

OIL ANALYSIS REPORT

Sample Rating Trend





Front Left Final Drive Fluid GEAR OIL ISO 220 (--- 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

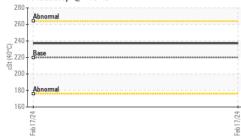
The condition of the oil is acceptable for the time in service.

	1ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0877389		
Sample Date		Client Info		17 Feb 2024		
Machine Age	hrs	Client Info		514		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
		and the set	1	-	la facta an af	le'stem O
CONTAMINATION Water	N	method WC Method	limit/base	current	history1	history2
				-		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>500	47		
Chromium	ppm	ASTM D5185m	>10	<1		
Nickel	ppm	ASTM D5185m	>10	0		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m		0		
Aluminum	ppm		>25	0		
Lead	ppm	ASTM D5185m	>25	2		
Copper	ppm	ASTM D5185m	>50	4		
Tin	ppm	ASTM D5185m	>10	<1		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	50	<1		
Barium	ppm	ASTM D5185m	15	0		
Molybdenum	ppm	ASTM D5185m	15	0		
Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m	15	0 <1		
,			15 50	-		
Manganese	ppm	ASTM D5185m		<1		
Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m	50	<1 0		
Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 50	<1 0 16		
Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 50 350	<1 0 16 36	 	
Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 50 350 100	<1 0 16 36 10	 	
Maganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	50 50 350 100 12500	<1 0 16 36 10 2032	 	
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	50 50 350 100 12500 limit/base	<1 0 16 36 10 2032 current	 	
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m	50 50 350 100 12500 limit/base >75	<1 0 16 36 10 2032 current <1	 	
Maganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 50 350 100 12500 limit/base >75	<1 0 16 36 10 2032 <u>current</u> <1 3	 history1 	 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 50 350 100 12500 limit/base >75 >20	<1 0 16 36 10 2032 <u>current</u> <1 3 3	 history1 	 history2
Maganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 50 350 100 12500 imit/base >75 >20 imit/base	<1 0 16 36 10 2032 current <1 3 3 3 current	 history1 history1	 history2 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal	ppm ppm ppm ppm ppm ppm ppm ppm ppm scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	50 50 350 100 12500 imit/base >75 >20 imit/base NONE	<1 0 16 36 10 2032 current <1 3 3 3 current NONE	 history1 history1 history1	 history2 history2
Maganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal	ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method *Visual	50 50 350 100 12500 imit/base >75 >20 imit/base NONE NONE	<1 0 16 36 10 2032 current <1 3 3 current NONE NONE	 history1 history1 history1	 history2 history2
Maganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate	ppm ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual	50 50 350 100 12500 imit/base >75 >20 imit/base NONE NONE NONE NONE	<1 0 16 36 10 2032 current <1 3 3 current NONE NONE NONE NONE	 history1 history1	 history2 history2 history2
Maganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt	ppm ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual	50 50 350 100 12500 imit/base >75 >20 imit/base NONE NONE NONE NONE	<1 0 16 36 10 2032 current <1 3 3 current NONE NONE NONE NONE NONE	 history1 history1 history1	 history2 history2 history2
Maganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris	ppm ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Visual *Visual *Visual *Visual *Visual	50 50 350 100 12500 imit/base >75 .20 imit/base NONE NONE NONE NONE NONE NONE	<1 0 16 36 10 2032 current <1 3 3 3 current NONE NONE NONE NONE NONE NONE NONE	 history1 history1 history1 	 history2 history2
Magnese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt	ppm ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual	50 50 350 100 12500 imit/base >75 >20 imit/base NONE NONE NONE NONE NONE NONE NONE NON	<1 0 16 36 10 2032 current <1 3 3 3 current NONE NONE NONE NONE NONE NONE NONE NON	 history1 history1 	history2 history2 <
Magnese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance	ppm ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	50 50 350 100 12500 imit/base >75 	<1 0 16 36 10 2032 current <1 3 3 3 current NONE NONE NONE NONE NONE NONE NONE NON	 history1 history1 	 history2 history2 history2
Magnese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor	ppm ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	50 50 350 100 12500 imit/base >75 >20 imit/base NONE NONE NONE NONE NONE NONE NONE NON	<1 0 16 36 10 2032 current <1 3 3 3 current NONE NONE NONE NONE NONE NONE NONE NON	 history1 history1 -	 history2 history2 history2



OIL ANALYSIS REPORT

Viscosity @ 40°C



FLUID PROPERTIES	method	limit/base	current	history1	history
Visc @ 40°C cSt	ASTM D445	220	237		
SAMPLE IMAGES	method	limit/base	current	history1	history
Color			no image	no image	no image
Bottom			no image	no image	no image
GRAPHS					
Ferrous Alloys					
45 40 35 30 5 20 15 10 5					
Feb 11/24		Feb17/24			
® Non-ferrous Metals		E.			
s copper 8 7 6					
E 5- 4- 3- 2-					
Feb17/24		Feb17/24			
Viscosity @ 40°C		_			
200 - Abnomal 260 - 250 - 240 -					
G 230 Base 9 220 210 200 200 200					
190 - 180 - Abnormal 170					
Feb 17/24		Feb 17/24			
: 06100497 Test	eived : 26 ed : 27	NC 27513 Feb 2024 Feb 2024 eb 2024 - Dor	n Baldridge		(NER - WIL WY 75 NOF WILLIS, US 77



Unique Number Test Package : CONST Contact: JOHN HAWKINS Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. johnh@bucknercompanies.com * - 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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