

**Janet Cotton**

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**From:** Janet Cotton [janet@one-eighty-degrees.com]  
**Sent:** 08 March 2010 04:05 PM  
**To:** janet@one-eighty-degrees.com  
**Subject:** State of the Art Materials Testing Facility for the Shipping Industry

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged



## *Industry Round Table*

April 07, 2010

### **State of the Art Materials Testing Facility for the Shipping Industry**

It has become clear that there is a serious need for a state of the art materials testing facility in the Western Cape. For example, a repairer may need to source a specific material for an application such as a rudder stock, the previous material must be quickly identified so that a suitable replacement can be found. This often means that composition must be checked as well as the heat treatment condition of the steel. Depending on the detail required by the repairer, tensile testing may be required. The facilities that exist in the western cape are highly limited in terms of capacity and very outdated.

This facility should be commercially run so that results can be generated at short notice with fast turnaround times. With the ship repair industry growing and more emphasis on the oil and gas industry, the need for materials testing services will increase considerably and is certainly being felt at present. Currently the Western Cape is not in a position to meet this need.

South African Oil and Gas Alliance wish to hold a round table discussion with various key members of the industry to discuss and quantify the need for a materials testing facility further. We invite all members of the industry to participate and share what their needs may be so that the scope of such a facility can be properly determined. Following this meeting, we wish to discuss a way forward to address the growing needs of the industry further.

Date: 07 April 2010

Time: 14h00 - 16h00

Venue: Room 2.9 Mechanical Engineering Department, CPUT, Cape Town Campus. Parking will be available outside the entrance of the engineering

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18<sup>th</sup> January 2010

### Motivation for Local Laboratory Facility in Western Cape

One Eighty (Pty) Ltd is a consulting metallurgical engineering company and a large part of our work is servicing the local marine industry. Our projects vary from basic quality control analysis to failure investigation for insurance purposes to small commercial research and development projects. Some of our clients include DCD Dorbyl, Wartsila and Irvin and Johnson. One Eighty (Pty) Ltd was established in 2002 and been running for 8 years.

A critical part of the services includes materials testing such as compositional analysis, tensile testing, hardness testing and microstructural investigation. One Eighty (Pty) Ltd has various subcontractors which assist with these tests and provide us with calibrated results. The shipping industry is however well known for onerous deadlines and requiring answers at short notice. For example, a repairer may need to source a specific material for an application such as a rudder stock, the previous material must be quickly identified so that a suitable replacement can be found. This often means that composition must be checked as well as the heat treatment condition of the steel. Depending on the detail required by the repairer, tensile testing may be required. The facilities that exist in the western cape are highly limited in terms of capacity and very outdated.

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emphasis on the oil and gas industry, the need for materials testing services will increase considerably. Currently the Western Cape is not in a position to meet this need.

One Eighty (Pty) Ltd has had several discussions with key people in the industry and there is a unanimous sentiment that there is a need for a materials testing facility that can produce quality results with short turnaround times. The basic elements of such a testing facility would consist of the following items:

- Spectrographic Analyser with a full range of programs – for materials composition analysis.
- Handheld spectrographic analyser which can detect light elements such as carbon for cases where a sample cannot be cut.
- Tensile tester of sufficient capacity for weld inspection testing.
- Hardness tester
- Metallographic microscopes with imaging facilities.

This facility could be linked to an academic institution in that the students could make use of it at a discounted rate. The facility should be commercially run, and managed to ensure fast delivery of results. The facility should certainly acquire ISO 17025 accreditation, which imply that it would then obtain ISO 9000 accreditation. Testing services could be extended to areas outside of the Western Cape and South Africa.

April 07, 2010 CPUT Cape Town Campus Rm 2.9

### **Agenda**

**Introduction & Background – Dr Janet Cotton**

2:00pm-2:10pm

**South African Oil and Gas Introduction – Mr Warwick Blyth**

2:10-2:20pm

**Round table introductions – All**

2:20-2:30pm

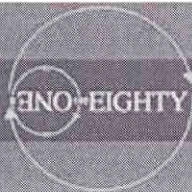
**Discussions**

2:30-3:45pm

**Way Forward & Closure**

3:45-4:00pm

**Drinks and Snacks Sponsored by One Eighty (Pty) Ltd**













Engineering Solutions

## Items for discussion

- What is the perceived need for materials testing in the industry currently?
  - What specific tests are mostly required?
  - How does industry see the need developing further?
  - Are these needs being met at the moment?
  
- What sort of turnaround times does the industry require?
  
- What is the extent of the service that is required?
  
- What sort of costs would the industry be prepared to cover?
  
- Does industry require a warranty on the results?
  - How could this be provided?
  - What risk would a testing centre then have?
  - How could this risk be dealt with?
  
- What is the experience of industry dealing directly with tertiary institutions?
  - How is the insured risk for the equipment covered by engaging commercial work?
  
- Is there perceived value in an ISO 17025 accredited testing centre, commercially driven?
  - What specific equipment would be required?
  - What scope exists to partner with tertiary institutions?
  - What should the partnership encompass?
  
- How could the proposed testing centre be structured
  - ? Professional indemnity insurance?
  - Equipment insurance?
  - Deliver quality on time, at commercial timelines.
  
- Conclusions

**ATTENDANCE REGISTER**

Type of Meeting: MATERIALS TESTING ROUND TABLE MEETING  
 Venue: CPUT MECH ENG. DEPT Rm 2.9  
 Time: 14h00 - 16h00  
 Date: 7 APRIL 2010

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**ATTENDEES**

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