



INSPEC

100% Independent
100% Australian Owned and Operated

Lubrication Insight for Maintenance Foresight



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Report Number:	1000	900	715	674	Caution values for ENGINE
K Number Ref:	NP				
Sample Number:	6	5	4	3	
Cust Sample ID/Job No:	SAMPLE ID				
Schedule Class:	3DEN	3DEN	3DEN	3DEN	
Date Sampled:	31/05/1999	26/04/1999	10/03/1999	10/07/1998	
Date Received:	31/05/1999	27/04/1999	15/03/1999	22/07/1998	
Hrs On Oil:	200	200	200	200	
Hrs On Equipment:	2600	2400	2200	2000	
Status					

REPORT NUMBER	1000	STATUS Take Action
DATE COMPLETE	1/06/1999	

VISCOSITY @ 100°C (ASTM D445) cSt	18.12 X	13.6	15.2	16.3	
VISCOSITY @ 40°C (ASTM D445) cSt	203.22	123.2	104.6	102.5	
FUEL DILUTION (OL1007) %W/W	0.2	0.1	1.2	1.4	3.5
FTIR SCAN (OIL27)					
WATER (OL1020) ppm	0.18	0.050	0.011	0.021	0.15
SOOT (OL1022)	0.486	0.086	0.131	0.219	0.25
OXIDATION (OL1027)	68.5	40.7	28.6	41.1	50
NITRATION (OL1026)	24.3	18.6	10.1	15.1	25.0
TOTAL BASE NUMBER (OL1021) mg KOG/g	9.40	9.13	7.23	8.34	
DISPERSANCY	FAIR	GOOD	GOOD	GOOD	
ACID INDEX 1-5	4	3	3	3	4
PARTICLE QUALITY INDEX (OL1028)	9	22	14	48	26
METALS STANDARD (ASTM D5185)					
IRON ppm	143 C	80 A	50	153 C	70
CHROMIUM ppm	3	8	2	11 A	10
LEAD ppm	81 C	69 C	19	5	25
COPPER ppm	52 C	38 B	31 A	14	25
TIN ppm	0	0	4	0	35
NICKEL ppm	3 A	4 A	5 A	3 A	3
ALUMINIUM ppm	6	0	0	13	20
SILICON ppm	20 B	13	11	67 C	15
SODIUM ppm	3	2	4	0	30
POTASSIUM ppm	0	1	2	1	
BORON ppm	1	0	0	0	
CALCIUM ppm	1870	1710	1609	1908	ADDITIVE
ZINC ppm	973	838	933	982	ADDITIVE
PHOSPHORUS ppm	200	123	234	543	ADDITIVE
MOLYBDENUM ppm	2	3	5	2	ADDITIVE

EQUIPMENT DETAILS	
SERIAL NO:	H12345678B
ID:	
PARENT EQUIPMENT:	GENERATOR
COMPARTMENT:	ENGINE
MAKE:	ACME
MODEL:	8 CYL
OPERATION DETAILS	
OIL TYPE:	CRF MULTI
OIL GRADE:	SAE 40
TOP UP (L):	
LUBE CAPACITY (L):	
OIL CHANGED:	Y
BRANCH:	SYDNEY
SITE:	
CUSTOMER DETAILS	
CUSTOMER CODE:	123456
NAME:	SMART PTY LTD
ADDRESS:	95 CLAPHAM ROAD SEFTON 2162 NSW
CONTACT:	SERVICE MANAGER
PHONE:	61 2 9644 9100
FAX:	61 2 9644 5865
Abnormal values	
X =	Uncategorised abnormal value
A =	Slightly elevated abnormal value
B =	Elevated abnormal value
C =	High abnormal value
D =	Critical abnormal value

RESULTS OF SAMPLE ANALYSIS

Comments: 1000

- * Elevated acid index indicates oil oxidation.
- * Copper/lead content is high and could indicate thrust washer/bearing wear.
- * Iron is high and could indicate severe liner/ring or cam/follower wear. Check compression.
- * Nickel is slightly elevated and may indicate crankshaft/bearing shell wear.
- * Oxidation is slightly elevated and may reflect pentane insolubles content.
- * Pentane insolubles is elevated. Viscosity and dispersancy may be affected.
- * RULER is low and indicates anti-oxidant depletion.
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- * Silicon is elevated and may indicate dirt or gasket sealant. Check for source.
- * Water content is slightly elevated and may reflect coolant leak or blow-by condensation.
- * Viscosity is high and not consistent with advised grade.
- * Recommend new oil be sampled at one quarter of recommended intervals to assess & monitor condition

Comments: 900

- * Copper/lead content is high and could indicate thrust washer/bearing wear.
- * Iron is slightly elevated and may indicate liner/ring or cam/follower wear.
- * Nickel is slightly elevated and may indicate crankshaft/bearing shell wear.
- * Lead increase at 263% is high.
- * Other results are satisfactory.
- * Recommend current oil be resampled at half recommended intervals to monitor and assess condition.

Authorised signatory

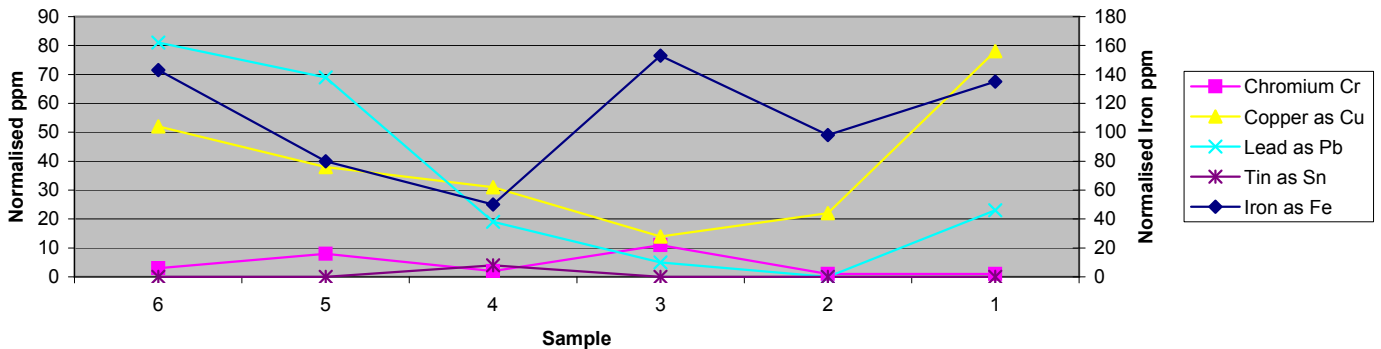
Adam Morrison
adam.m@oilcheck.com.au

Telephone 61 2 9644 9100
Sample tested as received

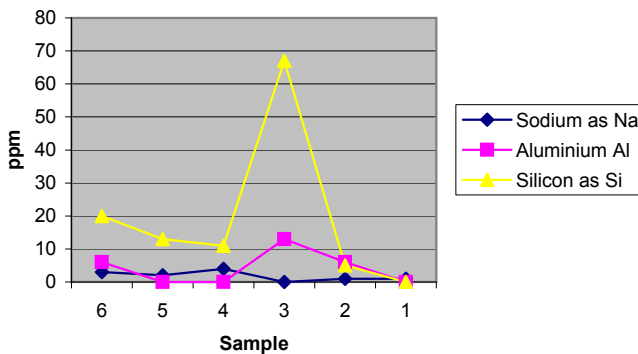
Analysis by OILCHECK PTY LTD NSW
ABN 56001554310
An independent owned and operated specialist commercial laboratory



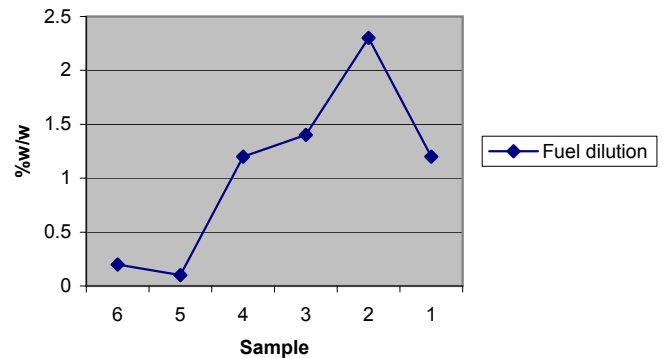
Wear metals



Contamination elements



Fuel dilution



QUALITY POLICY STATEMENT

Oilcheck Pty Ltd is a commercial laboratory, accredited with the National Association of Testing Authorities. We specialise in the physical and chemical testing of lubricants, fuels and other petrochemical products, primarily for the purpose of condition monitoring and fault diagnosis. The service is utilised for plant and equipment from a wide range of industries.

We are wholly Australian owned and market our products and services throughout Australia and export to a number of overseas countries.

We recognise the fact that the key to success in any organisation is the consistent satisfaction of customer requirements. Our company is committed to continually improving our quality system so as to provide products and services which meet or exceed our customers' expectations and which will conform to all regulatory requirements.

As part of this pursuit for quality, implementation and adherence to quality standards throughout the company is vital. We pay due regard to the health and safety of our staff and encourage proper respect for the environment.

The quality system conforms to the Internationally recognised quality standard AS/NZS ISO 9001:2000, "Quality management systems - Requirements". Oilcheck is also committed to comply with the requirements of ISO 17025, "General Requirements for the Competence of Testing and Calibration laboratories".

Support of our quality system by trained staff will allow for continuous improvement of our organisation and the relationship with our customers. This will ensure our position as a leader in the increasingly competitive national and international markets.

Did you know: The information that you would normally find on the back of the report has moved. We've made it easier to read and understand on the web along with other interesting information. For more information visit us on the web at www.oilcheck.com.au/questions

Did you know: Graphed metal results are normalised, this means we are only comparing results at standard intervals i.e. 200 hours for engines, 500 hours for non-engines. This is only for trending purposes so you can compare the current results with past results. For more information visit us on the web at www.oilcheck.com.au/questions

Did you know: It is important to fill out the sample description forms correctly. The information that you provide us with will help us to know more about your sample, and help us help you for when you get the report back. For more information visit us on the web at www.oilcheck.com.au/questions

Did you know: If you take the sample when the oil is cold it will reduce the accuracy of the sample. The majority of the particles we are looking for fall to the bottom and may not be tested. So make sure the samples are taken at operating temperatures to get the maximum benefit out of your PROBE oil analysis

www.oilcheck.com.au/questions