

OIL ANALYSIS REPORT



Machine Id

83E-44B1 Component Gearbox Fluid ROYAL PURPLE SYNERGY 90/150 (--- GAL)

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

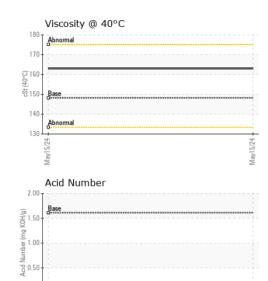
The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		HPL0004874		
Sample Date		Client Info		15 May 2024		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	32		
Chromium	ppm	ASTM D5185m	>15	<1		
Nickel	ppm	ASTM D5185m	>15	0		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m		<1		
Aluminum	ppm	ASTM D5185m	>25	3		
Lead	ppm	ASTM D5185m	>100	1		
Copper	ppm	ASTM D5185m	>200	1		
Tin	ppm	ASTM D5185m	>25	0		
Vanadium	ppm	ASTM D5185m		<1		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0		
Barium	ppm	ASTM D5185m		0		
Molybdenum	ppm	ASTM D5185m		<1		
Manganese	ppm	ASTM D5185m		<1		
Magnesium	ppm	ASTM D5185m		<1		
Calcium	ppm	ASTM D5185m		31		
Phosphorus	ppm	ASTM D5185m	200	112		
Zinc	ppm	ASTM D5185m		0		
Sulfur	ppm	ASTM D5185m		15714		
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	9		
Sodium	ppm	ASTM D5185m		0		
Potassium	ppm	ASTM D5185m	>20	3		
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	1.61	0.18		



0.00 May15/24

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	VISUAL		method	limit/base	current	history1	history2			
	White Metal	scalar	*Visual	NONE	NONE					
	Yellow Metal	scalar	*Visual	NONE	NONE					
	Precipitate	scalar	*Visual	NONE	NONE					
	Silt	scalar	*Visual	NONE	NONE					
	Debris	scalar	*Visual	NONE	NONE					
	Sand/Dirt	scalar	*Visual	NONE	NONE					
May15/24	Appearance	scalar	*Visual	NORML	NORML					
Mai	Odor	scalar	*Visual	NORML	NORML					
	Emulsified Water	scalar	*Visual	>0.2	NEG					
	Free Water	scalar	*Visual		NEG					
	FLUID PROPERT	TIES	method	limit/base	current	history1	history2			
	Visc @ 40°C	cSt	ASTM D445	148.2	163					
	SAMPLE IMAGE	S	method	limit/base	current	history1	history2			
5/24	Color				no image	no image	no image			
May15/24										
	Bottom				no image	no image	no image			
	GRAPHS Iron (ppm)			300						
	400 200 Abnormal			툴 ²⁰⁰ 톱 ₁₀₀	Abnormal					
	a May15/24			May15/24	May15/24					
	Aluminum (ppm)				Chromium (p	pm)				
	150 Severe			60						
				⁴⁰ 20	Abnormal					
	⁵⁰ Abnormal			0	7					
	5/24			May15/24	May15/24					
	May15/24			May1	Mayl					
	Copper (ppm)				Silicon (ppm)					
	600 Severe			150						
	400 - Abnormal			¹⁰⁰	Abnormal					
	0			0	í [
	May15/24			May15/24	May15/24					
	May			May	May					
	Viscosity @ 40°C			(B/HC 200	Acid Number					
	2 160 P			5/24 Acid Number (mg KOH/g) 0001	Base					
	00160 - Base න් 140 - Abnormal			1.00 gr)+					
	120									
	May15/24			May15/24 Aci	May15/24					
	May			May	May					
Laboratory Sample No. Lab Number Unique Number	: 11036523	Rece Teste	ived : 20 ed : 21	, NC 27513 May 2024 May 2024 May 2024 - Se	IL. REFIN	IARATHON PET				
cate L2367 Test Package	: MOB 2 Contact: M.S. MANHART ; contact Customer Service at 1-800-237-1369. mmanhart@marathonpetroleum.con are outside of the ISO 17025 scope of accreditation. T: (618)544-212									

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Contact/Location: M.S. MANHART - MARROB