A.B.N. 54 086 491 009
4-5, 18 Redland Drive
Mitcham, VIC 3132
Telephone (03) 9874 1988
Fax (03) 9874 1933

Chartered Chemists & Toxicologists

18th January 2013

Report No: M122661R1
Site/Client Ref: Dispersant Approval Testing

Environmental Protection Solutions
13 Darnley Court
Rowville VIC 3178
Attention: Shirley Bailey

CERTIFICATE OF ANALYSIS

This report replaces previous report dated 20-Dec-2012

SAMPLES: One sample was received for analysis.

DATE RECEIVED: 30th November 2012

DATE COMMENCED: 30th November 2012

RESULTS:

Please refer to attached pages for results.

Note: Results are based on samples as received at Leeder Consulting's laboratories

REPORT BY:

Adam Atkinson
Laboratory Manager

1. INTRODUCTION

One sample was received for analysis. The sample was assigned a unique laboratory number (2012030424). SGS Leeder Consulting was requested by Shirley Bailey of Environmental Protection Solutions to determine the nature of the material. The sample was analysed as per a modified ASTM Method F726-12.

2. RESULTS

Test Oils Used

Australian Reference Kuwait Crude Oil

IFO 180

IFO 380

Dynamic Degradation Test

A weighed amount of the adsorbent sample was placed into a glass jar that had been half filled with sea water, and sealed. The jar was placed on a shaker table for 15 minutes at a frequency of 150 cycles/min. The jar was then left to stand for 2 minutes followed by the adsorbent being drained in a sieve for 30 seconds and weighed.

The adsorbent sample was returned to the jar that was half filled with sea water, followed by the addition of certain volume of the three test oils (in individual test cells). The jar was returned to the shaker table for another 15 minutes at a frequency of 150 cycles/min. The jar was left to stand for 2 minutes followed by the adsorbent being drained in a sieve for 30 seconds and weighed.

Kuwait Crude Oil

Medium	Water	Water and Kuwait Crude
Observation	The water was cloudy with fine particles of the adsorbent suspended in solution, <10% had sunk. The adsorbent was slightly larger in volume and sat at the surface of the water.	The water was clear and <10 % adsorbent had sunk. The adsorbent remained at the same increased volume and was floating at the surface of the water. No oil was visible in the water. The adsorbent still had small patches of white colour.
Average Absorption Capacity (g/g)	0.85	1.6

IFO 180

Medium	Water	Water and IFO 180
Observation	The water was cloudy with fine particles of the adsorbent suspended in solution, <10% had sunk. The adsorbent was slightly larger in volume and sat at the surface of the water.	The water was clear and <10 % adsorbent had sunk. The adsorbent remained at the same increased volume and was floating at the surface of the water in coagulated globules. No oil was visible in the water. The adsorbent was black in colour.
Average Absorption Capacity (g/g)	0.75	1.9

IFO 380

Medium	Water	Water and IFO 380
Observation	The water was cloudy with fine particles of the adsorbent suspended in solution, <10% had sunk. The adsorbent was slightly larger in volume and sat at the surface of the water.	The water was clear and <10 % adsorbent had sunk. The adsorbent remained at the same increased volume and was floating at the surface of the water in coagulated globules. No oil was visible in the water. The adsorbent was black in colour.
Average Absorption Capacity (g/g)	0.81	1.8

Oil Adsorption

A weighed amount of the adsorbent was placed in a test cell that was filled with enough of the Test Oil to provide a thickness of oil that was greater than the thickness of adsorbent present. The adsorbent was mixed in the oil for 10 seconds to ensure that all particles were partially submerged, and left to sit. After 15 minutes the adsorbent was removed from the oil, drained for

30 seconds and then weighed. This test was also performed under 'wet' conditions with a layer of sea water present.

The test was repeated again but at a length of 24 hours.

Kuwait Crude Oil

Time	15 Minutes	24 Hours
Observation	The adsorbent remained intact and slightly increased in volume.	The adsorbent remained intact and slightly increased in volume.
Average Absorption Capacity (g/g) 'Dry conditions'	4.5	5.8
Average Absorption Capacity (g/g) 'Wet conditions'	5.4	6.6

IFO 180

Time	15 Minutes	24 Hours
Observation	The adsorbent remained intact and slightly increased in volume.	The adsorbent remained intact and slightly increased in volume.
Average Absorption Capacity (g/g) 'Dry conditions'	6.2	7.0
Average Absorption Capacity (g/g) 'Wet conditions'	8.8	10.3

IFO 380

Time	15 Minutes	24 Hours
Observation	The adsorbent remained intact and slightly increased in volume.	The adsorbent remained intact and slightly increased in volume.
Average Absorption Capacity (g/g) 'Dry conditions'	5.7	6.3
Average Absorption Capacity (g/g) 'Wet conditions'	8.0	8.9

APPENDIX ONE.

CHAIN OF CUSTODY DOCUMENT

Shirley Bailey
Environmental Protection Solution Pty Ltd
13 Darnley Court
Rowville VIC 3178
P: 03 9759 7874
M: 0468 513 401
E-mail: s.baileywy@gmail.com

28 November 2012

Ms. Lyndall Stevens
SGS Leeder Consulting
Unit 5/18 Redland Drive
Mitcham VIC 3132

Dear Ms Lyndall,

We have contacted Adam Atkinson of SGS Leeder Consulting. He instructed us to send 500g of our product to you for the dispersant approval test.

We have done a relevant test in regards to the dispersant approval test in China seven months ago. The repost is out of date. It may help you to test our product. We are going to send the English translation of ASTM 726-99 test report with our product sample to you.

Please note that our product is very light. It floats on top of the water and oil. It does not sink. This information is shown on the Material Safety Data Sheet (MSDS) of our product.

When you put our product on top of oil during the test, would you please use a stick to stir it to mix our product with oil for a few seconds?

We will also send the Chain of Custody record, a copy of MSDS and the using instruction to you. It may help you to understand the product. It may save your time on the test.

If you need more information in regards to our product, please do not hesitate to contact us.

Regards,

Shirley

Chain of Custody Record - SGS Leeder Consulting

Dispatch samples to: Unit 5/18 Redland Drive, Mitcham, VIC, 3132

Attn: Lyndall Stevens - Contact Ph: (03) 9874 1988 Fax: (03) 9874 1933 Email: au.samplereceipt.mitcham@sgs.com

Sheet of

CLIENT NAME: Environmental Protection Solutions

CLIENT ADDRESS: 13 Darnley Court
Rowville VIC 3178

CONTACT: Shirley Bailey

SAMPLED BY:

PROJECT REF. / ORDER No: Dispersant Approval Test

CONTACT PHONE No: 03 9759 7874 / 0468 513 401

CONTACT FAX No:

RESULTS REQUIRED BY:

EMAIL REPORT TO: s.baileywy@gmail.com

LAB QUOTE NUMBER: QQ2121010AA1R1

Sample Disposal (Please X) After: 4 Weeks ( ) 6 Weeks ( )

Client Sample ID	Date Sampled	Matrix: Soil	Matrix: Water	Matrix: Other	Containers/Preservation (please tick) (G=glass, P=plastic): 0.1-1L Jar(G) n.a.	0.1-1.0 litre(G) Nat.	0.1-1.0 litre(P) Nat.	40ml Vial(G) Nat.	40ml Vial(G) H2SO4	01-1L (P) H2SO4	125mL (P) HCl acid washed	125mL (P) Zn Ace. NaOH	125mL (P) Filtered Yes/No HNO3	125mL (P) NaOH	Analyses Required (Analyte + Method Code)
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CHAIN OF CUSTODY RECORD

RELEASED BY: (Name) (Signature) (Date / Time)

RECEIVED BY: (Name) (Signature) (Date / Time)

Sandra Behnck 30/11/12

Custody Seals Intact? Yes / No

Samples Received Chilled? Yes / No

Please Note: Dissolved metals require filtering in the field.

Please indicate whether **the HNO3 acidified sample has been filtered.**

Comments: (eg. Highly contaminated samples, reporting requirements etc)

Using instruction:

For dealing with oil spill at sea or near shoreline

1. Put the boom round the oil spill area;
2. Put our product package bags into the oil spill area;
3. After a minute, use fish nets or hook to collect these bags or use sand pump machine to collect the bags.

For dealing with oil spill on shoreline or rocks or ship floor

1. Please wear a pair of plastic grove;
2. Put a bulk of our absorption powder or groats on the top of oil;
3. To clap the powder or groats and make sure the powder can absorb enough oil;
4. The colour of absorption powder will change from grey white colour to black or dark grey colour;
5. After a minute, please use a plastic brush to rub the surface of rock or floor;
6. Please push the powder and collect it into a dust spade.

For Disposal Oil

1. After absorbing the oil, please collect this product into a container. You can recycle this product;
2. Please send these disposal products to us or oil recycling companies; or
3. You can burn this product at around 60°C and received around 70% of heating oil;
4. You can use residual material to replace building sand and put it into the concrete. Residue material is harder and lighter than the normal building sand.