



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**CATERPILLAR 966H 966H-L06 A6D00520**  
 Component  
**Hydraulic System**  
 Fluid  
**CHEVRON RANDO HD 46 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TR06195890</b>	TR06065592	---
Sample Date		Client Info		<b>17 May 2024</b>	03 Jan 2024	---
Machine Age	hrs	Client Info		<b>27081</b>	26592	---
Oil Age	hrs	Client Info		<b>495</b>	1683	---
Filter Age	hrs	Client Info		<b>495</b>	1683	---
Oil Changed		Client Info		<b>Not Chngd</b>	Changed	---
Filter Changed		Client Info		<b>Not Chngd</b>	Changed	---
Sample Status				<b>NORMAL</b>	ABNORMAL	---

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	<b>5</b>	0	---
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	---
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	0	---
Titanium	ppm	ASTM D5185m		<b>0</b>	0	---
Silver	ppm	ASTM D5185m		<b>0</b>	0	---
Aluminum	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	---
Lead	ppm	ASTM D5185m	>10	<b>0</b>	0	---
Copper	ppm	ASTM D5185m	>75	<b>3</b>	5	---
Tin	ppm	ASTM D5185m	>10	<b>0</b>	0	---
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

## CONTAMINATION

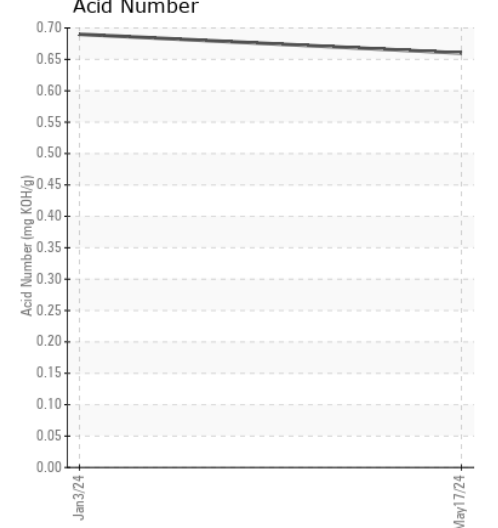
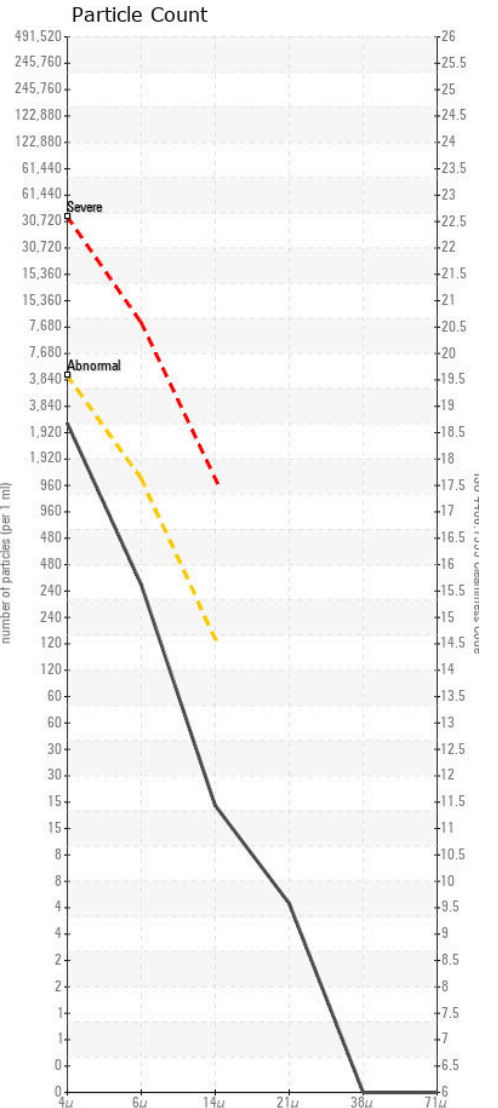
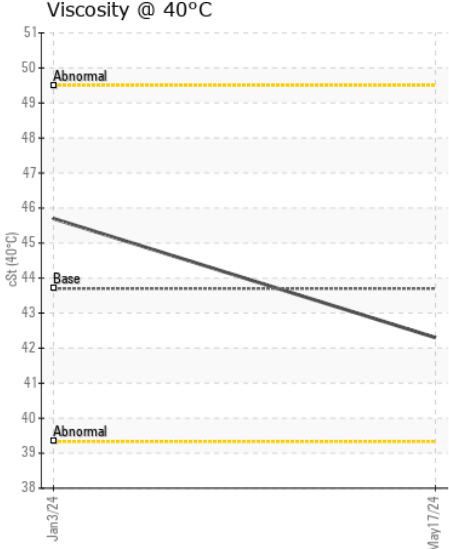
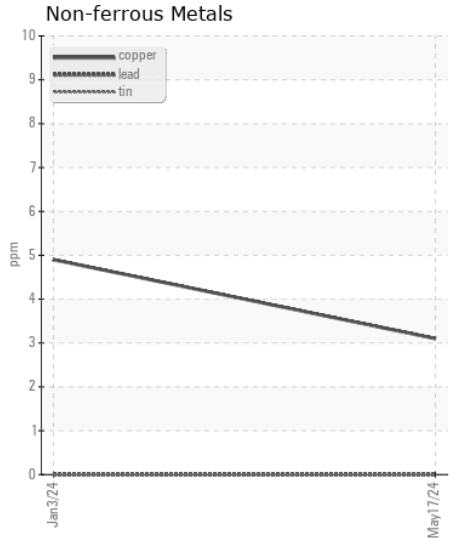
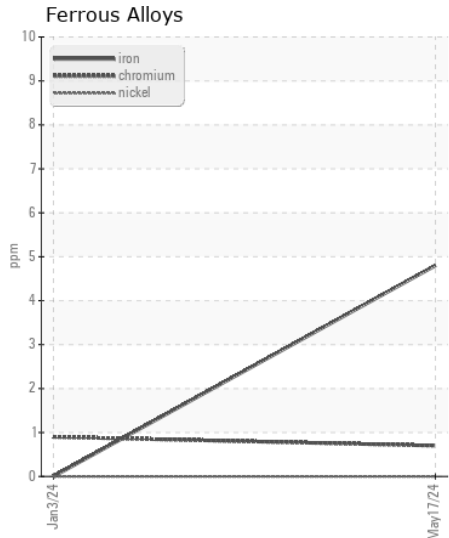
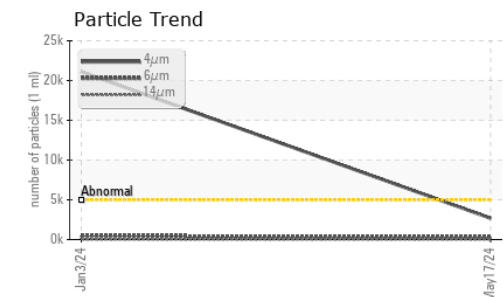
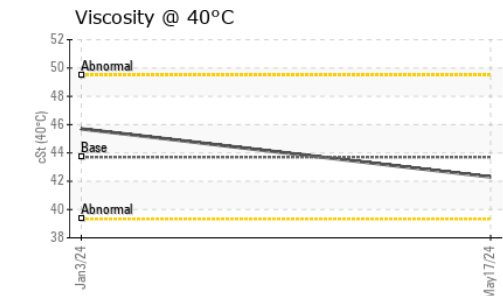
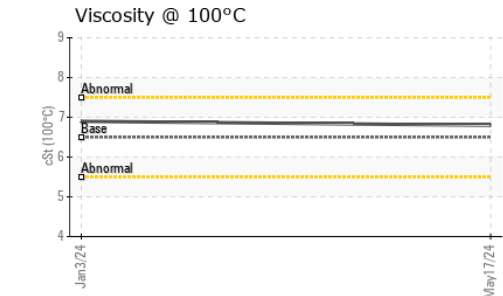
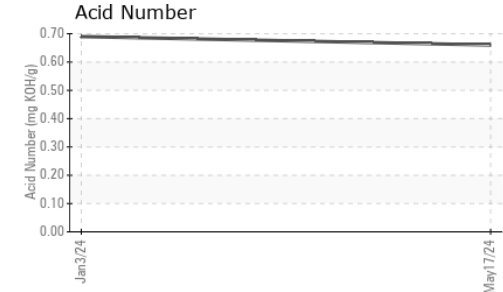
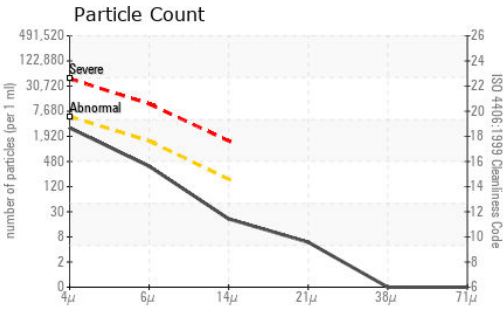
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185m	>20	<b>1</b>	2	---
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	---
Water		WC Method	>0.1	<b>NEG</b>	NEG	---
Particles >4µm		ASTM D7647	>5000	<b>2680</b>	▲ 21115	---
Particles >6µm		ASTM D7647	>1300	<b>324</b>	482	---
Particles >14µm		ASTM D7647	>160	<b>18</b>	17	---
Particles >21µm		ASTM D7647	>40	<b>5</b>	6	---
Particles >38µm		ASTM D7647	>10	<b>0</b>	0	---
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>19/16/11</b>	▲ 22/16/11	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG	---

## FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		<b>3</b>	2	---
Boron	ppm	ASTM D5185m		<b>&lt;1</b>	0	---
Barium	ppm	ASTM D5185m		<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185m		<b>&lt;1</b>	0	---
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	---
Magnesium	ppm	ASTM D5185m		<b>11</b>	15	---
Calcium	ppm	ASTM D5185m		<b>188</b>	146	---
Phosphorus	ppm	ASTM D5185m		<b>517</b>	569	---
Zinc	ppm	ASTM D5185m		<b>665</b>	715	---
Sulfur	ppm	ASTM D5185m		<b>1442</b>	1311	---
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.66</b>	0.69	---
Visc @ 40°C	cSt	ASTM D445	43.7	<b>42.3</b>	45.7	---
Visc @ 100°C	cSt	ASTM D445	6.5	<b>6.8</b>	6.9	---
Viscosity Index (VI)	Scale	ASTM D2270	97	<b>116</b>	106	---



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06195890 **Received** : 30 May 2024  
**Lab Number** : 06195890 **Tested** : 02 Jun 2024  
**Unique Number** : 11058013 **Diagnosed** : 02 Jun 2024 - Wes Davis  
**Test Package** : MOB 2 ( Additional Tests: KV100, VI )

**BARR-TECH COMPOSTING**  
 9117 KALLENBERGER RD N  
 SPRAGUE, WA  
 US 99032  
 Contact: RON GROGAN

Certificate L2367  
 To discuss this sample report, contact Customer Service at 1-800-827-0711.  
 \* - 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: (509)590-0437  
 F: