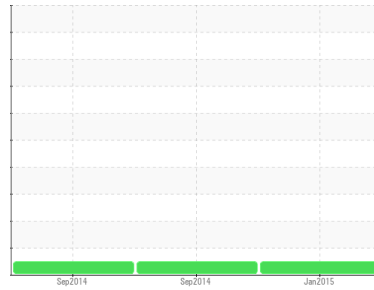




# OIL ANALYSIS REPORT

## Sample Rating Trend



**NORMAL**



Machine Id  
**CATERPILLAR 3499**  
 Component  
**Hydraulic System**  
 Fluid  
**CHEVRON HYDRAULIC OIL AW ISO 46 (30 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. The amount and size of particulates present in the system is acceptable.

### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>PTKM2241489</b>	PTKM2241485	PTKM2240191
Sample Date	Client Info		<b>21 Jan 2015</b>	13 Sep 2014	06 Sep 2014
Machine Age	hrs	Client Info	<b>4995</b>	3807	3678
Oil Age	hrs	Client Info	<b>4928</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	Not Changd
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.1	<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >20	<b>3</b>	4	4
Chromium	ppm	ASTM D5185m >10	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185m	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m	<b>0</b>	<1	<1
Aluminum	ppm	ASTM D5185m >10	<b>&lt;1</b>	<1	<1
Lead	ppm	ASTM D5185m >10	<b>&lt;1</b>	<1	0
Copper	ppm	ASTM D5185m >75	<b>10</b>	12	12
Tin	ppm	ASTM D5185m >10	<b>0</b>	0	0
Antimony	ppm	ASTM D5185m	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Barium	ppm	ASTM D5185m	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	<b>&lt;1</b>	0	<1
Manganese	ppm	ASTM D5185m	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	<b>0</b>	6	7
Calcium	ppm	ASTM D5185m	<b>173</b>	172	182
Phosphorus	ppm	ASTM D5185m	<b>628</b>	643	648
Zinc	ppm	ASTM D5185m	<b>828</b>	818	840
Sulfur	ppm	ASTM D5185m	<b>1315</b>	1485	1536

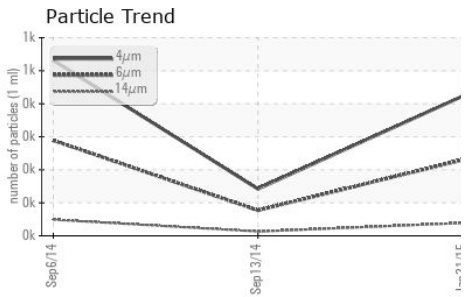
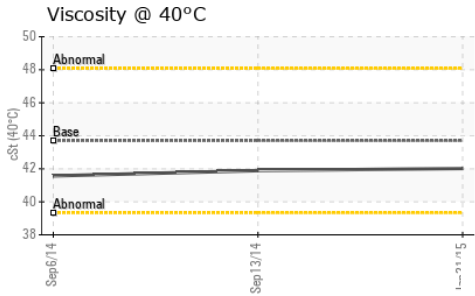
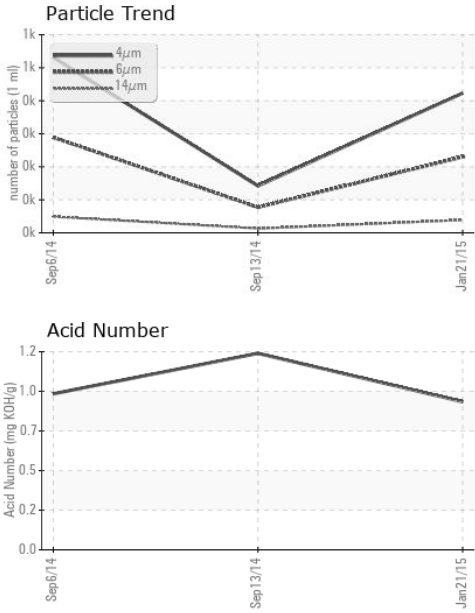
## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >20	<b>3</b>	3	3
Sodium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	1
Potassium	ppm	ASTM D5185m >20	<b>3</b>	4	10

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		<b>423</b>	142	531
Particles >6µm	ASTM D7647	>2500	<b>230</b>	77	289
Particles >14µm	ASTM D7647	>320	<b>39</b>	13	49
Particles >21µm	ASTM D7647	>80	<b>13</b>	4	16
Particles >38µm	ASTM D7647	>20	<b>2</b>	0	2
Particles >71µm	ASTM D7647	>4	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>18/15	<b>16/15/12</b>	14/13/11	16/15/13

# OIL ANALYSIS REPORT



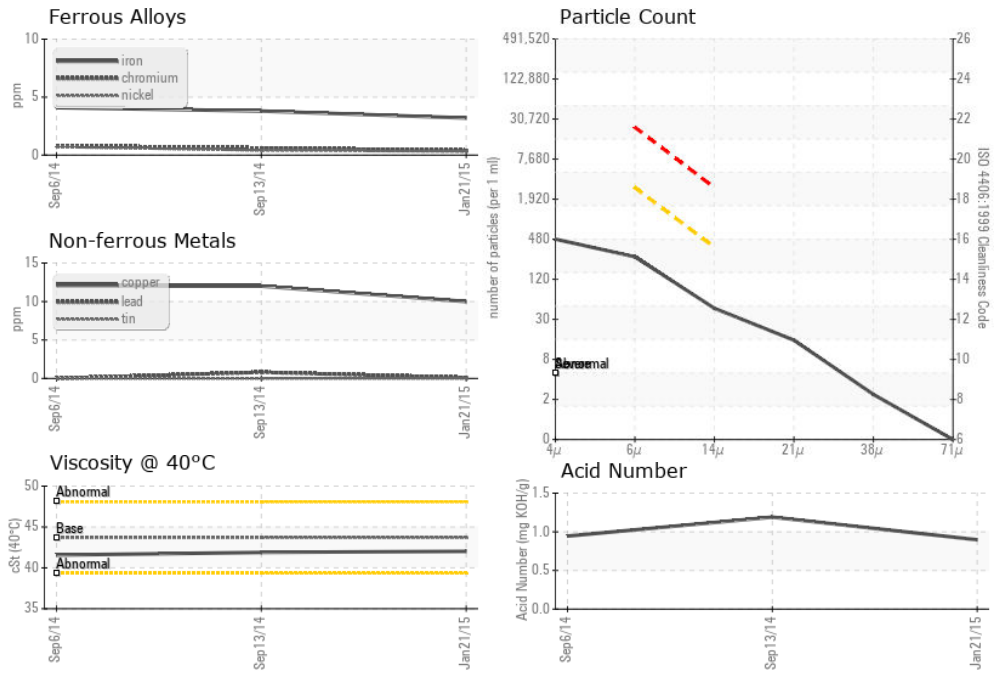
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.897</b>	1.19	0.945

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	<b>LIGHT</b>	VLITE	VLITE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
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	>0.1	<b>NEG</b>	NEG	NEG
Free Water	scalar	*Visual		<b>NEG</b>	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	43.7	<b>42.02</b>	41.89	41.57

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color					no image	no image
Bottom					no image	no image

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PTKM2241489      **Received** : 04 Feb 2015  
**Lab Number** : **03676907**      **Tested** : 05 Feb 2015  
**Unique Number** : 6899895      **Diagnosed** : 05 Feb 2015 - Jonathan Hester  
**Test Package** : MOB 2

**MR BULTS**  
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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)