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<u>SUMMARY</u>

U.S EPA and NETAC EFFICACY TESTING

The United States Environmental Protection Agency spent one and one-halfyears testing and evaluating protocols using OIL SPILL EATER II.

Mr. Tom Merski (August 18, 1993) explained the control (oil and seawater only) showed such an insignificant change (no reduction in TPH) that the control results were not even released.

NOTE - that OIL SPILL EATER II Biodegraded Alaskan Crude Oil 98% in 21 days in NETAC's Tier II Test. This test specifically shows the reduction of Polynuclear Aromatic Hydrocarbons that are the Hydrocarbons that are more persistent and difficult to Bioremediate!

This test proves that using OIL SPILL EATER II is beneficial over doing nothing, and that 98% of a spill can be mitigated as opposed to mechanical cleanups, which after 30 days or more can only blot up 20% of a spill. Using OIL SPILL EATER II can reduce the impact to marine organisms and ECO systems faster and more efficiently than mechanical cleanups. This means huge savings on the cleanup costs and environmental damage assessment fees.

By: Steven R. Pedigo Chairman

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OSEI, CORP.

SRP/AJL



National Environmental Technology Applications Center

UNIVERSITY OF PITTSBURGH APPLIED RESEARCH CENTER 615 William Pitt Way · Pittsburgh, PA 15238 Facsimile (412) 826-5552 (412) 826-5511

July 22, 1993

Mr. George Lively President OSEI Corporation Oil Spill Eater International Suite 1116, 5545 Harvest Hill Dallas, TX 75230

New address as of Oct. 1999 13127 Chandler Drive Dallas, TX 75243

Dear Mr. Lively:

Subject: Oil Spill Eater II Methods Validation Data

Per your request, enclosed is the efficacy data generated with "Oil Spill Eater II" from the development and validation of our oil spill response bioremediation evaluation methods. The Toxicity data from this process will be provided as soon as it is released from the EPA Office of Research and Development laboratories. We have included information on the experimental methods and objectives intended to assist you in understanding the meaning of the numbers generated for this report.

On behalf of NETAC and all the members of our Oil Spill Product Protocol Development Panel, we wish to express our appreciation for the contribution of your bioremediation agent for use in validating these methods and for your availability to answer questions about how this agent was intended to be used. Your patience and cooperation over the past two years has been commendable.

As you are aware, these experiments were conducted by the NETAC and EPA Office of Research and Development laboratories in Cincinnati, OH and in Gulf Breeze, FL. These data give you a general idea of how your product may behave in an open environment. Note that these data were obtained during the development of our methods. Numerous refinements have been made to increase the sensitivity of these tests; therefore, your product may provide different results in future tests due to this increased sensitivity as well as from the natural variability of the product and the constituent(s) used in the test sequence.

Please bear in mind that, although the Tier II methods have been finalized, we anticipate that all of the methods will be refined and updated periodically as we learn more about these systems. This means that data which was incidentally obtained for your product during the development of the protocols as it currently stands may change as the protocol is further refined. We must emphasize the research nature of the data we are providing to you today!

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These data are provided to give you an indication of how your product behaved in this particular phase of the research. Different results may occur with the newly refined methods. We recommend that you evaluate this information as another set of intermediate data. We strongly suggest that you initiate additional testing applying the final Tier II method to develop a product performance baseline.

We also wish to emphasize that the participation of any bioremediation agent in the development of validation of the protocol does not constitute endorsement, approval or recommendation on the part of either NETAC or the EPA Office of Research and Development.

Enclosed for your convenience are the tabulated results of the Day 21 Shaker flask experiment for efficacy testing, and a Statistical Method Summary used to generate data about your product. This statistical method can be found in the July 1993 issue of the *Evaluation Methods Manual for Oil Spill Response Bioremediation Agents*. This document is currently being printed and a copy of the manual will be sent to you as soon as possible.

If you have questions about the data which we have provided, its potential use or application, or development of the protocol please call me at (412) 826-5511.

Sincerely,

A. Thomas Merski Vice-Chairman.

Treatability Protocol Development Subcommittee

Bioremediation Action Committee

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cc: W.M. Griffin



RESULTS:

TIER II EFFICACY DATA PERCENT REDUCTION

OIL SPILL EATER II (DAY 21)

<u>ANALYTE</u>	LAB A (n = 3) (%)
<u>PRISTANE</u>	88
<u>C18</u>	66
PHYTANE	82
<u>C30</u>	83
TOTAL n- PARAFFINS	77
FLUORENE	92
PHENANTHRENE	97
<u>CHRYSENE</u>	165