

## **Coal Flotation Testing available at Clean Process Technologies**

### **Scope of flotation tests available:**

#### **Ultimate Flotation Test (UFT):**

The UFT was developed in ACARP project C14068 and has been greatly refined by CPT for several years to give results as close as is currently achievable to the theoretical flotation response curve.

CPT is the only laboratory that has the technical knowledge and ability to perform the Ultimate Flotation Test.

The concentrates and tails samples are dewatered and ashed, with the results presented on a dry basis.

#### **Laboratory Column Flotation Test work:**

For this test work a simulated ultimate flotation test is performed using a laboratory column flotation cell.

The number of concentrates that are produced is entirely arbitrary. The aim is to separate the sample from the lowest ash fractions to the highest ash fraction of recoverable coal, leaving a high ash tails sample.

The concentrates range from the more easily floated, low ash value concentrates up to the much harder to float higher ash value material.

The resultant mass and ash data is used to generate the flotation response curve

The laboratory column cell can be operated as a Jameson type flotation cell

#### **Basic Flotation Response Tests**

These tests can be performed in either a Jameson type flotation cell or in Denver mechanically agitated flotation cell.

Each test will produce 6 concentrates and 1 tails sample.

It is to be noted these basic tests only give a basic flotation response for the coal sample being tested. The mass yield curve produced from these tests will underestimate the true yield from the coal sample being tested.

Both the laboratory column and basic tests are primarily performed as 'sighter' tests to give a basic idea of the flotation characteristics of the coal sample and to also to determine optimum reagent dosing, which can be used for further, more in depth flotation testing in either the laboratory column or UFT methods.

It must be recognised that tests of this type (whether performed by CPT or others) cannot be used to determine the **absolute** theoretical yield and quality of coal that can be derived from flotation.

**Sample size for each test:**

UFT requires a sample of approximately 2 kg (ad) of solids.

Basic flotation response test require 1 kg (ad) of solids.

Larger samples can be supplied, as they will be then split using a rotary sample divider. Samples can be provided in either dry or slurry form. For a slurry sample a subsample will be taken to determine the solids concentration of the sample and the mass of solids. The sample will then be split using a rotary sample divider if necessary.

**Cost**

The cost for each test is:	Straight flotation only	Flotation test + sample dewatering and ash analysis
	\$	\$
<b>UFT Flotation test</b>	<b>1500</b>	<b>2250</b>
<b>Basic Flotation Response Tests</b>		
<b>Denver 6 con + 1 tails release test</b>	<b>300</b>	<b>400</b>
<b>J-Cell 6 con + 1 tails release test</b>	<b>400</b>	<b>500</b>
<b>Laboratory Column (J-cell)</b>		
<b>LC Cell flotation test 0.4-2 kg</b>	<b>1000</b>	<b>1400</b>
<b>LC Cell Flotation test 2-8 kg</b>	<b>1550</b>	<b>2300</b>
<b>LC Cell Flotation test 8-15 kg</b>	<b>2250</b>	<b>3000</b>
<b>LC Cell Flotation 15 -50 kg</b>	<b>5000</b>	<b>6000</b>
<b>LC Cell Flotation 50-100 kg</b>	<b>9000</b>	<b>10000</b>
<b>LC Cell Flotation 100-150 kg</b>	<b>12000</b>	<b>13000</b>

\*\* all prices Ex GST, all delivery fees will be charged at cost + 10%

- Samples for straight flotation will be sent wet in buckets for analysis at a specified lab.
- Samples larger than these listed will need a special quote price.
- CPT also has the facilities available to perform multiple stage flotation testing. A quote will be issued if this type of work is requested.

Regards  
 Andrew Coffey  
 Lab Manager  
 Clean Process Technologies Pty Ltd  
 Ph: 02 6574 7081  
 Fax: 02 6574 7302  
 Mobile: 0434679451  
 Email: andrew.coffey@cleanprotech.com.au  
 Prices valid until 30/6/2014