

# T&S

## Laboratory Services

T&S are a NATA accredited public testing facility who provide testing services for Fuels, Lubricants and associated products. Based in Sydney Australia our scope of testing primarily covers Specification checks, Identification of Fuel / lubricant grades, and identification of contaminants, sludges, residues, deposits, etc.

Products tested include Diesel, Petrol, Fuel Oil, Waste Oil, Biodiesel, Lubricating/Hydraulic fluids, Grease, Water, Soil, etc.

In addition to the above, we can also provide a wide variety of testing outside our normal scope, so if what you require is not listed, please ask as we may well be able to assist you.

All prices include 10% GST and may change without notice

Effective 1st July 2006



# DIESEL FUEL TESTING

<b>Level 2D</b>	<b>\$110.00</b>	<b>TESTS</b>	<b>METHOD</b>
		Water	ASTM D95
		Density @15C	ASTM D1298
		Particulates	TSM070
		Bacteria	TSM005
		Yeast	TSM005
		Mould	TSM005
		Appearance	Visual

<b>Level 3D</b>	<b>\$220.00</b>	<b>TESTS</b>	<b>METHOD</b>
		Distillation	ASTM D86
		Flash point	ASTM D93
		Cloud point	ASTM D2500
		Water	ASTM D95
		Density @15C	ASTM D1298
		Cetane index	ASTM D4737
		Particulates	TSM070
		Bacteria	TSM005
		Yeast	TSM005
		Mould	TSM005
		Appearance	Visual

<b>Level 4D</b>	<b>\$913.00</b>	<b>TESTS</b>	<b>METHOD</b>
		Distillation	ASTM D86
		Flash point	ASTM D93
		Cloud point	ASTM D2500

	Water	ASTM D95
	Density @15C	ASTM D1298
	Cetane index	ASTM D4737
	Ash content	ASTM D482
	Carbon Residue (10% res)	ASTM D524
	Copper corrosion	ASTM D130
	Oxidation stability	ASTM D2274
	Sulphur	ASTM D2622
	Viscosity @40C	ASTM D445
	Sediment	ASTM D473

For other available tests see General List

# PETROL TESTING

<b>Level 2P</b>	<b>\$165.00</b>	<b>TESTS</b>	<b>METHOD</b>
		Distillation	ASTM D86
		Density @15C	ASTM D1298
		Particulates	ASTM D5452
		Colour/Appearance	Visual
		Water	Visual

<b>Level 3P</b>	<b>POA</b>	<b>TESTS</b>	<b>METHOD</b>
		Distillation	ASTM D86
		Density @15C	ASTM D1298
		Particulates	ASTM D5452
		Lead content	ASTM D3237
		Benzene content	ASTM D3606
		Octane number (RON or MON)	ASTM D2699/2700
		Existent gum	ASTM D381
		Reid vapour pressure	ASTM D323
		Copper corrosion	ASTM D130
		Sulphur	IP336

For other available tests see General List

# BIODIESEL TESTING

TEST	PRICE (inc GST)	METHOD
Total Acid Number	\$33.00	ASTM D664
Total contamination	\$55.00	ASTM D5452
Density @15C	\$33.00	ASTM D1298
Water	\$33.00	ASTM D1796
Flash point	\$44.00	ASTM D93
Sulphur	\$88.00	ASTM D5453
Alcohol content	\$88.00	prEN14110
Free & Total glycerol	\$88.00	ASTM D6584
Oxidation stability	\$163.35	EN14112
Ester content	\$88.00	EN14103
Viscosity @40C	\$33.00	ASTM D445
Copper Corrosion	\$44.00	ASTM D130
Phosphorus	\$88.00	ASTM D4951
Carbon Residue	\$66.00	ASTM D4350
Sulphated Ash	\$66.55	ASTM D874
Sodium	\$5.50	EN14108
Potassium	\$5.50	EN14108
Calcium	\$5.50	EN14538
Magnesium	\$5.50	EN14538
Distillation temp @90% rec	\$99.00	ASTM D1160
Cold Filter Plugging Pt	\$55.00	ASTM D4539

# OIL TESTING

<b>Level 1 OIL</b>	<b>\$33.00</b>	<b>TESTS</b>	<b>METHOD</b>
		Water	TSM100
		Wear Metals	AAS

<b>Level 2 OIL</b>	<b>\$44.00</b>	<b>TESTS</b>	<b>METHOD</b>
		Water	TSM100
		Wear Metals	AAS
		Viscosity @40C or 100C	ASTM D445

<b>Level 3 OIL</b>	<b>\$55.00</b>	<b>TESTS</b>	<b>METHOD</b>
		Water	TSM100
		Wear Metals	AAS
		Viscosity @40C and 100C	ASTM D445
		Total Base Number - Engine	ASTM D2896
		Total Acid Number - Hydraulic	ASTM D974
		Particle count	TSM040
		Retained solids	TSM070
		Pentane Insolubles	ASTM D4055
		Fuel dilution	TSM120

# GREASE TESTING

<b>GREASE</b>	<b>TESTS</b>	<b>METHOD</b>
<b>\$96.80</b>	Drop point	ASTM D566
<b>\$88.00</b>	Chlorine content	ASTM D808
<b>\$44.00</b>	Copper Strip Corrosion	ASTM D130
<b>\$72.60</b>	Cone Penetration	ASTM D217
<b>\$110.00</b>	Evaporation Loss	ASTM D972
<b>\$11.00</b>	Metal Type	AAS
<b>\$110.00</b>	Oil Separation	ASTM D1742
<b>\$163.35</b>	Oxidation Stability	ASTM D942
<b>\$165.00</b>	Roll Stability	ASTM D1831
<b>\$110.00</b>	Pumpability	Lincoln Ventmeter
<b>\$110.00</b>	Base oil viscosity	ASTM D128/445

# TURBINE OILS

<b>PRICE</b>	<b>TESTS</b>	<b>METHOD</b>
<b>\$145.20</b>	Rusting	ASTM D566
<b>\$66.00</b>	Demulsibility	ASTM D1401
<b>\$44.00</b>	Copper Strip Corrosion	ASTM D130
<b>\$18.15</b>	Colour	ASTM D1500
<b>\$60.50</b>	Dielectric Strength	ASTM D1767
<b>\$121.00</b>	Foam Tendency	ASTM D892
<b>\$30.25</b>	Total Acid Number	ASTM D974
<b>\$33.00</b>	Viscosity	ASTM D445

# WASTE OIL

<b>PRICE</b>	<b>TESTS</b>	<b>METHOD</b>
<b>\$110.00</b>	Polychlorinated Biphenyls (PCB)	USEPA 8082
<b>\$33.00</b>	Viscosity @40C	ASTM D445
<b>\$55.00</b>	Water	ASTM D95
<b>\$44.00</b>	Flash point	ASTM D93
<b>\$33.00</b>	Density	ASTM D1298
<b>\$88.00</b>	Chlorine	ASTM D808

For other available tests and individual prices see General Price List

# MINING INDUSTRY

PRICE (as a group)	WATER PROFILE (make up water)	METHOD
\$176.00	Alkalinity – mg/L	APHA 2310
	TDS – mg/L	APHA 2540C
	Suspended Solids – mg/L	Suspended solids
	Oil & Grease – mg/L	APHA 5520
	Turbidity – NTU	APHA 2130
	Conductivity – us/cm	APHA 2510
	pH	APHA 4500-H
	Hardness – mg/L	APHA 2340B
	COD – mg/L	APHA 5220
	Elemental analysis (8 elements)	APHA 3111
	CO3 mg/L	APHA 2310
	HCO3 mg/L	APHA 2310

PRICE	TEST	METHOD
\$220	Filter analysis	TSM140
\$110	Sludge analysis (ash, elements, IR, etc)	TSM145
\$275 per product	Side Flap Valve lubricity	JOY
\$110	Steel finger corrosion	JOY
\$110 per product	O'Ring swell	JOY
\$55 per water type	Stability	JOY
\$165 per product	Luxemberg corrosion	DBT
\$44	Foaming tendency (seq I)	DBT
\$121	Foaming tendency (seq I, II, & III)	DBT

# T&S LABORATORIES

## GENERAL TEST LIST

CODE	TEST	PRICE (including GST)
A0005	ACID DIGEST	\$22.00
Z001	ADMIN FEE	\$22.00
A0010	AIR RELEASE VALUE IP313	\$133.10
A0020	ALUMINIUM CONTENT IP363	\$133.10
A0030	AMMONIA CONTENT TSM121	\$42.35
A0040	ANILINE POINT ASTM D611	\$48.40
A0050	ASH CONTENT ASTM D482	\$55.00
A0060	ASPHALTENES IP143	\$133.10
A0070	BACTERIA COUNT TSM005	\$33.00
A0090	BROMINE NUMBER IP129	\$84.70
A0095	CARBONYL CONTENT ASTM D4423	\$133.10
A0100	CCAI TSM010	\$12.10
A0110	CETANE INDEX (CALC) ASTM D4737	\$22.00
A0120	CETANE INDEX (DETERM) ASTM 473	\$132.00
A0130	CHEMICAL OXYGEN DEMAND APHA508	\$96.80
A0360	CHLORIDE/SULPHATE ASTM D878	\$33.00
A0135	CHLORINATED HYDROCARBONS	\$66.00
A0140	CHLORINE CONTENT ASTM D808	\$88.00
A0141	CHLORINE CONTENT ASTM D808/ISE	\$77.00
A0150	CLADESPORIUM DEF AUS252/2	\$121.00
A0160	CLOUD POINT ASTM D2500	\$55.00
A0165	COLD FILTER PLUGGING IP309	\$55.00
A0170	COLOUR ASTM D1500	\$18.15
A0175	COMBUSTIBILITY ISO9038	\$66.00
A0180	COMPATIBILITY ASTM D2781	\$18.15
A0190	CONDUCTIVITY TSM020	\$16.50
A0201	CONRADSON CARBON (10% RES) AST	\$121.00
A0200	CONRADSON CARBON ASTM D189	\$84.70
A0210	COPPER STRIP CORROSION ASTM D1	\$44.00
A0221	DEMULSIBILITY ASTM D1401	\$106.48
A0220	DEMULSIFICATION NUMBER IP19	\$165.00
A0230	DENSITY ASTM D1298	\$33.00
A0235	DIELECTRIC STRENGTH IEC156	\$60.50
A0240	DISTILLATION RANGE ASTM D86	\$77.00
A0250	DOCTOR TEST IP30	\$36.30
A0260	DROPPING POINT ASTM D566	\$96.80
A0626	ESTER CONTENT	\$88.00
A0262	ETHANOL (0.1%) TSM127	\$55.00
A0261	ETHANOL CONTENT (1%) TSM126	\$24.20
A0263	EVAPORATION LOSS ASTMD972/2595	\$110.00
A0265	EXISTENT GUM ASTM D381	\$96.80
A0266	FAME AOCS	\$66.00
FLT	FILTER ANALYSIS	\$198.00

A0267	FILTER BLOCK.TEND. ASTM D2068	\$55.00
A0270	FIRE POINT ASTM D92	\$44.00
A0280	FLASH POINT (ABEL) IP170	\$44.00
A0300	FLASH POINT (COC) ASTM D92	\$44.00
A0290	FLASH POINT (PMCC) ASTM D93	\$44.00
A0305	FLUORINE ASTM D808/ISE	\$77.00
A0310	FOAMING (FULL) ASTM D892	\$139.15
A0320	FOAMING (SINGLE SEQ) ASTM D892	\$55.00
A0330	FUEL DILUTION ASTM D322	\$66.00
GCMISC	GC ANALYSIS	\$66.00
A0335	GLYCERIDES	\$88.00
A0337	Grease base oil viscosity	\$95.00
A0350	GREASE METAL TYPE TSM122	\$12.10
A0370	IODINE NUMBER AOCS CD 1-25	\$96.80
IRMISC	IR ANALYSIS	\$55.00
A0375	LEAD IN PETROL ASTM D3237	\$66.00
1COOL	LEVEL 1 COOLANT	\$33.00
1D	LEVEL 1 DIESEL	\$60.50
1O	LEVEL 1 OIL	\$33.00
1P	LEVEL 1 PETROL	\$48.40
2D	LEVEL 2 DIESEL	\$80.52
2O	LEVEL 2 OIL	\$44.00
2P	LEVEL 2 PETROL	\$132.00
3D	LEVEL 3 DIESEL	\$176.00
3O	LEVEL 3 OIL	\$55.00
3P	LEVEL 3 PETROL	\$514.25
A0740	METALS (each) TSM125	\$5.50
A0376	MOISTURE (CAH2) TSM090	\$33.00
A0377	MOISTURE (D&S) ASTM D95	\$55.00
A0378	MOISTURE (KF) ASTM D1744	\$30.25
A0379	MOISTURE ON SOLIDS (KF)	\$55.00
A0400	NITROGEN CONTENT ASTM D3228	\$88.00
A0405	OCTANE NUMBER (MON) ASTM D2700	\$220.00
A0406	OCTANE NUMBER (RON) ASTM D2699	\$220.00
A0410	OIL CONTENT (EVP) TSM123	\$33.00
A0420	OIL CONTENT (EXT) APHA5520B	\$55.00
A0425	OIL SEPARATION ASTM D1742	\$110.00
A0430	OXIDATION STABILITY ASTM D2274	\$163.35
A0440	PARTICLE COUNT TSM040	\$36.30
A0445	PARTICULATES ASTM D5452	\$55.00
A0495	PCBs USEPA 8082	\$110.00
A0460	PENETRATION (WORKD) ASTM D217	\$96.80
A0450	PENETRATION ASTM D217	\$72.60
A0470	PENTANE INSOLUBLES ASTM D4055	\$30.25
A0480	PEROXIDE NUMBER ASTM D3703	\$193.60
A0490	pH VALUE TSM050	\$24.20
A0510	POUR POINT ASTM D97	\$55.00
A0513	PUMPABILITY (Lincoln)	\$110.00

A0516	RAMSBOTTOM (10% RES) ASTMD524	\$132.00
A0515	RAMSBOTTOM CARBON ASTM D524	\$66.00
A0525	REFLUX BOILING PT ASTM D1120	\$42.35
A0520	REFRACTIVE INDEX TSM060	\$24.20
A0527	RESISTIVITY	\$38.50
A0530	RETAINED SOLIDS TSM070	\$33.00
A0535	RUSTING	\$145.20
SMPREP	SAMPLE PREPARATION	\$22.00
A0540	SAPONIFICATION NUMBER ASTM D94	\$55.00
A0570	SEDIMENT & WATER ASTM D4007	\$48.40
A0550	SEDIMENT ASTM D473	\$96.80
A0580	SLUDGE (EXISTENT)	\$88.00
A0590	SLUDGE (POTENTIAL)	\$88.00
A0600	SMOKE POINT ASTM D1322	\$66.00
A0610	SPECIFIC ENERGY ASTM D240	\$88.00
A0630	SPECIFIC GRAV (PIC) ASTM D1217	\$30.25
A0620	SPECIFIC GRAVITY ASTM D1298	\$20.57
STAB	STABILITY (JOY)	\$55.00
A0640	SULPHATED ASH ASTM D974	\$66.55
A0651	SULPHUR AS1030.6	\$72.60
A0650	SULPHUR ASTM D129	\$66.00
TCLP	TCLP	\$66.00
A0380	TOTAL ACID NUMBER ASTM D664	\$44.00
A0390	TOTAL ACID NUMBER ASTM D974	\$33.00
A0660	TOTAL BASE NUMBER ASTM 2896	\$44.00
A0664	TOTAL DISS SOLIDS APHA 2540C	\$33.00
A0665	TOTAL PETROLEUM HYDROCARBONS	\$66.00
A0666	TURBIDITY APHA 2130	\$11.00
A0670	UNSAAPONIFIABLE MATTER ASTMD128	\$121.00
A0680	VACUUM DISTILLATION	\$99.00
A0690	VAPOUR PRESSURE ASTM D323	\$78.65
A0700	VISCOSITY (BROOK) TSM124	\$36.30
A0710	VISCOSITY (KIN) ASTM D445	\$33.00
A0720	VOLATILES TSM110	\$24.20
A0730	WATER & SEDIMENT ASTM D1796	\$33.00

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