Oil Sample Analysis Report

U. S. EPA Region V
Case Number E10527

Marine Safety Laboratory
Case Number 10-275

U.S. Department of
Homeland Security

**United States
Coast Guard**

Manager
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16450
03 Aug 2010

U. S. Environmental Protection Agency
Attn: Lori Kozel
9311 Groh Rd.
Grosse Ile, MI 48138

Dear Lori Kozel:

The laboratory analysis of this case has been completed and our report is forwarded. The technical data supporting the report (spectrograms and chromatograms) have been archived at our facility and are available upon request. We will maintain the oil samples in refrigerated storage pending final case disposition.

Questions concerning this report or the analytical methods used should be directed to the Supervisor of Analysis, Kristy Juaire.

Kristy Juaire

K. JUAIRE
By direction

Encl: (1) MSL Report 10-275

United States Coast Guard
Marine Safety Laboratory
Oil Spill Identification Report
10-275

Requestor: U. S. EPA Region V
Unit Case/Activity Number: E10527
Received: 31-Jul-10 **Via:** Federal Express 798902741998/2262/2137/2078

Number Of Samples: 8
Lab NO. of Spills: 3, 4, 5, 6, 7 and 8
Lab NO. of Suspects: 1 and 2
Lab NO. of Background: n/a

Analysis Methods:

- [x] GAS CHROMATOGRAPHY (GC)
- [x] GAS CHROMATOGRAPHY-MASS SPECTROMETRY (GC-MS)
- [ ] INFRARED SPECTROSCOPY (IR)

Laboratory's Conclusion (as explained below): MATCH

RESULTS:

1. Samples 10-275-3, 4, 5, 6, 7 and 8 were specified to be representative of spilled oil. Analysis indicates:
   A. Samples 10-275-3, 4, 5 and 6 are similar to each other and contain very slightly weathered heavy petroleum oil. Minor differences are attributable to weathering.
   B. Samples 10-275-7 and 8 contain traces of moderately degraded heavy petroleum oil. The quantity is not sufficient for conclusive comparison purposes. However, it is important to note that the chemical characteristics of sample 10-275-8 that could be evaluated very strongly suggest this sample is derived from the same source as samples 10-275-3, 4, 5 and 6.

2. Suspected source samples 10-275-1 and 2 contain heavy petroleum oil with characteristics similar to those of spill samples 10-275-3, 4, 5 and 6. Minor differences are attributable to weathering.

CONCLUSIONS:

1. Samples 10-275-3, 4, 5 and 6 represent different portions of the same spilled oil.

2. Suspected source samples 10-275-1 and 2 and spill samples 10-275-3, 4, 5 and 6 are derived from a common source of petroleum oil.

3. Samples 10-275-7 and 8 do not contain a quantity of petroleum sufficient for correlation based on the analysis conducted.

SUPERVISOR OF ANALYSIS K. JUAIRE **DATE** 02-Aug-10