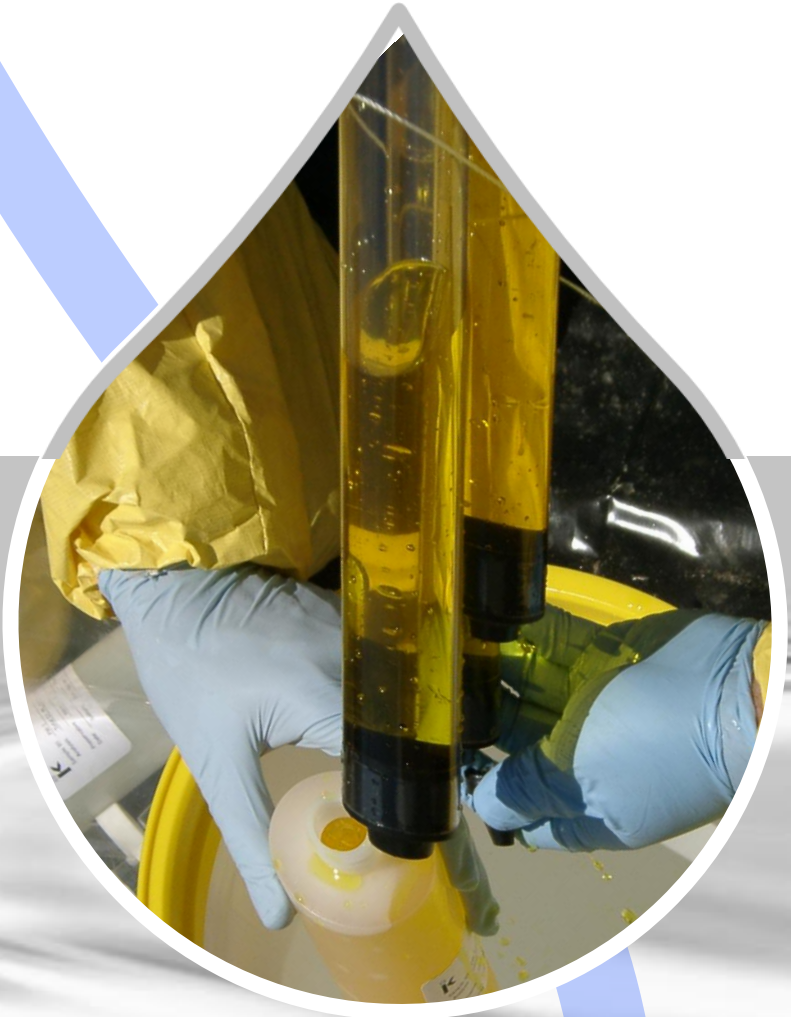


Hexavalent Chromium

The Chromium Experts

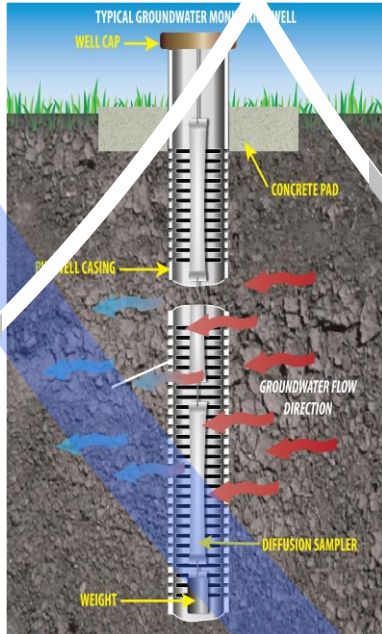
- Responsible Party Identification
- GIS and Geomatics
- Contaminant Hydrogeology
- Fate and Transport Modeling
- Risk Assessment
- Remediation Feasibility Studies
- Soil and Groundwater Remediation
- Natural Resource Damage Assessment
- Water Resources Assessment
- Source Water Assessment and Protection
- Drinking Water Treatment
- Environmental Risk Management
- Litigation Support/Expert Witness
- Forensic Engineering
- Stakeholder/Public Participation
- Regulatory Strategy



environment • water • strategy

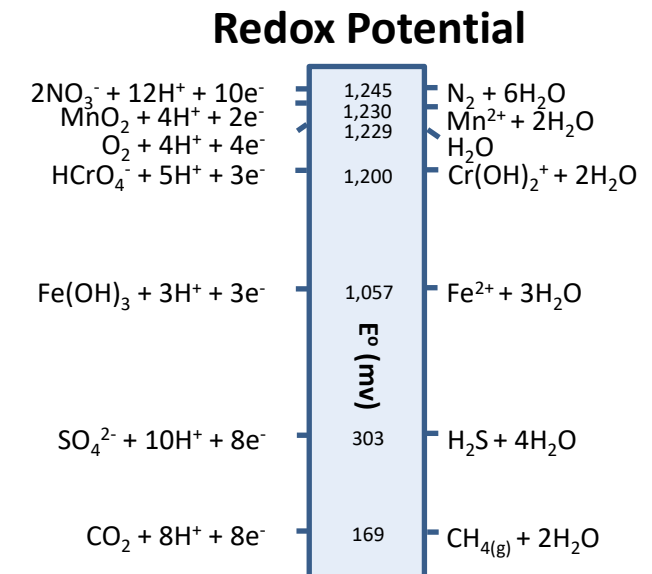
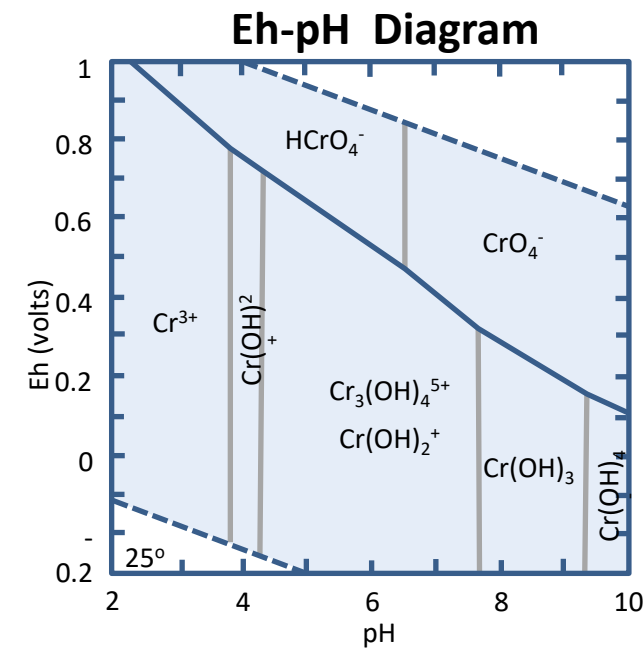


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Natural Chromium Oxidation States

Oxidation State	Compound Name	Formula
0	Chromium (0) (elemental, metal)	Cr ₀
	Chromium (0) carbonyl	Cr(CO) ₆
+3	Chromium (III) oxide	Cr ₂ O ₃
	Chromium (III) fluoride	CrF ₃
	Chromium (III) chloride	CrCl ₃
	Chromium (III) hydroxide	Cr(OH) ₃
+6	Barium chromate	BaCrO ₄
	Chromate anion	CrO ₄ ²⁻
	Sodium dichromate	Na ₂ Cr ₂ O ₇
	Dichromate anion	Cr ₂ O ₇ ²⁻



Water Quality Criteria and Guidelines¹

Analysis	Regulatory Limit (ug/L)	
	Preliminary Health Goal	Maximum Contaminant Level
Total Chromium (USEPA)	---	100
Total Chromium (CA)	---	50
Hexavalent Chromium (CA)	0.02	10

Hexavalent Chromium Detections in California Drinking Water Sources (2000 - 2012)²

Maximum Detected Concentration (ug/L)	Number of Sources	% of Detections
> 50	4	< 1
41 - 50	5	< 1
31 - 40	17	< 1
21 - 30	66	3
11 - 20	247	10
6 - 10	496	20
1 - 5	1,596	66
Total	2,432	--

Sources:

- CDPH. (2014). MCLs, DLRs, and PHGs for Regulated Drinking Water Contaminants.
- CDPH. (2012). Chromium-6 in Drinking Water Sources: Sampling Results. From 2000 through November 2012. http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Chromium6sampling.shtml

