79E-04 | 4.34E+00 | ICPES | 3.79E-04 | 4.31E+00 | ICPES | 4.00E-04 | 4.24E+00 |
| Sulfate | IC | 1.08E-01 | 1.40E+03 | IC | 1.08E-01 | 1.43E+03 | IC | 1.11E-01 | 8.76E+02 |
| Th | ICPMS | NA | NA | ICPMS | NA | NA | ICPMS | NA | NA |
| Ti | ICPMS | NA | NA | ICPMS | NA | NA | ICPMS | NA | NA |
| Tl | ICPMS | NA | NA | ICPMS | NA | NA | ICPMS | NA | NA |
| U | ICPMS | NA | NA | ICPMS | NA | NA | ICPMS | NA | NA |
| V | ICPES | 1.47E-03 | 6.26E-03 | ICPES | 1.47E-03 | 6.31E-03 | ICPES | 1.50E-03 | 4.70E-03 |
| Zn | ICPES | 9.89E-04 | 1.73E-02 | ICPES | 9.89E-04 | 1.44E-02 | ICPES | 2.50E-03 | <MDL |

| Analyte | Collection Date and Sampling Depth | | | | | | | | |
|----------|------------------------------------|------------------------------|---------------------------------|-----------------------------|------------------------------|---------------------------------|-----------------------------|------------------------------|---------------------------------|
| | August 19, 1998 (2.1 m depth) | | | June 30, 1999 (0.6 m depth) | | | June 30, 1999 (2.5 m depth) | | |
| | Method | MDL (mg L ⁻¹) | Result (mg L ⁻¹) | Method | MDL (mg L ⁻¹) | Result (mg L ⁻¹) | Method | MDL (mg L ⁻¹) | Result (mg L ⁻¹) |
| Ag | ICPMS | NA | NA | ICPMS | 7.78E-05 | <MDL | ICPMS | 7.78E-05 | <MDL |
| Al | ICPES | 2.27E-02 | <MDL | ICPMS | 1.74E-02 | 6.65E-02 | ICPMS | 1.74E-02 | 2.22E-01 |
| As | AA | 1.35E-04 | 1.77E-03 | AA | 6.00E-05 | 1.82E-03 | AA | 6.00E-05 | 2.37E-03 |
| Ba | ICPES | 3.00E-04 | 4.40E-02 | ICPMS | 4.49E-04 | 1.91E-02 | ICPMS | 4.49E-04 | 3.36E-02 |
| Be | ICPES | 2.00E-04 | <MDL | ICPMS | 2.91E-05 | <MDL | ICPMS | 2.91E-05 | <MDL |
| Ca | ICPES | 1.19E-01 | 3.11E+02 | ICPMS | 1.46E+01 | 3.04E+02 | ICPMS | 1.46E+01 | 3.34E+02 |
| Cd | ICPES | 3.00E-04 | <MDL | ICPMS | 4.63E-04 | <MDL | ICPMS | 4.63E-04 | <MDL |
| Ce | ICPMS | NA | NA | ICPMS | 3.23E-05 | 8.08E-05 | ICPMS | 3.23E-05 | 4.16E-04 |
| Chloride | IC | 2.10E-02 | 3.80E+02 | IC | 3.30E+00 | 6.31E+02 | IC | 3.30E+00 | 1.06E+03 |
| Co | ICPES | 4.00E-04 | <MDL | ICPMS | 3.39E-05 | 1.67E-03 | ICPMS | 3.39E-05 | 2.83E-03 |
| Cr | ICPES | 1.70E-03 | <MDL | ICPMS | 3.85E-04 | 6.12E-04 | ICPMS | 3.85E-04 | 1.39E-03 |
| Cu | ICPES | 1.90E-03 | <MDL | ICPMS | 1.61E-03 | 3.88E-03 | ICPMS | 1.61E-03 | 7.89E-03 |
| Dy | ICPMS | NA | NA | ICPMS | 3.66E-06 | 6.67E-06 | ICPMS | 3.66E-06 | 3.51E-05 |
| Er | ICPMS | NA | NA | ICPMS | 1.39E-06 | <MDL | ICPMS | 1.39E-06 | 1.51E-05 |
| Eu | ICPMS | NA | NA | ICPMS | 2.03E-06 | 6.54E-06 | ICPMS | 2.03E-06 | 1.81E-05 |
| Fe | ICPES | 1.64E-02 | <MDL | ICPMS | 3.40E-02 | 7.60E-02 | ICPMS | 3.40E-02 | 3.96E+00 |
| Fluoride | IC | 4.87E-02 | <MDL | IC | 8.11E-02 | 9.52E-01 | IC | 8.11E-02 | 1.05E+00 |
| Gd | ICPMS | NA | NA | ICPMS | 4.07E-06 | 9.10E-06 | ICPMS | 4.07E-06 | 4.84E-05 |
| Hg | AA | 1.00E-05 | <MDL | AA | 6.00E-06 | <MDL | AA | 6.00E-06 | <MDL |
| K | ICPES | 1.75E-02 | 4.55E+00 | ICPMS | 5.89E+00 | <MDL | ICPMS | 5.89E+00 | 6.55E+00 |
| La | ICPMS | NA | NA | ICPMS | 1.77E-05 | 4.29E-05 | ICPMS | 1.77E-05 | 2.21E-04 |
| Li | ICPMS | NA | NA | ICPMS | 5.30E-02 | <MDL | ICPMS | 5.30E-02 | 7.75E-02 |
| Mg | ICPES | 1.09E-02 | 8.85E+01 | ICPMS | 1.88E+00 | 1.09E+02 | ICPMS | 1.88E+00 | 1.51E+02 |
| Mn | ICPES | 2.00E-04 | 5.00E-04 | ICPMS | 5.71E-02 | <MDL | ICPMS | 5.71E-02 | 6.65E-02 |

| | | | | | | | | | |
|-----------|-------|----------|----------|-------|----------|----------|-------|----------|----------|
| Mo | ICPES | 3.00E-04 | 3.20E-03 | ICPMS | 2.41E-05 | 2.68E-03 | ICPMS | 2.41E-05 | 2.67E-03 |
| Na | ICPES | 1.33E-01 | 3.52E+02 | ICPMS | 1.93E+01 | 3.38E+02 | ICPMS | 1.93E+01 | 4.48E+02 |
| Nd | ICPMS | NA | NA | ICPMS | 1.41E-05 | 3.79E-05 | ICPMS | 1.41E-05 | 2.31E-04 |
| Ni | ICPES | 3.00E-04 | <MDL | ICPMS | 1.76E-03 | 4.60E-03 | ICPMS | 1.76E-03 | 7.91E-03 |
| Nitrate | IC | 5.88E-02 | <MDL | IC | 1.11E-01 | 3.16E+00 | IC | 1.11E-01 | 6.28E+00 |
| Pb | ICPES | 1.50E-03 | <MDL | ICPMS | 1.91E-03 | <MDL | ICPMS | 1.91E-03 | 2.65E-03 |
| Phosphate | IC | 2.35E-01 | <MDL | IC | 2.04E-01 | <MDL | IC | 2.04E-01 | <MDL |
| Pr | ICPMS | NA | NA | ICPMS | 5.17E-06 | 1.11E-05 | ICPMS | 5.17E-06 | 5.66E-05 |
| Sb | ICPES | 9.20E-03 | <MDL | ICPMS | 2.43E-04 | <MDL | ICPMS | 2.43E-04 | <MDL |
| Se | AA | 2.10E-04 | <MDL | AA | 2.60E-04 | 6.10E-04 | AA | 2.60E-04 | 5.44E-04 |
| Sm | ICPMS | NA | NA | ICPMS | 1.95E-06 | 1.69E-05 | ICPMS | 1.95E-06 | 6.12E-05 |
| Sn | ICPMS | NA | NA | ICPMS | 1.96E-02 | <MDL | ICPMS | 1.96E-02 | <MDL |
| Sr | ICPES | 4.00E-04 | 4.53E+00 | ICPMS | 5.30E-02 | 4.16E+00 | ICPMS | 5.30E-02 | 5.95E+00 |
| Sulfate | IC | 1.11E-01 | 9.00E+02 | IC | 1.08E+00 | 1.15E+03 | IC | 1.08E+00 | 2.01E+03 |
| Th | ICPMS | NA | NA | ICPMS | 5.58E-06 | 1.52E-05 | ICPMS | 5.58E-06 | 6.01E-05 |
| Ti | ICPMS | NA | NA | ICPMS | 3.92E-02 | 3.69E-01 | ICPMS | 3.92E-02 | 5.45E-01 |
| Tl | ICPMS | NA | NA | ICPMS | 7.91E-03 | <MDL | ICPMS | 7.91E-03 | <MDL |
| U | ICPMS | NA | NA | ICPMS | 1.90E-06 | 3.78E-03 | ICPMS | 1.90E-06 | 9.17E-03 |
| V | ICPES | 1.50E-03 | 4.90E-03 | ICPMS | 5.09E-04 | 6.13E-03 | ICPMS | 5.09E-04 | 8.21E-03 |
| Zn | ICPES | 2.50E-03 | <MDL | ICPMS | 2.15E-02 | <MDL | ICPMS | 2.15E-02 | <MDL |

^aMDL = Method Detection Limit

^bICPMS = Inductively-Coupled Mass Spectrometry

^cNA = Sample was not analyzed for target analyte

^dICPES = Inductively-Coupled Plasma Emission Spectroscopy

^eAA = Atomic Absorption Spectroscopy

^fIC = Ion Chromatography