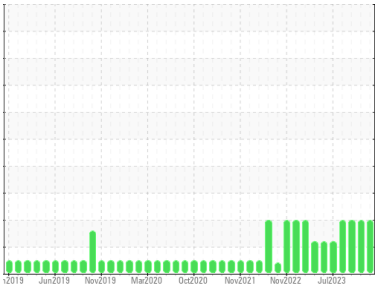
PROBLEM SUMMARY

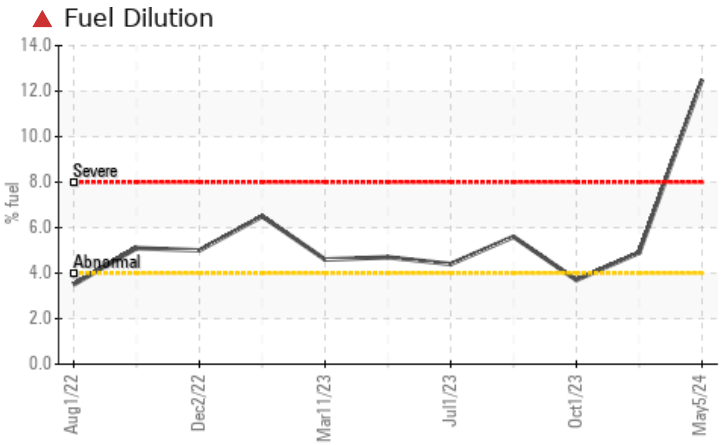
Sample Rating Trend



FUEL

Area
LB EDGIN
Machine Id
[LB EDGIN] 002 601230-2
Component
Center Main Engine
Fluid
CHEVRON DELO 400 LE 15W40 (150 GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you change the oil at the next available stoppage or outage. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	ABNORMAL
Fuel	%	ASTM D3524	>4.0	▲ 12.5	▲ 4.9	▲ 3.7

Customer Id: INGPAD
Sample No.: MW0055207
Lab Number: 06176239
Test Package: MAR 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	We recommend that you change the oil at the next available stoppage or outage.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

WEAR

01 Nov 2023 Diag: Doug Bogart

We advise that you check the fuel injection system. Resample at the next service interval to monitor.The lead level is abnormal. All other component wear rates are normal. There is a moderate amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report

FUEL

01 Oct 2023 Diag: Wes Davis

We advise that you check the cylinder liner seals for deterioration to ensure that cooling water is not entering the sump. No corrective action is recommended at this time. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.All component wear rates are normal. Elemental level of sodium (Na) and/or boron (B) indicates a possible cooling water leak. Light fuel dilution occurring. No other contaminants were detected in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is suitable for further service.

view report

WEAR

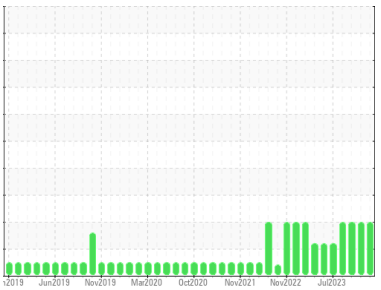
01 Aug 2023 Diag: Jonathan Hester

We advise that you check the fuel injection system. Resample at the next service interval to monitor.The lead level is abnormal. All other component wear rates are normal. There is a moderate amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Area
LB EDGIN
Machine Id
[LB EDGIN] 002 601230-2
Component
Center Main Engine
Fluid
CHEVRON DELO 400 LE 15W40 (150 GAL)

DIAGNOSIS

▲ Recommendation
We advise that you check the fuel injection system. We recommend that you change the oil at the next available stoppage or outage. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

▲ Contamination
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**MW0055207**	MW0055347	MW0061684
Sample Date		Client Info		**05 May 2024**	01 Nov 2023	01 Oct 2023
Machine Age	hrs	Client Info		**38536**	38123	37456
Oil Age	hrs	Client Info		**298**	1917	1200
Oil Changed		Client Info		**Not Changd**	Not Changd	N/A
Sample Status				**SEVERE**	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.1	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>75	**3**	5	5
Chromium	ppm	ASTM D5185m	>8	**0**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**0**	<1	<1
Titanium	ppm	ASTM D5185m	>3	**0**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>15	**3**	3	0
Lead	ppm	ASTM D5185m	>18	**7**	▲ 31	13
Copper	ppm	ASTM D5185m	>80	**<1**	5	4
Tin	ppm	ASTM D5185m	>14	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**396**	271	● 241
Barium	ppm	ASTM D5185m		**<1**	0	2
Molybdenum	ppm	ASTM D5185m		**123**	120	121
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**638**	642	571
Calcium	ppm	ASTM D5185m		**1473**	1422	1354
Phosphorus	ppm	ASTM D5185m	1200	**723**	679	● 626
Zinc	ppm	ASTM D5185m	1300	**783**	802	762
Sulfur	ppm	ASTM D5185m	3200	**2759**	2460	2516

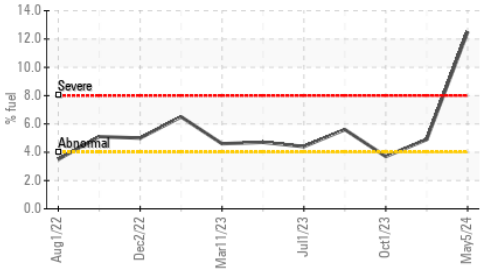
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**5**	6	6
Sodium	ppm	ASTM D5185m	>75	**1**	<1	0
Potassium	ppm	ASTM D5185m	>20	**0**	<1	1
Fuel	%	ASTM D3524	>4.0	▲ **12.5**	▲ 4.9	▲ 3.7

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0.1**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**6.8**	9.4	8.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	**23.1**	24.2	23.6

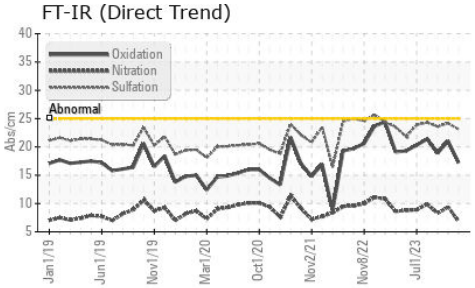
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**17.2**	21.0	18.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	**9.81**	6.55	8.82

OIL ANALYSIS REPORT

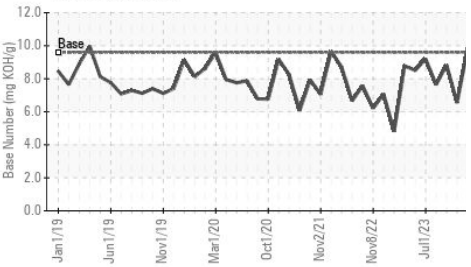
Fuel Dilution



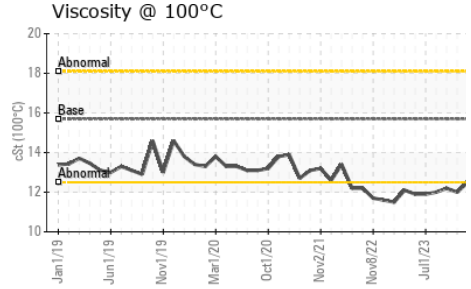
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

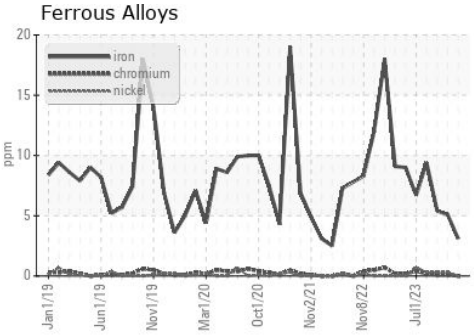


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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
Free Water	scalar	*Visual		**NEG**	NEG	NEG

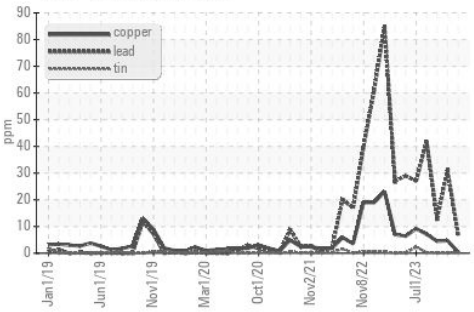
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.7	**12.5**	▲ 12.0	▲ 12.2

GRAPHS

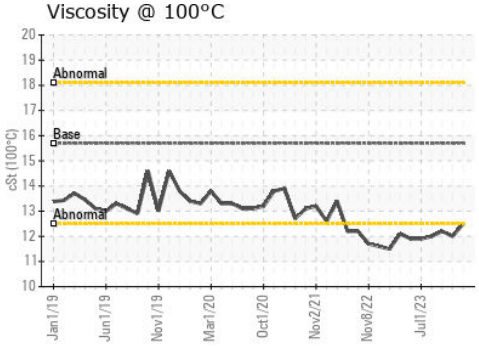
Ferrous Alloys



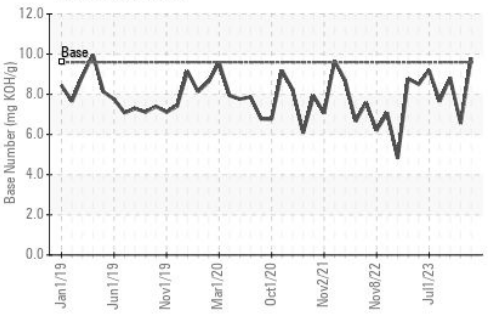
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0055207 **Received** : 10 May 2024
Lab Number : 06176239 **Tested** : 15 May 2024
Unique Number : 11022292 **Diagnosed** : 15 May 2024 - Wes Davis
Test Package : MAR 2 (Additional Tests: PercentFuel)

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)

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