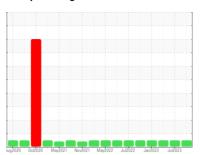


OIL ANALYSIS REPORT

Sample Rating Trend







LIM4_U41 LIM4_U41_P41

Drive End Pump

ROYAL PURPLE SYNFILM GT 32 (2 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.

Client Info Q4 Oct 2023			Aug 2020 Oct	020 May2021 Nov2021	May2022 Jul2022 Jan2023	Jul2023	
Client Info	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 0 0 Oil Age hrs Client Info 0 0 0 Dil I Changed Client Info 0 0 0 Dil Indiage N/A N/A N/A N/A NASIM DSIBS NORMAL NORMAL NORMAL WEART METALS method limit/base current history1 history2 dron ppm ASTM DSIBS >90 2 2 2 Chromium ppm ASTM DSIBS >5 0 0 0 Nickel ppm ASTM DSIBS >3 0 0 0 Silver ppm ASTM DSIBS >3 0 0 0 Lead ppm ASTM DSIBS >17 <1	Sample Number		Client Info		RP0029503	RP0029424	RP0029428
Dil Changed	Sample Date		Client Info		24 Oct 2023	18 Jul 2023	18 May 2023
Dil Changed Client Info N/A N/A N/A NORMAL NORMAL	Machine Age	hrs	Client Info		0	0	0
NORMAL NORMAL NORMAL NORMAL WEAR METALS method limit/base current history1 history2 history2 cron ppm ASTM D5185m >90 2 2 2 2 2 2 2 2 2	Oil Age	hrs	Client Info		0	0	0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >90 2 2 2 2 Chromium ppm ASTM D5185m >5 0 0 0 0 Nickel ppm ASTM D5185m >5 0 0 0 0 Silver ppm ASTM D5185m >3 0 0 0 0 Aluminum ppm ASTM D5185m >7 <1	Oil Changed		Client Info		N/A	N/A	N/A
Chromium	Sample Status				NORMAL	NORMAL	NORMAL
Chromium	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>90	2	2	2
Description	Chromium	ppm	ASTM D5185m	>5	0	0	0
Silver	Nickel	ppm	ASTM D5185m	>5	0	0	<1
Alluminum	Titanium	ppm	ASTM D5185m	>3	0	0	0
Lead	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper	Aluminum	ppm	ASTM D5185m	>7	<1	<1	<1
Copper	Lead	ppm	ASTM D5185m	>12	3	<1	2
Tin	Copper		ASTM D5185m	>30	26	26	23
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 <1 Magnesium ppm ASTM D5185m 0 4 3 Phosphorus ppm ASTM D5185m 0 4 3 Phosphorus ppm ASTM D5185m 0 <1 4 Zinc ppm ASTM D5185m 0 <1 1 Phosphorus ppm ASTM D5185m <0 5 5 5 Silicon ppm ASTM D5185m >6	Tin						
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 -1 Magnesium ppm ASTM D5185m 0 4 3 92 Calcium ppm ASTM D5185m 0 -1 4 3 Phosphorus ppm ASTM D5185m 0 0 0 0 0 Zinc ppm ASTM D5185m 0 0 0 0 0 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >60 <td< td=""><td>Vanadium</td><td></td><td></td><td></td><td></td><td>0</td><td>0</td></td<>	Vanadium					0	0
Boron ppm ASTM D5185m 0 0 0 0 0 0 0 0 0	Cadmium				-		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 <1	Boron	ppm	ASTM D5185m		0	0	0
Manganese ppm ASTM D5185m 0 0 <1 Magnesium ppm ASTM D5185m 75 88 92 Calcium ppm ASTM D5185m 0 4 3 Phosphorus ppm ASTM D5185m 0 <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 75 88 92 Calcium ppm ASTM D5185m 0 4 3 Phosphorus ppm ASTM D5185m 0 <1	Molybdenum	ppm	ASTM D5185m		0	0	0
Calcium ppm ASTM D5185m 0 4 3 Phosphorus ppm ASTM D5185m 0 <1	Manganese	ppm	ASTM D5185m		0	0	<1
Phosphorus ppm ASTM D5185m 0 <1 4 Zinc ppm ASTM D5185m 0 0 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >60 5 5 5 Sodium ppm ASTM D5185m >60 5 5 5 Sodium ppm ASTM D5185m >20 <1 <1 1 Potassium ppm ASTM D5185m >20 <1 0 1 Water % ASTM D5185m >20 <1 0 1 Water % ASTM D5185m >20 <1 0 1 Water % ASTM D5185m >20 <1 0 0 0 1 Water % ASTM D5185m >20 <1 0 0 0 1 Potassium ppm ASTM D5185m >20 <	Magnesium	ppm	ASTM D5185m		75	88	92
Zinc ppm ASTM D5185m 0 0 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >60 5 5 5 Sodium ppm ASTM D5185m >20 <1	Calcium	ppm	ASTM D5185m		0	4	3
Zinc ppm ASTM D5185m 0 0 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >60 5 5 5 Sodium ppm ASTM D5185m >20 <1 <1 1 Potassium ppm ASTM D5185m >20 <1 0 1 Water % ASTM D6304 >.1 0.030 0.015 0.013 water % ASTM D6304 >.1 0.030 0.015 0.013 ppm Water ppm ASTM D6304 >.1000 303.0 150.4 134.9 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.36 0.37 0.37 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE	Phosphorus	ppm	ASTM D5185m		0	<1	4
Silicon	Zinc		ASTM D5185m		0	0	0
Sodium	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1 0 1 Water % ASTM D6304 >.1 0.030 0.015 0.013 opm Water ppm ASTM D6304 >1000 303.0 150.4 134.9 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.36 0.37 0.37 VISUAL method limit/base current history1 history2 White Metal scalar *Visual 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 <td< td=""><td>Silicon</td><td>ppm</td><td>ASTM D5185m</td><td>>60</td><td>5</td><td>5</td><td>5</td></td<>	Silicon	ppm	ASTM D5185m	>60	5	5	5
Water % ASTM D6304 >.1 0.030 0.015 0.013 opm Water ppm ASTM D6304 >1000 303.0 150.4 134.9 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.36 0.37 0.37 VISUAL method limit/base current history1 history2 White 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 scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML <td>Sodium</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <td><1</td> <td><1</td> <td>1</td>	Sodium	ppm	ASTM D5185m		<1	<1	1
Precipitate scalar *Visual NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE Scalar *Visual NONE NONE NONE NONE NONE 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 0.36 0.37 0.37 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 NONE Appearance 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	0.030	0.015	0.013
Acid Number (AN) mg KOH/g ASTM D8045 0.36 0.37 0.37 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	ppm Water	ppm	ASTM D6304	>1000	303.0	150.4	134.9
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	FLUID DEGRADA	TION	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		0.36	0.37	0.37
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	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	White Metal	scalar		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	Yellow Metal	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	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORML	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORML	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORML	Sand/Dirt	scalar	*Visual	NONE	NONE		NONE
Odor scalar *Visual NORML NORML NORML NORML	Appearance	scalar	*Visual	NORML		NORML	NORML
	Odor			NORML	NORML	NORML	
	Emulsified Water	scalar	*Visual	>.1	NEG		

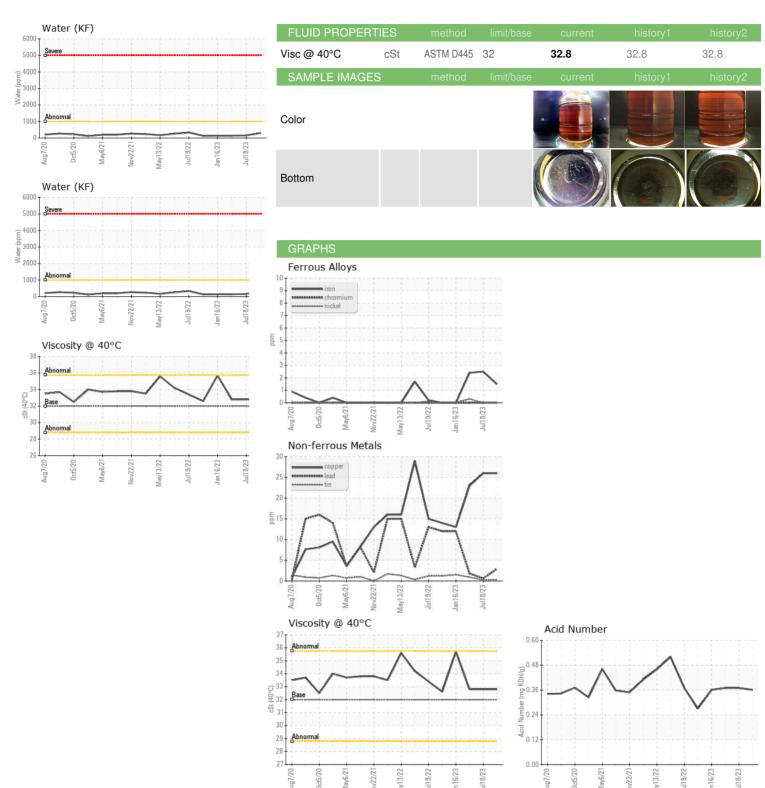
NDREW WYDERKALENELIM

NEG

scalar *Visual



OIL ANALYSIS REPORT







Laboratory Sample No. Lab Number **Unique Number** Test Package : PLANT

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : RP0029503 : 05995068 : 10723428

Received : 31 Oct 2023 : 02 Nov 2023 Diagnosed Diagnostician : Don Baldridge **ENERGY TRANSFER - LIMA**

1520 BUCKEYE RD

LIMA, OH US 45804

Contact: ANDREW WYDERKA

andrew.wyderka@energytransfer.com T: (419)618-1505

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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