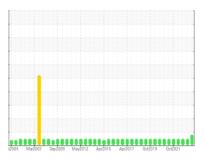


# **OIL ANALYSIS REPORT**

Sample Rating Trend





Machine Id
PW-721A
Component
Gearbox

ROYAL PURPLE SYNERGY 90/220 (--- GAL)

#### DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

### Wear

An increase in the iron level is noted. All other component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

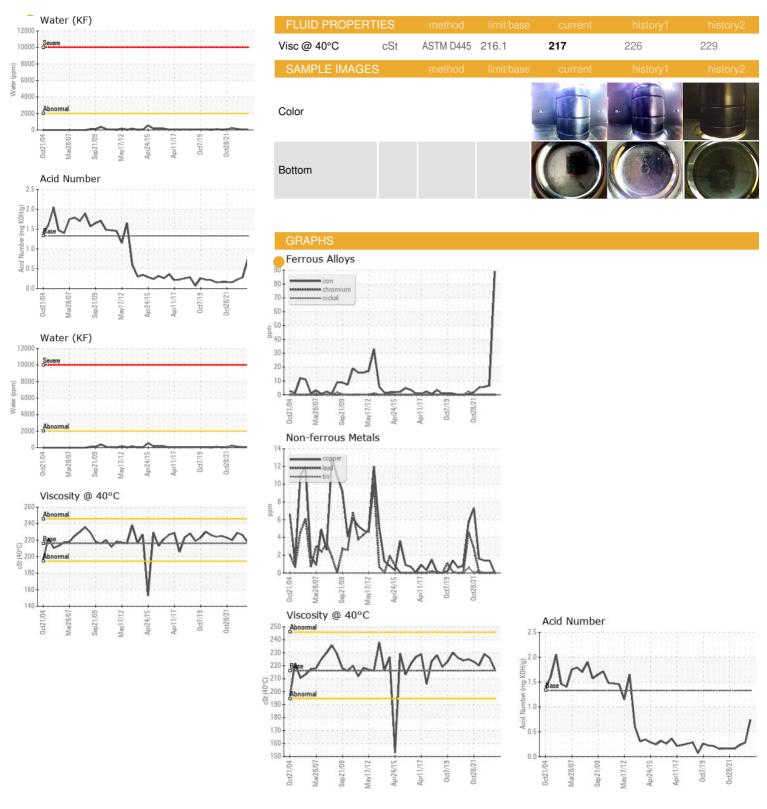
### **Fluid Condition**

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

Sample Date   Client Info   09 Apr 2024   03 Oct 2023   05 Apr 2023	2/2004 May2007 Say,2009 May2012 Apr2015 Apr2017 Ox2019 Ox2021							
Sample Date   Client Info   09 Apr 2024   03 Oct 2023   05 Apr 2023	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2	
Machine Age         hrs         Client Info         0         0         0           Oil Age         hrs         Client Info         N/A         N/A         N/A         N/A           Coli Changed         Client Info         N/A         N/A         N/A         N/A         N/A           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         ≥200         89         7         6           Chromium         ppm         ASTM D5185m         >15         0         0         0           Cikcle         ppm         ASTM D5185m         >15         0         0         0           Cikromium         ppm         ASTM D5185m         >15         0         0         0           Lead         ppm         ASTM D5185m         >25         0         0         0           Copper         ppm         ASTM D5185m         >20         0         1         1           Tir         ppm         ASTM D5185m         >25         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0	Sample Number		Client Info		RP0033056	RP0037632	RP0033043	
Machine Age         hrs         Client Info         0         0         0           Oil Age         hrs         Client Info         N/A         N/A         N/A         N/A           Coli Changed         Client Info         N/A         N/A         N/A         N/A         N/A           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         ≥200         89         7         6           Chromium         ppm         ASTM D5185m         >15         0         0         0           Cikcle         ppm         ASTM D5185m         >15         0         0         0           Cikromium         ppm         ASTM D5185m         >15         0         0         0           Lead         ppm         ASTM D5185m         >25         0         0         0           Copper         ppm         ASTM D5185m         >20         0         1         1           Tir         ppm         ASTM D5185m         >25         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0	Sample Date		Client Info		09 Apr 2024	03 Oct 2023	05 Apr 2023	
Dil Changed   Client Info   N/A   ATTENTION   NORMAL   NORMAL	Machine Age	hrs	Client Info		0	0		
Managanese   Mathod   Managanese   Mathodists   Mathodists   Mathodists   Managanese   Mathodists   Managanese   Mathodists   Managanese   Managa	Oil Age	hrs	Client Info		0	0	0	
Managanese   Mathod   Managanese   Mathodists   Mathodists   Mathodists   Managanese   Mathodists   Managanese   Mathodists   Managanese   Managa	Oil Changed		Client Info		N/A	N/A	N/A	
Chromium	Sample Status				<b>ATTENTION</b>	NORMAL	NORMAL	
Chromium	WEAR METALS		method	limit/base	current	history1	history2	
Nickel	Iron	ppm	ASTM D5185m	>200	<b>89</b>	7	6	
Description	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	Aluminum	ppm	ASTM D5185m	>25	0	0	0	
Trin	Lead	ppm	ASTM D5185m	>100	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           Magnesium         ppm         ASTM D5185m         0         0         1         0           Calcium         ppm         ASTM D5185m         0         0         1         2           Phosphorus         ppm         ASTM D5185m         2         1         2         2           Zinc         ppm         ASTM D5185m         370         452         75         49           Zinc         ppm         ASTM D5185m         370         452         75         49           Zinc         ppm         ASTM D5185m         >0         0         0         0           Sodium         ppm         ASTM D5185m         >0         0         0         0           Sodium <th>Copper</th> <th>ppm</th> <th>ASTM D5185m</th> <th>&gt;200</th> <th>0</th> <th>1</th> <th>1</th>	Copper	ppm	ASTM D5185m	>200	0	1	1	
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         1           Magnesium         ppm         ASTM D5185m         0         0         1         1           Calcium         ppm         ASTM D5185m         2         1         2         Phosphorus         ppm         ASTM D5185m         2         1         2         2         1         2         2         1         2         2         1         2         2         1         2         2         1         2         2         1         2         2         1         2         2         1         2         2         1         2         2         1         2         2         1         2         2         1         0         3         3         3         3	Tin	ppm	ASTM D5185m	>25	0	0	0	
ADDITIVES	Vanadium	ppm	ASTM D5185m		0	0	0	
Boron   ppm   ASTM D5185m   Q	Cadmium	ppm	ASTM D5185m		0	0	0	
Barium	ADDITIVES		method	limit/base	current	history1	history2	
Molybdenum         ppm         ASTM D5185m         0         0         0           Manganese         ppm         ASTM D5185m         <1         0         <1           Magnesium         ppm         ASTM D5185m         0         0         1           Calcium         ppm         ASTM D5185m         2         1         2           Phosphorus         ppm         ASTM D5185m         370         452         75         49           Zinc         ppm         ASTM D5185m         34         23         5           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         0         0         0           Sodium         ppm         ASTM D5185m         >50         0         0         0         0           Potassium         ppm         ASTM D5185m         >20         4         0         0         0           Water         %         ASTM D6304         >0.2         0.005         0.005         0.012           ppm Water         ppm         ASTM D6304         >2000         59         52.8         123.2      <	Boron	ppm	ASTM D5185m		0	0	0	
Manganese         ppm         ASTM D5185m         <1	Barium	ppm	ASTM D5185m		0	0	0	
Magnesium         ppm         ASTM D5185m         0         0         1           Calcium         ppm         ASTM D5185m         2         1         2           Phosphorus         ppm         ASTM D5185m         370         452         75         49           Zinc         ppm         ASTM D5185m         34         23         5           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         0         0         0           Sodium         ppm         ASTM D5185m         >50         0         0         0           Potassium         ppm         ASTM D5185m         >20         4         0         0           Water         %         ASTM D6304         >0.2         0.005         0.005         0.012           ppm Water         ppm         ASTM D6304         >0.2         0.005         0.005         0.012           ppm Water         ppm         ASTM D6304         >0.2         0.005         0.005         0.012           ppm Water         ppm         ASTM D8045         1.33         0.74         0.28	Molybdenum	ppm	ASTM D5185m		0	0	0	
Description	Manganese	ppm	ASTM D5185m		<1	0	<1	
Phosphorus         ppm         ASTM D5185m         370         452         75         49           Zinc         ppm         ASTM D5185m         34         23         5           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         0         0         0           Sodium         ppm         ASTM D5185m         >50         0         0         0           Potassium         ppm         ASTM D5185m         >20         4         0         0           Water         %         ASTM D6304         >0.2         0.005         0.005         0.012           ppm Water         ppm         ASTM D6304         >20.00         59         52.8         123.2           FLUID DEGRADATION         method         limit/base         current         history1         history2           Acid Number (AN)         mg KOHig         ASTM D8045         1.33         0.74         0.28         0.23           VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual	Magnesium	ppm	ASTM D5185m		0	0	1	
Description	Calcium	ppm	ASTM D5185m		2	1	2	
CONTAMINANTS	Phosphorus	ppm	ASTM D5185m	370	452	75	49	
Solition	Zinc	ppm	ASTM D5185m		34	23	5	
Sodium	CONTAMINANTS		method	limit/base	current	history1	history2	
Potassium         ppm         ASTM D5185m         >20         4         0         0           Water         %         ASTM D6304         >0.2         0.005         0.005         0.012           opm Water         ppm         ASTM D6304         >2000         59         52.8         123.2           FLUID DEGRADATION         method         limit/base         current         history1         history2           Acid Number (AN)         mg KOH/g         ASTM D8045         1.33         0.74         0.28         0.23           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           Precipitate         scalar         *Visual         NONE         NONE         NONE           Silt         scalar         *Visual         NONE         NONE         NONE           Debris         scalar         *Visual         NONE         NONE <td>Silicon</td> <td>ppm</td> <td>ASTM D5185m</td> <td>&gt;50</td> <th>0</th> <td>0</td> <td>0</td>	Silicon	ppm	ASTM D5185m	>50	0	0	0	
Water         %         ASTM D6304 by 2000         >0.2         0.005         0.005         0.012           opm Water         ppm         ASTM D6304         >2000         59         52.8         123.2           FLUID DEGRADATION         method         limit/base         current         history1         history2           Acid Number (AN)         mg KOH/g         ASTM D8045         1.33         0.74         0.28         0.23           VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE           White Metal         scalar         *Visual         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE           Precipitate         scalar         *Visual         NONE         NONE         NONE           Precipitate         scalar         *Visual         NONE         NONE         NONE           Debris         scalar         *Visual         NONE         NONE         NONE           Debris         scalar         *Visual         NONE         NONE	Sodium	ppm	ASTM D5185m		<1	0	<1	
Precipitate scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE Scalar *Visual NONE NONE NONE NONE NONE NONE NONE NON	Potassium	ppm	ASTM D5185m	>20	4	0	0	
FLUID DEGRADATION method limit/base current history1 history2  Acid Number (AN) mg KOH/g ASTM D8045 1.33 0.74 0.28 0.23  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  Debris scalar *Visual NONE 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  Odor scalar *Visual NORML NORML NORML NORML  Emulsified Water scalar *Visual >0.2 NEG NEG NEG  Free Water scalar *Visual *NEG TERLERN MACIASZANTE ORBAT	Water	%	ASTM D6304	>0.2	0.005	0.005	0.012	
Acid Number (AN) mg KOH/g ASTM D8045 1.33 0.74 0.28 0.23  VISUAL method limit/base current history1 history2  White Metal scalar *Visual NONE 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  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  Free Water scalar *Visual *NEG NEG NEG NEG  NEG NEG NEG	ppm Water	ppm	ASTM D6304	>2000	59	52.8	123.2	
White Metal scalar *Visual NONE NONE NONE NONE NONE NONE NONE NON	FLUID DEGRADA	TION	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 NONE Debris scalar *Visual NONE 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 NEG Free Water scalar *Visual NORML NORMAL NO	Acid Number (AN)	mg KOH/g	ASTM D8045	1.33	0.74	0.28	0.23	
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	VISUAL		method	limit/base	current	history1	history2	
Precipitate scalar *Visual NONE 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 NORML Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG NEG NEG Free Water scalar *Visual NEG TERMEN MACIASZNERORBAT	White Metal	scalar	*Visual	NONE	NONE	NONE	MODER	
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 NORML NORML Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG NEG NEG Free Water scalar *Visual NEG TERMEN MACIASZNEORBAT	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE	
Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG NEG NEG Free Water scalar *Visual NEG TERHERN MACIASZNETORBAT	Precipitate	scalar	*Visual	NONE		NONE		
Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG NEG NEG Free Water scalar *Visual NEG TERHER MACIASZNETORBAT	Silt	scalar	*Visual	NONE	NONE	NONE	NONE	
Appearance scalar *Visual NORML NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG NEG NEG Free Water scalar *Visual NEG TERHER MACIASZNER ORBAT	Debris	scalar	*Visual	NONE	NONE	NONE	NONE	
Odor     scalar     *Visual     NORML     NORML     NORML     NORML     NORML       Emulsified Water     scalar     *Visual     >0.2     NEG     NEG     NEG       Free Water     scalar     *Visual     NEG     TERHEN MACIASZNE ORBAT	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE	
Emulsified Water scalar *Visual >0.2 NEG NEG NEG Free Water scalar *Visual NEG	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
Free Water scalar *Visual NEG TERHEN MACIASZNEORBAT	Odor	scalar	*Visual	NORML	NORML	NORML	NORML	
1120	Emulsified Water	scalar	*Visual	>0.2	NEG			
	Free Water	scalar	*Visual		NEG	TERHEN MAC	IASZ <sub>NE</sub> PORBAT	



## **OIL ANALYSIS REPORT**







Laboratory Sample No.

: RP0033056 Lab Number : 06147423 Unique Number : 10977501

Test Package : IND 2

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 12 Apr 2024 **Tested** : 15 Apr 2024

Diagnosed : 16 Apr 2024 - Don Baldridge

Certificate 12367 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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