



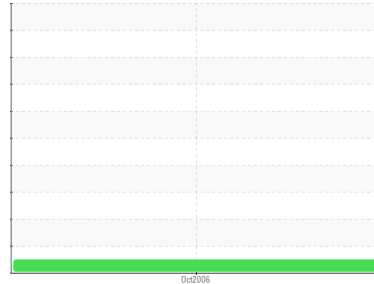
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
CATERPILLAR 81Z12792
 Component
Diesel Engine
 Fluid
ROYAL PURPLE MOTOR OIL 15W40 (19 GAL)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the component.

Fluid Condition

The condition of oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			RP007786	---	---
Sample Date	Client Info			17 Oct 2006	---	---
Machine Age	hrs	Client Info		421	---	---
Oil Age	hrs	Client Info		88	---	---
Oil Changed	Client Info			Not Chngd	---	---
Sample Status				NORMAL	---	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method			<1.0	---	---
Glycol	WC Method			NEG	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m		15	---	---
Chromium	ppm	ASTM D5185m		<1	---	---
Nickel	ppm	ASTM D5185m		<1	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m		0	---	---
Aluminum	ppm	ASTM D5185m		3	---	---
Lead	ppm	ASTM D5185m		2	---	---
Copper	ppm	ASTM D5185m		49	---	---
Tin	ppm	ASTM D5185m		0	---	---
Antimony	ppm	ASTM D5185m		2	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
Cadmium	ppm	ASTM D5185m		0	---	---

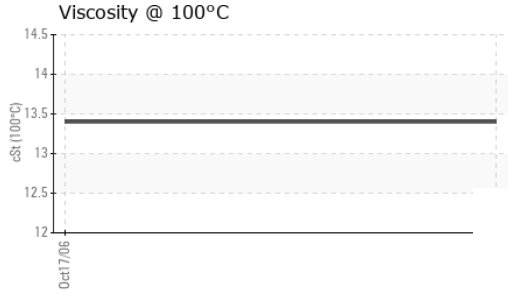
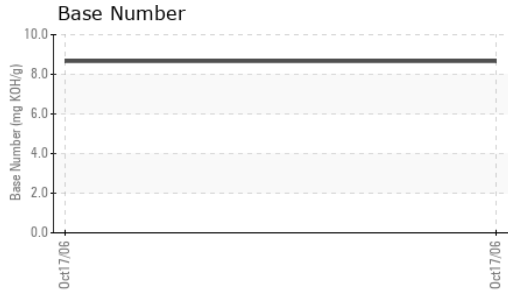
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		20	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		80	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m		109	---	---
Calcium	ppm	ASTM D5185m		2620	---	---
Phosphorus	ppm	ASTM D5185m		986	---	---
Zinc	ppm	ASTM D5185m		1081	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m		5	---	---
Sodium	ppm	ASTM D5185m		5	---	---
Potassium	ppm	ASTM D5185m		0	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		0.1	---	---
Nitration	Abs/cm	*ASTM D7624		0.08	---	---
Sulfation	Abs/.1mm	*ASTM D7415		0.17	---	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414		0.23	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		8.66	---	---

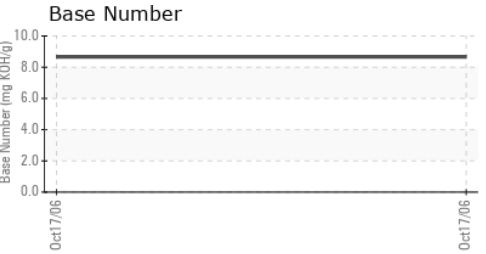
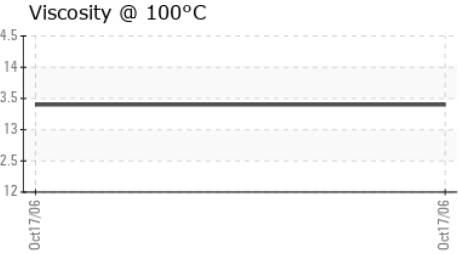
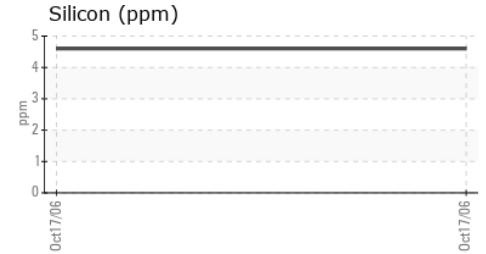
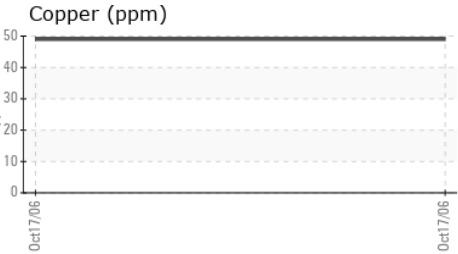
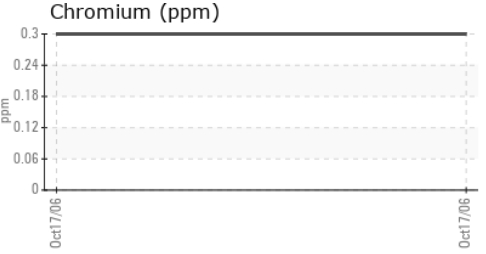
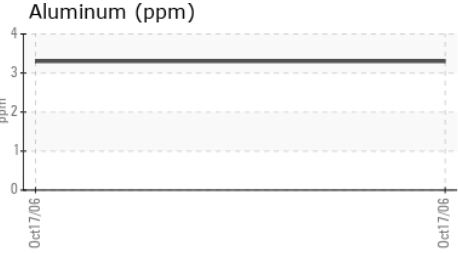
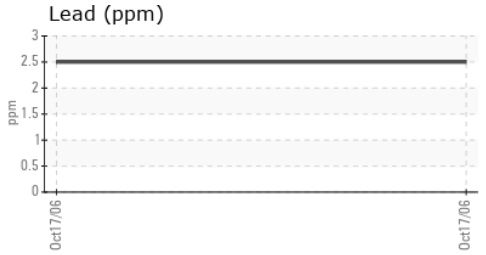
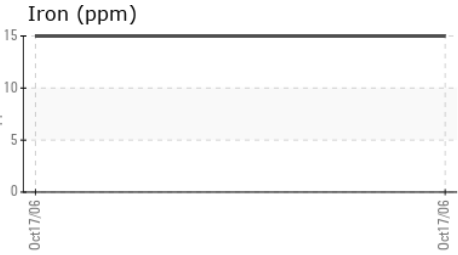
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	NEG	---	---
Free Water	scalar	*Visual	NEG	---	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.4	---	---

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP007786 **Received** : 27 Oct 2006
Lab Number : 01855836 **Diagnosed** : 30 Oct 2006
Unique Number : 3929257 **Diagnostician** :
Test Package : MOB 2

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 GRAYLING, MI
 US 49738
 Contact: JASON SHEA
 jason.j.shea@cmsenergy.com
 T:
 F: (989)348-4679

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)