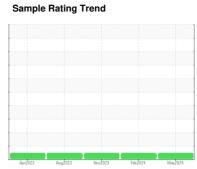


OIL ANALYSIS REPORT







Machine Id MLU-2 Component Inboard Pump

CHEVRON REGAL OIL R&O 32 (--- 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

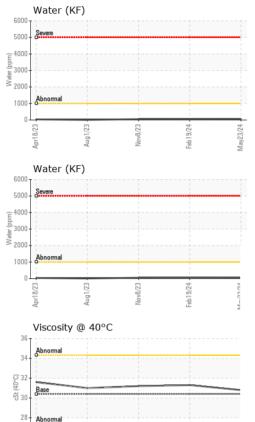
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sample Number			Apr2023	Aug2023	Nov2023 Feb2024	May2024	
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Date	Sample Number		Client Info		RP0036042	RP0036120	RP0032104
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 Current Instory1 NoRMAL WEAR METALS method limit/bass current history1 history2 Iron ppm ASTM D5185m >90 2 0 0 Chromium ppm ASTM D5185m >5 <1			Client Info		23 May 2024	19 Feb 2024	08 Nov 2023
Oil Age hrs Client Info N/A N/A N/A N/A 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 >5 <1 <1 0 Nickel ppm ASTM D5185m >5 <1 0 <1 Silver ppm ASTM D5185m >3 <1 0 <1 Silver ppm ASTM D5185m >3 <1 0 <1 Aluminum ppm ASTM D5185m >3 1 0 <1 Lead ppm ASTM D5185m >3 1 0 <1 Copper ppm ASTM D5185m >9 1 0 <1 Vanadium ppm ASTM D5185m >9 1 0 <1		hrs	Client Info		-	0	0
Oil Changed Satus Client Info N/A N/A N/A N/A N/A N/A SAMAL NORMAL NORMAL <th></th> <th>hrs</th> <th>Client Info</th> <th></th> <th>0</th> <th></th> <th></th>		hrs	Client Info		0		
NORMAL NORMAL NORMAL NORMAL	J .		Client Info			N/A	N/A
Iron					NORMAL	NORMAL	NORMAL
Chromium ppm ASTM D5185m >5 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>90	2	0	0
Titanium ppm ASTM D5185m >3 <1	Chromium	ppm	ASTM D5185m	>5	<1	<1	0
Siliver	Nickel	ppm	ASTM D5185m	>5	<1	0	<1
Aluminum	Titanium	ppm	ASTM D5185m	>3	<1	0	0
Lead	Silver	ppm	ASTM D5185m	>3	1	0	<1
Copper ppm ASTM D5185m >30 11 11 12 Tin ppm ASTM D5185m >9 1 0 <1 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 1 0 6 6 Molybdenum ppm ASTM D5185m <1 0 0 0 Mangaesium ppm ASTM D5185m <1 0 0 0 Magnesium ppm ASTM D5185m 8 0 1 188 Zinc ppm ASTM D5185m 143 145 188 Zinc ppm ASTM D5185m 165 170 225 CONTAMINANTS meth	Aluminum	ppm	ASTM D5185m	>7	1	0	0
Tin ppm ASTM D5185m >9 1 0 <1	Lead	ppm	ASTM D5185m	>12	4	1	3
Vanadium ppm ASTM D5185m <1	Copper	ppm	ASTM D5185m	>30	11	11	12
Cadmium ppm ASTM D5185m <1	Tin	ppm	ASTM D5185m	>9	1	0	<1
ADDITIVES	Vanadium	ppm	ASTM D5185m		<1	0	0
Boron	Cadmium	ppm	ASTM D5185m		<1	0	0
Barium ppm ASTM D5185m 1 0 6 Molybdenum ppm ASTM D5185m <1 0 0 Manganese ppm ASTM D5185m <1 0 0 Magnesium ppm ASTM D5185m 8 0 1 Calcium ppm ASTM D5185m 23 30 45 Phosphorus ppm ASTM D5185m 143 145 188 Zinc ppm ASTM D5185m 165 170 225 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >60 <1 0 <1 Sodium ppm ASTM D5185m >20 1 0 <1 Sodium ppm ASTM D5185m >20 1 0 <1 Sodium ppm ASTM D5185m >20 1 0 <1 So	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m		0	0	0
Manganese ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m		1	0	6
Magnesium ppm ASTM D5185m 8 0 1 Calcium ppm ASTM D5185m 23 30 45 Phosphorus ppm ASTM D5185m 143 145 188 Zinc ppm ASTM D5185m 165 170 225 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >60 <1 0 <1 Sodium ppm ASTM D5185m >20 1 0 <1 Sodium ppm ASTM D5185m >20 1 0 <1 Vater % ASTM D6304 >.1 0.005 0.004 0.005 ppm Water ppm ASTM D6304 >.1 0.005 0.004 0.005 ppm Water ppm ASTM D8045 0.26 0.29 0.26 FLUID DEGRADATION method limit/base current history1 history2 <	Molybdenum	ppm	ASTM D5185m		<1	0	0
Calcium ppm ASTM D5185m 23 30 45 Phosphorus ppm ASTM D5185m 143 145 188 Zinc ppm ASTM D5185m 165 170 225 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >60 <1 0 <1 Sodium ppm ASTM D5185m >20 1 0 <1 Sodium ppm ASTM D5185m >20 1 0 <1 Sodium ppm ASTM D6304 >.1 0.005 0.004 0.005 Protassium ppm ASTM D6304 >.1 0.005 0.004 0.005 Protassium ppm ASTM D6304 >.1 0.005 0.004 0.005 Protassium ppm ASTM D6304 >.1 0.005 0.004 0.005 Ppm ASTM D6304 <th>Manganese</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th><1</th> <th>0</th> <th>0</th>	Manganese	ppm	ASTM D5185m		<1	0	0
Phosphorus ppm ASTM D5185m 143 145 188 Zinc ppm ASTM D5185m 165 170 225 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >60 <1	Magnesium	ppm	ASTM D5185m		8	0	1
Zinc ppm ASTM D5185m 165 170 225 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >60 <1 0 <1 Sodium ppm ASTM D5185m >20 1 0 3 Potassium ppm ASTM D5185m >20 1 0 <1 Water % ASTM D6304 >.1 0.005 0.004 0.005 ppm Water ppm ASTM D6304 >.1 0.005 0.004 0.005 ppm Water ppm ASTM D6304 >.1000 53 45 51 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg K0Hlg ASTM D8045 0.26 0.29 0.26 VISUAL method limit/base current history1 history2 White Metal scalar <td< th=""><th>Calcium</th><th>ppm</th><th>ASTM D5185m</th><th></th><th>23</th><th>30</th><th>45</th></td<>	Calcium	ppm	ASTM D5185m		23	30	45
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >60 <1 0 <1 Sodium ppm ASTM D5185m >20 1 0 3 Potassium ppm ASTM D5185m >20 1 0 <1 Water % ASTM D6304 >.1 0.005 0.004 0.005 ppm Water ppm ASTM D6304 >.1 0.005 0.004 0.005 ppm Water ppm ASTM D6304 >.1000 53 45 51 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg K0H/g ASTM D8045 0.26 0.29 0.26 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE Yellow Metal scalar *Visual	Phosphorus	ppm	ASTM D5185m		143	145	188
Silicon ppm ASTM D5185m >60 <1	Zinc	ppm	ASTM D5185m		165	170	225
Sodium ppm ASTM D5185m <1	CONTAMINANTS	;	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 1 0 <1 Water % ASTM D6304 >.1 0.005 0.004 0.005 ppm Water ppm ASTM D6304 >1000 53 45 51 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.26 0.29 0.26 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NORML	Silicon	ppm	ASTM D5185m	>60	<1	0	<1
Water%ASTM D6304>.10.0050.0040.005ppm WaterppmASTM D6304>1000534551FLUID DEGRADATION method limit/base current history1history2Acid Number (AN)mg KOH/gASTM D80450.260.290.26VISUALmethod limit/base current history1history2White Metalscalar *VisualNONENONENONEYellow Metalscalar *VisualNONENONENONEPrecipitatescalar *VisualNONENONENONENONESiltscalar *VisualNONENONENONENONEDebrisscalar *VisualNONENONENONENONESand/Dirtscalar *VisualNONENONENONENONEAppearancescalar *VisualNORMLNORMLNORMLNORMLNORMLOdorscalar *VisualNORMLNORMLNORMLNORMLNORML	Sodium	ppm	ASTM D5185m		<1	0	3
ppm Water ppm ASTM D6304 >1000 53 45 51 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.26 0.29 0.26 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE 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 Silt scalar *Visual NONE NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE NONE Sand/Dirt 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 0.26 0.29 0.26 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE NONE 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 NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML NORML NORML	Water	%	ASTM D6304	>.1	0.005	0.004	0.005
Acid Number (AN) mg KOH/g ASTM D8045 0.26 0.29 0.26 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	ppm Water	ppm	ASTM D6304	>1000	53	45	51
VISUALmethodlimit/basecurrenthistory1history2White Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORML	FLUID DEGRADA	ATION	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	Acid Number (AN)	mg KOH/g	ASTM D8045		0.26	0.29	0.26
Yellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/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 NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML		scalar				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	Yellow Metal			NONE	NONE		
Debrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORML			*Visual		NONE	NONE	NONE
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORML	Silt		*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORML	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
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 NEG NEG NEG	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>.1	NEG	NEG	NEG

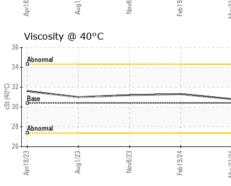
Submitted By: Service Manager

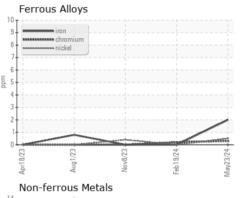


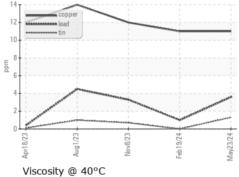
OIL ANALYSIS REPORT

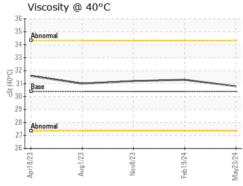


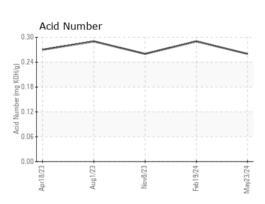
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	30.4	30.8	31.3	31.2
SAMPLE IMAGE	S	method	limit/base	current	history1	history2
Color						
Bottom						















Certificate 12367

Laboratory Sample No.

: RP0036042 Lab Number : 06194101 Unique Number : 11056224 Test Package : IND 2

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 29 May 2024 **Tested** : 30 May 2024

Diagnosed : 31 May 2024 - Angela Borella

ENERGY TRANSFER - SPEARSVILLE

126 FIRE TOWER RD SPEARSVILLE, LA US 71277

Contact: Service Manager

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)

Report Id: ENESPA [WUSCAR] 06194101 (Generated: 05/31/2024 09:32:11) Rev: 1

Submitted By: Service Manager

T:

F: