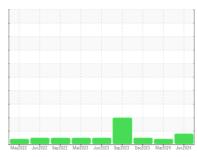


# **OIL ANALYSIS REPORT**

Sample Rating Trend







DAC-3
Component
Gearbox
Fluid
ROYAL PURPLE SYNFILM GT 68 (--- GAL)

## DIAGNOSIS

Machine Id

### Recommendation

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

# Contamination

There is a high amount of visible silt present in the sample.

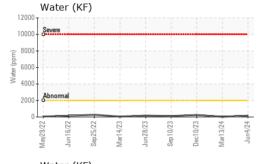
### **Fluid Condition**

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

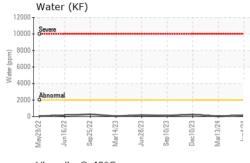
Sample Number Sample Date         Client Info         RP004314         RP0039447         RP0038784           Sample Date         Client Info         04 Jun 2024         13 Mar 2024         10 Dec 202           Machine Age         hrs         Client Info         0         0         0           Oil Changed         hrs         Client Info         N/A         N/A         N/A           Oil Changed         Client Info         N/A         N/A         N/A         N/A           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM DS185m         20         32         14         13           Chromium         ppm         ASTM DS185m         >15         0         <1			mayzozz Ju	nzuzz sepzuzz marzuzs	Juni2023 Sep2023 Dec2023 Waliz	024 JUN2024	
Sample Date	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           Oil Changed         Client Info         N/A         N/A         N/A           Sample Status         Client Info         N/A         N/A         N/A         N/A           MERT MOSTES         Client Info         N/A         N/A         N/A         N/A           MERT MOSTES         Client Info         N/A         N/A         N/A         N/A           ASTM DS185m         Client Info         N/A         N/A         N/A         N/A           ASTM DS185m         200         32         14         13           Chromium         ppm         ASTM DS185m         >15         0         <1         0           Nickel         ppm         ASTM DS185m         >15         0         <1         0           Silver         ppm         ASTM DS185m         >20         2         <1         0           Aluminum         ppm         ASTM DS185m         >20         2         <1         0           Capper         ppm         ASTM DS185m	Sample Number		Client Info		RP0043314	RP0039447	RP0038784
Oil Age         hrs         Client Info         0         0         0           Oil Changed         Client Info         N/A         N/A <td>Sample Date</td> <td></td> <td>Client Info</td> <td></td> <td>04 Jun 2024</td> <td>13 Mar 2024</td> <td>10 Dec 2023</td>	Sample Date		Client Info		04 Jun 2024	13 Mar 2024	10 Dec 2023
Cilent Info	Machine Age	hrs	Client Info		0	0	0
Manual	Oil Age	hrs	Client Info		0	0	0
Manual	Oil Changed		Client Info		N/A	N/A	N/A
Chromium	-				ABNORMAL	ABNORMAL	NORMAL
Chromium         ppm         ASTM D5185m         >1.5         0         <1         0           Nickel         ppm         ASTM D5185m         >1.5         0         <1         0           Titanium         ppm         ASTM D5185m         0         <1         0           Silver         ppm         ASTM D5185m         0         0         <1         0           Aluminum         ppm         ASTM D5185m         >20         2         <1         0           Aluminum         ppm         ASTM D5185m         >200         29         19         10         10           Copper         ppm         ASTM D5185m         >200         29         19         10         11         0           Vanadium         ppm         ASTM D5185m         0         <1         0         0         10         0           Cadmium         ppm         ASTM D5185m         0         <1         0         0         0         0           Boron         ppm         ASTM D5185m         0         0         0         0         0         0           Barium         ppm         ASTM D5185m         0         0         0         0	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>200	32	14	13
Titanium         ppm         ASTM D5185m         0         <1         0           Silver         ppm         ASTM D5185m         0         0         0         0           Aluminum         ppm         ASTM D5185m         >25         0         2         <1	Chromium	ppm	ASTM D5185m	>15	0	<1	0
Silver	Nickel	ppm	ASTM D5185m	>15	0	<1	0
Aluminum   ppm   ASTM D5185m   >25   0   2   <1   Lead   ppm   ASTM D5185m   >100   0   <1   0   Copper   ppm   ASTM D5185m   >200   29   19   10   Tin   ppm   ASTM D5185m   >25   0   <1   0   Vanadium   ppm   ASTM D5185m   0   <1   0   Cadmium   ppm   ASTM D5185m   0   <1   0   Cadmium   ppm   ASTM D5185m   0   <1   0    ADDITIVES   method   limit/base   current   history1   history2   Boron   ppm   ASTM D5185m   0   0   0   Barium   ppm   ASTM D5185m   0   0   0   Barium   ppm   ASTM D5185m   0   0   0   Molybdenum   ppm   ASTM D5185m   0   <1   0   Manganese   ppm   ASTM D5185m   0   <1   0   Manganese   ppm   ASTM D5185m   0   <1   0   Manganesium   ppm   ASTM D5185m   0   <1   0   Manganesium   ppm   ASTM D5185m   3   0   2   Phosphorus   ppm   ASTM D5185m   2   0   4   Zinc   ppm   ASTM D5185m   2   0   0   Potassium   ppm   ASTM D5185m   2   0   0   Potassium   ppm   ASTM D5185m   20   0   <1   <1   Water   9%   ASTM D6304   >0.2   0.016   0.003   0.024   ppm Water   ppm   ASTM D6304   >0.2   0.016   0.003   0.024   PFLUID DEGRADATION   method   limit/base   current   history1   history2   FLUID DEGRADATION   method   limit/base   current   history1   history2   White Metal   scalar   "Visual   NONE   NONE   NONE   NONE   Yellow Metal   scalar   "Visual   NONE   NONE   NONE   NONE   Yellow Metal   scalar   "Visual   NONE   NONE   NONE   NONE   Silt   scalar   "Visual   NONE   NONE   NONE   NONE   Sand/Dirt   scalar   "Visual   NONE   NONE   NONE   NONE   Appearance   scalar   "Visual   NONE   NONE   NONE   NONE   Codor   scalar   "Visual   NORML   NORML   NORML   NORML   Codor   scalar   "Visual   NORML   NORML   NORML   NORML   Emulsified Water   scalar   "Visual   NORML   NORML	Titanium	ppm	ASTM D5185m		0	<1	0
Aluminum         ppm         ASTM D5185m         >2.5         0         2         <1           Lead         ppm         ASTM D5185m         >100         0         <1	Silver		ASTM D5185m		0	0	0
Lead         ppm         ASTM D5185m         >100         0         <1         0           Copper         ppm         ASTM D5185m         >200         29         19         10           Tin         ppm         ASTM D5185m         >225         0         <1         0           Vanadium         ppm         ASTM D5185m         0         <1         0           Cadmium         ppm         ASTM D5185m         0         <1         0           ADJTIVES         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         0         21         1         0           Magnesium         ppm         ASTM D5185m         3         0         2         2           Magnesium         ppm         ASTM D5185m         3         0         2         2           Phosphorus         ppm         ASTM D5185m         3         3         0         2	Aluminum		ASTM D5185m	>25		2	<1
Copper							
Tin							
Vanadium         ppm         ASTM D5185m         0         <1         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         <1         0         0           Magnesium         ppm         ASTM D5185m         0         26         18         83           Calcium         ppm         ASTM D5185m         90         26         18         83           Calcium         ppm         ASTM D5185m         3         0         2         2           Phosphorus         ppm         ASTM D5185m         2         0         4         4           Zinc         ppm         ASTM D5185m         8         0         0         0           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         3         1         7     <	• •						
Cadmium         ppm         ASTM D5185m         0         <1         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0         0         0           Barium         ppm         ASTM D5185m         0         <1				>25			
## ADDITIVES   method   limit/base   current   history1   history2   ## Boron   ppm   ASTM D5185m   0					-		
Boron		1-1-		limit/base	current		history2
Barium		nnm					
Molybdenum         ppm         ASTM D5185m         0         <1         0           Manganese         ppm         ASTM D5185m         <1         <1         0           Magnesium         ppm         ASTM D5185m         90         26         18         83           Calcium         ppm         ASTM D5185m         3         0         2           Phosphorus         ppm         ASTM D5185m         2         0         4           Zinc         ppm         ASTM D5185m         2         0         4           Zinc         ppm         ASTM D5185m         2         0         4           Zinc         ppm         ASTM D5185m         >50         3         1         7           Sodium         ppm         ASTM D5185m         >20         0         <1         <1           Water         ppm         ASTM D5185m         20         0         <1         <1            Potassium              ppm             ASTM D5185m             20             0             <1             <1           Water         ppm             ASTM D5185m             20             0             <1             <1           <							
Manganese         ppm         ASTM D5185m         <1         <1         0           Magnesium         ppm         ASTM D5185m         90         26         18         83           Calcium         ppm         ASTM D5185m         3         0         2           Phosphorus         ppm         ASTM D5185m         2         0         4           Zinc         ppm         ASTM D5185m         2         0         4           Zinc         ppm         ASTM D5185m         2         0         0           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         2         0         0         0           Potassium         ppm         ASTM D5185m         2         0         0         0         0         1         <1					-		
Magnesium         ppm         ASTM D5185m         90         26         18         83           Calcium         ppm         ASTM D5185m         3         0         2           Phosphorus         ppm         ASTM D5185m         2         0         4           Zinc         ppm         ASTM D5185m         2         0         4           Zinc         ppm         ASTM D5185m         2         0         0           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         3         1         7           Sodium         ppm         ASTM D5185m         >20         0         <1         <1           Sodium         ppm         ASTM D5185m         >20         0         <1         <1         <1           Water         %         ASTM D5185m         >20         0         <1         <1         <1           Water         %         ASTM D5185m         >20         0         <1         <1         <1           Water         %         ASTM D5185m         >20         0         <1         <1 <t< td=""><td>•</td><td></td><td></td><td></td><td>-</td><td></td><td></td></t<>	•				-		
Calcium         ppm         ASTM D5185m         3         0         2           Phosphorus         ppm         ASTM D5185m         2         0         4           Zinc         ppm         ASTM D5185m         8         0         0           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         3         1         7           Sodium         ppm         ASTM D5185m         >20         0         0         0           Potassium         ppm         ASTM D5185m         >20         0         <1	-			00			
Phosphorus         ppm         ASTM D5185m         2         0         4           Zinc         ppm         ASTM D5185m         8         0         0           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         3         1         7           Sodium         ppm         ASTM D5185m         2         0         0           Potassium         ppm         ASTM D5185m         20         0         <1         <1           Water         %         ASTM D6304         >0.2         0.016         0.003         0.024           ppm Water         ppm         ASTM D6304         >2000         160         31         242           FLUID DEGRADATION         method         limit/base         current         history1         history2           Acid Number (AN)         mg KOHlg         ASTM D8045         0.36         0.20         0.42           VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE         NONE	-			90			
Zinc         ppm         ASTM D5185m         8         0         0           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         3         1         7           Sodium         ppm         ASTM D5185m         2         0         0         0           Potassium         ppm         ASTM D5185m         >20         0         <1							
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         3         1         7           Sodium         ppm         ASTM D5185m         2         0         0           Potassium         ppm         ASTM D5185m         >20         0         <1					_		
Silicon	Zinc	ppm	ASTM D5185m		8	0	0
Sodium	CONTAMINANTS	8	method	limit/base		history1	history2
Potassium         ppm         ASTM D5185m         >20         0         <1         <1           Water         %         ASTM D6304         >0.2         0.016         0.003         0.024           ppm Water         ppm         ASTM D6304         >2000         160         31         242           FLUID DEGRADATION         method         limit/base         current         history1         history2           Acid Number (AN)         mg KOH/g         ASTM D8045         0.36         0.20         0.42           VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE         MODER           Yellow Metal         scalar         *Visual         NONE         NONE         NONE         NONE         NONE           Precipitate         scalar         *Visual         NONE         NONE         NONE         NONE         NONE         NONE           Silt         scalar         *Visual         NONE	Silicon	ppm	ASTM D5185m	>50	3	1	7
Water  % ASTM D6304 >0.2 0.016 0.003 0.024 ppm Water  ppm ASTM D6304 >2000 160 31 242  FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.36 0.20 0.42  VISUAL method limit/base current history1 history2 White 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 Silt scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE NONE NONE NON	Sodium	ppm	ASTM D5185m		2	0	0
ppm Water         ppm         ASTM D6304         >2000         160         31         242           FLUID DEGRADATION         method         limit/base         current         history1         history2           Acid Number (AN)         mg KOH/g         ASTM D8045         0.36         0.20         0.42           VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE         MODER           Yellow Metal         scalar         *Visual         NONE         NONE         NONE         NONE         NONE           Precipitate         scalar         *Visual         NONE	Potassium	ppm	ASTM D5185m	>20	0	<1	<1
FLUID DEGRADATION method limit/base current history1 history2  Acid Number (AN) mg KOH/g ASTM D8045 0.36 0.20 0.42  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  Emulsified Water scalar *Visual >0.2 NEG NEG	Water	%	ASTM D6304	>0.2	0.016	0.003	0.024
Acid Number (AN) mg KOH/g ASTM D8045 0.36 0.20 0.42  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  Emulsified Water scalar *Visual >0.2 NEG NEG	ppm Water	ppm	ASTM D6304	>2000	160	31	242
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       NORML	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
White Metal scalar *Visual NONE NONE NONE 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 MODER 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	Acid Number (AN)	mg KOH/g	ASTM D8045		0.36	0.20	0.42
Yellow Metal       scalar       *Visual       NONE       NORML       NORM	VISUAL		method	limit/base	current	history1	history2
Precipitate       scalar       *Visual       NONE       NORML       <	White Metal	scalar	*Visual	NONE	NONE	NONE	MODER
Silt scalar *Visual NONE HEAVY NONE NONE Debris scalar *Visual NONE NONE MODER 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	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Debrisscalar*VisualNONENONEMODERNONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEG	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Debrisscalar*VisualNONENONEMODERNONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEG	Silt	scalar	*Visual	NONE	▲ HEAVY	NONE	NONE
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEG	Debris	scalar		NONE	NONE	▲ MODER	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEG	Sand/Dirt	scalar		NONE		NONE	NONE
Odor scalar *Visual NORML NORM							
Emulsified Water scalar *Visual >0.2 NEG NEG NEG							
	Free Water	scalar	*Visual				

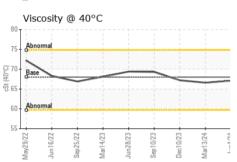


# **OIL ANALYSIS REPORT**

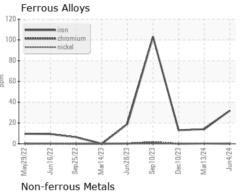


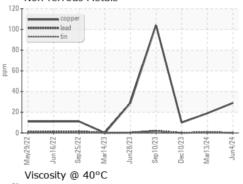


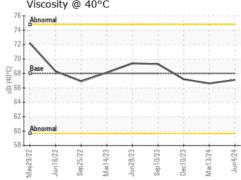


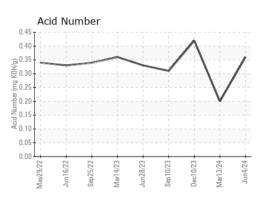


## **GRAPHS**













Certificate 12367

Laboratory Sample No.

Test Package : IND 2

: RP0043314 Lab Number : 06200260 Unique Number : 11062383

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 05 Jun 2024 **Tested** 

Diagnosed

: 06 Jun 2024 : 07 Jun 2024 - Don Baldridge

BOSTON, MA US 02215 Contact: ROBERT ST SAUVEUR robert.stsauveur@engie.com

474 BROOKLINE AVE

**ENGIE-MATEP** 

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.

T: (401)651-9381 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)