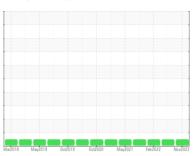


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



$^{\text{Machine Id}}_{505}$ 75MM (S/N 3344085)

Component

Gearbox

CHEVRON MEROPA 320 (7 GAL)

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

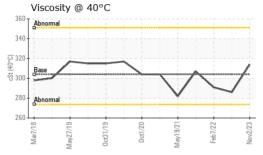
Fluid Condition

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

Machine Age mths Client Info 0 0 0 Oil Age mths Client Info 0 0 0 Oil Changed Client Info N/A N/A N/A Sample Status NORMAL NORMAL NORMAL WEAR METALS method Imit/base current history1 Iron ppm ASTM D5185m 200 5 14 10 Chromium ppm ASTM D5185m >200 5 14 10 Chromium ppm ASTM D5185m >15 0 0 0 Nickel ppm ASTM D5185m 0 0 0 0 Silver ppm ASTM D5185m 0 0 0 0 Silver ppm ASTM D5185m >20 0 1 <1 0 Lead ppm ASTM D5185m 0 0 0 0 0 Copper ppm ASTM D5185m			Mar2018	May2019 Oct2019	Oct2020 May2021 Feb2022	Nov2023	
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age mths Client Info 0 0 0 Oil Age mths Client Info 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status NoRMAL NORMAL NORMAL NORMAL NORMAL WEAR METALS method Imit base current history1 history2 Iron ppm ASTM D5185m 2200 5 14 10 Chromium ppm ASTM D5185m >220 5 14 10 Chromium ppm ASTM D5185m >15 0 0 0 Nickel ppm ASTM D5185m >15 0 0 0 Silver ppm ASTM D5185m >250 0 <1 0 Caded ppm ASTM D5185m >200 0 1 <1 1 Lead ppm ASTM D5185m >250 0 0 0 0	Sample Number		Client Info		WC0870884	WC0577877	WC0577884
Oil Changed Oil Changed Client Info Oil Changed Client Info N/A <	Sample Date		Client Info		02 Nov 2023	06 Oct 2022	07 Feb 2022
Cilient Info	Machine Age	mths	Client Info		0	0	0
NORMAL NORMAL NORMAL NORMAL WEAR METALS method limit/base current history1 history2 history2	Oil Age	mths	Client Info		0	0	0
WEAR METALS	Oil Changed		Client Info		N/A	N/A	N/A
Iron	Sample Status				NORMAL	NORMAL	NORMAL
Chromium ppm ASTM D5185m >15 0 0 0 Nickel ppm ASTM D5185m >15 0 0 0 Titanium ppm ASTM D5185m 0 0 0 0 Silver ppm ASTM D5185m >25 0 -1 0 0 Aluminum ppm ASTM D5185m >200 0 1 -1 0 0 Lead ppm ASTM D5185m >200 0 1 -1 1 -1 1 -1 1 -1 1 -1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>200	5	14	10
Titanium	Chromium	ppm	ASTM D5185m	>15	0	0	0
Silver	Nickel	ppm	ASTM D5185m	>15	0	0	0
Aluminum	Titanium	ppm	ASTM D5185m		0	0	0
Lead	Silver	ppm	ASTM D5185m		0	0	0
Copper ppm ASTM D5185m >200 0 1 <1 Tin ppm ASTM D5185m >25 0 0 0 Antimony ppm ASTM D5185m 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Calcium ppm ASTM D5185m 25 0 1 <1	Aluminum	ppm	ASTM D5185m	>25	0	<1	0
Copper ppm ASTM D5185m >200 0 1 <1 Tin ppm ASTM D5185m >25 0 0 0 Antimony ppm ASTM D5185m 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 Boron ppm ASTM D5185m 20 13 10 24 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Calcium ppm ASTM D5185m 0 0 0 0 Phosphorus ppm ASTM D5185m 235 438 423 412 Zinc	Lead		ASTM D5185m	>100	0	0	0
Tin ppm ASTM D5185m >25 0 0 0 Antimony ppm ASTM D5185m >5 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Calcium ppm ASTM D5185m 25 0 1 <1 1 Phosphorus ppm ASTM D5185m 235 438 423 4112 Zinc ppm ASTM D5185m 5 6 <	Copper		ASTM D5185m	>200	0	1	<1
Antimony ppm ASTM D5185m >5 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 Boron ppm ASTM D5185m 20 13 10 24 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Calcium ppm ASTM D5185m 0 0 0 0 Phosphorus ppm ASTM D5185m 25 0 1 <1					0	0	
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Mangaese ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Calcium ppm ASTM D5185m 25 0 1 <1 1 Phosphorus ppm ASTM D5185m 5 6 4 4 235 438 423 412 2 2 1 1 1 1 1 1 2 1 2 1 2 1 <	Antimony	• •	ASTM D5185m	>5			0
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 20 13 10 24 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Calcium ppm ASTM D5185m 25 0 1 <1	Vanadium		ASTM D5185m		0	0	0
Boron	Cadmium		ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 25 0 1 <1 Phosphorus ppm ASTM D5185m 235 438 423 412 Zinc ppm ASTM D5185m 5 6 4 Sulfur ppm ASTM D5185m 5 6 4 Sulfur ppm ASTM D5185m 5 6 4 Sulfur ppm ASTM D5185m >50 13 11 17 Sodium ppm ASTM D5185m >50 13 11 17 Sodium ppm ASTM D5185m >20 0 2 1 VISUAL method limit/base current history1 history2 White Metal scala	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 0 <1 <1 Magnesium ppm ASTM D5185m 0 1 <1 Phosphorus ppm ASTM D5185m 25 0 1 <1 Phosphorus ppm ASTM D5185m 25 438 423 412 Zinc ppm ASTM D5185m 5 6 4 Sulfur ppm ASTM D5185m 5 6 4 Sulfur ppm ASTM D5185m >50 13 11 17 Sodium ppm ASTM D5185m >50 13 11 17 <th< td=""><td>Boron</td><td>ppm</td><td>ASTM D5185m</td><td>20</td><th>13</th><td>10</td><td>24</td></th<>	Boron	ppm	ASTM D5185m	20	13	10	24
Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 25 0 1 <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 25 0 1 <1 Phosphorus ppm ASTM D5185m 235 438 423 412 Zinc ppm ASTM D5185m 5 6 4 Sulfur ppm ASTM D5185m 5 6 4 Sulfur ppm ASTM D5185m 5 6 4 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 13 11 17 Sodium ppm ASTM D5185m >50 13 11 17 Sodium ppm ASTM D5185m >20 0 2 1 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE Yellow Metal </td <td>Molybdenum</td> <td>ppm</td> <td>ASTM D5185m</td> <td>0</td> <th>0</th> <td>0</td> <td>0</td>	Molybdenum	ppm	ASTM D5185m	0	0	0	0
Calcium ppm ASTM D5185m 25 0 1 <1 Phosphorus ppm ASTM D5185m 235 438 423 412 Zinc ppm ASTM D5185m 5 6 4 Sulfur ppm ASTM D5185m 6126 8388 7687 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 13 11 17 Sodium ppm ASTM D5185m >20 0 2 1 VISUAL method limit/base current history1 history2 VISUAL method limit/base current history1 history2 VISUAL method limit/base current history1 history2 VISUAL NONE NONE NONE NONE VISUAL NONE NONE NONE NONE </td <td>Manganese</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>0</th> <td><1</td> <td><1</td>	Manganese	ppm	ASTM D5185m		0	<1	<1
Phosphorus ppm ASTM D5185m 235 438 423 412 Zinc ppm ASTM D5185m 5 6 4 Sulfur ppm ASTM D5185m 5 6 4 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 13 11 17 Sodium ppm ASTM D5185m >50 13 11 17 Sodium ppm ASTM D5185m >20 0 2 1 Potassium ppm ASTM D5185m >20 0 2 1 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 <td>Magnesium</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>0</th> <td>0</td> <td>0</td>	Magnesium	ppm	ASTM D5185m		0	0	0
Zinc ppm ASTM D5185m 5 6 4 Sulfur ppm ASTM D5185m 6126 8388 7687 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 13 11 17 Sodium ppm ASTM D5185m >50 13 11 17 Visual ppm ASTM D5185m >50 13 11 17 Visual D018 NONE NONE NONE NONE Visual NONE NONE NONE NONE NONE NONE <t< td=""><td>Calcium</td><td>ppm</td><td>ASTM D5185m</td><td>25</td><th>0</th><td>1</td><td><1</td></t<>	Calcium	ppm	ASTM D5185m	25	0	1	<1
Sulfur ppm ASTM D5185m 6126 8388 7687 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 13 11 17 Sodium ppm ASTM D5185m >20 0 2 1 Potassium ppm ASTM D5185m >20 0 2 1 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE Silt scalar *Visual NONE NONE NONE Debris scalar *Visual NONE NONE NONE Sand/Dirt <td< td=""><td>Phosphorus</td><td>ppm</td><td>ASTM D5185m</td><td>235</td><th>438</th><td>423</td><td>412</td></td<>	Phosphorus	ppm	ASTM D5185m	235	438	423	412
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 13 11 17 Sodium ppm ASTM D5185m <1	Zinc	ppm	ASTM D5185m		5	6	4
Silicon ppm ASTM D5185m >50 13 11 17 Sodium ppm ASTM D5185m <1 0 <1 Potassium ppm ASTM D5185m >20 0 2 1 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE MODER 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 NORML NORML NORML NORML NORML Appearance scalar *Visual NORML NORML NORML NORML NORML Co	Sulfur	ppm	ASTM D5185m		6126	8388	7687
Sodium ppm ASTM D5185m	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 2 1 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE MODER NONE Yellow Metal scalar *Visual NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Appearance scalar *Visual NONE 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	Silicon	ppm	ASTM D5185m	>50	13	11	17
White Metal scalar *Visual NONE NONE MODER 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 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	Sodium	ppm	ASTM D5185m		<1	0	<1
White Metal scalar *Visual NONE NONE MODER 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 LIGHT Sand/Dirt scalar *Visual NONE 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	Potassium	ppm	ASTM D5185m	>20	0	2	1
Yellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONELIGHTSand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEG	VISUAL		method	limit/base	current	history1	history2
Precipitate scalar *Visual NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE LIGHT 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		scalar					
Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE LIGHT 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	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Debrisscalar*VisualNONENONENONELIGHTSand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEG	Precipitate	scalar		NONE			
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEG		scalar	*Visual		NONE		NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEG	Debris	scalar	*Visual	NONE			LIGHT
Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG NEG NEG	Sand/Dirt	scalar	*Visual	NONE		NONE	NONE
Emulsified Water scalar *Visual >0.2 NEG NEG NEG	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Free Water scalar *Visual NEG NEG NEG	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Free Water	scalar	*Visual		NEG	NEG	NEG

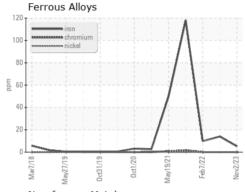


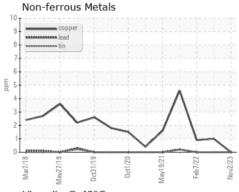
OIL ANALYSIS REPORT

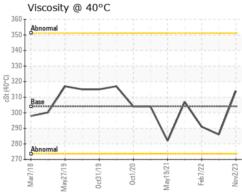




GRAPHS









Certificate L2367

Laboratory Sample No. Lab Number **Unique Number** Test Package : IND 1

: WC0870884 : 05998552 : 10726912

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 03 Nov 2023 Diagnosed Diagnostician : Wes Davis

: 06 Nov 2023

HILEX POLY 2800 SPROUSE DR RICHMOND, VA US 23231

Contact: MELVERN WILLIAMS melvern.williams@novolex.com

T: (804)222-2012 F: (804)222-2050

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)