



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
3060
Component
Rear Left Swing Drive
Fluid
CHEVRON DELO GEAR ESI OIL 80W90 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0281139	LH0218492	LH0162236
Sample Date		Client Info		04 Jan 2024	31 May 2022	12 Jul 2020
Machine Age	hrs	Client Info		36058	33023	29075
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Changed	Changed
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 D5185(m)	>400	5	1	5
Chromium	ppm	ASTM D5185(m)	>10	0	0	0
Nickel	ppm	ASTM D5185(m)	>10	<1	0	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	0
Aluminum	ppm	ASTM D5185(m)	>25	<1	0	0
Lead	ppm	ASTM D5185(m)	>50	0	<1	0
Copper	ppm	ASTM D5185(m)	>200	0	0	0
Tin	ppm	ASTM D5185(m)	>10	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

CONTAMINATION

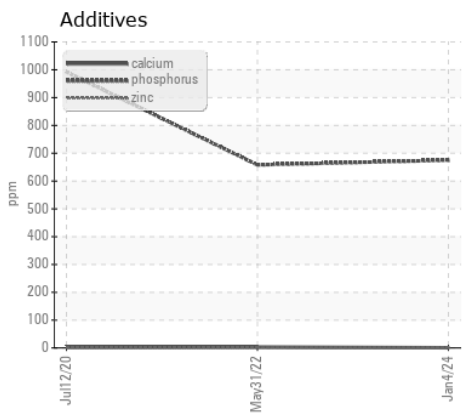
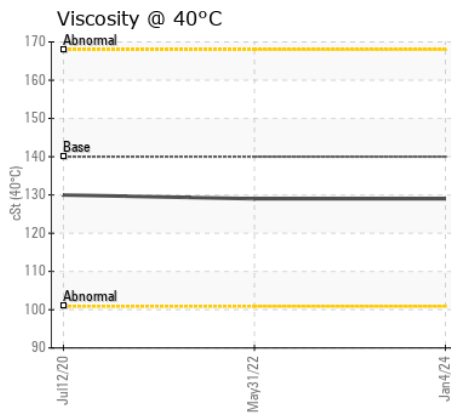
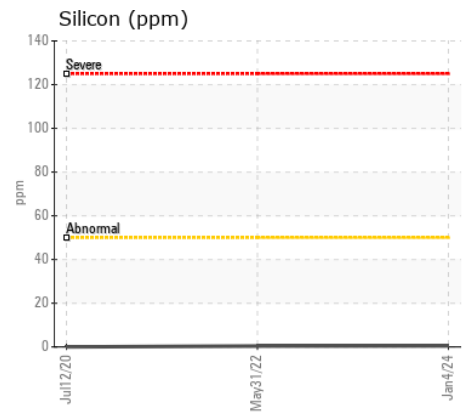
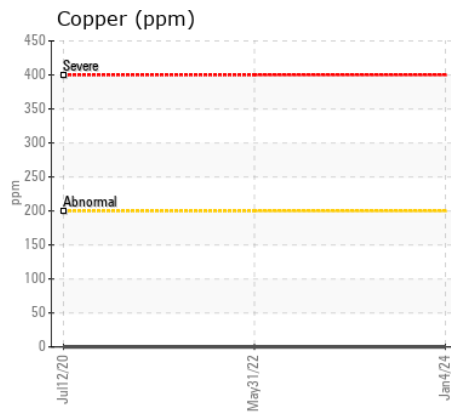
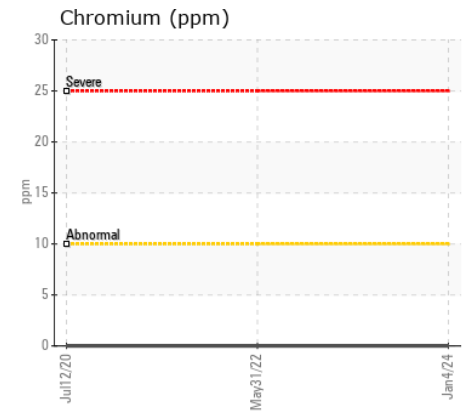
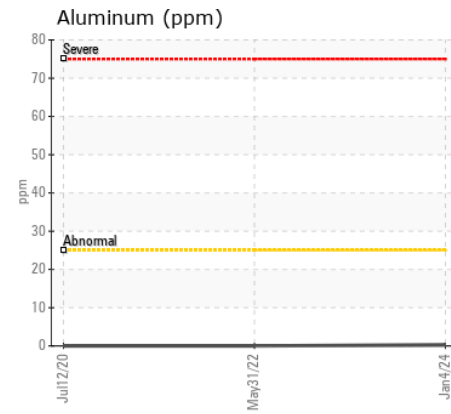
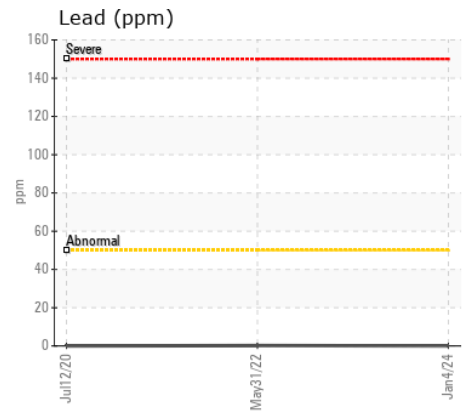
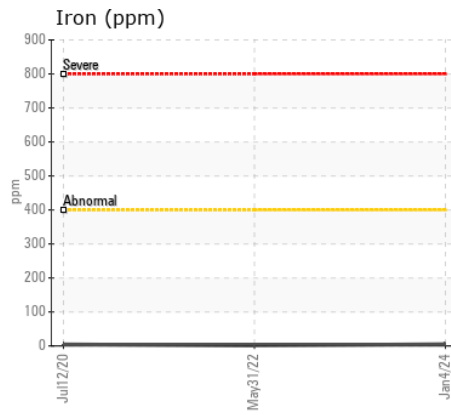
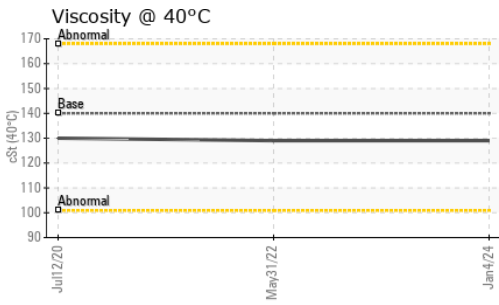
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>50	<1	<1	0
Potassium	ppm	ASTM D5185(m)	>20	3	10	9
Water		WC Method	>0.2	NEG	NEG	NEG
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*	>0.2	NEG	NEG	NEG

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<1	<1	<1
Boron	ppm	ASTM D5185(m)	15	18	8	159
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0	<1
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)	0	<1	<1	<1
Calcium	ppm	ASTM D5185(m)	5	<1	3	3
Phosphorus	ppm	ASTM D5185(m)	600	675	658	992
Zinc	ppm	ASTM D5185(m)	0	1	2	2
Sulfur	ppm	ASTM D5185(m)	22000	18442	18583	20976
Visc @ 40°C	cSt	ASTM D7279(m)	140	129	129	130



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0281139 **Received** : 10 Jan 2024
Lab Number : 02607959 **Diagnosed** : 10 Jan 2024
Unique Number : 5709045 **Diagnostician** : Wes Davis
Test Package : MOB 1

Fraser River Pile & Dredge
 1830 River Drive
 New Westminister, BC
 CA V3M 2A8
 Contact: Nate Stafiej
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 T: (604)528-9355
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To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.