



MOBILE OIL ANALYSIS REPORT

CONTAMINATION
OIL CONDITION
WEAR

NORMAL
NORMAL
NORMAL

#177 - Diesel Engine

Unit Make : INTERNATIONAL

Unit Model : 9400I

Comp Make : CATERPILLAR

Comp Model : C-15 ACERT

Serial No : {n/a}

Cust. Ref No. : {n/a}

Stub No. : KL-MFA01867

Date Rec'd : Feb 8, 2012

Sample Date : Dec 12, 2011

Diagnostician : Don Baldrige

RECOMMENDATION

Resample at the next service interval to monitor.

Sample Date	06/04/11	08/05/11	10/08/11	Current	UOM
Time on Unit	631724	654867	675927	696436	mls
Time on Oil	27000	50000	71000	92000	mls
Time on Fltr	27000	50000	71000	92000	mls
Oil Maint.	not chg	not chg	not chg	changed	---
Filter Maint.	not chg	not chg	not chg	changed	---

CONTAMINATION

There is no indication of any contamination in the component.

Sample Date	06/04/11	08/05/11	10/08/11	Current	Abn
Silicon	4.6	4.7	4.8	5.8	15
Fuel (%)	<2.0	<2.0	<2.0	<2.0	---
Glycol	---	---	---	---	0.02
Water (%)	<0.1	<0.1	<0.1	<0.1	0.1
Soot (%)	0.3	0.3	0.4	0.3	---
>4µm(c)	---	8538	---	---	---
>6µm(c)	---	4651	---	---	---
>14µm(c)	---	792	---	---	---
>21µm(c)	---	267	---	---	---
>38µm(c)	---	41	---	---	---
>70µm(c)	---	4	---	---	---
ISO 4406(c)	---	19/17	---	---	---

OIL CONDITION

Oil Type: 40 QTS of CITGO CITGUARD 600 15W40

The condition of oil is suitable for further service.

Sample Date	06/04/11	08/05/11	10/08/11	Current	Base
Potassium	0.0	1.7	0.6	2.9	
Boron	7.4	11	12	12	
Barium	0.1	0.0	0.0	0.0	
Calcium	2011	2004	2331	2980	
Magnesium	58	34	28	32	
Molybdenum	4.5	7.1	7.9	9.7	
Sodium	1.9	1.9	1.4	2.7	
Phosphorus	825	861	897	1149	
Sulfur	2910	2780	2884	3660	
Zinc	981	1011	1091	1378	
Visc@100°C	12.61	13.03	13.14	13.03	
TBN	7.47	6.48	7.2	7.76	

WEAR

All component wear rates are normal for time on oil.

Sample Date	06/04/11	08/05/11	10/08/11	Current	Abn
PQ	---	---	---	---	---
Iron	56	90	103	148	---
Nickel	0.7	0.2	0.5	0.5	---
Chromium	1.3	1.6	1.8	2.6	---
Titanium	6.4	7.4	8.2	10	---
Copper	6.3	7.7	8.9	15	---
Aluminum	2.3	1.9	2.0	2.7	---
Tin	0.0	0.6	0.7	1.8	---
Lead	5.1	9.2	7.7	12	---