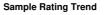


OIL ANALYSIS REPORT





Machine Id ISUZU 160657 Component

Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (12 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.

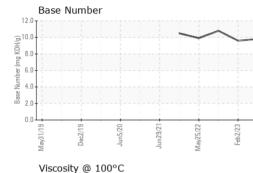
Fluid Condition

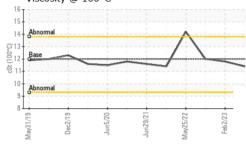
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history 1	history 2
Sample Number		Client Info		PCA0083838	PCA0071730	PCA0071716
Sample Date		Client Info		15 May 2023	02 Feb 2023	07 Sep 2022
Machine Age	mls	Client Info		84390	84144	78008
Oil Age	mls	Client Info		246	6136	4046
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history 1	history 2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>100	9	33	18
Chromium	ppm		>20	2	<1	<1
Nickel	ppm	ASTM D5185m	>4	1	0	0
Titanium	ppm	ASTM D5185m	2.1	22	74	64
Silver	ppm	ASTM D5185m	>3	2	0	<1
Aluminum	ppm	ASTM D5185m	>20	4	<1	1
Lead	ppm	ASTM D5185m		4	<1	0
Copper	ppm	ASTM D5185m		2	2	2
Tin	ppm	ASTM D5185m		2	<1	0
Vanadium	ppm	ASTM D5185m	>15	1	<1	<1
Cadmium	ppm	ASTM D5185m		2	0	0
	ррпі	AOTIN DOTOSIII		-	0	
ADDITIVES		method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m	2	37	93	77
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	2 0	37 18	93 0	77 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	37 18 33	93 0 17	77 0 21
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	37 18 33 2	93 0 17 <1	77 0 21 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	37 18 33 2 583	93 0 17 <1 510	77 0 21 <1 554
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	37 18 33 2 583 945	93 0 17 <1 510 1652	77 0 21 <1 554 1591
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	2 0 50 0 950 1050 995	37 18 33 2 583 945 752	93 0 17 <1 510 1652 1040	77 0 21 <1 554 1591 980
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	37 18 33 2 583 945 752 907	93 0 17 <1 510 1652 1040 1222	77 0 21 <1 554 1591 980 1143
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	2 0 50 0 950 1050 995	37 18 33 2 583 945 752	93 0 17 <1 510 1652 1040	77 0 21 <1 554 1591 980
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	2 0 50 950 1050 995 1180 2600	37 18 33 2 583 945 752 907	93 0 17 <1 510 1652 1040 1222	77 0 21 <1 554 1591 980 1143
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	2 0 50 950 1050 995 1180 2600	37 18 33 2 583 945 752 907 2962	93 0 17 <1 510 1652 1040 1222 3805	77 0 21 <1 554 1591 980 1143 4128
Boron 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 method ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	37 18 33 2 583 945 752 907 2962 current	93 0 17 <1 510 1652 1040 1222 3805 history 1	77 0 21 <1 554 1591 980 1143 4128 history 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	2 0 50 950 1050 995 1180 2600 limit/base >25	37 18 33 2 583 945 752 907 2962 current 5	93 0 17 <1 510 1652 1040 1222 3805 history 1 5	77 0 21 <1 554 1591 980 1143 4128 history 2 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	37 18 33 2 583 945 752 907 2962 current 5 3	93 0 17 <1 510 1652 1040 1222 3805 history 1 5 3	77 0 21 <1 554 1591 980 1143 4128 history 2 3 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25 >20	37 18 33 2 583 945 752 907 2962 current 5 3 7	93 0 17 <1 510 1652 1040 1222 3805 history 1 5 3 3 3	77 0 21 <1 554 1591 980 1143 4128 history 2 3 <1 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	37 18 33 2 583 945 752 907 2962 current 5 3 7 2 current	93 0 17 <1 510 1652 1040 1222 3805 history 1 5 3 3 3 history 1	77 0 21 <1 554 1591 980 1143 4128 history 2 3 <1 0 history 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base >3	37 18 33 2 583 945 752 907 2962 <u>current</u> 5 3 7 2 5 3 7 <i>current</i> 0.3	93 0 17 <1 510 1652 1040 1222 3805 history 1 5 3 3 3 history 1 0.8	77 0 21 <1 554 1591 980 1143 4128 history 2 3 <1 0 history 2 0.8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	37 18 33 2 583 945 752 907 2962 current 5 3 7 current 0.3 6.1	93 0 17 <1 510 1652 1040 1222 3805 history 1 5 3 3 3 history 1 0.8 9.7	77 0 21 <1 554 1591 980 1143 4128 history 2 3 <1 0 history 2 0.8 9.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 0 50 0 950 1050 995 1180 2600 2600 25 20 220 20 20 20 20 20 20 30 20 20 20	37 18 33 2 583 945 752 907 2962 current 5 3 7 current 0.3 6.1 18.3 current	93 0 17 <1 510 1652 1040 1222 3805 history 1 5 3 3 3 history 1 0.8 9.7 20.4 history 1	77 0 21 <1 554 1591 980 1143 4128 history 2 3 <1 0 history 2 0.8 9.1 21.7 history 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	2 0 50 0 950 1050 995 1180 2600 imit/base >25 imit/base >3 >20	37 18 33 2 583 945 752 907 2962 <u>current</u> 5 3 7 <u>current</u> 0.3 6.1 18.3	93 0 17 <1 510 1652 1040 1222 3805 history 1 5 3 3 history 1 0.8 9.7 20.4	77 0 21 <1 554 1591 980 1143 4128 history 2 3 <1 0 history 2 0.8 9.1 21.7



OIL ANALYSIS REPORT







Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Certificate L2367

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