



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
GATEWAY EXPRESS

Machine Id
GEX
Component
Port Main Engine

Fluid
CHEVRON DELO 710 LS (75 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0065147	MW0065128	MW0065106
Sample Date		Client Info		15 Mar 2024	02 Feb 2024	22 Dec 2023
Machine Age	hrs	Client Info		14208	13466	12631
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	25	26	23
Chromium	ppm	ASTM D5185m	>8	1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>3	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	2	1	2
Lead	ppm	ASTM D5185m	>18	9	12	4
Copper	ppm	ASTM D5185m	>80	0	<1	<1
Tin	ppm	ASTM D5185m	>14	<1	1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

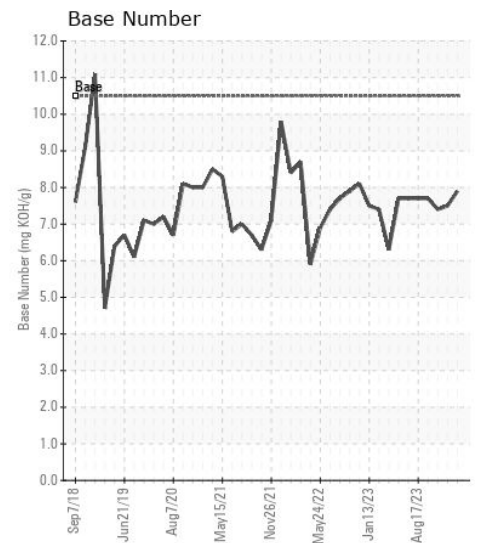
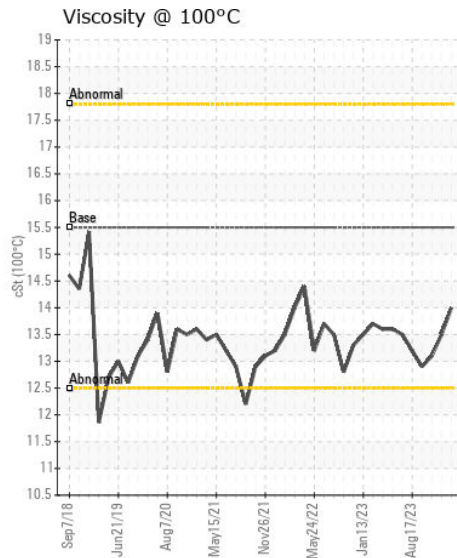
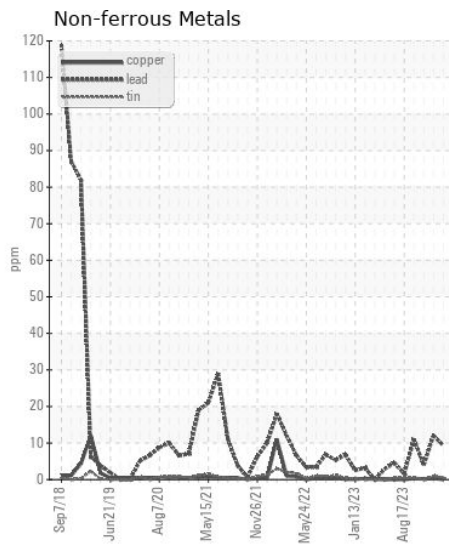
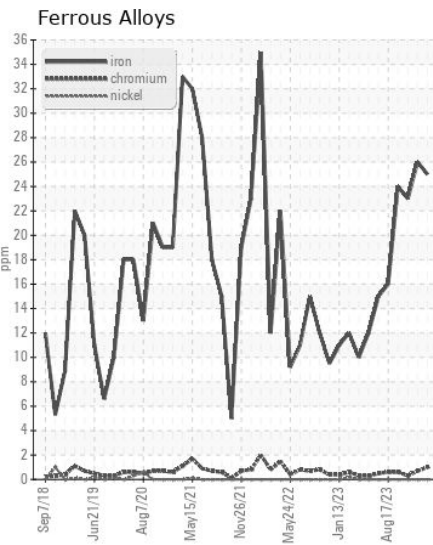
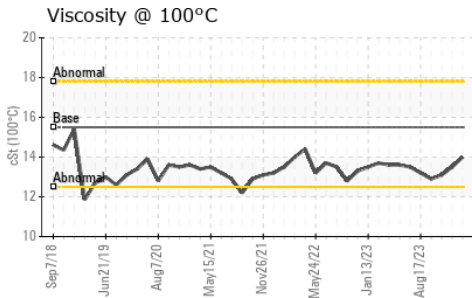
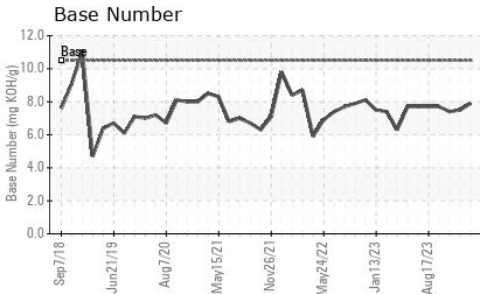
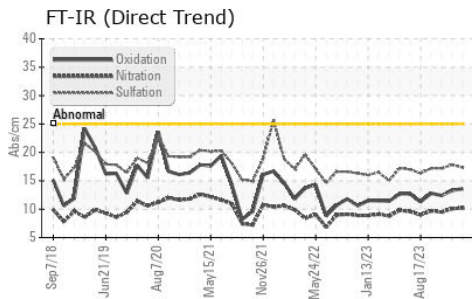
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	3	2	2
Potassium	ppm	ASTM D5185m	>20	0	0	2
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.2	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	10.2	10.1	9.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.3	17.8	17.2
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	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	4	9	0
Boron	ppm	ASTM D5185m		49	39	42
Barium	ppm	ASTM D5185m		0	0	3
Molybdenum	ppm	ASTM D5185m		47	43	42
Manganese	ppm	ASTM D5185m		1	<1	0
Magnesium	ppm	ASTM D5185m		11	9	7
Calcium	ppm	ASTM D5185m		3752	3187	3332
Phosphorus	ppm	ASTM D5185m		0	0	47
Zinc	ppm	ASTM D5185m		0	0	0
Sulfur	ppm	ASTM D5185m		2721	2072	2523
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.6	13.3	12.4
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	7.9	7.5	7.4
Visc @ 100°C	cSt	ASTM D445	15.5	14.0	13.5	13.1



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0065147
Lab Number : 06150049
Unique Number : 10980127
Test Package : MAR 2

Received : 16 Apr 2024
Tested : 17 Apr 2024
Diagnosed : 17 Apr 2024 - Wes Davis

AMERICAN RIVER TRANSPORTATION CO.
P.O. BOX 2889
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US 63111
Contact: BRIAN GRIEWING
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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)