

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Stoneway Concrete Renton [Stoneway Concrete Renton] 10-528

Diesel Engine

CASTROL Vecton LD 10W30 (--- GAL)

Diesel Engine Fluid

CASTROL VECTOR ED TOVISO (--- GAL)

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

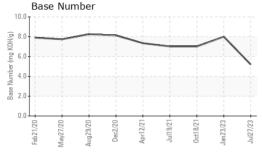
Fluid Condition

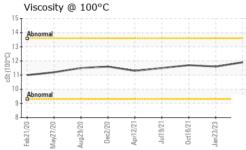
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PE0001159	PE0000528	PE12292719
Sample Date		Client Info		27 Jul 2023	23 Jan 2023	18 Oct 2021
Machine Age	hrs	Client Info		6434	5580	4231
Oil Age	hrs	Client Info		1520	666	663
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	٧	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	16	8	7
Chromium	ppm	ASTM D5185m	>20	<1	0	0
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	<1
Aluminum	ppm	ASTM D5185m	>20	11	6	10
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	<1	<1	0
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Antimony	ppm	ASTM D5185m				0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 27	history1 52	history2
	ppm		limit/base			
Boron		ASTM D5185m	limit/base	27	52	43
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	27 0	52 0	43 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	27 0 45	52 0 55	43 0 63
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	27 0 45 <1	52 0 55 <1	43 0 63
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	27 0 45 <1 415 1819 1027	52 0 55 <1 491	43 0 63 1092
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	27 0 45 <1 415 1819	52 0 55 <1 491 1654	43 0 63 1092 1030
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	limit/base	27 0 45 <1 415 1819 1027	52 0 55 <1 491 1654 960	43 0 63 1092 1030 1072
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	27 0 45 <1 415 1819 1027 1264 3867 current	52 0 55 <1 491 1654 960 1235 3779 history1	43 0 63 1092 1030 1072 1282 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m		27 0 45 <1 415 1819 1027 1264 3867	52 0 55 <1 491 1654 960 1235 3779 history1	43 0 63 1092 1030 1072 1282 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >25	27 0 45 <1 415 1819 1027 1264 3867 current 4	52 0 55 <1 491 1654 960 1235 3779 history1 3 <1	43 0 63 1092 1030 1072 1282 history2 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	27 0 45 <1 415 1819 1027 1264 3867 current	52 0 55 <1 491 1654 960 1235 3779 history1	43 0 63 1092 1030 1072 1282 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >25	27 0 45 <1 415 1819 1027 1264 3867 current 4 3 24 current	52 0 55 <1 491 1654 960 1235 3779 history1 3 <1	43 0 63 1092 1030 1072 1282 history2 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method *ASTM D5185m	limit/base >25 >20	27 0 45 <1 415 1819 1027 1264 3867 current 4 3 24	52 0 55 <1 491 1654 960 1235 3779 history1 3 <1	43 0 63 1092 1030 1072 1282 history2 2 0 19
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >25 >20 limit/base	27 0 45 <1 415 1819 1027 1264 3867 current 4 3 24 current	52 0 55 <1 491 1654 960 1235 3779 history1 3 <1 14	43 0 63 1092 1030 1072 1282 history2 2 0 19
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	limit/base >25 >20 limit/base >3	27 0 45 <1 415 1819 1027 1264 3867 current 4 3 24 current 0.4	52 0 55 <1 491 1654 960 1235 3779 history1 3 <1 14 history1 0.3	43 0 63 1092 1030 1072 1282 history2 2 0 19 history2 0.1
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	limit/base >25 >20 limit/base >3 >20	27 0 45 <1 415 1819 1027 1264 3867 current 4 3 24 current 0.4 10.1	52 0 55 <1 491 1654 960 1235 3779 history1 3 <1 14 history1 0.3 8.3	43 0 63 1092 1030 1072 1282 history2 2 0 19 history2 0.1 10
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 D7844 *ASTM D7624 *ASTM D7415	limit/base >25 >20 limit/base >3 >20 >30	27 0 45 <1 415 1819 1027 1264 3867 current 4 3 24 current 0.4 10.1 24.0	52 0 55 <1 491 1654 960 1235 3779 history1 3 <1 14 history1 0.3 8.3 19.9	43 0 63 1092 1030 1072 1282 history2 2 0 19 history2 0.1 10
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	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 D5185m Method *ASTM D7844 *ASTM D7624 *ASTM D7415 Method	limit/base >25 >20 limit/base >3 >20 >30 limit/base	27 0 45 <1 415 1819 1027 1264 3867 current 4 3 24 current 0.4 10.1 24.0 current	52 0 55 <1 491 1654 960 1235 3779 history1 3 <1 14 history1 0.3 8.3 19.9 history1	43 0 63 1092 1030 1072 1282 history2 2 0 19 history2 0.1 10 history2



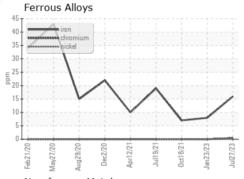
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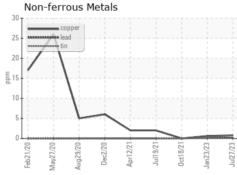


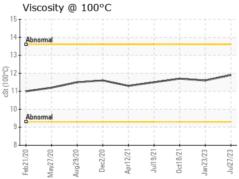


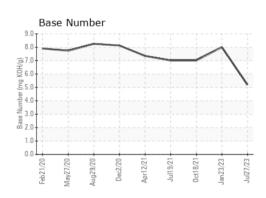
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance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

FLUID PROPERTIES		method	ilmit/base		nistory i	nistoryz
Visc @ 100°C	cSt	ASTM D445		11.9	11.6	11.7













Laboratory Sample No. Lab Number Unique Number : 10602600

: PE0001159 : 05922653

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 11 Aug 2023 Diagnosed

: 14 Aug 2023 Diagnostician : Don Baldridge Gary Merlino Construction - Off Road Shop 9125 10TH AVE SOUTH

SEATTLE, WA US 98108 Contact: Tony

Test Package : CONST (Additional Tests: FT-IR, ICP, KV100, SCREEN, TBN) To discuss this sample report, contact Customer Service at 1-800-237-1369.

oilsamples@gmccinc.com T:

* - 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)

Report Id: GARSEA [WUSCAR] 05922653 (Generated: 08/14/2023 13:19:18) Rev: 1

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