

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

GN-4505 Emergency Generator

Tank Diesel Engine

CHEVRON DELO 400 MULTIGRADE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

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.

																																		1
																																		1
																																		1
																																		11
																																		1
	۰.	۰.	•	é.	٠			۰.	ė		à.	é	5	à	é	۰.	à	é	۰.	ò		۰.	ė.	é		۰.	ė.			۰.	ė.			



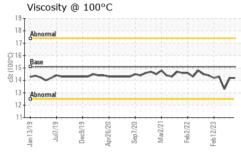
12019 Jul2019 Dec2019 Acr2020 Sec2020 Mar2021 Feb2022 Feb2023

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		HLC0003109	HLC0002697	HLC0002691
Sample Date		Client Info		17 Nov 2023	23 Sep 2023	28 Jun 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	٧	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	4	3	5
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	2	4	11
Lead	ppm	ASTM D5185m	>40	2	2	2
Copper	ppm	ASTM D5185m	>330	14	11	<1
Tin	ppm	ASTM D5185m	>15	1	<1	2
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
-		ASTM D5185m		449	463	148
Boron	ppm	AOTIVI DOTODITI				
Boron Barium	ppm ppm	ASTM D5185m		0	0	0
				0 52	0 49	0 9
Barium	ppm	ASTM D5185m		-		
Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m		52 <1 26	49	9
Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		52 <1 26 3764	49 0	9 <1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1360	52 <1 26 3764 1096	49 0 24 3568 1028	9 <1 661 1325 1008
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1360 1480	52 <1 26 3764	49 0 24 3568 1028 1238	9 <1 661 1325 1008 1242
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1480	52 <1 26 3764 1096	49 0 24 3568 1028 1238 4197	9 <1 661 1325 1008 1242 3960
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1480 limit/base	52 <1 26 3764 1096 1206 4352 current	49 0 24 3568 1028 1238 4197 history1	9 <1 661 1325 1008 1242 3960 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1480	52 <1 26 3764 1096 1206 4352 current 8	49 0 24 3568 1028 1238 4197 history1 6	9 <1 661 1325 1008 1242 3960 history2 5
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1480 limit/base >25	52 <1 26 3764 1096 1206 4352 current 8 2	49 0 24 3568 1028 1238 4197 history1 6 3	9 <1 661 1325 1008 1242 3960 history2 5 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1480 limit/base >25 >20	52 <1 26 3764 1096 1206 4352 current 8	49 0 24 3568 1028 1238 4197 history1 6 3 7	9 <1 661 1325 1008 1242 3960 history2 5 2 3
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1480 limit/base >25	52 <1 26 3764 1096 1206 4352 current 8 2 11 current	49 0 24 3568 1028 1238 4197 history1 6 3 7 history1	9 <1 661 1325 1008 1242 3960 history2 5 2 3 3 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	1480 limit/base >25 >20 limit/base >3	52 <1 26 3764 1096 1206 4352 current 8 2 11 2 11 current 0.1	49 0 24 3568 1028 1238 4197 history1 6 3 7 history1 0.1	9 <1 661 1325 1008 1242 3960 history2 5 2 3 3 history2 0.1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1480 limit/base >25 >20 limit/base	52 <1 26 3764 1096 1206 4352 <u>current</u> 8 2 11 <u>current</u> 0.1 4.1	49 0 24 3568 1028 1238 4197 history1 6 3 7 history1	9 <1 661 1325 1008 1242 3960 history2 5 2 3 3 history2 0.1 6.7
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	1480 limit/base >25 >20 limit/base >3	52 <1 26 3764 1096 1206 4352 current 8 2 11 2 11 current 0.1	49 0 24 3568 1028 1238 4197 history1 6 3 7 history1 0.1	9 <1 661 1325 1008 1242 3960 history2 5 2 3 3 history2 0.1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1480 limit/base >25 >20 limit/base >3 >20	52 <1 26 3764 1096 1206 4352 <u>current</u> 8 2 11 <u>current</u> 0.1 4.1	49 0 24 3568 1028 1238 4197 history1 6 3 7 history1 0.1 4.3	9 <1 661 1325 1008 1242 3960 history2 5 2 3 3 history2 0.1 6.7
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1480 limit/base >25 >20 limit/base >3 >20 >30	52 <1 26 3764 1096 1206 4352 current 8 2 11 current 0.1 4.1 17.8	49 0 24 3568 1028 1238 4197 history1 6 3 7 history1 0.1 4.3 17.7	9 <1 661 1325 1008 1242 3960 history2 5 2 3 history2 0.1 6.7 18.1



OIL ANALYSIS REPORT

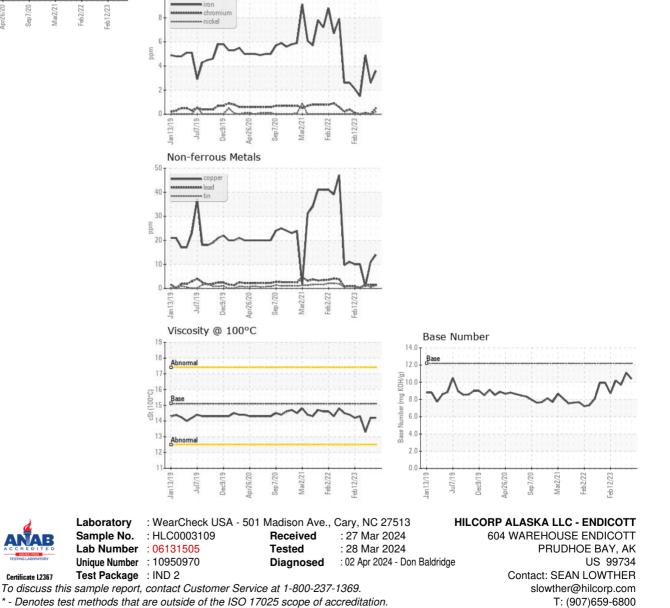
Base Number 14.0 12.0



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	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	14.2	14.2	13.3
GRAPHS						

Ferrous Alloys

10



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: SEAN LOWTHER - BPEEND

F: