

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 112601

Component Diesel Engine Fluid SHELL ROTELLA T 15W40 (--- QTS)

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

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		IL0032722	IL0027588	IL0027713
Sample Date		Client Info		27 Sep 2023	29 Mar 2023	10 Nov 2022
Machine Age	mls	Client Info		0	201495	155643
Oil Age	mls	Client Info		0	45852	34958
Oil Changed		Client Info	N/A		Changed	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	25	22	24
Chromium	ppm	ASTM D5185m	>20	2	2	1
Nickel	ppm	ASTM D5185m	>2	1	1	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m		5	5	6
Lead	ppm	ASTM D5185m	>40	2	3	1
Copper	ppm	ASTM D5185m		2	2	3
Tin	ppm	ASTM D5185m	>15	- <1	_ <1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	historv1	historv2
ADDITIVES Boron	nom	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	316	24	19	13
Boron Barium	ppm	ASTM D5185m ASTM D5185m	316 0.0	24 2	19 0	13 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	316	24 2 32	19 0 86	13 0 83
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	316 0.0 1.2	24 2 32 <1	19 0 86 <1	13 0 83 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	316 0.0 1.2 24	24 2 32 <1 156	19 0 86 <1 56	13 0 83 <1 54
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	316 0.0 1.2 24 2292	24 2 32 <1 156 2070	19 0 86 <1 56 2288	13 0 83 <1 54 2150
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 ASTM D5185m	316 0.0 1.2 24 2292 1064	24 2 32 <1 156 2070 980	19 0 86 <1 56 2288 961	13 0 83 <1 54 2150 942
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	316 0.0 1.2 24 2292 1064 1160	24 2 32 <1 156 2070 980 1244	19 0 86 <1 56 2288 961 1252	13 0 83 <1 54 2150 942 1197
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	316 0.0 1.2 24 2292 1064 1160 4996	24 2 32 <1 156 2070 980 1244 3436	19 0 86 <1 56 2288 961 1252 4009	13 0 83 <1 54 2150 942 1197 4005
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 ASTM D5185m	316 0.0 1.2 24 2292 1064 1160 4996	24 2 32 <1 156 2070 980 1244 3436	19 0 86 <1 56 2288 961 1252 4009 history1	13 0 83 <1 54 2150 942 1197 4005 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	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 ASTM D5185m	316 0.0 1.2 24 2292 1064 1160 4996	24 2 32 <1 156 2070 980 1244 3436 current 8	19 0 86 <1 56 2288 961 1252 4009 history1 7	13 0 83 <1 54 2150 942 1197 4005 history2 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	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 ASTM D5185m	316 0.0 1.2 24 2292 1064 1160 4996 Limit/base >25	24 2 32 <1 156 2070 980 1244 3436 <u>current</u> 8 3	19 0 86 <1 56 2288 961 1252 4009 history1 7 3	13 0 83 <1 54 2150 942 1197 4005 history2 7 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	316 0.0 1.2 24 2292 1064 1160 4996 limit/base >25 >20	24 2 32 <1 156 2070 980 1244 3436 current 8 3 11	19 0 86 <1 56 2288 961 1252 4009 history1 7 3 9	13 0 83 <1 54 2150 942 1197 4005 history2 7 1 1 13
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	316 0.0 1.2 24 2292 1064 1160 4996 limit/base >25	24 2 32 <1 156 2070 980 1244 3436 <u>current</u> 8 3 11 <i>current</i>	19 0 86 <1 56 2288 961 1252 4009 history1 7 3 9 9	13 0 83 <1 54 2150 942 1197 4005 history2 7 1 1 13 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	316 0.0 1.2 24 2292 1064 1160 4996 limit/base >25 >20	24 2 32 <1 156 2070 980 1244 3436 <u>current</u> 8 3 11 <u>current</u> 0.4	19 0 86 <1 56 2288 961 1252 4009 history1 7 3 9 history1 0.4	13 0 83 <1 54 2150 942 1197 4005 history2 7 1 1 13 history2 0.4
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	316 0.0 1.2 24 2292 1064 1160 4996 limit/base >25	24 2 32 <1 156 2070 980 1244 3436 <i>current</i> 8 3 11 <i>current</i> 0.4 10.2	19 0 86 <1 56 2288 961 1252 4009 history1 7 3 9 history1 0.4 10.5	13 0 83 <1 54 2150 942 1197 4005 history2 7 1 1 3 history2 0.4 12.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	316 0.0 1.2 24 2292 1064 1160 4996 limit/base >25 >20 limit/base	24 2 32 <1 156 2070 980 1244 3436 <u>current</u> 8 3 11 <u>current</u> 0.4	19 0 86 <1 56 2288 961 1252 4009 history1 7 3 9 history1 0.4	13 0 83 <1 54 2150 942 1197 4005 history2 7 1 1 13 history2 0.4
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	316 0.0 1.2 24 2292 1064 1160 4996 limit/base >25 >20 limit/base >6 >20	24 2 32 <1 156 2070 980 1244 3436 <i>current</i> 8 3 11 <i>current</i> 0.4 10.2	19 0 86 <1 56 2288 961 1252 4009 history1 7 3 9 history1 0.4 10.5	13 0 83 <1 54 2150 942 1197 4005 history2 7 1 1 3 history2 0.4 12.6
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	316 0.0 1.2 24 2292 1064 1160 4996 i mit/base >25 20 i mit/base >6 >20 >30	24 2 32 <1 156 2070 980 1244 3436 <u>current</u> 8 3 11 11 <u>current</u> 0.4 10.2 26.0	19 0 86 <1 56 2288 961 1252 4009 history1 7 3 9 history1 0.4 10.5 25.5	13 0 83 <1 54 2150 942 1197 4005 history2 7 1 1 13 history2 0.4 12.6 30.3
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	316 0.0 1.2 24 2292 1064 1160 4996 imit/base >25 20 imit/base >20 30 imit/base >20	24 2 32 <1 156 2070 980 1244 3436 <i>current</i> 8 3 11 <i>current</i> 0.4 10.2 26.0	19 0 86 <1 56 2288 961 1252 4009 history1 7 3 9 history1 0.4 10.5 25.5 history1	13 0 83 <1 54 2150 942 1197 4005 history2 7 1 13 history2 0.4 12.6 30.3 history2



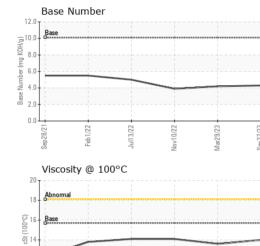
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OIL ANALYSIS REPORT

VISUAL



Certificate L2367	Laboratory Sample No. Lab Number Unique Numb Test Packag	: IL0032722 : 05963356 er : 10669907 je : FLEET	2 Rec Diag	01 Madison Ave., Cary, NC 27513 Received : 28 Sep 2023 Diagnosed : 29 Sep 2023 Diagnostician : Don Baldridge ice at 1-800-237-1369. 7025 scope of accreditation.			IDEALEASE OF NORTHWEST WI 611 HANSEN ROAD GREEN BAY, WI US 54304 Contact: GARY KOLTZ gkoltz@pcitrucks.com T: (920)499-6200				
		11-11-12/92/14	Feb 1/22	Nov10/22	Mar29/23	Sep27/23 +	Sep28/21	Jul13/22	Nov10/22	Mar29/23	Sen77/73
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		Debris	sc	alar *Vi		NONE	NONE		DNE	NONE	
	Silt				NONE	NONE		DNE	NONE		
		Yellow Me Precipitate				NONE	NONE		ONE	NONE	
		Vollow Mo	tol	alor *\/i	sual	NONE	NONE	NC	DNE	NONE	

Contact/Location: GARY KOLTZ - IDEGREWI