

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id L4700 Component Diesel Engine Fluid DPLX 21C (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

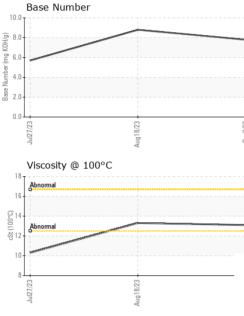
Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	1ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0885678	WC0758978	WC0758984
Sample Date		Client Info		02 Dec 2023	18 Aug 2023	27 Jul 2023
Machine Age	hrs	Client Info		3369	2888	2851
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	SEVERE
CONTAMINATION	١	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	0.9	8.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	21	6	23
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	2	4
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	2	1	2
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES						
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	method ASTM D5185m	limit/base	current 5	history1 10	history2 16
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	5	10	16
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	5 0	10 0	16 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 69	10 0 65	16 0 60
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 69 0	10 0 65 <1	16 0 60 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 69 0 814	10 0 65 <1 761	16 0 60 0 342
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 69 0 814 1233	10 0 65 <1 761 1239	16 0 60 0 342 1878
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 69 0 814 1233 973	10 0 65 <1 761 1239 967	16 0 60 0 342 1878 949
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 69 0 814 1233 973 1233	10 0 65 <1 761 1239 967 1151	16 0 60 0 342 1878 949 1248
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 69 0 814 1233 973 1233 2802	10 0 65 <1 761 1239 967 1151 3239	16 0 60 0 342 1878 949 1248 4366
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 69 0 814 1233 973 1233 2802 current	10 0 65 <1 761 1239 967 1151 3239 history1	16 0 60 0 342 1878 949 1248 4366 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 69 0 814 1233 973 1233 2802 current 7	10 0 65 <1 761 1239 967 1151 3239 history1 <1	16 0 60 0 342 1878 949 1248 4366 history2 8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 69 0 814 1233 973 1233 2802 current 7 3	10 0 65 <1 761 1239 967 1151 3239 history1 <1 0	16 0 60 0 342 1878 949 1248 4366 history2 8 <
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20	5 0 69 0 814 1233 973 1233 2802 current 7 3 3 3	10 0 65 <1 761 1239 967 1151 3239 history1 <1 0 2	16 0 60 0 342 1878 949 1248 4366 history2 8 < <1 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base	5 0 69 0 814 1233 973 1233 2802 current 7 3 3 3 2 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0	10 0 65 <1 761 1239 967 1151 3239 history1 <1 0 2 history1	16 0 60 0 342 1878 949 1248 4366 history2 8 < 1 3 <i>history2</i>
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3	5 0 69 0 814 1233 973 1233 2802 current 7 3 3 3 2 802 current 0.5	10 0 65 <1 761 1239 967 1151 3239 history1 <1 0 2 history1 0.1	16 0 60 0 342 1878 949 1248 4366 history2 8 <1 3 history2 0.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3 >20	5 0 69 0 814 1233 973 1233 2802 current 7 3 3 3 current 0.5 8.9	10 0 65 <1 761 1239 967 1151 3239 history1 <1 0 2 history1 0.1 5.3	16 0 60 0 342 1878 949 1248 4366 history2 8 13131313131399.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3 >20 >30 >30	5 0 69 0 814 1233 973 1233 2802 <u>current</u> 7 3 3 3 3 <u>current</u> 0.5 8.9 19.7	10 0 65 <1 761 1239 967 1151 3239 history1 <1 0 2 history1 0.1 5.3 17.4	16 0 60 0 342 1878 949 1248 4366 history2 8 <1 3 history2 0.5 9.3 19.7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	limit/base >25 >20 limit/base >3 >20 >30 >30	5 0 69 0 814 1233 973 1233 2802 current 7 3 3 3 current 0.5 8.9 19.7 current	10 0 65 <1 761 1239 967 1151 3239 history1 <1 0 2 history1 0.1 5.3 17.4 history1	16 0 60 0 342 1878 949 1248 4366 history2 8 <1 3 history2 0.5 9.3 19.7 history2



OIL ANALYSIS REPORT



Yellow Metal scalar Visual NONE NONE NONE NONE NONE Precipitate scalar Visual NONE NONE NONE NONE NONE Site scalar Visual NONE NONE NONE NONE NONE Sand/Dirt scalar Visual NONE NONE NONE NONE NONE NONE Scalar Visual NONE NONE NONE NONE NONE Scalar Visual NORML NORM NORM VISUAL	VISUAL		method	limit/base	current	history1	history2
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Debris scalar Visual NONE NONE NONE NONE NONE Sand/Dirt scalar Visual NONE NONE NONE NONE Appearance scalar Visual NORML NORML NORML NORML Codor scalar Visual NORML NORML NORML NORML NORML Emulsified Water scalar Visual >0.2 NEG NEG NEG Free Water scalar Visual >0.2 NEG NEG NEG Fere Water scalar Visual >0.2 NEG NEG NEG Fere Vater scalar Visual >0.2 NEG NEG NEG Visc @ 100°C cSt ASTM D445 13.1 13.3 ▲ 10.3 CRAPHS Ferrous Alloys	Precipitate						
Sand/Dirt scalar Visual NONE NONE NONE NONE NONE Appearance scalar Visual NORML NORM							
Appearance scalar *Visual NORML NORML NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG NEG NEG Free Water scalar *Visual *O.2 NEG NEG NEG Free Water scalar *Visual *Init/base current history1 history2 Visc @ 100°C cSt ASTM D445 13.1 13.3 ▲ 10.3 GRAPHS Ferrous Alloys							
Odor scalar *Visual NORML NORM Nor Neg NEg NEg NEg NEg NEg Neg Nor Nor Statematical Statematical Statematical Statematical Non-fer Statematical Statematical Statematical Statematical Statematical Statematical Statemati							
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Free Water scalar "Visual NEG NEG NEG NEG FLUID PROPERTIES method limit/base current history1 history2 Visc @ 100°C cSt ASTM D445 13.1 13.3 10.3 GRAPHS Ferrous Alloys Image: scalar structure Structure Structure Image: scalar structure Structu							
FLUID PROPERTIES method limit/base current history1 history2 Visc @ 100°C cSt ASTM D445 13.1 13.3 10.3 GRAPHS Ferrous Alloys Image: Strain S				>0.2			
Visc @ 100°C cSt ASTM D445 13.1 13.3 • 10.3 GRAPHS Ferrous Alloys			*Visual		NEG	NEG	NEG
GRAPHS Ferrous Alloys	FLUID PROPER	TIES	method	limit/base	current	history1	history2
Ferrous Alloys	Visc @ 100°C	cSt	ASTM D445		13.1	13.3	10.3
Non-ferrous Metals	GRAPHS						
Non-ferrous Metals							
Non-ferrous Metals	1						
Non-ferrous Metals Viscosity @ 100°C Base Number 90 90 90 90 90 90 90 90 90 90	management chromium						
Non-ferrous Metals	nickel						
Viscosity @ 100°C			/				
Viscosity @ 100°C							
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F22200 F22200 Non-ferrous Metals Image: State of the state o	5-	\sim					
Non-ferrous Metals							
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Non-ferrous Metals	ul27/2	g18/2)ec2/2			
Viscosity @ 100°C Base Number							
Viscosity @ 100°C Base Number	December 2017						
Viscosity @ 100°C Base Number	Reasonant lead						
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Viscosity @ 100°C Base Number		13		5			
Abnomal 8.0	22-	1918/23		Jac2/23			
Abnormal 8.0	En la						
	Viscosity @ 100°				Base Number		
Abnormal H0 6.0	Viscosity @ 100°			9.0-	Base Number		
Abnormal	Viscosity @ 100°			9.0 - 8.0 -	Base Number		
Abnormal	Viscosity @ 100°			9.0 - 8.0 -	Base Number		
24	Viscosity @ 100°			9.0 - 8.0 -	Base Number		

3.0 ase 8 2.0

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Jul27/23

Dec2/23.

: 08 Dec 2023

: 12 Dec 2023



Unique Number : 10779657 Diagnostician : Wes Davis Test Package : CONST (Additional Tests: TBN) Certificate L2367 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)

Aug18/23

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Received

Diagnosed

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: WC0885678

: 06029866

Laboratory

Sample No.

Lab Number

Contact/Location: KEVIN HINSON - APPLEVWB

Aug18/23 -

Apple Valley Waste - Baltimore District

240 S KRESSON ST

Contact: KEVIN HINSON

khinson@goldmedal.net

BALTIMORE, MD

US 21224

Т:

F:

Jec2/23