MOB II ROYAL PURPLE PERFORMANCE UNDER PRESSURE

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	MARGINAL
FLUID CONDITION	MARGINAL

Machine Id
CATERPILLAR EMD 3406
Component
Diesel Engine
Fluid
ROYAL PURPLE MOTOR OIL 15W40 (10 GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

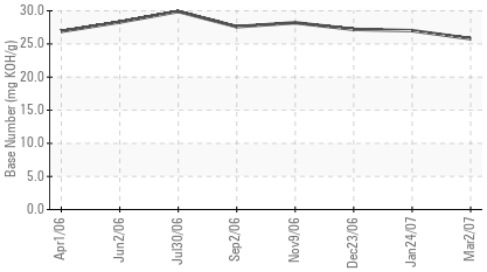
There is a trace of moisture present in the oil.

FLUID CONDITION

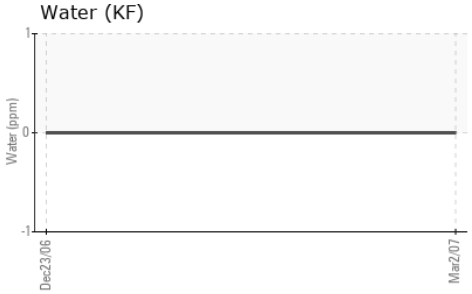
The oil viscosity is higher than normal.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**RP034973**	RP033930	RP033998
Sample Date		Client Info		**02 Mar 2007**	24 Jan 2007	23 Dec 2006
Machine Age	hrs	Client Info		**10224**	9339	8619
Oil Age	hrs	Client Info		**2536**	1651	931
Filter Age	hrs	Client Info		**885**	720	931
Oil Changed		Client Info		**Changed**	Not Changd	Not Changd
Filter Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**NORMAL**	NORMAL	NORMAL
Iron	ppm	ASTM D5185m		**55**	76	62
Chromium	ppm	ASTM D5185m		**7**	3	3
Nickel	ppm	ASTM D5185m		**1**	1	1
Titanium	ppm	ASTM D5185m		**<1**	0	<1
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m		**16**	8	8
Lead	ppm	ASTM D5185m		**14**	15	12
Copper	ppm	ASTM D5185m		**26**	22	15
Tin	ppm	ASTM D5185m		**0**	1	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silicon	ppm	ASTM D5185m		**11**	6	12
Potassium	ppm	ASTM D5185m		**0**	1	0
Fuel		WC Method		**<1.0**	<1.0	<1.0
Water	%	ASTM D6304		▲ **0.102**	NEG	▲ 0.142
Glycol		WC Method		**NEG**	NEG	NEG
Soot %	%	*ASTM D7844		**0.9**	0.3	0.6
Nitration	Abs/cm	*ASTM D7624		**15.**	9.	17.
Sulfation	Abs/.1mm	*ASTM D7415		**54.**	29.	50.
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual		**NEG**	NEG	NEG
Sodium	ppm	ASTM D5185m		**19**	7	9
Boron	ppm	ASTM D5185m		**2**	5	2
Barium	ppm	ASTM D5185m		**0**	<1	0
Molybdenum	ppm	ASTM D5185m		**138**	142	154
Manganese	ppm	ASTM D5185m		**1**	3	2
Magnesium	ppm	ASTM D5185m		**3787**	3056	3360
Calcium	ppm	ASTM D5185m		**7497**	6774	6698
Phosphorus	ppm	ASTM D5185m		**1023**	1034	1126
Zinc	ppm	ASTM D5185m		**1737**	1539	1614
Oxidation	Abs/.1mm	*ASTM D7414		**29.**	16.	32.
Base Number (BN)	mg KOH/g	ASTM D2896		**25.8**	27.0	27.2
Visc @ 100°C	cSt	ASTM D445		▲ **21.4**	17.43	17.1

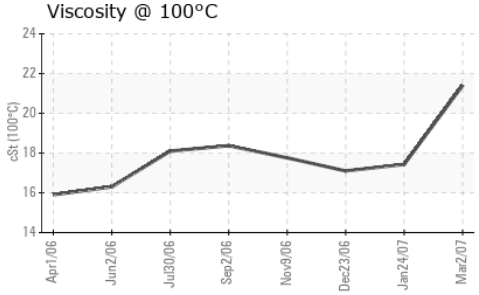
Base Number



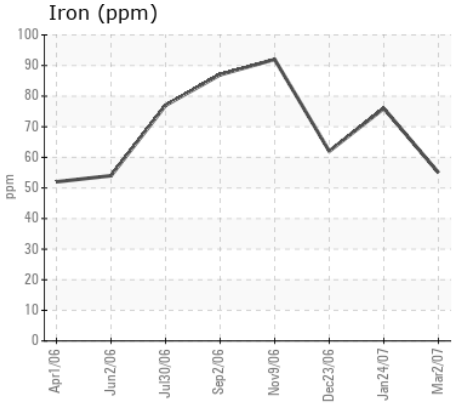
Water (KF)



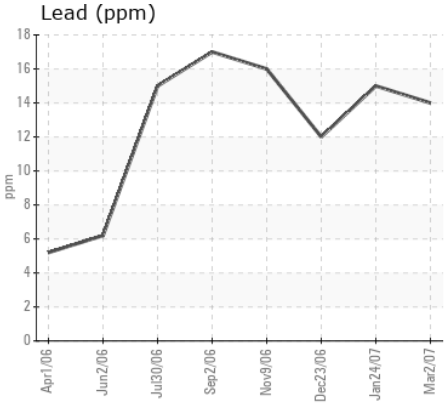
Viscosity @ 100°C



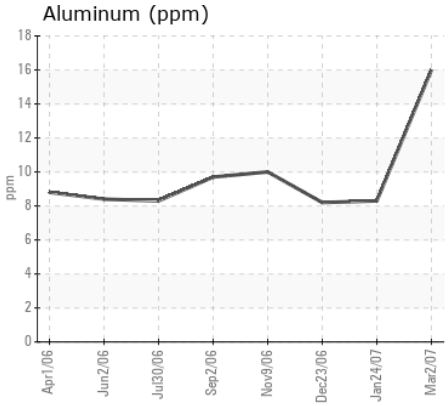
Iron (ppm)



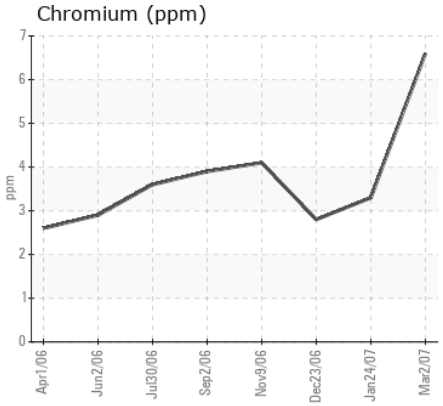
Lead (ppm)



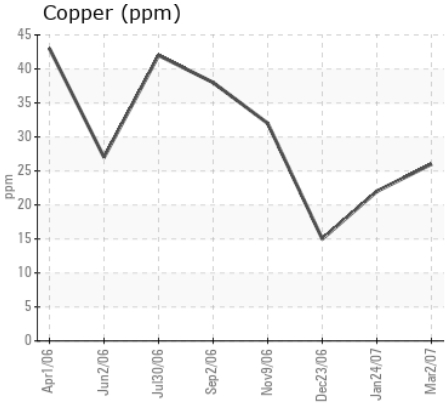
Aluminum (ppm)



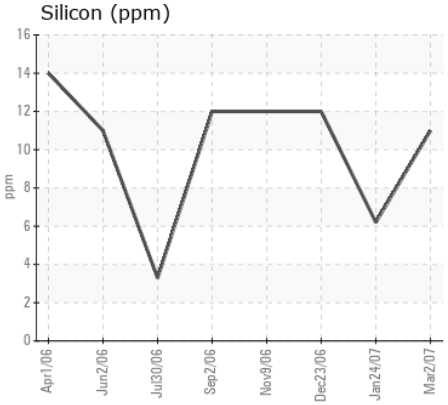
Chromium (ppm)



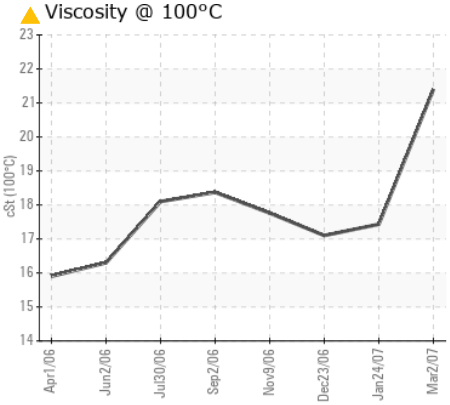
Copper (ppm)



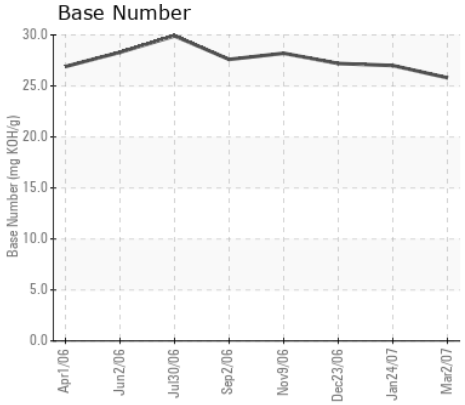
Silicon (ppm)



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP034973
Lab Number : 01925344
Unique Number : 4049024
Test Package : MOB 2 (Additional Tests: KF)

Received : 15 Mar 2007
Tested : 19 Mar 2007
Diagnosed : 19 Mar 2007 - Doug Bogart

Certificate L2367

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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