



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

Area  
**CEN**  
Machine Id  
**CEN**  
Component  
**Center Main Engine**  
Fluid  
**CHEVRON DELO 710 LS (350 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0065457</b>	MW0050620	MW0025514
Sample Date		Client Info		<b>02 Jun 2024</b>	28 Jun 2023	21 Feb 2022
Machine Age	hrs	Client Info		<b>97586</b>	95282	91208
Oil Age	hrs	Client Info		<b>97586</b>	1044	28477
Filter Age	hrs	Client Info		<b>1212</b>	1044	1186
Oil Changed		Client Info		<b>Changed</b>	Changed	Not Changed
Filter Changed		Client Info		<b>N/A</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>17</b>	22	10
Chromium	ppm	ASTM D5185m	>8	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>15	<b>2</b>	<1	1
Lead	ppm	ASTM D5185m	>18	<b>7</b>	7	4
Copper	ppm	ASTM D5185m	>80	<b>15</b>	15	17
Tin	ppm	ASTM D5185m	>14	<b>4</b>	4	4
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

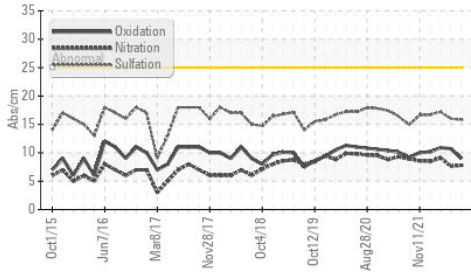
Silicon	ppm	ASTM D5185m	>20	<b>4</b>	5	<1
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	<1	3
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.8</b>	7.6	9.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>15.8</b>	16.0	17.2
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**

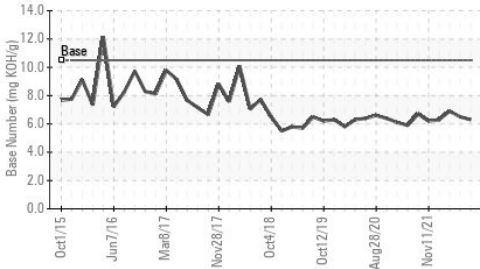
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	<b>2</b>	2	5
Boron	ppm	ASTM D5185m		<b>38</b>	41	43
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>46</b>	45	51
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>13</b>	12	9
Calcium	ppm	ASTM D5185m		<b>3572</b>	3163	3670
Phosphorus	ppm	ASTM D5185m		<b>4</b>	3	3
Zinc	ppm	ASTM D5185m		<b>2</b>	0	0
Sulfur	ppm	ASTM D5185m		<b>2534</b>	2288	1845
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>9.0</b>	10.7	10.9
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	<b>6.3</b>	6.5	6.9
Visc @ 100°C	cSt	ASTM D445	15.5	<b>14.3</b>	14.0	14.5

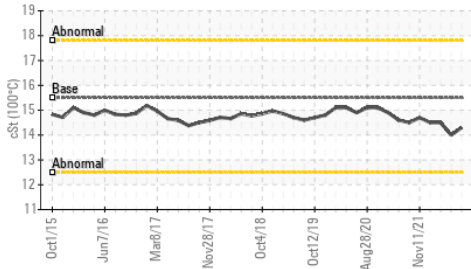
**FT-IR (Direct Trend)**



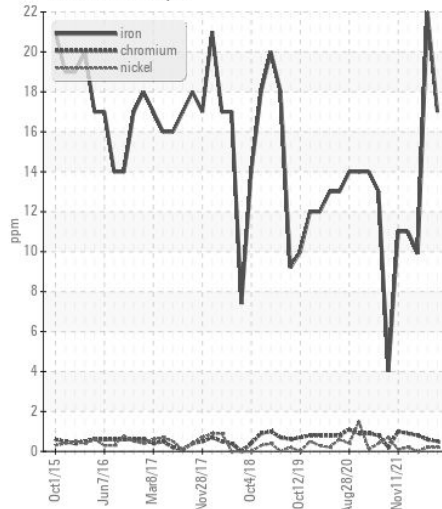
**Base Number**



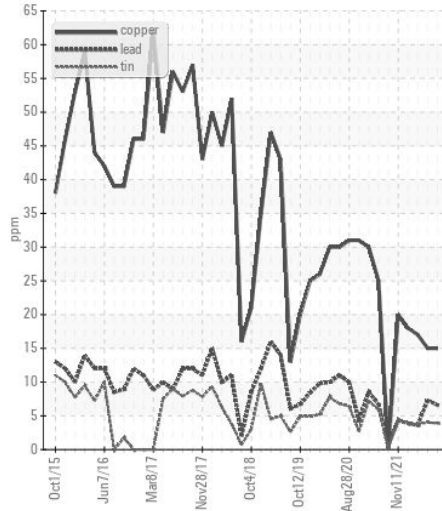
**Viscosity @ 100°C**



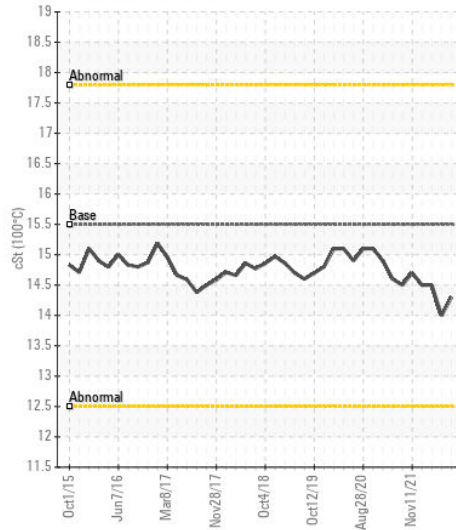
**Ferrous Alloys**



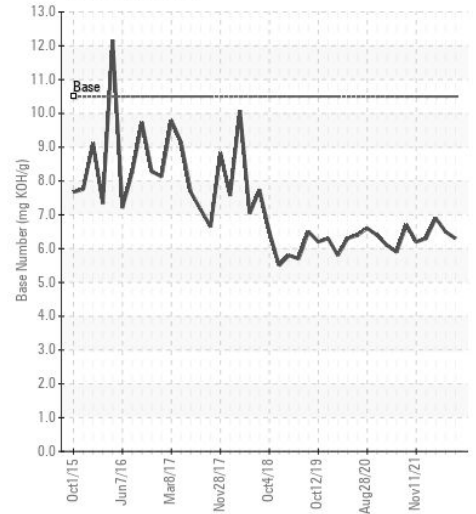
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0065457  
**Lab Number** : 06211343  
**Unique Number** : 11084207  
**Test Package** : MAR 2

**Received** : 17 Jun 2024  
**Tested** : 19 Jun 2024  
**Diagnosed** : 19 Jun 2024 - Wes Davis

**AMERICAN RIVER TRANSPORTATION CO.**  
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 ST. LOUIS, MO  
 US 63111  
 Contact: BRIAN GRIEWING  
 brian.griewing@adm.com  
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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)