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Soil Tech

Hydrocarbon Soil Remediation

The Natural Solution to Oil Pollution Problems in Soil

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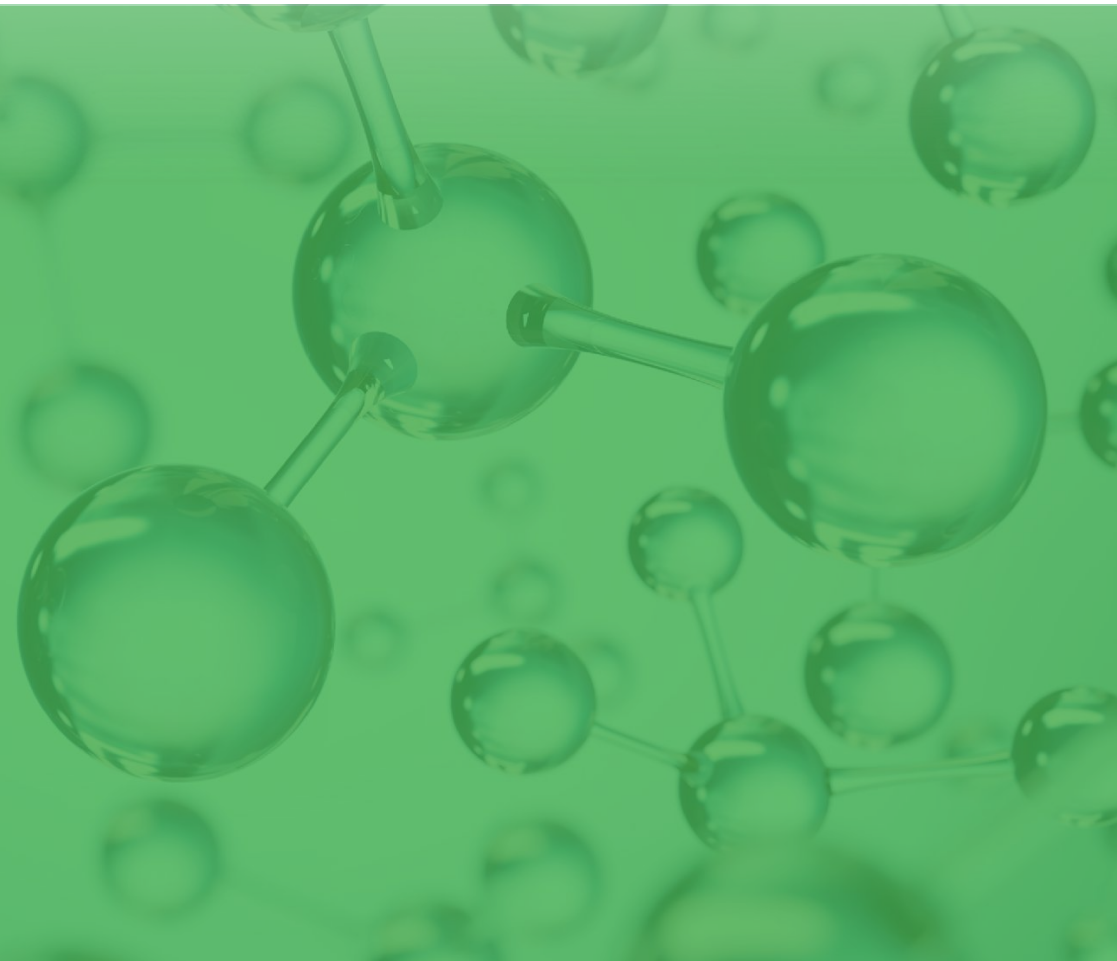

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1. What is Soil Tech?

- Soil Tech is a environmentally friendly product for treating hydrocarbon-contaminated soil and gravel.
- It neutralizes harmful hydrocarbons and transforms them into organo-silicates – non-toxic, inert substances that cannot leach or contaminate.
- Designed for speed and simplicity, Soil Tech provides a safer, faster, and more effective alternative to traditional soil remediation methods, while requiring significantly less labour.

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2. How It Works

Soil Tech neutralizes hydrocarbons through encapsulation:

- Converts toxic hydrocarbons into organo-silicates
- Prevents leaching of contaminants from soil
- Functions under normal pH conditions
- Biodegrades naturally and safely in sensitive environments

The result? Restored soil to a safe and usable condition without using timeous Bioremediation methods, excavation, burning, or extensive processing.

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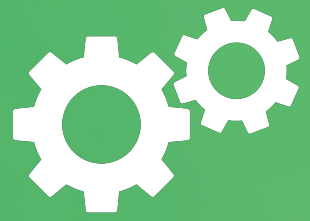
3. Key Features and Properties

Biodegradable



Heavy Duty

Laboratory Tested

Process Plant Friendly

Water-Based

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4. Product Composition

Soil Tech consists of a clear liquid blend of mineral silicates and solution, with:

- No Discernable Odor
- Specific Gravity < 1.25
- Full miscibility with water
- Alkaline pH

This formulation allows for safe and effective application directly on contaminated soil and gravel.

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5. Where Can You Use Soil Tech?

Soil Tech is suitable for any environment affected by oil-based contamination:

- Mining Environments
- Agricultural and Rural Land
- Construction Sites and Industrial Zones
- Oilfields, Drilling Pads, and Fuel Depots
- Remediation of Spills in Parks, Wetlands, or Nature Reserves
- Soil and Contaminated Land

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6. Industries That Benefit from Soil Tech

- Mining and Natural Resource Extraction
- Transport and Fuel Storage
- Municipalities and Municipal Services
- Construction and Engineering
- Environmental Cleanup, Services and Consulting Firms
- Eskom/Power Stations

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7. Before & After Results

Remediated Soil in Action

- See the transformation of hydrocarbon-impacted soil with Soil Tech.

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Results

This incident involved a 32,000-litre diesel spill, during which three samples were collected from different locations where the spill had occurred. The results from these samples varied significantly, ranging from 82,000 ppm to 3,700 ppm. However, after two months, all the results showed levels that had fallen below the desired ppm threshold.

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SOIL TECH REMEDIATION

RESULTS 1

OVERVIEW

This incident involved a 32,000-litre diesel spill, during which three samples were collected from different locations where the spill had occurred. The results from these samples varied significantly, ranging from 82,000 ppm to 3,700 ppm. However, after two months, all the results showed levels that had fallen below the desired ppm threshold.

LabNo.	Date Received	Data Analysed	Date Reported	Project Name	Project Number	Sample nu	Matrix	Dilution	Units	TPHC10-C28	TPHC28-C40	TPHC10-C40
23408	08.03.2019	11.03.2019	12.03.2019	Batch No: 64327	Batch No: 64327	SB1	Soil	10	mg/kg	9800	<380	9800
23922	18.04.2019	18.04.2019	24.04.2019	Batch No: 66717	MON-2015 (PO02300)	SB1	Soil	10	mg/kg	4800	<380	4800
24012	08.05.2019	08.05.2019	16.05.2019	Batch No: 69145	MON-2015 (PO02315)	SB1	Soil	10	mg/kg	850	<380	850
23408	08.03.2019	11.03.2019	12.03.2019	Batch No: 64327	Batch No: 64327	SB2	Soil	150	mg/kg	82000	<5700	82000
23922	18.04.2019	18.04.2019	24.04.2019	Batch No: 66717	MON-2015 (PO02300)	SB2	Soil	100	mg/kg	21000	<3800	21000
24012	08.05.2019	08.05.2019	16.05.2019	Batch No: 69145	MON-2015 (PO02315)	SB2	Soil	10	mg/kg	2480	<380	1000
23408	08.03.2019	11.03.2019	12.03.2019	Batch No: 64327	Batch No: 64327	SB3	Soil	10	mg/kg	3700	<380	3700
23922	18.04.2019	18.04.2019	24.04.2019	Batch No: 66717	MON-2015 (PO02300)	SB3	Soil	10	mg/kg	1900	<380	1900
24012	08.05.2019	08.05.2019	16.05.2019	Batch No: 69145	MON-2015 (PO02315)	SB3	Soil	10	mg/kg	500	<380	500

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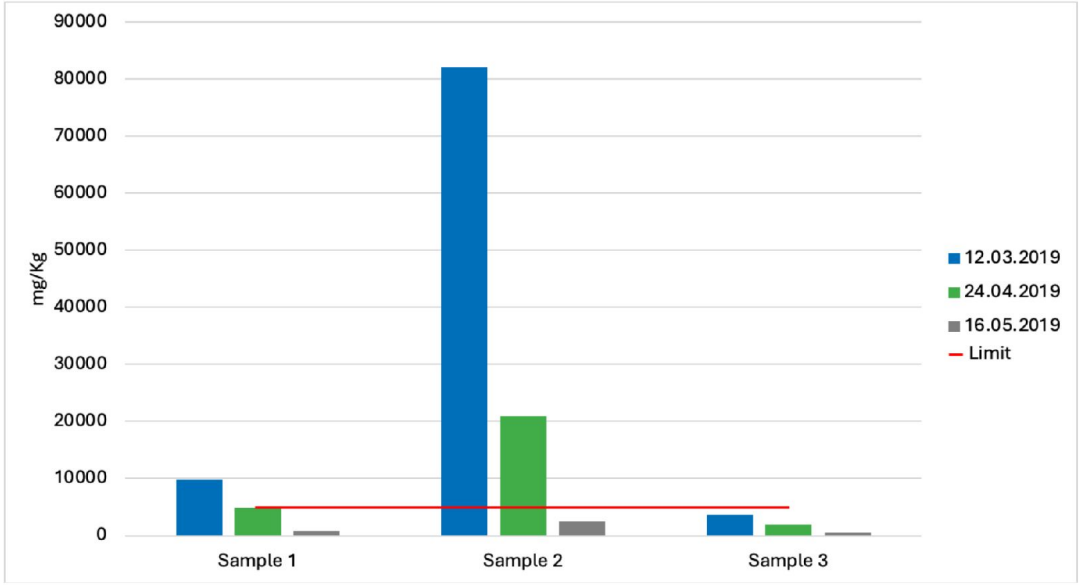
SUMMARY OF RESULTS

Date	Sample 1	Sample 2	Sample 3
12.03.2019	9800	82000	3700
24.04.2019	4800	21000	1900
16.05.2019	850	2480	500
Limit	5000	5000	5000



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Results

The soil contaminated with oil was treated on-site using Soil Tech at the location of the spill. A follow-up treatment was applied seven days after the initial application to ensure effective remediation. A sample was then collected thirty days after the final treatment, and the results demonstrated the following improvements, indicating a successful reduction in contamination levels.

Introduction
The soil contaminated with oil was treated on-site using Soil Tech at the location of the spill. A follow-up treatment was applied seven days after the initial application to ensure effective remediation. A sample was then collected thirty days after the final treatment, and the results demonstrated the following improvements, indicating a successful reduction in contamination levels.

Contaminated Soil

TEST REPORT
53734A

Test Description BTEXMN/Gasoline Range Organics and Total Petroleum Hydrocarbons

Test Method: EPL-T-012 (BTEX/GRO) and EPL-T-011(TPH)

Sample Information

Sample ID:	**Contaminated soil 02**	**Matrix:**	Soil	**Date Received:**	2024/09/27
Dilutions:	BTEX/GRO = 20, TPH = 10	**Storage:**	Fridge at 0-6°C	**Date Analysed:**	2024/09/27
Container:	Plastic			**Date Issued:**	2024/10/04

BTEXMN and Gasoline Range Organics

PARAMETER	RESULT
MTBE	<100 µg/kg
TAME	<100 µg/kg
Benzene	<8 µg/kg
Toluene	<20 µg/kg
Ethylbenzene	<8 µg/kg
m+p-Xylene	<16 µg/kg
o-Xylene	<8 µg/kg
1,3,5-Trimethylbenzene	17 µg/kg
1,2,4-Trimethylbenzene	31 µg/kg
Naphthalene	<8 µg/kg
TPH GRO C7-C9	500 µg/kg

Total Petroleum Hydrocarbon (C10-C36)

PARAMETER	RESULT
TPH C10-C14	2500 mg/kg
TPH C15-C36	46000 mg/kg
TPH C10-C36 Total	48500 mg/kg

Treated Soil

TEST REPORT
53734A

Test Description BTEXMN/Gasoline Range Organics and Total Petroleum Hydrocarbons

Test Method: EPL-T-012 (BTEX/GRO) and EPL-T-011(TPH)

Sample Information

Sample ID:	**Treated soil 02**	**Matrix:**	Soil	**Date Received:**	2024/09/27
Dilutions:	BTEX/GRO = 20, TPH = No Dilution	**Storage:**	Fridge at 0-6°C	**Date Analysed:**	2024/09/27
Container:	Plastic			**Date Issued:**	2024/10/04

BTEXMN and Gasoline Range Organics

PARAMETER	RESULT
MTBE	<100 µg/kg
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Benzene	<8 µg/kg
Toluene	<20 µg/kg
Ethylbenzene	<8 µg/kg
m+p-Xylene	<16 µg/kg
o-Xylene	<8 µg/kg
1,3,5-Trimethylbenzene	<8 µg/kg
1,2,4-Trimethylbenzene	<8 µg/kg
Naphthalene	<8 µg/kg
TPH GRO C7-C9	<200 µg/kg

Total Petroleum Hydrocarbon (C10-C36)

PARAMETER	RESULT
TPH C10-C14	53 mg/kg
TPH C15-C36	3400 mg/kg
TPH C10-C36 Total	3453 mg/kg

www.epl.co.za 13 Sovereign Drive Route21 Corporate Park Irene South Africa Tel: +27 12 345 1004 info@epl.co.za

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Ready to Restore Soil Safely and Sustainably?

Contact Proton Chemicals to learn how Soil Tech can transform contaminated sites naturally.

Ignatius Anayawa
Executive Director

+260 776 391 088
ignatius@proton-chemicals.com
www.proton-chemicals.com
9058 Njolwe Close, Woodlands
Lusaka, 10101, Zambia

Dale Masher
Executive Director

+27 82 928 2060
dale@proton-chemicals.com
www.proton-chemicals.com
9058 Njolwe Close, Woodlands
Lusaka, 10101, Zambia

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