



Area  
**CSP**  
Machine Id  
**CSP (S/N FLANKING RUDDERS)**  
Component  
**Hydraulic System**  
Fluid  
**CHEVRON HYDRAULIC AW ISO 68 (150 GAL)**

**RECOMMENDATION**

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0061158</b>	MW0061186	MW0061148
Sample Date		Client Info		<b>15 May 2024</b>	14 Feb 2024	14 Nov 2023
Machine Age	hrs	Client Info		<b>45640</b>	0	0
Oil Age	hrs	Client Info		<b>45640</b>	43456	41118
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>ATTENTION</b>	ABNORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	0
Chromium	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Lead	ppm	ASTM D5185m	>20	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
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**

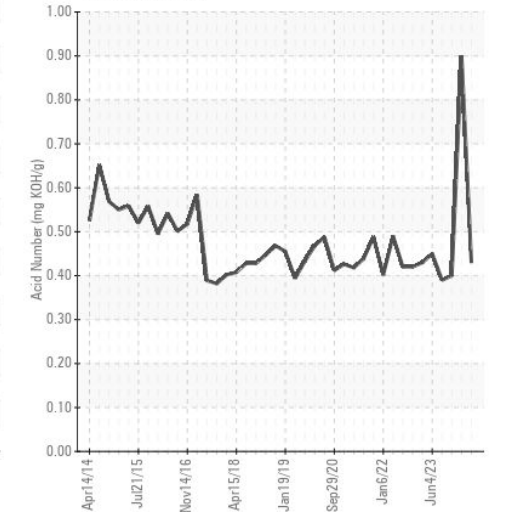
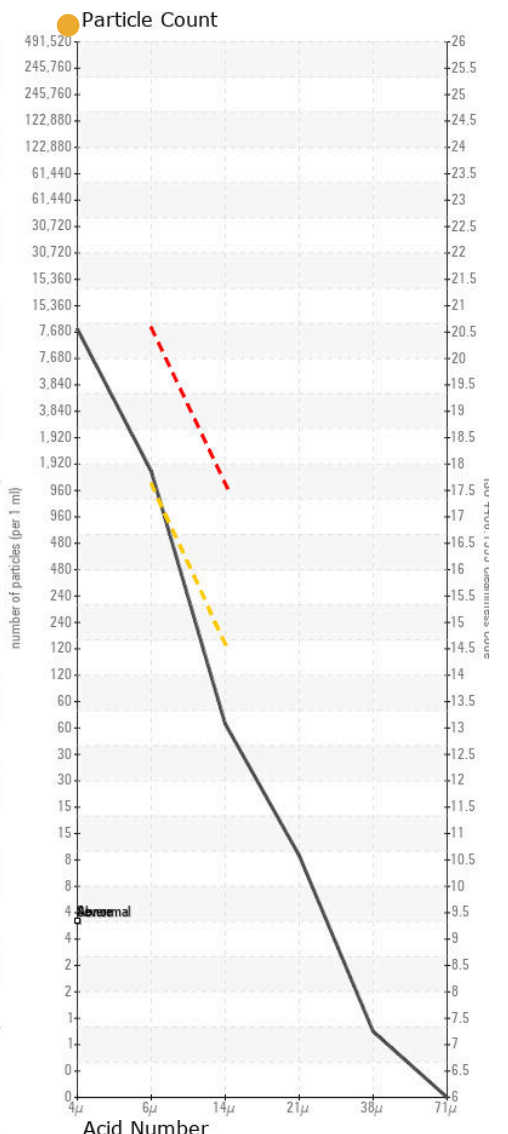
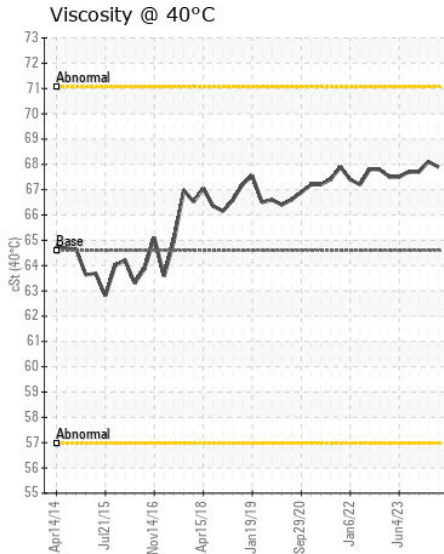
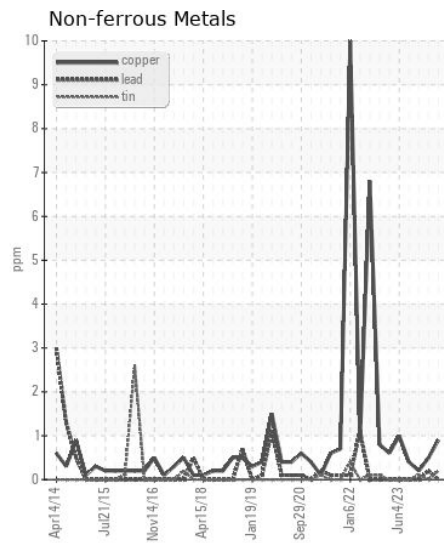
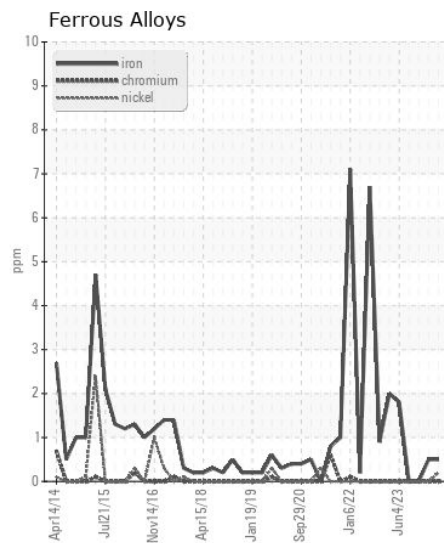
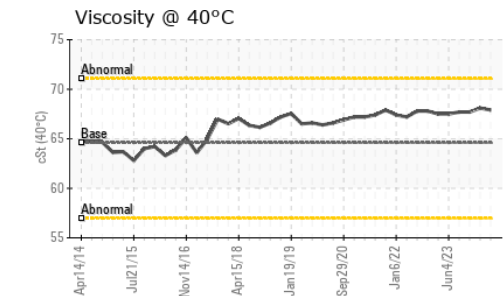
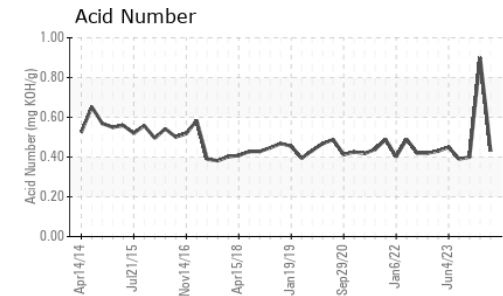
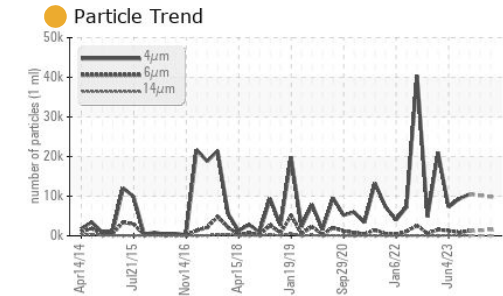
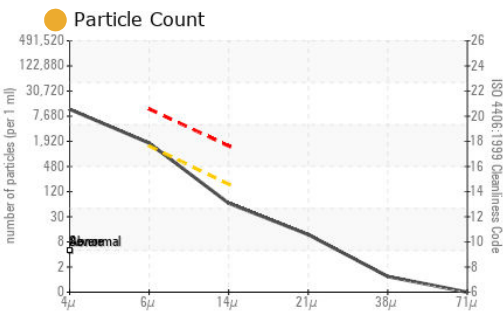
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	<1
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	0	2
Water		WC Method	>0.05	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647		<b>9826</b>	---	10498
Particles >6µm		ASTM D7647	>1300	<b>1530</b>	---	1231
Particles >14µm		ASTM D7647	>160	<b>56</b>	---	87
Particles >21µm		ASTM D7647	>40	<b>10</b>	---	31
Particles >38µm		ASTM D7647	>10	<b>1</b>	---	1
Particles >71µm		ASTM D7647	>3	<b>0</b>	---	0
Oil Cleanliness		ISO 4406 (c)	>-/17/14	<b>20/18/13</b>	---	21/17/14
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>LIGHT</b>	▲ MODER	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	>0.05	<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		<b>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m		<b>0</b>	0	<1
Calcium	ppm	ASTM D5185m		<b>85</b>	82	91
Phosphorus	ppm	ASTM D5185m		<b>349</b>	314	330
Zinc	ppm	ASTM D5185m		<b>434</b>	376	424
Sulfur	ppm	ASTM D5185m		<b>995</b>	895	826
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.43</b>	0.90	0.40
Visc @ 40°C	cSt	ASTM D445	64.6	<b>67.9</b>	68.1	67.7



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0061158  
**Lab Number** : 06218100  
**Unique Number** : 11096297  
**Test Package** : MAR 2  
**Received** : 24 Jun 2024  
**Tested** : 25 Jun 2024  
**Diagnosed** : 25 Jun 2024 - Don Baldrige

**AMERICAN RIVER TRANSPORTATION CO.**  
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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)