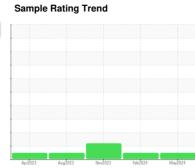


OIL ANALYSIS REPORT







Machine Id MLU-1 Component Inboard Pump

CHEVRON REGAL OIL R&O 32 (--- 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

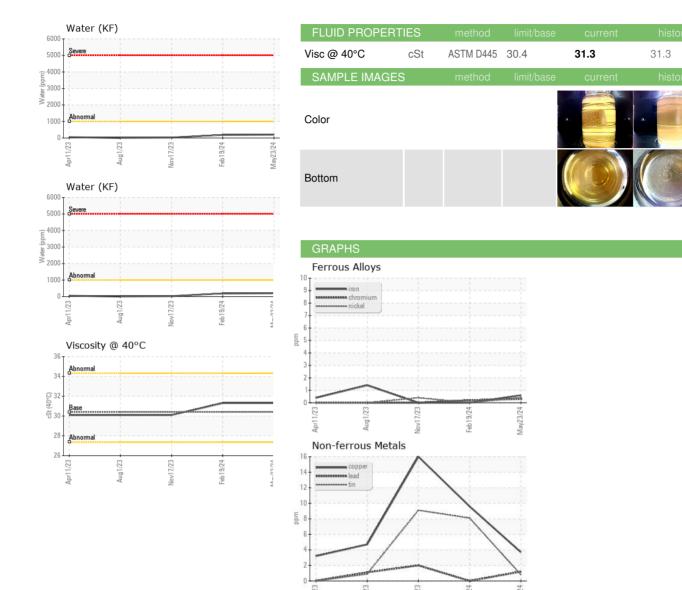
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

WEAR METALS			Apr2023	Aug2023	Nov2023 Feb2024	MayZ024	
Client Info Q3 May 2024 19 Feb 2024 17 Nov 2023	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Date	Sample Number		Client Info		RP0036041	RP0036129	RP0036172
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 N/A Sample Status NORMAL NORMAL NORMAL NORMAL ABNORMAL WEAR METALS method Imitibase current history1 history2 Iron ppm ASTM D5185m >90 <1	•		Client Info		23 May 2024	19 Feb 2024	17 Nov 2023
Oil Age hrs Client Info 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >90 <1 0 0 Chromium ppm ASTM D5185m >5 <1 0 0 Silver ppm ASTM D5185m >3 <1 0 0 Silver ppm ASTM D5185m >3 1 0 0 Silver ppm ASTM D5185m >12 1 0 0 Silver ppm ASTM D5185m >12 1 0 0 Copper ppm ASTM D5185m >1 0 0 1 Capting ppm ASTM D5185m >9 <1 8 9 Va	•	hrs			-		0
Oil Changed Sample Status Client Info N/A N/A N/A N/A N/A ASAMPE Status NORMAL NORMAL NORMAL ABNORMAL ABNORMAL		hrs	Client Info		0	0	0
NORMAL NORMAL ABNORMAL WEAR METALS method limit/base current history1 history2			Client Info		N/A	N/A	N/A
Chromium	Sample Status				NORMAL	NORMAL	ABNORMAL
Chromium ppm ASTM D5185m >5 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>90	<1	0	0
Titanium	Chromium	ppm	ASTM D5185m	>5	<1	<1	0
Silver	Nickel	ppm	ASTM D5185m	>5	<1	0	<1
Aluminum	Titanium	ppm	ASTM D5185m	>3	<1	0	0
Lead ppm ASTM D5185m >12 1 0 2 Copper ppm ASTM D5185m >30 4 10 16 Tin ppm ASTM D5185m >9 <1 8 9 Vanadium ppm ASTM D5185m >9 <1 0 0 Cadmium ppm ASTM D5185m <1 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 Manganese ppm ASTM D5185m <1 0 0 0 Magnesium ppm ASTM D5185m 60 51 1 1 Calcium ppm ASTM D5185m 0 0 <1 1 Phosphorus ppm ASTM D5185m 7 0 20 <1	Silver	ppm	ASTM D5185m	>3	1	0	0
Copper ppm ASTM D5185m >30 4 10 16 Tin ppm ASTM D5185m >9 <1	Aluminum	ppm	ASTM D5185m	>7	1	0	<1
Tin	Lead	ppm	ASTM D5185m	>12	1	0	2
Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m <1 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 <1 0 0 0 Manganese ppm ASTM D5185m <1 0 0 0 Manganesium ppm ASTM D5185m 60 51 1 1 Calcium ppm ASTM D5185m 0 0 <1 0 Phosphorus ppm ASTM D5185m 7 0 20 CONTAMINANTS method limit/base current history1 history2 Sülicon ppm ASTM D5185m >20 2 <1 <1 <1 <	Copper	ppm	ASTM D5185m	>30	4	10	16
Cadmium ppm ASTM D5185m <1 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 <1 0 0 0 Manganese ppm ASTM D5185m <1 0 0 0 Magnesium ppm ASTM D5185m 60 51 1 0 Calcium ppm ASTM D5185m 0 0 <1 0 <1 Phosphorus ppm ASTM D5185m 0 0 <1 0 <1 Phosphorus ppm ASTM D5185m 7 0 20 <0 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Tin	ppm	ASTM D5185m	>9	<1	8	9
ADDITIVES	Vanadium	ppm	ASTM D5185m		<1	0	0
Boron ppm ASTM D5185m 0 0 0 0 0	Cadmium	ppm	ASTM D5185m		<1	0	0
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m <1 0 0 Manganese ppm ASTM D5185m <1 0 0 Magnesium ppm ASTM D5185m 60 51 1 Calcium ppm ASTM D5185m 0 0 <1 Phosphorus ppm ASTM D5185m 8 0 16 Zinc ppm ASTM D5185m 7 0 20 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >60 2 <1 <1 Sodium ppm ASTM D5185m >60 2 <1 <1 Sodium ppm ASTM D5185m >20 <1 0 <1 Valer % ASTM D5185m >20 <1 0 <1 Water % ASTM D5185m >	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m <1 0 0 Manganese ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m		0	0	0
Manganese ppm ASTM D5185m <1 0 0 Magnesium ppm ASTM D5185m 60 51 1 Calcium ppm ASTM D5185m 0 0 <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 60 51 1 Calcium ppm ASTM D5185m 0 0 <1	Molybdenum	ppm	ASTM D5185m		<1	0	0
Calcium ppm ASTM D5185m 0 0 <1 Phosphorus ppm ASTM D5185m 8 0 16 Zinc ppm ASTM D5185m 7 0 20 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >60 2 <1	Manganese	ppm	ASTM D5185m		<1	0	0
Phosphorus ppm ASTM D5185m 8 0 16 Zinc ppm ASTM D5185m 7 0 20 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >60 2 <1 <1 Sodium ppm ASTM D5185m >60 2 <1 <1 Sodium ppm ASTM D5185m >20 <1 0 <2 Potassium ppm ASTM D5185m >20 <1 0 <1 Water % ASTM D5185m >0 <1 0 <1 Water % ASTM D5185m >20 <1 0 <1	Magnesium	ppm	ASTM D5185m		60	51	1
Zinc ppm ASTM D5185m 7 0 20 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >60 2 <1	Calcium	ppm	ASTM D5185m		0	0	<1
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >60 2 <1	Phosphorus	ppm	ASTM D5185m		8	0	16
Silicon ppm ASTM D5185m >60 2 <1 <1 Sodium ppm ASTM D5185m 0 0 2 Potassium ppm ASTM D5185m >20 <1 0 <1 Water % ASTM D6304 >.1 0.020 0.018 0.003 ppm Water ppm ASTM D6304 >.1000 202 185 26 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.31 0.30 0.094 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE Precipitate	Zinc	ppm	ASTM D5185m		7	0	20
Sodium ppm ASTM D5185m 0 0 2 Potassium ppm ASTM D5185m >20 <1	CONTAMINANTS	;	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1 0 <1 Water % ASTM D6304 >.1 0.020 0.018 0.003 ppm Water ppm ASTM D6304 >1000 202 185 26 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.31 0.30 0.094 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE LIGHT MODER Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML NORML	Silicon	ppm	ASTM D5185m	>60	2	<1	<1
Water % ASTM D6304 >.1 0.020 0.018 0.003 ppm Water ppm ASTM D6304 >1000 202 185 26 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.31 0.30 0.094 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE LIGHT MODER Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE Debris 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	Sodium	ppm	ASTM D5185m		0	0	2
ppm Water ppm ASTM D6304 >1000 202 185 26 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg K0H/g ASTM D8045 0.31 0.30 0.094 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE LIGHT MODER Yellow Metal scalar *Visual NONE NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE 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 NONE Appearance scalar *Visual NONE NONE NONE NONE NONE NONE NONE NON	Potassium	ppm	ASTM D5185m	>20	<1	0	<1
FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.31 0.30 0.094 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE LIGHT MODER Yellow Metal scalar *Visual NONE NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE LIGHT LIGHT Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML NORML NORML	Water	%	ASTM D6304	>.1	0.020	0.018	0.003
Acid Number (AN) mg K0Hg ASTM D8045 0.31 0.30 0.094 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE LIGHT MODER Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE LIGHT LIGHT Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML NORML NORML	ppm Water	ppm	ASTM D6304	>1000	202	185	26
VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE LIGHT ▲ MODER 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 Odor scalar *Visual NORML NORML NORML NORML NORML	FLUID DEGRADA	NOITA	method	limit/base	current	history1	history2
White Metal scalar *Visual NONE NONE LIGHT → MODER 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 LIGHT LIGHT Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML	Acid Number (AN)	mg KOH/g	ASTM D8045		0.31	0.30	0.094
Yellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONELIGHTLIGHTSand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORML	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 LIGHT LIGHT Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML	White Metal	scalar	*Visual	NONE	NONE	LIGHT	▲ MODER
Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE LIGHT LIGHT Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Debrisscalar*VisualNONENONELIGHTLIGHTSand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORML	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORML	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORML	Debris	scalar	*Visual	NONE	NONE	LIGHT	LIGHT
Odor scalar *Visual NORML NORML NORML NORML	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water scalar *Visual > 1 NFG NFG NFG	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Culmitted By: Sovice Manage	Emulsified Water	scalar	*Visual	>.1	NEG	NEG	NEG

Submitted By: Service Manager



OIL ANALYSIS REPORT







Certificate 12367

Laboratory Sample No.

: RP0036041 Lab Number : 06194102 Unique Number : 11056225 Test Package : IND 2

29

28 27 26

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 29 May 2024 **Tested**

: 30 May 2024 Diagnosed

: 31 May 2024 - Angela Borella

-당 0.10

0.00

COTTON VALLEY, LA US 71018

ENERGY TRANSFER - COTTON VALLEY

Nov17/23

Acid Number

Contact: Service Manager Zach.Tinkle@energytransfer.com

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.

Viscosity @ 40°C

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

T:

F:

22394 HWY 371

30.1