

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id DT688 Component Front Differential Fluid GEAR OIL SAE 75W90 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

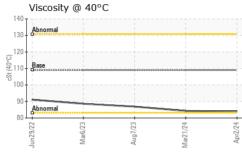
Fluid Condition

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

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0121911	PCA0120031	PCA0099991
Sample Date		Client Info		02 Apr 2024	21 Mar 2024	07 Aug 2023
Machine Age	mls	Client Info		230645	178315	0
Oil Age	mls	Client Info		75000	178315	0
Oil Changed		Client Info		Not Changd	N/A	N/A
Sample Status				NORMAL	ABNORMAL	ABNORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>.2	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>500	211	188	218
Chromium	ppm	ASTM D5185m	>10	2	1	2
Nickel	ppm	ASTM D5185m	>10	4	5	6
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	11	10	12
Lead	ppm	ASTM D5185m	>25	0	<1	0
Copper	ppm	ASTM D5185m	>100	<1	<1	<1
Tin	ppm	ASTM D5185m	>10	0	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
_						
Boron	ppm	ASTM D5185m	400	257	228	220
Barium	ppm ppm	ASTM D5185m ASTM D5185m	400 200	257 0	228 0	220 0
				0 15		0 7
Barium	ppm	ASTM D5185m	200	0 15 2	0 15 2	0
Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m	200 12 12	0 15	0 15	0 7
Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	200 12	0 15 2	0 15 2	0 7 2
Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	200 12 12	0 15 2 85	0 15 2 83	0 7 2 79
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	200 12 12 12 150	0 15 2 85 235	0 15 2 83 223	0 7 2 79 161
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	200 12 12 12 150 1650	0 15 2 85 235 1465	0 15 2 83 223 1410	0 7 2 79 161 1323
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	200 12 12 150 1650 125	0 15 2 85 235 1465 162	0 15 2 83 223 1410 154	0 7 2 79 161 1323 137
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	200 12 12 150 1650 125 22500 limit/base	0 15 2 85 235 1465 162 26164	0 15 2 83 223 1410 154 26043	0 7 2 79 161 1323 137 23159
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method	200 12 12 150 1650 125 22500 limit/base	0 15 2 85 235 1465 162 26164 current	0 15 2 83 223 1410 154 26043 history1	0 7 2 79 161 1323 137 23159 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	200 12 12 150 1650 125 22500 limit/base >75	0 15 2 85 235 1465 162 26164 <u>current</u> 46	0 15 2 83 223 1410 154 26043 history1 44	0 7 2 79 161 1323 137 23159 history2 71
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ypm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	200 12 12 150 1650 125 22500 limit/base >75	0 15 2 85 235 1465 162 26164 <i>current</i> 46 2	0 15 2 83 223 1410 154 26043 history1 44 2	0 7 2 79 161 1323 137 23159 history2 71 <1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal	ppm ppm ppm ppm ppm ppm ppm ppm ypm	ASTM D5185m ASTM D5185m XSTM D5185m	200 12 12 150 1650 125 22500 <i>limit/base</i> >75	0 15 2 85 235 1465 162 26164 <i>current</i> 46 2 2	0 15 2 83 223 1410 154 26043 history1 44 2 3	0 7 2 79 161 1323 137 23159 history2 71 <1 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL	ppm ppm ppm ppm ppm ppm ppm ppm ppm ypm	ASTM D5185m ASTM D5185m	200 12 12 150 1650 125 22500 limit/base >75 >20 limit/base	0 15 2 85 235 1465 162 26164 <i>current</i> 46 2 2 2 2	0 15 2 83 223 1410 154 26043 history1 44 2 3 3 history1	0 7 2 79 161 1323 137 23159 history2 71 <1 2 1 2 1 2 1 2 1 1 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate	ppm ppm ppm ppm ppm ppm ppm ppm vTS	ASTM D5185m ASTM D5185m Yisual	200 12 12 150 1650 125 22500 <i>limit/base</i> >75 >20 <i>limit/base</i> NONE	0 15 2 85 235 1465 162 26164 <i>current</i> 46 2 2 2 <i>current</i> NONE	0 15 2 83 223 1410 154 26043 history1 44 2 3 3 history1 MODER NONE NONE	0 7 2 79 161 1323 137 23159 history2 71 <1 2 1 2 NONE NONE NONE NONE
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt	ppm ppm ppm ppm ppm ppm ppm ppm VTS	ASTM D5185m ASTM D5185m Y Usual *Visual *Visual	200 200 12 12 150 1650 125 22500 limit/base >75 >20 limit/base NONE NONE	0 15 2 85 235 1465 162 26164 <i>current</i> 46 2 2 2 <i>current</i> NONE NONE NONE NONE	0 15 2 83 223 1410 154 26043 history1 44 2 3 3 history1 MODER NONE	0 7 2 79 161 1323 137 23159 history2 71 <1 2 history2 NONE NONE NONE NONE NONE NONE
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate	ppm ppm ppm ppm ppm ppm ppm ppm VTS	ASTM D5185m ASTM D5185m Yisual	200 200 12 12 12 150 1650 125 22500 limit/base >75 	0 15 2 85 235 1465 162 26164 <i>current</i> 46 2 2 2 <i>current</i> NONE NONE NONE	0 15 2 83 223 1410 154 26043 history1 44 2 3 3 history1 MODER NONE NONE	0 7 2 79 161 1323 137 23159 history2 71 <1 2 1 2 NONE NONE NONE NONE
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt	ppm ppm ppm ppm ppm ppm ppm ppm ypm ypm	ASTM D5185m ASTM D5185m Y Usual *Visual *Visual	200 200 12 12 12 150 1650 125 22500 limit/base >75 >20 limit/base NONE NONE NONE NONE	0 15 2 85 235 1465 162 26164 <i>current</i> 46 2 2 <i>current</i> NONE NONE NONE NONE NONE LIGHT NONE	0 15 2 83 223 1410 154 26043 history1 44 2 3 history1 MODER NONE NONE NONE NONE	0 7 2 79 161 1323 137 23159 history2 71 <1 2 history2 NONE NONE NONE NONE NONE NONE
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAM Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris	ppm ppm ppm ppm ppm ppm ppm ppm ypm ypm	ASTM D5185m ASTM D5185m Yisual *Visual *Visual *Visual *Visual	200 200 12 12 12 150 1650 125 22500 limit/base >75 >20 limit/base NONE NONE NONE NONE NONE NONE	0 15 2 85 235 1465 162 26164 <i>current</i> 46 2 2 2 <i>current</i> NONE NONE NONE NONE NONE LIGHT	0 15 2 83 223 1410 154 26043 history1 44 2 3 history1 44 2 3 MODER NONE NONE NONE NONE NONE NONE	0 7 2 79 161 1323 137 23159 history2 71 <1 2 NONE NONE NONE NONE NONE NONE NONE NO
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt	ppm ppm ppm ppm ppm ppm ppm ppm ypm ypm	ASTM D5185m ASTM D5185m Visual *Visual *Visual *Visual *Visual *Visual	200 200 12 12 12 150 1650 125 22500 limit/base >75 >20 limit/base NONE NONE NONE NONE NONE NONE NONE NONE	0 15 2 85 235 1465 162 26164 <i>current</i> 46 2 2 <i>current</i> NONE NONE NONE NONE NONE LIGHT NONE	0 15 2 83 223 1410 154 26043 history1 44 2 3 history1 44 2 3 MODER NONE NONE NONE NONE NONE NONE	0 7 2 79 161 1323 137 23159 history2 71 <1 2 71 <1 2 NONE NONE NONE NONE NONE NONE NONE NO
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance	ppm ppm ppm ppm ppm ppm ppm ppm ypm ypm	ASTM D5185m ASTM D5185m Visual *Visual *Visual *Visual *Visual *Visual *Visual	200 200 12 12 12 150 1650 125 22500 imit/base >75 22500 imit/base NONE NONE NONE NONE NONE NONE NONE NONE NONE NONE NONE	0 15 2 85 235 1465 162 26164 26164 26164 2 2 2 2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 15 2 83 223 1410 154 26043 history1 44 2 3 history1 44 2 3 MODER NONE NONE NONE NONE NONE NONE NONE NO	0 7 2 79 161 1323 137 23159 history2 71 <1 2 71 <1 2 NONE NONE NONE NONE NONE NONE NONE NO
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	200 200 12 12 12 150 1650 125 22500 <i>limit/base</i> >75 <i>limit/base</i> >20 <i>limit/base</i> >75 <i>limit/base</i> >20 <i>limit/base</i> NONE NONE NONE NONE NONE NONE NONE NON	0 15 2 85 235 1465 162 26164 Current 46 2 2 Current NONE NORML	0 15 2 83 223 1410 154 26043 history1 44 2 3 history1 MODER NONE NORML NEG NEG	0 7 2 79 161 1323 137 23159 history2 71 <12 71 <12 2 history2 NONE NONE NONE NONE NONE NONE NONE NON



OIL ANALYSIS REPORT



	FLUID F	PROPERTIE	S method	limit/base	current	history1	history2	
	Visc @ 40°	C cSt	ASTM D445	109	84.1	84.3	86.9	
	SAMPL	E IMAGES	method	limit/base	current	history1	history2	
4. 4.	Color				no image	no image	no image	
Mar21/24 Apr2/24	Bottom				no image	no image	no image	
	GRAPH	S						
	Ferrous A	lloys						
	iron	omium 🔶						
	200 - names nick	cel						
	150 - 톱	•						
	100							
	50 -							
	0							
	Jun29/22	Mar6/23 - Aug7/23 -	Mar21/24 -	Apr2/24				
		≥ ₹ ous Metals	Ma	4				
	10 9		1					
	8 - tin							
	7- 6-							
	Ed. 5							
	3-							
	2							
	52	23	24					
	Jun29/22	Mar6/23 Aug7/23	Mar21/24	Apr2/24				
	Viscosity	@ 40°C						
	130 - Abnormal							
	125							
	115- 110- Base							
	(고) 110 Base 정 105 -							
	95 -							
	90 - Abnormal							
	80	Mar6/23 Aug7/23	1/24	Apr2/24				
	Jun29/22	Mar	Mar21/24	Apr.				
Laboratory Sample No. Lab Number	: WearCheck I : PCA0121911 : 06141767	Re		y, NC 27513 8 Apr 2024 9 Apr 2024	NW WH		IMBIA DIVISION NDENCE BLVD COLUMBIA, SC	
Unique Number Test Package	: 10966575			9 Apr 2024 - V				

- 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)

Certificate L2367

gedwards@nwwhite.com

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