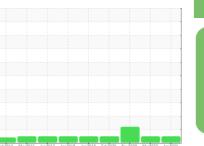


OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area **5C07**

INTERNATIONAL 4900 FBK2901 (S/N 1HTSDAAN3YH269199)

Diesel Engine

DIESEL ENGINE OIL SAE 5W40 (32 GAL)

DIAGNOSIS

Recommendation

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

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

Fluid Condition

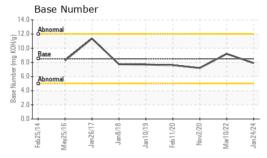
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

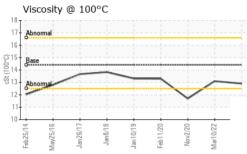
SAMPLE INFORMATION	method									his
	Feb 2014	May2016	Jan 2017	Jan 2018	Jan2019	Feb 2020	Nov2020	Mar2022	Jan2024	
TSDAAN3YH269199)										
SIS REPORT										

Sample Number		Client Info		ARI0007577	ARI0005291	ARI05106198
Sample Date		Client Info		24 Jan 2024	10 Mar 2022	02 Nov 2020
Machine Age	mls	Client Info		138452	137739	0
Oil Age	mls	Client Info		713	1899	0
Oil Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	ABNORMAL
CONTAMINATION	V	method	limit/base	current	history1	history2
Fuel		WC Method	>2.0	<1.0	0.0	▲ 4.1
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	7	14	60
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	<1
Titanium	ppm	ASTM D5185m		0	<1	1
Silver	ppm	ASTM D5185m	>3	0	<1	<1
Aluminum	ppm	ASTM D5185m	>20	2	1	<1
Lead	ppm	ASTM D5185m	>40	<1	<1	2
Copper	ppm	ASTM D5185m	>330	0	1	5
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Antimony	ppm	ASTM D5185m				0
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 6	history1 15	history2 72
	ppm					
Boron		ASTM D5185m	250	6	15	72
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	6 0	15 0	72 0
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	6 0 61	15 0 71	72 0 78
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	6 0 61 <1	15 0 71 <1	72 0 78 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	6 0 61 <1 923	15 0 71 <1 861	72 0 78 <1 163
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	6 0 61 <1 923 1057	15 0 71 <1 861 1312	72 0 78 <1 163 1770
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	250 10 100 450 3000 1150	6 0 61 <1 923 1057 1045	15 0 71 <1 861 1312 1095	72 0 78 <1 163 1770 916
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150	6 0 61 <1 923 1057 1045	15 0 71 <1 861 1312 1095 1323	72 0 78 <1 163 1770 916 978
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250	6 0 61 <1 923 1057 1045 1270 3139	15 0 71 <1 861 1312 1095 1323 2862	72 0 78 <1 163 1770 916 978 3065
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base	6 0 61 <1 923 1057 1045 1270 3139	15 0 71 <1 861 1312 1095 1323 2862 history1	72 0 78 <1 163 1770 916 978 3065
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	6 0 61 <1 923 1057 1045 1270 3139 current	15 0 71 <1 861 1312 1095 1323 2862 history1	72 0 78 <1 163 1770 916 978 3065 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >44	6 0 61 <1 923 1057 1045 1270 3139 current 4	15 0 71 <1 861 1312 1095 1323 2862 history1 4 <1	72 0 78 <1 163 1770 916 978 3065 history2 9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >44 >20	6 0 61 <1 923 1057 1045 1270 3139 current 4 <1	15 0 71 <1 861 1312 1095 1323 2862 history1 4 <1	72 0 78 <1 163 1770 916 978 3065 history2 9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >44 >20 limit/base >3	6 0 61 <1 923 1057 1045 1270 3139 current 4 <1 0 current	15 0 71 <1 861 1312 1095 1323 2862 history1 4 <1 1	72 0 78 <1 163 1770 916 978 3065 history2 9 9 13
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 ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >44 >20 limit/base >3	6 0 61 <1 923 1057 1045 1270 3139 current 4 <1 0 current 0.3	15 0 71 <1 861 1312 1095 1323 2862 history1 4 <1 1 history1 0.5	72 0 78 <1 163 1770 916 978 3065 history2 9 13 history2 0.3
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 method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >44 >20 limit/base >3 >20	6 0 61 <1 923 1057 1045 1270 3139 current 4 <1 0 current 0.3 5.2	15 0 71 <1 861 1312 1095 1323 2862 history1 4 <1 1 history1 0.5 6.2	72 0 78 <1 163 1770 916 978 3065 history2 9 9 13 history2 0.3 8.2
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 Method *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7415	250 10 100 450 3000 1150 1350 4250 limit/base >25 >44 >20 limit/base >3 >20 >30	6 0 61 <1 923 1057 1045 1270 3139 current 4 <1 0 current 0.3 5.2 17.4	15 0 71 <1 861 1312 1095 1323 2862 history1 4 <1 1 history1 0.5 6.2 18.3	72 0 78 <1 163 1770 916 978 3065 history2 9 13 history2 0.3 8.2 20.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7415 method	250 10 100 450 3000 1150 1350 4250 limit/base >25 >44 >20 limit/base >3 >20 >30 limit/base >25	6 0 61 <1 923 1057 1045 1270 3139 current 4 <1 0 current 0.3 5.2 17.4 current	15 0 71 <1 861 1312 1095 1323 2862 history1 4 <1 1 history1 0.5 6.2 18.3 history1	72 0 78 <1 163 1770 916 978 3065 history2 9 9 13 history2 0.3 8.2 20.3 history2



OIL ANALYSIS REPORT

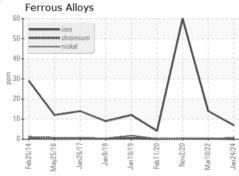


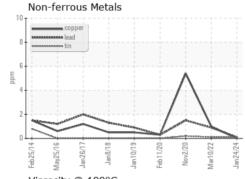


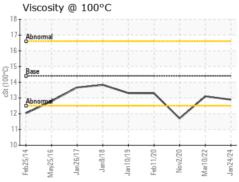
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

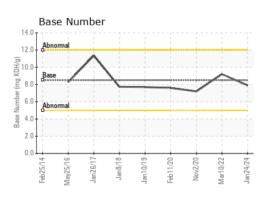
FLUID PROPER	THES	memod			riistory i	Historyz
Visc @ 100°C	cSt	ASTM D445	14.4	12.9	13.1	<u> 11.7</u>

GRAPHS













Laboratory Sample No. Lab Number Unique Number : 10856538

: ARI0007577 : 06074447

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

: 30 Jan 2024 : 31 Jan 2024 Diagnostician : Wes Davis

Test Package : CONST (Additional Tests: TBN)

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)

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