

# OIL ANALYSIS REPORT



## ALASKA LUXURY TOURS FARGO VOLVO PENTA 2006016956 - PORT DIESEL ENGINE

**Sample No:** VPA056356  
**Oil Type:** KIRKLAND 15W40

### SAMPLE INFORMATION

Sample Number	<b>VPA056356</b>	VPA055120	VPA035061	VPA027296
Sample Date	<b>04 Jul 2023</b>	07 Jun 2023	12 Aug 2022	23 Jun 2022
Machine Hours	<b>3321</b>	2325	1941	1563
Oil Hours	<b>185</b>	200	202	208
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

**Sundance Mfg Inc**  
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### OIL CONDITION

Visc @ 100°C	cSt	<b>15.2</b>	15.3	15.3	14.8
Base Number (BN)	mg KOH/g	<b>10.1</b>	9.8	10.1	8.5
Oxidation (PA)	%	<b>71</b>	69	71	63

### CONTAMINATION

Soot %	%	<b>0.3</b>	0.3	0.4	0.3
Nitration (PA)	%	<b>75</b>	73	83	78
Sulfation (PA)	%	<b>59</b>	58	60	54
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>2</b>	3	3	5
Sodium	ppm	<b>&lt;1</b>	2	2	2
Potassium	ppm	<b>2</b>	2	1	2

### WEAR METALS

Iron	ppm	<b>10</b>	15	12	41
Copper	ppm	<b>3</b>	4	4	6
Lead	ppm	<b>5</b>	4	5	6
Tin	ppm	<b>&lt;1</b>	<1	1	2
Aluminum	ppm	<b>6</b>	10	11	48
Chromium	ppm	<b>&lt;1</b>	1	<1	4
Molybdenum	ppm	<b>59</b>	58	63	18
Nickel	ppm	<b>&lt;1</b>	0	<1	1
Titanium	ppm	<b>&lt;1</b>	0	0	0
Silver	ppm	<b>0</b>	0	0	<1
Manganese	ppm	<b>&lt;1</b>	<1	<1	<1
Vanadium	ppm	<b>&lt;1</b>	0	0	0

### ADDITIVES

Calcium	ppm	<b>1128</b>	1231	1103	1378
Magnesium	ppm	<b>974</b>	1043	943	839
Zinc	ppm	<b>1285</b>	1329	1222	1035
Phosphorus	ppm	<b>1003</b>	1057	1015	843
Barium	ppm	<b>0</b>	0	0	0
Boron	ppm	<b>1</b>	7	10	57

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

**Depot:** VP154394  
**Unique No:** 10550588  
**Signed:** Don Baldrige  
**Report Date:** 12 Jul 2023

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**VOLVO  
PENTA**

## GRAPHS

