

Analytical Parameters for Assessing Water Quality from HCP Surface Water Locations

| Analyses | Method | Method Description | Protocol |
|---|---|--|--|
| Volatile Organic Compounds (VOCs) | 8260B | Volatile Organic Compounds | (GC/MS) SW846 |
| Semi-volatile Organic Compounds (SVOCs) | 8270C | Semivolatile Organic Compounds | (GC/MS) SW846 |
| Organochlorine Pesticides | 8081B | Organochlorine | (GC) SW846 |
| Polychlorinated Biphenyls (PCBs) | 8082A | Polychlorinated Biphenyls (PCBs) | by Gas Chromatography SW846 |
| Organophosphorous Pesticides | 8141A | Organophosphorous Pesticides | (GC) SW846 |
| Herbicides | 8151A | Herbicides | (GC) SW846 |
| Metals (Al, Sb, As, Ba, Be, Cd, Cr (total), Cu, Fe, Pb, Mn, Hg, Ni, Se, Ag, Tl, and Zn) | 6010B, 6020, 7470A | Metals, Mercury (7470A) | (ICP) SW846, (ICP/MS) SW846, (7470A) (CVAA) SW846 |
| General Chemistry Total Alkalinity (as CaCO ₃), Bicarbonate Alkalinity (as CaCO ₃), Carbonate Alkalinity (as CaCO ₃); Ca, Mg, Na, K, Chloride, Sulfate, Fluoride, Si, Sr, Nitrate as N, pH, Total Dissolved Solids (TDS), and Total Suspended Solids (TSS). | 300, 365.4, 9040C, SM 2320B, SM 2540C, SM 2540D | Anions, Phosphorus, pH, Alkalinity, TDS, TSS | Ion Chromatography, Total EPA, SW846, SM, TDS SM, SM |
| Phosphorus (total) | 365.4 | Phosphorus, | Total EPA |
| Total Organic Carbon (TOC), | 9060 | Organic Carbon, | Total (TOC) SW846 |
| Dissolved Organic Carbon (DOC) | 415.1 | DOC | EPA |
| Kjeldahl Nitrogen | 351.2 | Nitrogen, Total | MCAWW |
| E. Coli MPN | SM 3223B-2004 | E. Coli MPN | SM |

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Analytical Parameters for Assessing Water Quality from HCP Sediment Sample Locations

| Analyses | Method | Method Description | Protocol |
|--|-----------------------------|------------------------------------|---|
| Volatile Organic Compounds (VOCs) | 8260B | Volatile Organic Compounds | (GC/MS) SW846 |
| Semi-volatile Organic Compounds (SVOCs) | 8270C | Semivolatile Organic Compounds | (GC/MS) SW846 |
| Organochlorine Pesticides | 8081B | Organochlorine | (GC) SW846 |
| Polychlorinated Biphenyls (PCBs) | 8082A | Polychlorinated Biphenyls (PCBs) | by Gas Chromatography |
| Organophosphorous Pesticides | 8141A | Organophosphorous Pesticides | (GC) SW846 |
| Herbicides | 8151A | Herbicides | (GC) SW846 |
| Metals (Al, Sb, As, Ba, Be, Cd, Cr (total), Cu, Fe, Pb, Mn, Hg, Ni, Se, Ag, Tl, and Zn) | 6010B, 6020, 7470A | Metals, Mercury (7470A) | (ICP) SW846, (ICP/MS) SW846, (7470A) (CVAA) SW846 |
| General Chemistry Total Alkalinity (as CaCO ₃), Bicarbonate Alkalinity (as CaCO ₃), Carbonate Alkalinity (as CaCO ₃); Ca, Mg, Na, K, Chloride, Sulfate, Fluoride, Si, Sr, Nitrate as N, pH | 300, 365.4, 9040C, SM 2320B | Anions, Phosphorus, pH, Alkalinity | Ion Chromatography, Total EPA, SW846, SM |
| Phosphorus (total) | 365.4 | Phosphorus, | Total EPA |
| Total Organic Carbon (TOC), | 9060 | Organic Carbon, | Total (TOC) SW846 |
| Dissolved Organic Carbon (DOC) | 415.1 | DOC | EPA |
| Kjeldahl Nitrogen | 351.2 | Nitrogen, Total | MCAWW |
| E. Coli MPN | SM 3223B-2004 | E. Coli MPN | SM |

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Analytical Parameters for Assessing Water Quality from HCP Stormwater Locations

| Analyses | Method | Method Description | Protocol |
|---|---|--|--|
| Volatile Organic Compounds (VOCs) | 8260B | Volatile Organic Compounds | (GC/MS) SW846 |
| Semi-volatile Organic Compounds (SVOCs) | 8270C | Semivolatile Organic Compounds | (GC/MS) SW846 |
| Organochlorine Pesticides | 8081B | Organochlorine | (GC) SW846 |
| Polychlorinated Biphenyls (PCBs) | 8082A | Polychlorinated Biphenyls (PCBs) | by Gas Chromatography SW846 |
| Organophosphorous Pesticides | 8141A | Organophosphorous Pesticides | (GC) SW846 |
| Herbicides | 8151A | Herbicides | (GC) SW846 |
| Metals (Al, Sb, As, Ba, Be, Cd, Cr (total), Cu, Fe, Pb, Mn, Hg, Ni, Se, Ag, Tl, and Zn) | 6010B, 6020, 7470A | Metals, Mercury (7470A) | (ICP) SW846, (ICP/MS) SW846, (7470A) (CVAA) SW846 |
| General Chemistry Total Alkalinity (as CaCO ₃), Bicarbonate Alkalinity (as CaCO ₃), Carbonate Alkalinity (as CaCO ₃); Ca, Mg, Na, K, Chloride, Sulfate, Fluoride, Si, Sr, Nitrate as N, pH, Total Dissolved Solids (TDS), and Total Suspended Solids (TSS). | 300, 365.4, 9040C, SM 2320B, SM 2540C, SM 2540D | Anions, Phosphorus, pH, Alkalinity, TDS, TSS | Ion Chromatography, Total EPA, SW846, SM, TDS SM, SM |
| Phosphorus (total) | 365.4 | Phosphorus, | Total EPA |
| Total Organic Carbon (TOC), | 9060 | Organic Carbon, | Total (TOC) SW846 |
| Dissolved Organic Carbon (DOC) | 415.1 | DOC | EPA |
| E. Coli MPN | SM 3223B-2004 | E. Coli MPN | SM |

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Low Flow Sampling of Wells

Weekly samples are to be collected from three wells in the vicinity of each spring group under specific low flow conditions as outlined below.

Analytical Parameters for Assessing Water Quality during Low Flow Conditions (First Trigger)

| Analyses | Method | Method Description | Protocol |
|------------------|---------------|---------------------------|-----------------|
| Dissolved Oxygen | NA | NA | NA |
| Conductivity | NA | NA | NA |
| pH | NA | NA | NA |
| Temperature | NA | NA | NA |

Weekly sampling frequency. Trigger levels <30 cfs flow at Comal and <50 cfs flow at San Marcos.

Protocol References:

NA = Not available

Analytical Parameters for Assessing Water Quality during Low Flow Conditions (Second Trigger)

| Analyses | Method | Method Description | Protocol |
|---|---|--|--|
| Dissolved Oxygen | NA | NA | NA |
| Conductivity | NA | NA | NA |
| pH | NA | NA | NA |
| Temperature | NA | NA | NA |
| General Chemistry Total Alkalinity (as CaCO ₃), Bicarbonate Alkalinity (as CaCO ₃), Carbonate Alkalinity (as CaCO ₃); Ca, Mg, Na, K, Chloride, Sulfate, Fluoride, Si, Sr, Nitrate as N, pH, Total Dissolved Solids (TDS), and Total Suspended Solids (TSS). | 300, 365.4, 9040C, SM 2320B, SM 2540C, SM 2540D | Anions, Phosphorus, pH, Alkalinity, TDS, TSS | Ion Chromatography, Total EPA, SW846, SM, TDS SM, SM |
| Total Organic Carbon (TOC), | 9060 | Organic Carbon, | Total (TOC) SW846 |

Weekly sampling frequency. Trigger levels <20 cfs flow at Comal and <30 cfs flow at San Marcos.

Protocol References:

EPA = US Environmental Protection Agency

NA = Not available

SM = "Standard Methods For The Examination Of Water And Wastewater",