## **OIL ANALYSIS REPORT**

### A725119 - INBOARD GEARBOX

**Sample No:** VPA022750

Oil Type: CHEVRON ATF MD3

SAMPLE INFORMATION           Sample Number         VPA022750         VPA016716             Sample Date         29 Aug 2019         08 Dec 2018             Machine Hours         305         199             Oil Hours         106         95             Oil Changed         Changed         Changed             Sample Status         NORMAL         NORMAL             OIL CONDITION         Visc @ 40°C         cSt         30.1         27.7             Sodium         ppm         3         6              Sodium         ppm         3         6              Sodium         ppm         0         1              VEAR METALS         Vean METALS               VEAR METALS         9               Copper         ppm         5         9					
Sample Date         29 Aug 2019         08 Dec 2018             Machine Hours         305         199             Oil Hours         106         95             Sample Status         NORMAL         NORMAL             Sample Status         NORMAL         NORMAL             OIL CONDITION         Visc @ 40°C         cSt         30.1         27.7             CONTAMINATION         Sodium         ppm         33         6             Sodium         ppm         1         1              Sodium         ppm         1         1              Sodium         ppm         0         1              VEAR METALS                 VEAR METALS          1         1              Iron         ppm         0         0 <th>SAMPLE INFORM</th> <th>ATION</th> <th></th> <th></th> <th></th>	SAMPLE INFORM	ATION			
Machine Hours       305       199           Oil Hours       106       95           Oil Changed       Changed       Changed           Sample Status       NORMAL       NORMAL           OIL CONDITION             CUTCAMINATION             Silicon       ppm       30       6           Sodium       ppm        1           Sodium       ppm        1           VEAR METALS              VEAR METALS               PQ       19       24             Iron       ppm       5       25            Lead       ppm       5       25            Aluminum       ppm       0       0	Sample Number		VPA022750	VPA016716	 
Oil Hours       106       95           Oil Changed       Changed       Changed           Sample Status       NORMAL       NORMAL           OIL CONDITION             OIL CONDITION             COTTAMINATION       27.7           Sodium       ppm       3       6           Sodium       ppm        1           Veassium       ppm        1           Veassium       ppm       0       1           Veassium       ppm       0       1           Veassium       ppm       0       1           Veassium       ppm       5       9           Ico       ppm       5       9           Ico       ppm       5       9           Ico       ppm       0       0	Sample Date		29 Aug 2019	08 Dec 2018	 
Oil Changed Sample Status         Changed NORMAL         Changed NORMAL             OIL CONDITION               Visc @ 40°C         cSt         30.1         27.7             CONTAMINATION               Silicon         ppm         3         6             Sodium         ppm         2.1         1             Potassium         ppm         0         1             WEAR METALS                PQ         19         2.4              Iron         ppm         11         18             Copper         ppm         5         9             Lead         ppm         0         0             Muminum         ppm         0         0             Nickel         ppm         0         0	Machine Hours		305	199	 
Sample Status         NORMAL         NORMAL             OIL CONDITION               Visc @ 40°C         cSt         30.1         27.7             CONTAMINATION               Silicon         ppm         3         6             Sodium         ppm         <1	Oil Hours		106	95	 
OIL CONDITION           Visc @ 40°C         cSt         30.1         27.7             CONTAMINATION         Silicon         ppm         3         6             Sodium         ppm         3         6             Sodium         ppm         3         6             Sodium         ppm         4         1             WEAR METALS         PQ         19         24             Iron         ppm         5         9             Iron         ppm         5         9             Aluminum         ppm         0         0             Aluminum         ppm         0         0             Nickel         ppm         0         0             Molybelenum         ppm         0         0             Nickel         ppm         0         0             Magnese         ppm         0	Oil Changed		Changed	Changed	 
Visc @ 40°C         cSt         30.1         27.7             CONTAMINATION               Silicon         ppm         3         6             Sodium         ppm         1         1             Sodium         ppm         1         1             Sodium         ppm         1         1             Netassium         ppm         0         1             WEAR METALS                PQ         19         24              Iron         ppm         11         18             Copper         ppm         5         25             Lead         ppm         0         0             Aluminum         ppm         0         0	Sample Status		NORMAL	NORMAL	 
Visc @ 40°C         cSt         30.1         27.7             CONTAMINATION         Ppm         3         6             Sodium         ppm         31         1             Sodium         ppm         31         6             Sodium         ppm         31         1             Sodium         ppm         31         1             Sodium         ppm         31         1             Sodium         ppm         30         1             Potassium         ppm         0         1             Potassium         ppm         11         18             Iron         ppm         5         9             Lead         ppm         5         25	OIL CONDITION				
Silicon       ppm       3       6           Sodium       ppm       <1		cSt	<b>30.1</b>	27.7	 
Silicon       ppm       3       6           Sodium       ppm       <1	CONTAMINATION				
Sodium         ppm         <1         1             Potassium         ppm         0         1             WEAR METALS               PQ         19         24             Iron         ppm         11         18             Copper         ppm         5         9             Lead         ppm         5         25             Aluminum         ppm         0         0             Molybdenum         ppm         0         0             Manganese         ppm         4         26					
Potassium         ppm         0         1             WEAR METALS               PQ         19         24             Iron         ppm         11         18             Copper         ppm         5         9             Lead         ppm         5         25             Aluminum         ppm         0         0             Aluminum         ppm         0         0             Molybdenum         ppm         0         0             Nickel         ppm         0         0             Nickel         ppm         0         0             Manganese         ppm         0         0             Vanadium         ppm         4         26             Magnesium         ppm         2         0             Magnesium				_	
WEAR METALS         PQ         19         24             Iron         ppm         111         18             Copper         ppm         5         9             Lead         ppm         0         0             Aluminum         ppm         0         0             Aluminum         ppm         0         0             Aluminum         ppm         0         0             Aluminum         ppm         0         0             Nickel         ppm         0         0             Nickel         ppm         0         0             Silver         ppm         0         0             Manganese         ppm         4         1             Vanadium         ppm         2         0             Magnesium         ppm         2         0			_		
PQ       19       24           Iron       ppm       11       18           Copper       ppm       5       9           Lead       ppm       5       25           Aluminum       ppm       0       0           Aluminum       ppm       <1	Potassium	ppm	0		 
Iron       ppm       11       18           Copper       ppm       5       9           Lead       ppm       5       25           Aluminum       ppm       0       0           Aluminum       ppm       0       0           Aluminum       ppm       0       0           Molybdenum       ppm       0       0           Nickel       ppm       0       0           Silver       ppm       0       0           Manganese       ppm       0       0           Vanadium       ppm       0       0           ADDITIVES             Zinc       ppm       6       32           Phosphorus       ppm       144       193	WEAR METALS				
Copper         ppm         5         9             Lead         ppm         5         25             Tin         ppm         0         0             Aluminum         ppm         0         0             Aluminum         ppm         0         0             Chromium         ppm         0         0             Molybdenum         ppm         0         0             Nickel         ppm         0         0             Silver         ppm         0         0             Manganese         ppm         0         0             Vanadium         ppm         0         0             ADDITIVES               Magnesium         ppm         2         0             Phosphorus         ppm         144         193 <td>PQ</td> <td></td> <td><b>1</b>9</td> <td>24</td> <td> </td>	PQ		<b>1</b> 9	24	 
Lead         ppm         5         25             Tin         ppm         0         0             Aluminum         ppm         <1	Iron	ppm	<b>11</b>	18	 
Tin       ppm       0       0           Aluminum       ppm       <1           Chromium       ppm       0       0           Molybdenum       ppm       0       0           Molybdenum       ppm       0       0           Nickel       ppm       0       0           Nickel       ppm       0       0           Nickel       ppm       0       0           Silver       ppm       0       0           Manganese       ppm       0       0           Vanadium       ppm       4       26           Magnesium       ppm       2       0           Magnesium       ppm       2       0           Phosphorus       ppm       144       193	Copper	ppm	5	9	 
Aluminum         ppm         <1         <1             Chromium         ppm         0         0              Molybdenum         ppm         0         0              Nickel         ppm         0         0              Titanium         ppm         0         0              Silver         ppm         0         0              Manganese         ppm         0         0              Vanadium         ppm         0         0              ADDITIVES                 Magnesium         ppm         2         0              Zinc         ppm         6         32              Phosphorus         ppm         144         193	Lead	ppm	5	25	 
Chromium         ppm         0         0             Molybdenum         ppm         0         0             Nickel         ppm         0         0             Nickel         ppm         0         0             Titanium         ppm         0         0             Silver         ppm         0         0             Manganese         ppm          0         0             Vanadium         ppm         0         0             ADDITIVES               Magnesium         ppm         2         0             Magnesium         ppm         6         32             Phosphorus         ppm         144         193	Tin	ppm	0	0	 
Molybdenum         ppm         0         0             Nickel         ppm         0         0             Titanium         ppm         0         0             Silver         ppm         0         0             Manganese         ppm         <1	Aluminum	ppm	<b>□</b> <1	<1	 
Nickel         ppm         0             Titanium         ppm         0         0             Silver         ppm         0         0             Manganese         ppm         <1	Chromium	ppm	0	0	 
Titanium         ppm         0         0             Silver         ppm         0         0             Manganese         ppm         <1	Molybdenum	ppm	0	0	 
Silver         ppm         0         0             Manganese         ppm         <1         1             Vanadium         ppm         0         0             ADDITIVES               Magnesium         ppm         4         26             Magnesium         ppm         2         0             Zinc         ppm         6         32             Phosphorus         ppm         144         193	Nickel	ppm	0	0	 
Manganese         ppm         <1         1             Vanadium         ppm         0         0             ADDITIVES               Calcium         ppm         4         26             Magnesium         ppm         2         0             Zinc         ppm         6         32             Phosphorus         ppm         144         193	Titanium		0	0	 
Vanadium         ppm         0         0             ADDITIVES         Calcium         ppm         4         26             Magnesium         ppm         2         0             Zinc         ppm         6         32             Phosphorus         ppm         144         193	Silver		0	0	 
Vanadium         ppm         0             ADDITIVES              Calcium         ppm         4         26             Magnesium         ppm         2         0             Zinc         ppm         6         32             Phosphorus         ppm         144         193	Manganese	ppm	<1	1	 
Calcium         ppm         4         26             Magnesium         ppm         2         0             Zinc         ppm         6         32             Phosphorus         ppm         144         193	Vanadium	ppm	0	0	 
Magnesium         ppm         2         0             Zinc         ppm         6         32             Phosphorus         ppm         144         193	ADDITIVES				
Magnesium         ppm         2         0             Zinc         ppm         6         32             Phosphorus         ppm         144         193	Calcium	ppm	4	26	 
Zinc         ppm         6         32             Phosphorus         ppm         144         193	Magnesium		2	0	 
Phosphorus ppm <b>144</b> 193			6		 
	Phosphorus		144	193	 
	Barium	ppm	<1	0	 
Boron ppm 58 65	Boron		58	65	 

#### WERNER LEHNER

1305 MARINERS PL ANACORTES, WA US 98221 Contact: WERNER LEHNER werner@lehnerusa.com T: (310)454-7344 F:

#### Diagnosis

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

Depot:VPWERANAUnique No:8733619Signed:Don BaldridgeReport Date:09 Sep 2019

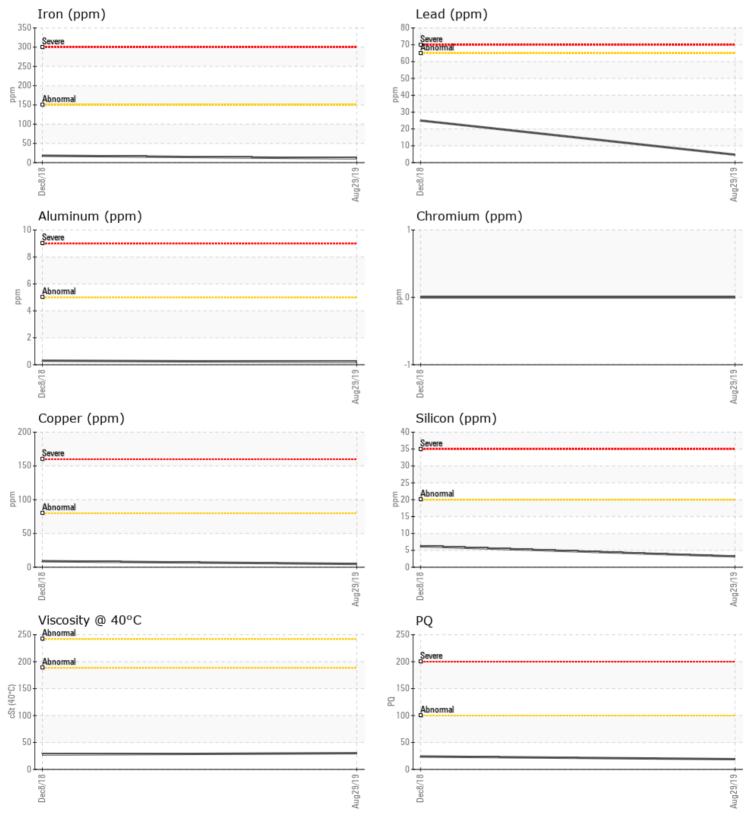
Contact/Location: WERNER LEHNER - VPWERANA



# **OIL ANALYSIS REPORT**



#### GRAPHS



Report Id: VPWERANA [WUSCAR] 04793753 (Generated: 08/31/2023 16:26:56) Rev: 1

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