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US Department Energy Use of OSE II on the Sunoco Terminal

SUNOCO TERMINAL OIL SPILL

*Environmental Advisory Committee
 April 22, 2002*

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LOCATION OF SUNOCO TERMINAL

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METER SKID BACKGROUND

- Originally located at Weeks Island
- Transferred to SUNOCO terminal
- Inserted into the terminal pipeline system
- Operational for approximately one year
- Measures the amount of crude oil transferred

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OIL SPILL INCIDENT I

- Oil leak reported 03/15/02
- Estimated 15 gallons spilled
- Notifications made
- Personnel were called out for remediation
- Cleanup completed on 3-16-02
- 7 yd³ of contaminated dirt/gravel generated
- Contaminated material placed in dumpster

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PICTURES FROM SPILL AREA



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PICTURES FROM SPILL AREA (Continued)



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PICTURES FROM SPILL AREA (Continued)



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PICTURES FROM SPILL AREA (Continued)



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OIL SPILL RESPONSIBILITY

- **SPR MANAGEMENT QUESTIONS**
 - Who was responsible for the spill?
 - Who was responsible for handling and disposition of the spill cleanup material?
 - Which state agency has jurisdiction?
 - What are the reporting requirements?
 - What are the prescribed methods for disposition?

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RESPONSIBILITY AND JURISDICTION

- **DynMcDermott is responsible for:**
 - The Spill
 - Cleanup activities
 - Management of the contaminated material
- **RRC is the spill governing authority**
- **RRC requirements must be followed**

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NOTIFICATION REQUIREMENTS

- Immediate Notification for:
 - Spills greater than 5 barrels (210 gallons)
 - Spills of any quantity that enters water
 - Blowouts and/or fires
 - Accidental releases of hydrogen sulfide gas
 - Hydrogen sulfide-related accidents or
 - Injury, death, property damage
 - (\$5,000) gas pipelines
 - \$50,000) hazardous pipelines

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REPORTING REQUIREMENTS

- Crude oil spills over 5 barrels
 - 16 TAC 3.20 requirements
- Crude oil spills over 25 barrels
 - 16 TAC 3.20 requirements
 - Final cleanup report
 - Sample analysis results
- Crude oil spills of 5 barrels or less
 - No report required
 - Must meet 16 TAC 3.91 remediation standards

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CLEANUP/RESTORATION REQUIREMENTS

- Cleanup
 - Remove free oil
 - Delineate the area
 - Excavate soil containing over 1% Total Petroleum Hydrocarbons (TPH)
 - Prevent stormwater contamination
- Soil remediation
 - Achieve 1% TPH cleanup level
 - No later than one year from date of incident
 - Bioremediate soil in accordance with 16 TAC 3.91
- Use alternative methods
 - Must obtain RRC approval.

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COURSE OF ACTION

- Follow RRC cleanup requirements
- Sample the area to determine the TPH levels
- Develop an alternative bioremediation plan
- Obtain approval from the RRC

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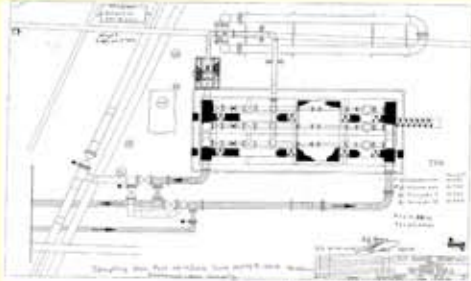


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AREAS SAMPLED FOR TPH



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ALTERNATIVE BIOREMEDIATION PLAN

- Select an effective agent
- Follow the directions for the product
- Determine the volume of soil to be remediated
- Calculate the amount of agent to be added
- Add the agent to the soil
- Allow two weeks after the addition
- Sample for TPH
- Verify 1% TPH or less
- Reapply the excavated soil
- Repeat if TPH is greater than 1%

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BIOREMEDIATION 04/10/02



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BIOREMEDIATION 04/10/02



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BIOREMEDIATION 04/10/02



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STATUS AND SHORT TERM

- Bioremediation agent added on 04/10/02
- Will be sampled again on 04/24/02
- If TPH < 1% soil will be reapplied
- If TPH > 1% process will be repeated
- Expected completion date no later than 05/31/02

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BMT-2 Spill Incident

12-29-01

The spill emanated from the mixer motor in the background (BMM-6). The oil was discovered by Ops personnel during routine checks that evening. The oil flowed along the area between the tank base and the walkway in a SE direction.

The evening of the spill, Operations personnel picked up all the free oil using the vacuum truck and sorbents. The plan was to remove as much of the oil as possible then convene the second day to determine the next phase of the cleanup.

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BMT-2 Spill Incident
BMM-6 Mixer Motor Seal

This was the seal that was removed from BMM-6. Indications are that failure occurred with this seal. The view on the right indicates that the seal may have been rotating (note the slight groves).



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BMERT Leaders and ES&H decided to pursue a plan of passive bioremediation to supplement what had already been accomplished by Ops.

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"Windrows" were created to recover the oil that had seeped under the gravel walkway

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Approximately 1.3 gallons of oil was estimated to be beneath the gravel walkway. Removal of the gravel, (432 sq. ft.) would have required increased manpower and equipment.



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"Oil Spill Eater" was sprayed onto the gravel walkway to enhance the "passive" bioremediation process

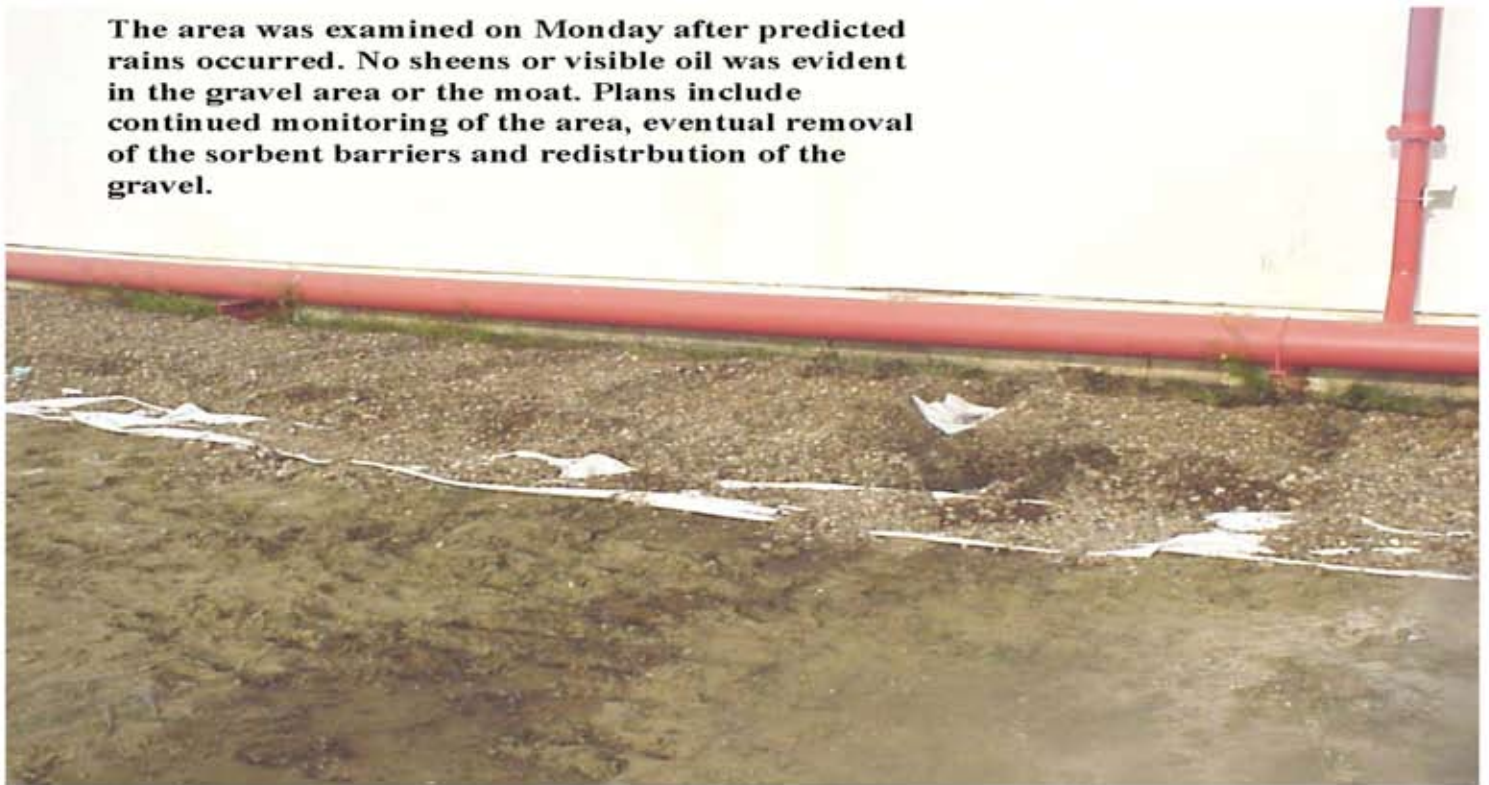
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Oil Spill Eater was also sprayed onto the affected ground to encourage the biodegradation of the "oil stain"



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The area was examined on Monday after predicted rains occurred. No sheens or visible oil was evident in the gravel area or the moat. Plans include continued monitoring of the area, eventual removal of the sorbent barriers and redistribution of the gravel.



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Oil Spill Eater II was used to successfully finish the Clean up of the storage tank mixer failing that produced this spill. The gravel around the storage tank did not have to be removed since OSE remediated the oil from site to CO2 and water.