Case Study: Chrysler Production Plant – Hydrocarbon Contaminated Soil

Location: Saltillo, Mexico

Background:

Chrysler's Saltillo production plant contacted Ecolimpio of Saltillo, Mexico to assess and remediate a hydrocarbon-contaminated soil confinement area. Upon initial soil sampling, it was determined that Total Petroleum Hydrocarbons (TPH) exceeded 50,000 **ppm, requiring an urgent and effective remediation plan.**

Challenges:

1. Extremely Dry Soil:
    - The soil was completely devoid of moisture, preventing the chemical from properly penetrating and treating the contamination.
    - A significant amount of water was required to ensure the soil could absorb the remediation chemical.
2. Lack of Indigenous Microbes:
    - The soil was found to be barren of microbial activity, which is critical for biodegradation.
    - Without available fresh topsoil or indigenous microbes, an alternative microbial source had to be introduced.

Remediation Process:

1. Moisture Restoration:
    - A 25,000-gallon water truck was brought onsite.
    - 8,000 gallons of fresh water were incrementally mixed into 40 cubic meters of soil using a front-end loader.
    - The dry soil absorbed only ½ to 1 inch of water per application, requiring continuous mixing to ensure proper hydration.
2. Chemical Application:
    - X4JH2000 was introduced at a 10:1 ratio (water to chemical).
    - 40 gallons of X4JH2000 were mixed into a slurry and applied.
    - Peat Moss was added to introduce microbial activity, compensating for the absence of indigenous microbes.

3. TPH Reduction & Monitoring:
    - The impact of the treatment was measured at multiple intervals:

Timeframe	TPH Level	Reduction
Initial Contamination	50,000+ ppm	Background level
24 Hours Post-Treatment	1,300 ppm	97% reduction
96 Hours Post-Treatment	400 ppm	99.2% reduction

Conclusion:

✅ Successful reduction of TPH from 50,000+ ppm to 400 ppm in 96 hours
✅ Effective remediation despite extreme soil dryness
✅ Introduction of Peat Moss compensated for lack of indigenous microbes
✅ Demonstrated the efficiency of X4JH2000 in rapid in-situ bioremediation

By utilizing X4JH2000, water reintroduction, and Peat Moss, Ecolimpio effectively remediated the contaminated site, meeting environmental compliance within four days while ensuring minimal disruption to Chrysler's operations.