



**PERFORMANCE  
UNDER  
PRESSURE**

**OIL ANALYSIS REPORT**

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**CATERPILLAR EMD CAT 3412**

Component  
**Diesel Engine**

Fluid  
**SAE 40W (20 GAL)**

**RECOMMENDATION**

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Please note that all wear metal levels are being considered accumulative.

**WEAR**

All component wear rates are normal.

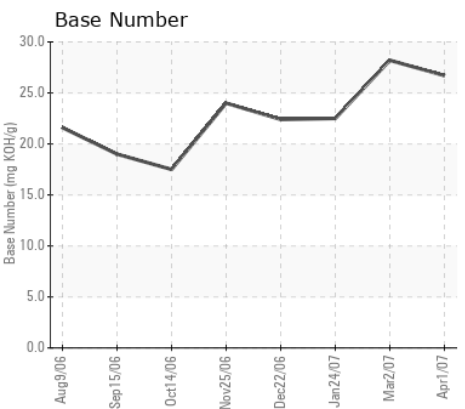
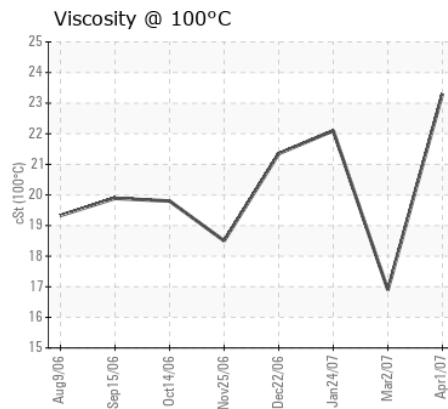
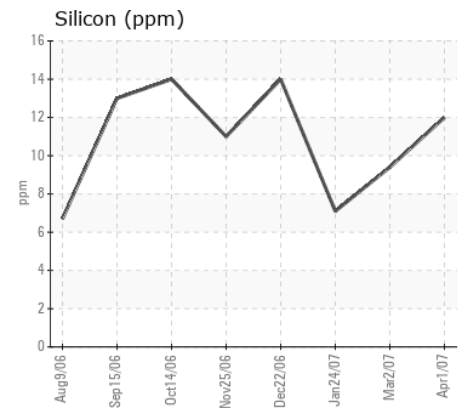
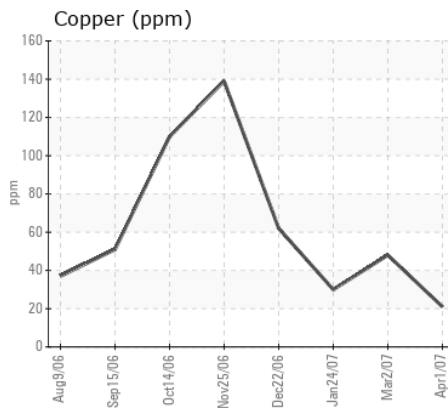
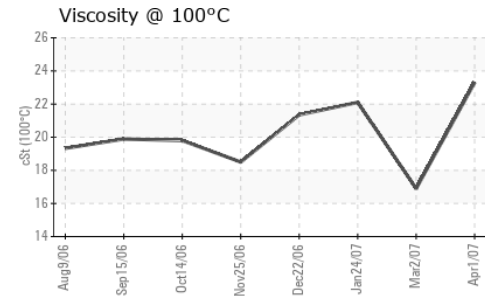
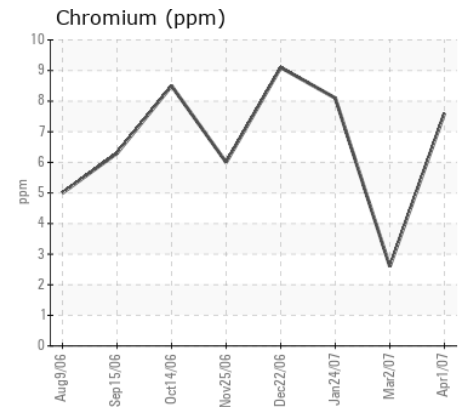
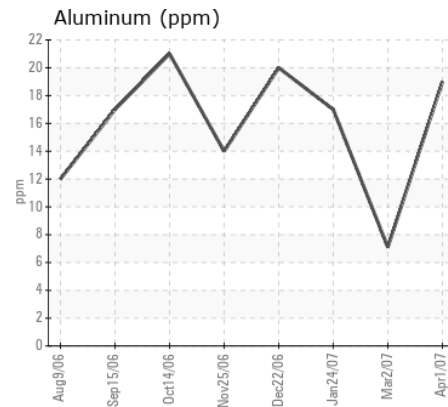
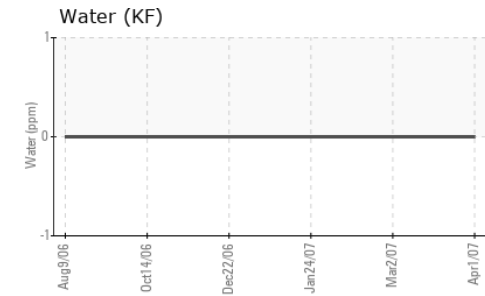
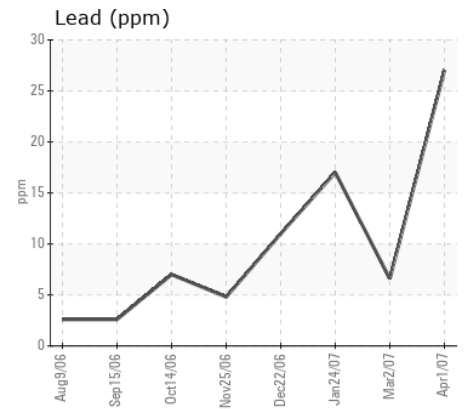
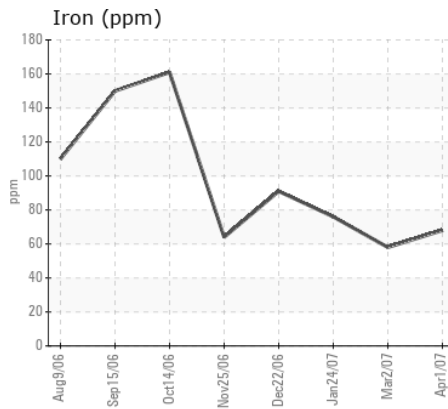
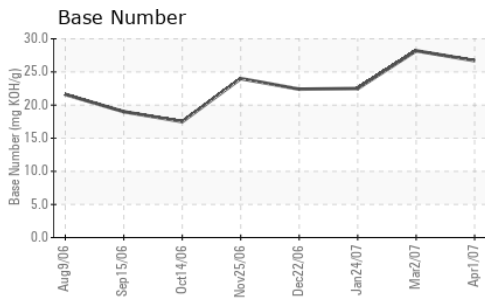
**CONTAMINATION**

There is an abnormal amount of solids and carbon 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		<b>RP034968</b>	RP034655	RP033939
Sample Date		Client Info		<b>01 Apr 2007</b>	02 Mar 2007	24 Jan 2007
Machine Age	hrs	Client Info		<b>6583</b>	5887	4989
Oil Age	hrs	Client Info		<b>1594</b>	898	2382
Filter Age	hrs	Client Info		<b>696</b>	898	720
Oil Changed		Client Info		<b>Not Chngd</b>	Not Chngd	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL
Iron	ppm	ASTM D5185m		<b>68</b>	58	76
Chromium	ppm	ASTM D5185m		<b>8</b>	3	8
Nickel	ppm	ASTM D5185m		<b>1</b>	2	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m		<b>19</b>	7	17
Lead	ppm	ASTM D5185m		<b>27</b>	7	17
Copper	ppm	ASTM D5185m		<b>21</b>	48	30
Tin	ppm	ASTM D5185m		<b>0</b>	0	2
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Silicon	ppm	ASTM D5185m		<b>12</b>	9	7
Potassium	ppm	ASTM D5185m		<b>0</b>	0	<1
Fuel		WC Method		<b>&lt;1.0</b>	<1.0	<1.0
Water	%	ASTM D6304		<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>3.5</b>	0.6	1.8
Nitration	Abs/cm	*ASTM D7624		<b>17.</b>	17.	19.
Sulfation	Abs/.1mm	*ASTM D7415		<b>58.</b>	49.	76.
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual		<b>NEG</b>	NEG	NEG
Sodium	ppm	ASTM D5185m		<b>15</b>	24	6
Boron	ppm	ASTM D5185m		<b>2</b>	1	5
Barium	ppm	ASTM D5185m		<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185m		<b>160</b>	117	155
Manganese	ppm	ASTM D5185m		<b>2</b>	1	3
Magnesium	ppm	ASTM D5185m		<b>4094</b>	3202	3429
Calcium	ppm	ASTM D5185m		<b>8458</b>	6426	7500
Phosphorus	ppm	ASTM D5185m		<b>1222</b>	959	1096
Zinc	ppm	ASTM D5185m		<b>2046</b>	1536	1728
Oxidation	Abs/.1mm	*ASTM D7414		<b>33.</b>	32.	39.
Base Number (BN)	mg KOH/g	ASTM D2896		<b>26.7</b>	28.2	22.5
Visc @ 100°C	cSt	ASTM D445		<b>23.3</b>	16.9	22.1



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513

**Sample No.** : RP034968

**Lab Number** : 01946150

**Unique Number** : 4084835

**Test Package** : MOB 2 ( Additional Tests: KF )

**Received** : 20 Apr 2007

**Tested** : 04 May 2007

**Diagnosed** : 04 May 2007 - Doug Bogart

**OILMAX S.A.S.**

AV 6 DICIEMBRE Y GASPAR CANTERO

QUITO-ECUADOR,

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F: x:

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)