

ORC TECHNICAL BULLETIN # 2 . 5 . 2

Oxygen Release Compound, ORC®

Oxygen Distribution Field Results - Alaska

Alaska Study with Hart Crowser

An ORC pilot well study was conducted by Hart Crowser in Homer, Alaska. The site was a utility company property that had experienced significant hydrocarbon releases and the dissolved phase was present in a shallow water table characterized by a coarse gravel. This gave the site a very high flow characteristic on the order of 20 feet/day. Since the longevity of ORC is tied to ground water velocity and lateral oxygen dispersion this site was an extreme test.

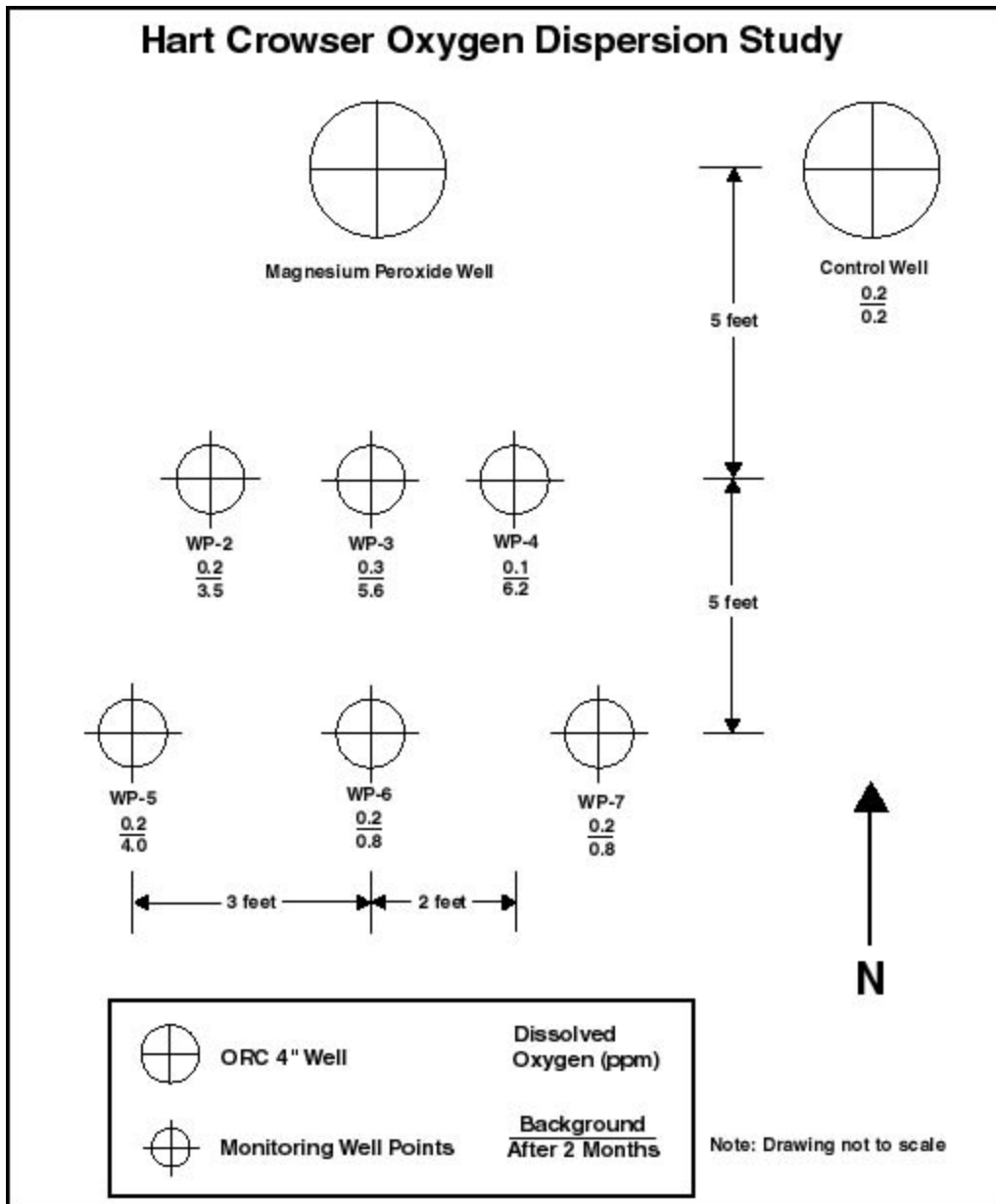
Attempts to use air sparging, in a side-by-side pilot test, failed because the sparge points fouled in the high iron environment (up to 100 ppm) and showed evidence of channeling - a common problem with a forced air technology. The study demonstrated a significant increase in dissolved oxygen levels at an array of downgradient monitoring points.

The results are given below and in Figure 1. Wells WP-2 through WP-4 are 2 feet on center (from left to right) at 5 feet from the ORC source well. Wells WP-5 through WP-7 are 3 feet on center (from left to right) at 10 feet from the ORC source well. Oxygen distribution, even after consumption by BTEX remediation, was impressive enough to warrant the purchase and installation of a full Oxygen Barrier (Technical Bulletins [3.2.1](#) and [3.2.2](#)).

Average Oxygen Concentration in ppm

	Before ORC	1 Month	2 Months
Background	0.2	0.2	0.2
WP-2	0.2	1.8	3.5
WP-3	0.3	1.4	5.6
WP-4	0.1	2.3	6.2
WP-5	0.2	1.5	4.0
WP-6	0.2	0.2	0.8
WP-7	0.2	0.2	0.8

Figure 1



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