



Edwards Environmental Corporation

5909 N. Kelley Avenue

Oklahoma City, Oklahoma 73111

Office: 405-843-3431 • Fax: 405-843-3528

Email: byogeorge2@att.net

www.edwardsenvironmentalcorp.com

HUGHES COUNTY SPILL

In July, a large oil and gas producer experienced a produced water spill on their MWP due to a hole in their plastic pipe. In late August soil samples were collected and tested for chlorides, specific conductivity, and total soluble salts. The sample results indicated two areas exceeded clean up level. A soil remediation project was commenced on September 22, by Edwards Environmental Corporation. 54 days later a second set of soil samples were collected and analyzed to determine the level of reductions. The results are as follows:

| | Sample 1 8/31 | Sample1 11/14 | % Reduction |
|-----|-----------------|----------------|-------------|
| TSS | 5,900 ppm | 952 ppm | 84% |
| EC | 9,200 umhos/cm | 1,487 umhos/cm | 84% |
| CL | 2,900 mg/kg | 232 mg/kg | 92% |
| | Sample2 8/31 | Sample2 11/14 | % Reduction |
| TSS | 19,000 ppm | 1,459 ppm | 92% |
| EC | 30,000 umhos/cm | 2,280 umhos/cm | 92% |
| CL | 10,000 mg/kg | 377 mg/kg | 96% |

The laboratory results indicated that no further remediation was needed in just 54 days. The producer and OCC were both pleased with the success of the remediation.

Okla. Corporation Commission threshold limits – TSS – 2,460 ppm, EC – 4,000 umhos/cm, CL – 1,000 mg/kg