

## **OIL ANALYSIS REPORT**

### Area Stoneway Concrete Renton [Stoneway Concrete Renton] 10-505

**Diesel Engine** Fluid CASTROL Vecton LD 10W30 (--- GAL)

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

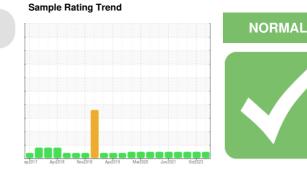
All component wear rates are normal.

#### 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.

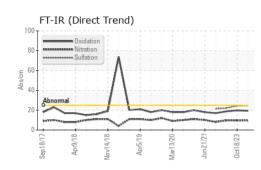


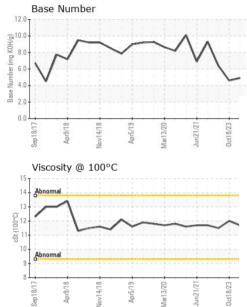


SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		PE0003287	PE0002229	PE0000575
Sample Date		Client Info		30 May 2024	18 Oct 2023	23 Mar 2023
Machine Age	hrs	Client Info		13080	11833	10434
Oil Age	hrs	Client Info		1247	1350	1451
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
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	7	9	11
Chromium	ppm	ASTM D5185m	>20	0	0	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	3
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	<1	<1	1
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		•	0	0
oddinidini	ppm	ASTIVI DOTODITI		0	0	0
ADDITIVES	ppm	method	limit/base	0 current	0 history1	0 history2
	ppm		limit/base		-	-
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 41	history1 37	history2 26
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base	current 41 0	history1 37 0	history2 26 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 41 0 2	history1 37 0 9	history2 26 0 60
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 41 0 2 <1	history1 37 0 9 0	history2 26 0 60 1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 41 0 2 <1 24	history1 37 0 9 0 76	history2 26 0 60 1 557
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 41 0 2 <1 24 2318	history1 37 0 9 0 76 2048	history2 26 0 60 1 557 1751
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 41 0 2 <1 24 2318 981	history1 37 0 9 0 76 2048 938	history2 26 0 60 1 557 1751 1001
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 41 0 2 <1 24 2318 981 1219	history1 37 0 9 0 76 2048 938 1203	history2 26 0 60 1 557 1751 1001 1306 3470 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		Current 41 0 2 <1 24 2318 981 1219 3979	history1 37 0 9 0 76 2048 938 1203 3269	history2           26           0           60           1           557           1751           1001           1306           3470           history2           5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 41 0 2 <1 24 2318 981 1219 3979 Current	history1 37 0 9 0 76 2048 938 1203 3269 history1	history2         26         0         60         1         557         1751         1001         1306         3470         history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 41 0 2 <1 24 2318 981 1219 3979 Current 3	history1           37           0           9           0           76           2048           938           1203           3269           history1           3	history2           26           0           60           1           557           1751           1001           1306           3470           history2           5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base >25	Current 41 0 2 <1 24 2318 981 1219 3979 Current 3 3 3	history1           37           0           9           0           76           2048           938           1203           3269           history1           3           4	history2           26           0           60           1           557           1751           1001           1306           3470           history2           5           3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base >25 >20	Current 41 0 2 <1 24 2318 981 1219 3979 Current 3 3 3 12	history1         37         0         9         0         76         2048         938         1203         3269         history1         3         4         9	history2         26         0         60         1         557         1751         1001         1306         3470         history2         5         3         4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base >25 >20 limit/base	Current 41 0 2 <1 24 2318 981 1219 3979 Current 3 3 12 Current	history1         37         0         9         0         76         2048         938         1203         3269         history1         3         4         9         history1	history2         26         0         60         1         557         1751         1001         1306         3470         bistory2         5         3         4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	limit/base >25 >20 limit/base >3	current         41         0         2         <1         24         2318         981         1219         3979         current         3         12         current         0.3	history1         37         0         9         0         76         2048         938         1203         3269         history1         3         4         9         history1         0         0.5	history2         26         0         60         1         557         1751         1001         1306         3470         history2         5         3         4         history2         0.5
ADDITIVES 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	method           ASTM D5185m	limit/base >25 >20 limit/base >3 >20	current         41         0         2         <1         24         2318         981         1219         3979         current         3         12         current         0.3         9.6	history1         37         0         9         0         76         2048         938         1203         3269         history1         3         4         9         history1         0.5         9.5	history2         26         0         60         1         557         1751         1001         1306         3470         history2         5         3         4         history2         0.5         9.7
ADDITIVES 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	method           ASTM D5185m           ASTM D5185m	Imit/base >25 >20 Imit/base >3 >20 >3 >20 >30	Current         41         0         2         <1         24         2318         981         1219         3979         current         3         12         current         0.3         9.6         24.7	history1         37         0         9         0         76         2048         938         1203         3269         history1         3         4         9         history1         0.5         9.5         24.4	history2         26         0         60         1         557         1751         1001         1306         3470         history2         5         3         4         history2         0.5         9.7         22.1



# **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 PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		11.7	12.0	11.5
GRAPHS						

Ferrous Alloys

cSt (100°C)

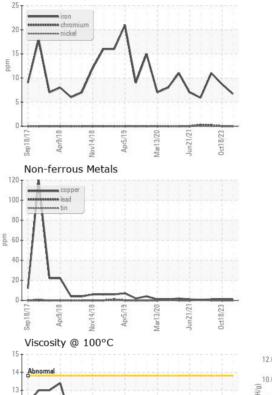
10

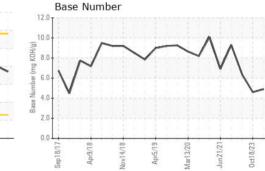
Abnorma

Apr9/18

Vov14/18

Sep18/17





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Gary Merlino Construction - Off Road Shop Sample No. : PE0003287 Received 9125 10TH AVE SOUTH : 25 Jun 2024 Lab Number : 06220492 Tested : 26 Jun 2024 SEATTLE, WA Unique Number : 11098689 Diagnosed : 27 Jun 2024 - Don Baldridge US 98108 Test Package : CONST (Additional Tests: FT-IR, ICP, KV100, SCREEN, TBN) Contact: Tony Wytko Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. oilsamples@gmccinc.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

Mar13/20

0ct18/23.

lun21/21

Submitted By: Stoneway Concrete - Seattle - Jesse Patterson