

## **Case Study: Emergency Hydrocarbon Spill Remediation**

Location: New Mexico – Production Site Tank Failure

### **Background:**

X4 Environmental Products was urgently contacted by its New Mexico and Colorado distributor to respond to a crude oil and distillate spill caused by a tank failure at a production site. The spill posed an immediate environmental risk due to its proximity to a wetlands marsh, a small lake, and an eco-sensitive river originating from the Rocky Mountain Range.

To address the emergency, X4 Environmental Products mobilized 16 drums of X4JH2000-HEP concentrate (55 gallons each) and drove non-stop for 17 hours from Houston, TX, to the site.

### **Challenges:**

1. Severe Cold Weather (14°F / -10°C):
  - The low temperature posed a major challenge, as the microbes essential for bioremediation were dormant at such temperatures.
  - X4JH2000-HEP was designed to break down hydrocarbons immediately and stimulate indigenous microbes, but microbial activity was slowed due to the extreme cold.
2. Urgency of Containment & Remediation:
  - The spill had to be controlled quickly to prevent contamination of nearby wetlands, lake, and river.
  - Regulatory agencies at the local, state, and national levels were closely monitoring the situation.

### **Remediation Process:**

1. Application of X4JH2000-HEP:
  - Despite the freezing temperatures, X4JH2000-HEP immediately began breaking down hydrocarbon chains upon application.
  - As temperatures rose to 50–60°F (10–15°C), microbial activity restarted naturally, accelerating the biodegradation process.

## 2. Hydrocarbon Reduction Monitoring:

- TPH (Total Petroleum Hydrocarbons) levels were tested at multiple intervals:

Timeframe	TPH Level	Reduction
Initial Contamination	42,345 ppm	Background contamination level
24 Hours Post-Treatment	8,500 ppm	80% reduction
7 Days Post-Treatment	1,220 ppm	97% reduction

### Conclusion:

- ✓ Emergency response executed within 17 hours of call
- ✓ Immediate hydrocarbon breakdown, even in extreme cold
- ✓ Successful containment of spill, preventing contamination of sensitive ecosystems
- ✓ TPH reduction from 42,345 ppm to 1,220 ppm in 7 days
- ✓ Validated by local, state, and national regulatory agencies

X4 Environmental successfully mitigated an environmental disaster, demonstrating the effectiveness of X4JH2000-HEP in rapid spill response, even under extreme weather conditions.