



**PERFORMANCE
UNDER
PRESSURE**

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Machine Id
CATERPILLAR 6TB09042
Component
Front Diesel Engine
Fluid
{not provided} (10 GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		RP76376	RP76351	RP76371
Sample Date		Client Info		09 Oct 2010	09 Sep 2010	18 Aug 2010
Machine Age	hrs	Client Info		5263	4543	4015
Oil Age	hrs	Client Info		200	744	200
Filter Age	hrs	Client Info		200	528	200
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	MARGINAL	NORMAL

WEAR

Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m		▲ 190	56	34
Chromium	ppm	ASTM D5185m		7	2	2
Nickel	ppm	ASTM D5185m		6	2	2
Titanium	ppm	ASTM D5185m		2	1	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m		● 13	9	7
Lead	ppm	ASTM D5185m		8	0	<1
Copper	ppm	ASTM D5185m		12	5	2
Tin	ppm	ASTM D5185m		0	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. There is a light concentration of water present in the oil.

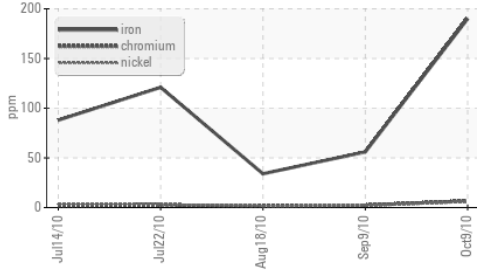
Silicon	ppm	ASTM D5185m		▲ 26	18	18
Potassium	ppm	ASTM D5185m		2	5	2
Fuel		WC Method		<1.0	<1.0	<1.0
Water	%	ASTM D6304		▲ 0.24	▲ 0.157	0.123
ppm Water	ppm	ASTM D6304		▲ 2400	▲ 1570	▲ 1230
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.7	0.5	0.2
Nitration	Abs/cm	*ASTM D7624		26.	15.	9.
Sulfation	Abs/.1mm	*ASTM D7415		71.	39.	26.
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

FLUID CONDITION

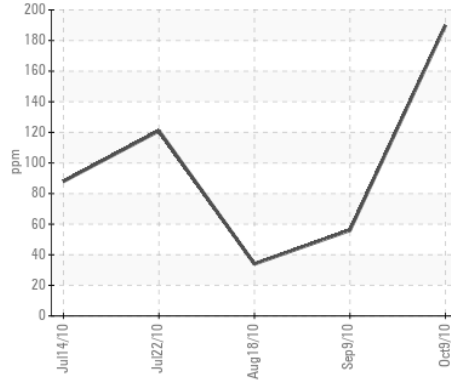
The condition of oil is suitable for further service.

Sodium	ppm	ASTM D5185m		5	4	3
Boron	ppm	ASTM D5185m		0	<1	1
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		226	150	127
Manganese	ppm	ASTM D5185m		2	1	1
Magnesium	ppm	ASTM D5185m		5142	3485	2889
Calcium	ppm	ASTM D5185m		10066	7200	5967
Phosphorus	ppm	ASTM D5185m		1567	1123	1005
Zinc	ppm	ASTM D5185m		2278	1648	1397
Oxidation	Abs/.1mm	*ASTM D7414		38.	24.	17.
Base Number (BN)	mg KOH/g	ASTM D2896		38.8	28.6	25.7
Visc @ 100°C	cSt	ASTM D445		19.28	15.74	14.11

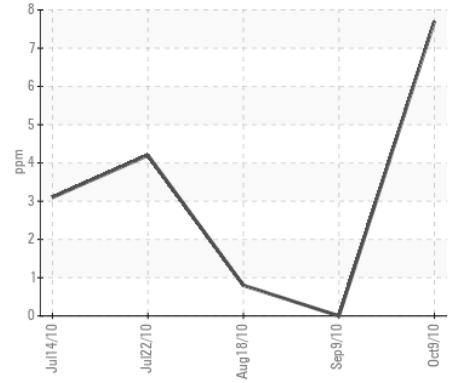
▲ Ferrous Alloys



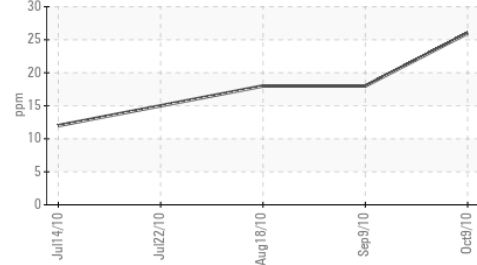
▲ Iron (ppm)



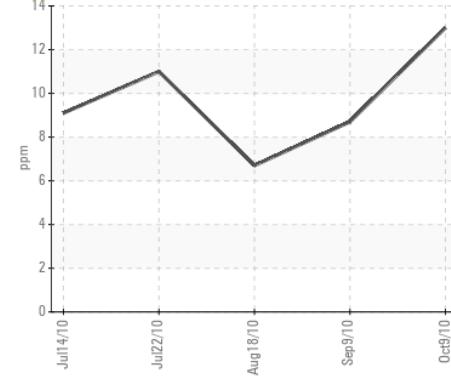
Lead (ppm)



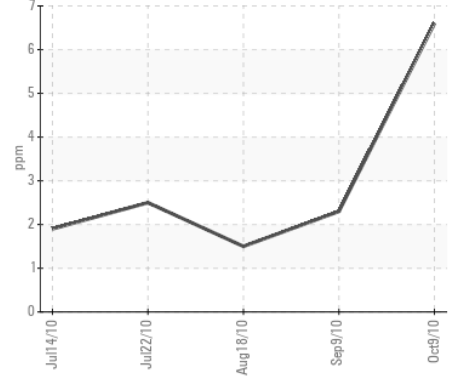
▲ Silicon (ppm)



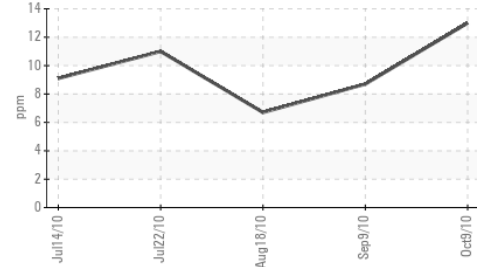
● Aluminum (ppm)



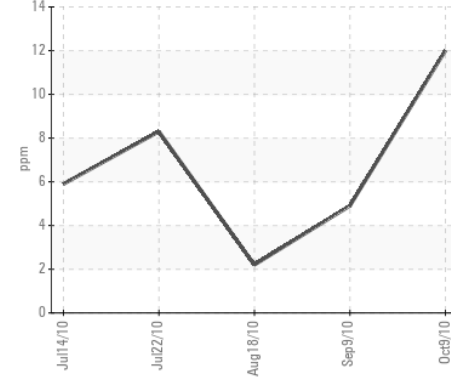
Chromium (ppm)



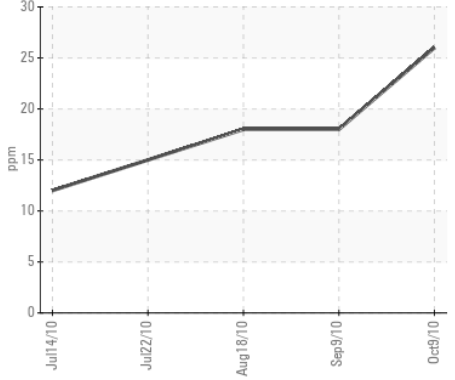
● Aluminum (ppm)



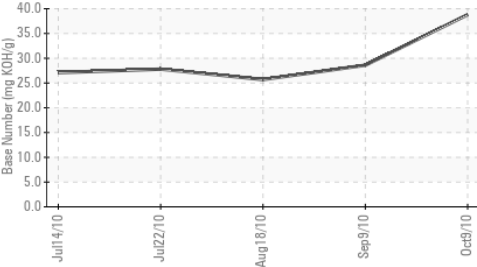
Copper (ppm)



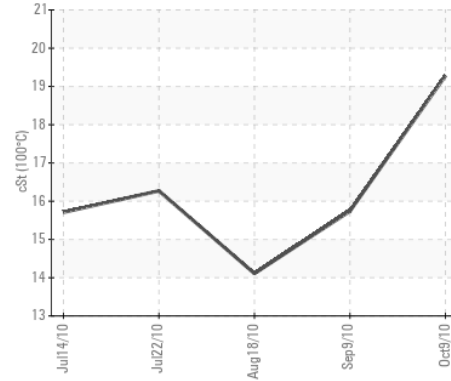
▲ Silicon (ppm)



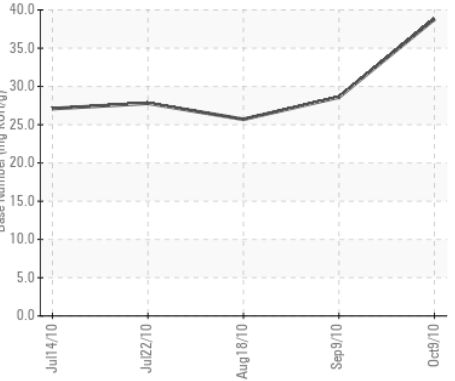
Base Number



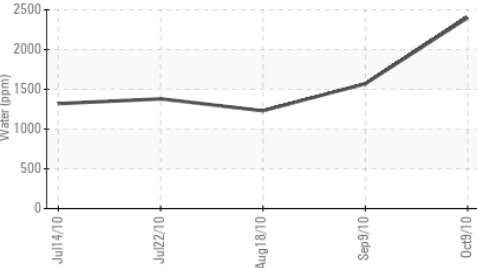
Viscosity @ 100°C



Base Number



Water (KF)



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP76376
Lab Number : 02740931
Unique Number : 5377332
Test Package : MOB 2 (Additional Tests: KF)

Received : 01 Nov 2010
Tested : 03 Nov 2010
Diagnosed : 03 Nov 2010 - Jonathan Hester

PETROAMAZONAS
 PAMAMINO-EST. COCA
 COCA-ECUADOR,

Contact: VINICIO CASTILLO

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)

T:
F: