



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**16**  
 Component  
**1 Hydraulic System**  
 Fluid  
**AW HYDRAULIC OIL ISO 68 (20 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TR0001672</b>	TR0001309	TR0000604
Sample Date		Client Info		<b>11 Jul 2024</b>	09 Jan 2024	10 Aug 2022
Machine Age	hrs	Client Info		<b>13613</b>	12723	9915
Oil Age	hrs	Client Info		<b>13613</b>	12723	1
Filter Age	hrs	Client Info		<b>13613</b>	12723	0
Oil Changed		Client Info		<b>Not Changed</b>	Not Changed	Not Changed
Filter Changed		Client Info		<b>Not Changed</b>	Not Changed	Changed
Sample Status				<b>NORMAL</b>	ABNORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	<b>13</b>	12	14
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	0
Nickel	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m		<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>10	<b>2</b>	2	2
Lead	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>75	<b>7</b>	6	8
Tin	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

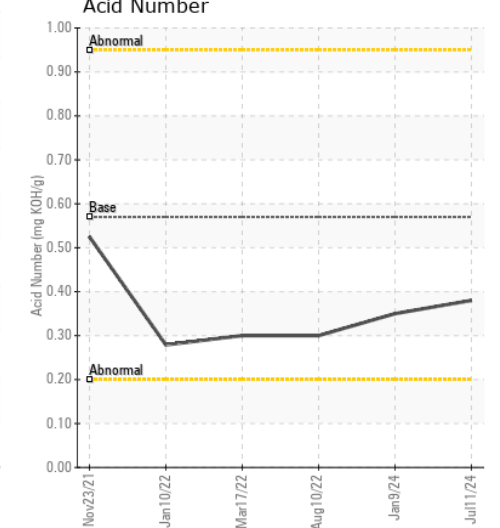
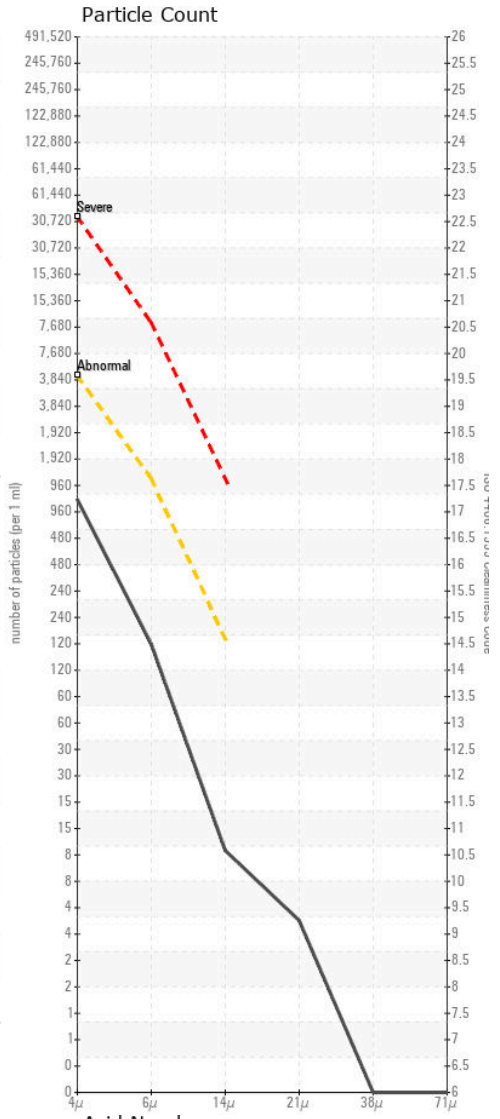
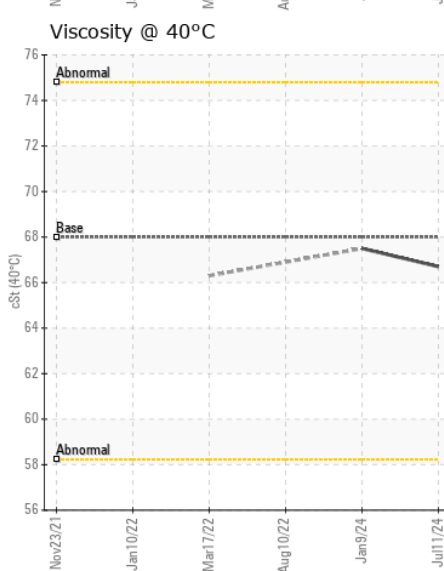
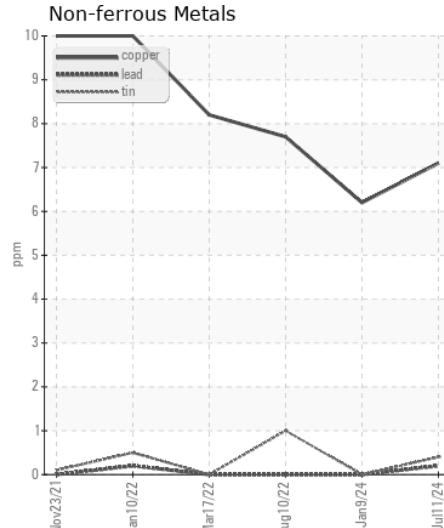
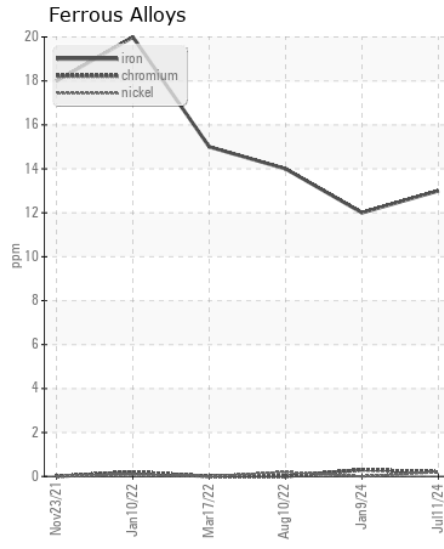
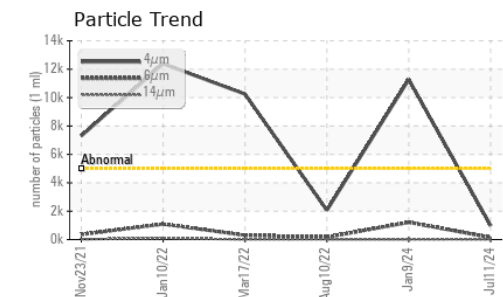
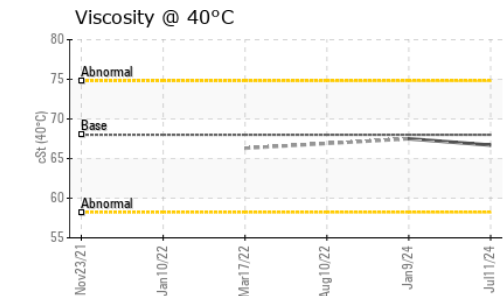
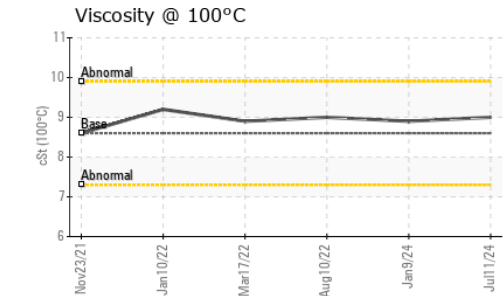
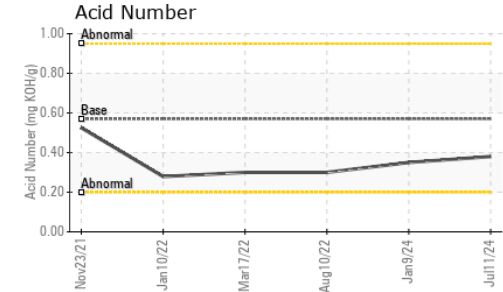
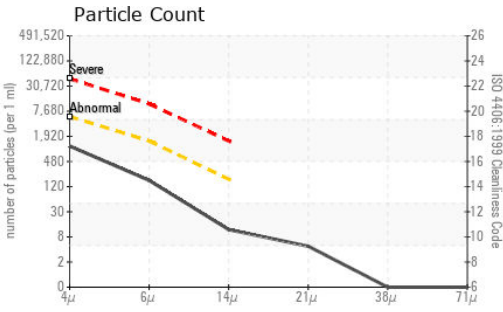
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185m	>20	<b>5</b>	5	6
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	1	0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>5000	<b>988</b>	▲ 11267	2065
Particles >6µm		ASTM D7647	>1300	<b>149</b>	1219	170
Particles >14µm		ASTM D7647	>160	<b>10</b>	14	14
Particles >21µm		ASTM D7647	>40	<b>4</b>	3	2
Particles >38µm		ASTM D7647	>10	<b>0</b>	0	0
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>17/14/10</b>	▲ 21/17/11	18/15/11
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

## 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>2</b>	<1	1
Boron	ppm	ASTM D5185m	5	<b>0</b>	0	3
Barium	ppm	ASTM D5185m	5	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	5	<b>2</b>	2	<1
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m	25	<b>4</b>	4	0
Calcium	ppm	ASTM D5185m	200	<b>212</b>	217	217
Phosphorus	ppm	ASTM D5185m	300	<b>402</b>	398	371
Zinc	ppm	ASTM D5185m	370	<b>529</b>	440	462
Sulfur	ppm	ASTM D5185m	2500	<b>1178</b>	1135	1064
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	<b>0.38</b>	0.35	0.30
Visc @ 40°C	cSt	ASTM D445	68	<b>66.7</b>	67.5	---
Visc @ 100°C	cSt	ASTM D445	8.6	<b>9.0</b>	8.9	9
Viscosity Index (VI)	Scale	ASTM D2270	96	<b>109</b>	105	---



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR0001672  
**Lab Number** : 06235923  
**Unique Number** : 11124757  
**Test Package** : MOB 2 ( Additional Tests: KV100, VI )  
**Received** : 15 Jul 2024  
**Tested** : 16 Jul 2024  
**Diagnosed** : 16 Jul 2024 - Wes Davis

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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)