

OIL ANALYSIS REPORT

SCHEID PRODUCE INC **HINO SPI42** Component

Diesel Engine Fluid

PETRO CANADA DURON SHP 10W30 (16 QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

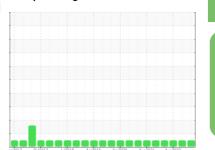
All component wear rates are normal.

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 Rating Trend



NORMAL

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0097331	PCA0083804	PCA0071772
Sample Date		Client Info		20 Jul 2023	06 Apr 2023	11 Aug 2022
Machine Age	mls	Client Info		230641	223974	206456
Oil Age	mls	Client Info		6667	8136	6437
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	8	9	9
Chromium	ppm	ASTM D5185m	>20	<1	<1	1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		4	26	57
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	2	4	3
Lead	ppm	ASTM D5185m	>40	<1	0	1
Copper	ppm	ASTM D5185m	>330	2	0	2
Tin	ppm	ASTM D5185m	>15	0	<1	1
Vanadium	ppm	ASTM D5185m		<1	0	3
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 10	history1 18	history2 51
	ppm ppm		2			
Boron		ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	10	18	51
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	10 0	18 0	51 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	10 0 61	18 0 44	51 0 23
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	10 0 61 <1 973 1207	18 0 44 <1 833 1370	51 0 23 1
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	10 0 61 <1 973 1207 1058	18 0 44 <1 833 1370 1060	51 0 23 1 569 1508 1017
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 0 950 1050 995 1180	10 0 61 <1 973 1207 1058 1325	18 0 44 <1 833 1370 1060 1224	51 0 23 1 569 1508 1017 1184
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 0 950 1050 995	10 0 61 <1 973 1207 1058	18 0 44 <1 833 1370 1060 1224 3847	51 0 23 1 569 1508 1017
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 ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base	10 0 61 <1 973 1207 1058 1325 3294 current	18 0 44 <1 833 1370 1060 1224 3847 history1	51 0 23 1 569 1508 1017 1184
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 method	2 0 50 0 950 1050 995 1180 2600 limit/base	10 0 61 <1 973 1207 1058 1325 3294 current 3	18 0 44 <1 833 1370 1060 1224 3847 history1 3	51 0 23 1 569 1508 1017 1184 3907
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN 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	2 0 50 0 950 1050 995 1180 2600 limit/base >25	10 0 61 <1 973 1207 1058 1325 3294 current 3 4	18 0 44 <1 833 1370 1060 1224 3847 history1 3 3 3	51 0 23 1 569 1508 1017 1184 3907 history2 6 6 6
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	2 0 50 0 950 1050 995 1180 2600 limit/base >25	10 0 61 <1 973 1207 1058 1325 3294 current 3	18 0 44 <1 833 1370 1060 1224 3847 history1 3	51 0 23 1 569 1508 1017 1184 3907 history2 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	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 limit/base	10 0 61 <1 973 1207 1058 1325 3294 current 3 4 3 3	18 0 44 <1 833 1370 1060 1224 3847 history1 3 3 2 history1	51 0 23 1 569 1508 1017 1184 3907 history2 6 6 6 2 history2
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 50 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	10 0 61 <1 973 1207 1058 1325 3294 current 3 4 3 2 4 3	18 0 44 <1 833 1370 1060 1224 3847 history1 3 3 2 history1 0.9	51 0 23 1 569 1508 1017 1184 3907 history2 6 6 6 6 2 history2 0.7
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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25 .20 limit/base >3 >20	10 0 61 <1 973 1207 1058 1325 3294 current 3 4 3 Current 0.8 8.4	18 0 44 <1 833 1370 1060 1224 3847 history1 3 3 2 history1 0.9 9.4	51 0 23 1 569 1508 1017 1184 3907 history2 6 6 6 6 2 2 history2 0.7 11.1
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 50 950 1050 995 1180 2600 limit/base >25 .20 limit/base >3 >20	10 0 61 <1 973 1207 1058 1325 3294 current 3 4 3 2 4 3	18 0 44 <1 833 1370 1060 1224 3847 history1 3 3 2 history1 0.9	51 0 23 1 569 1508 1017 1184 3907 history2 6 6 6 6 2 history2 0.7
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 limit/base >25 .20 limit/base >3 >20	10 0 61 <1 973 1207 1058 1325 3294 current 3 4 3 Current 0.8 8.4	18 0 44 <1 833 1370 1060 1224 3847 history1 3 3 2 history1 0.9 9.4	51 0 23 1 569 1508 1017 1184 3907 history2 6 6 6 6 2 2 history2 0.7 11.1
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 D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 20 imit/base >3 >20 >30 imit/base	10 0 61 <1 973 1207 1058 1325 3294 <u>current</u> 3 4 3 <u>current</u> 0.8 8.4 19.2	18 0 44 <1 833 1370 1060 1224 3847 history1 3 3 2 history1 0.9 9.4 18.7	51 0 23 1 569 1508 1017 1184 3907 history2 6 6 6 2 history2 0.7 11.1 21.9



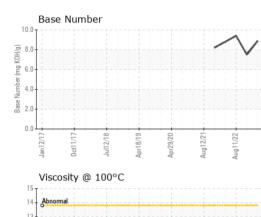
cSt (100°C)

Abnorm

an12/1

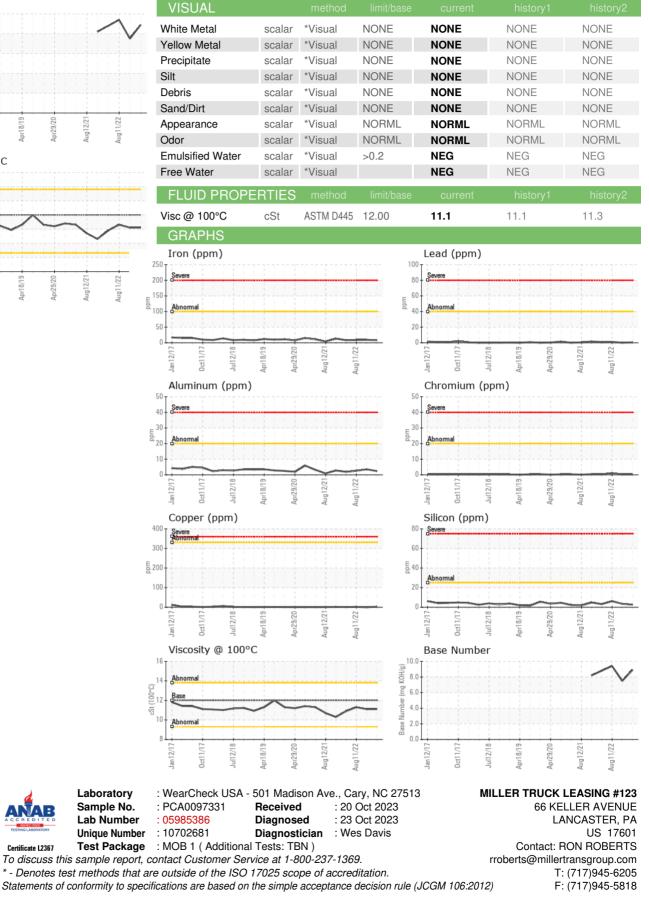
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OIL ANALYSIS REPORT



Aug12/21

Aug11/22



Certificate L2367

Laboratory

Sample No.

Lab Number

Contact/Location: RON ROBERTS - MILLAN