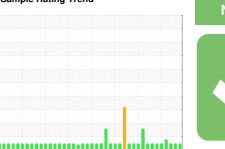


# **OIL ANALYSIS REPORT**

Sample Rating Trend



**NORMAL** 



# K-1501A Booster Compressor

Component **Tank Sealing System** 

PHILLIPS 66 Diamond Class® Turbine Oil AW 32 (--- GAL)

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the component. The amount and size of particulates present in the system is acceptable.

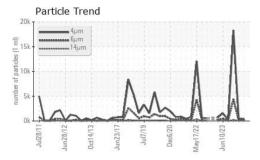
### **Fluid Condition**

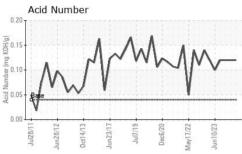
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

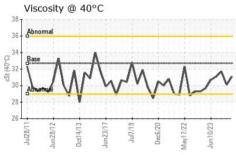
Sample Number   Client Info   HLC0003085   HLC0003095   HLC0003085   Machine Age   hrs   Client Info   0	AW 32 ( GAL)						
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age   hrs   Client Info   0   0   0   0   0   0   0   0   0	Sample Number		Client Info		HLC0003085	HLC0003096	HLC000268
Dil Changed	Sample Date		Client Info		22 Mar 2024	02 Mar 2024	12 Oct 2023
Contamination	Machine Age	hrs	Client Info		0	0	0
NORMAL   NORMAL   NORMAL   NORMAL   NORMAL	Oil Age	hrs	Client Info		0	0	0
CONTAMINATION   method   limit/base   current   history1   history	Oil Changed		Client Info		N/A	N/A	N/A
Water         WC Method         NEG         NEG         NEG           VEAR METALS         method         limit/base         current         history1         history           ron         ppm         ASTM D5185m         0         0         0           Chromium         ppm         ASTM D5185m         -1         -1         -1           Vickel         ppm         ASTM D5185m         -1         -1         0           Siliver         ppm         ASTM D5185m         -1         -1         0           ASTM D5185m         -1         -1         0         0           Aluminum         ppm         ASTM D5185m         -1         -1         0           Lead         ppm         ASTM D5185m         -1         -1         0         0           Lead         ppm         ASTM D5185m         -1         -1         0         0         0           Janadium         ppm         ASTM D5185m         -1         -1         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	Sample Status				NORMAL	NORMAL	NORMAL
WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         0         0         0           Chromium         ppm         ASTM D5185m         <1	CONTAMINATIO	N	method	limit/base	current	history1	history2
Chromium	Water		WC Method		NEG	NEG	NEG
Chromium         ppm         ASTM D5185m         <1         <1         <1           Nickel         ppm         ASTM D5185m         <1         0         0           Titanium         ppm         ASTM D5185m         <1         <1         0           Silver         ppm         ASTM D5185m         <1         <1         0           Aluminum         ppm         ASTM D5185m         <1         <1         0           Lead         ppm         ASTM D5185m         <1         <1         0           Copper         ppm         ASTM D5185m         <1         <1         0           Copper         ppm         ASTM D5185m         <1         <1         0           Condition         ppm         ASTM D5185m         <1         <1         0           Cadmium         ppm         ASTM D5185m         <1         <1         0           ADDITIVES         method         Imit/base         current         history1         history1           Barium         ppm         ASTM D5185m         0         0         0         0           Barium         ppm         ASTM D5185m         <1         <1         <1         0	WEAR METALS		method	limit/base	current	history1	history2
Sickel	ron	ppm	ASTM D5185m		0	0	0
Silver	Chromium	ppm	ASTM D5185m		<1	<1	<1
Silver	lickel	ppm	ASTM D5185m		<1	0	0
ASTM D5185m   ASTM D5185m	itanium	ppm	ASTM D5185m		<1	<1	0
ASTM D5185m   C1   C1   O   O   O	Silver	ppm	ASTM D5185m		<1	<1	0
ASTM D5185m   C1   C1   O	Aluminum		ASTM D5185m		2	2	<1
Astronome	_ead	ppm	ASTM D5185m		<1	<1	0
Astronome	Copper	ppm	ASTM D5185m		<1	<1	0
Astronomega	• •		ASTM D5185m		<1	<1	0
ADDITIVES	/anadium		ASTM D5185m		<1	<1	0
Soron   ppm   ASTM D5185m   0   0   0   0   0   0   0   0   0							
Sarium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         <1         <1         0           Manganese         ppm         ASTM D5185m         <1         <1         0           Magnesium         ppm         ASTM D5185m         <1         <1         0           Calcium         ppm         ASTM D5185m         4         3         0           Phosphorus         ppm         ASTM D5185m         23         22         8           Zinc         ppm         ASTM D5185m         0         0         0           Zinc         ppm         ASTM D5185m         1307         1341         1080           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         <1         <1         <1         <1           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         <1         <1         <1         <1           Contassium         ppm         ASTM D5185m         0         0         0         0           Particles >4µm         ASTM D5185m         >20 <td>Boron</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <td>0</td> <td>0</td> <td>0</td>	Boron	ppm	ASTM D5185m		0	0	0
Manganese         ppm         ASTM D5185m         <1         <1         0           Magnesium         ppm         ASTM D5185m         <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium         ppm         ASTM D5185m         <1         <1         0           Calcium         ppm         ASTM D5185m         4         3         0           Phosphorus         ppm         ASTM D5185m         23         22         8           Zinc         ppm         ASTM D5185m         0         0         0           Sulfur         ppm         ASTM D5185m         1307         1341         1080           CONTAMINANTS         method         limit/base         current         history1         history           Silicon         ppm         ASTM D5185m         0         0         0         0           Potassium         ppm         ASTM D5185m         0         0         0         0           Potassium         ppm         ASTM D5185m         >20         <1	Molybdenum	ppm	ASTM D5185m		<1	<1	0
Calcium         ppm         ASTM D5185m         4         3         0           Phosphorus         ppm         ASTM D5185m         23         22         8           Zinc         ppm         ASTM D5185m         0         0         0           Sulfur         ppm         ASTM D5185m         1307         1341         1080           CONTAMINANTS         method         limit/base         current         history1         history1           Sodium         ppm         ASTM D5185m         <1         <1         <1         <1           Sodium         ppm         ASTM D5185m         >20         <1         1         2           Potaticles > 4µm         ASTM D5185m         >20         <1         1         2           Particles > 4µm         ASTM D7647         >20         <1         1         2           Particles > 6µm         ASTM D7647         >2500         184         208         84           Particles > 21µm         ASTM D7647         >80         6         6         5           Particles > 38µm         ASTM D7647         >20         1         0         0           Particles > 71µm         ASTM D7647         >4	Manganese	ppm	ASTM D5185m		<1	<1	0
Phosphorus         ppm         ASTM D5185m         23         22         8           Zinc         ppm         ASTM D5185m         0         0         0           Sulfur         ppm         ASTM D5185m         1307         1341         1080           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         <1         <1         <1         <1           Godium         ppm         ASTM D5185m         0         0         0         0         0           Potassium         ppm         ASTM D5185m         >20         <1         1         2           Potassium         ppm         ASTM D5185m         >20         <1         1         2           Potassium         ppm         ASTM D5185m         >20         <1         1         2           FLUID CLEANLINESS         method         limit/base         current         history1         history1           Particles >4μm         ASTM D7647         >2500         184         208         84           Particles >14μm         ASTM D7647         >80         6         6         5 <td>//agnesium</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <td>&lt;1</td> <td>&lt;1</td> <td>0</td>	//agnesium	ppm	ASTM D5185m		<1	<1	0
Zinc         ppm         ASTM D5185m         0         0         0           Sulfur         ppm         ASTM D5185m         1307         1341         1080           CONTAMINANTS         method         limit/base         current         history1         history           Silicon         ppm         ASTM D5185m         0         0         0         0           Sodium         ppm         ASTM D5185m         0         0         0         0           Potassium         ppm         ASTM D5185m         >20         <1         1         2           FLUID CLEANLINESS         method         limit/base         current         history1         history1           Particles >4μm         ASTM D7647         >2500         184         208         84           Particles >21μm         ASTM D7647         >320         25         19         12           Particles >38μm         ASTM D7647         >80         6         6         5           Particles >71μm         ASTM D7647         >4         0         0         0           Particles >71μm         ASTM D7647         >4         0         0         0           Particles >71μm <t< td=""><td>-</td><td>ppm</td><td>ASTM D5185m</td><td></td><td>4</td><td>3</td><td>0</td></t<>	-	ppm	ASTM D5185m		4	3	0
Zinc         ppm         ASTM D5185m         0         0         0           Gulfur         ppm         ASTM D5185m         1307         1341         1080           CONTAMINANTS         method         limit/base         current         history1         history3           Godium         ppm         ASTM D5185m         0         0         0         0           Potassium         ppm         ASTM D5185m         >20         <1         1         2           Particles >4um         ASTM D5185m         >20         <1         1         2           Particles >4µm         ASTM D5185m         >20         <1         1         2           Particles >4µm         ASTM D5185m         >20         <1         1         2           Particles >4µm         ASTM D7647         >2500         184         208         84           Particles >4µm         ASTM D7647         >320         25         19         12           Particles >21µm         ASTM D7647         >80         6         6         5           Particles >71µm         ASTM D7647         >4         0         0         0           Particles >71µm         ASTM D7647         >4	Phosphorus	ppm	ASTM D5185m		23	22	8
Sulfur         ppm         ASTM D5185m         1307         1341         1080           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         <1			ASTM D5185m		0	0	0
Solition   ppm   ASTM D5185m   c1   c1   c1   c3   c3   c4   c4   c4   c4   c4   c4	Sulfur		ASTM D5185m		1307	1341	1080
Sodium         ppm         ASTM D5185m         0         0         0           Potassium         ppm         ASTM D5185m         >20         <1         1         2           FLUID CLEANLINESS         method         limit/base         current         history1         history           Particles >4μm         ASTM D7647         >2500         184         208         84           Particles >14μm         ASTM D7647         >320         25         19         12           Particles >21μm         ASTM D7647         >80         6         6         5           Particles >38μm         ASTM D7647         >20         1         0         0           Particles >71μm         ASTM D7647         >4         0	CONTAMINANTS	}	method	limit/base	current	history1	history2
Godium         ppm         ASTM D5185m         0         0         0           Potassium         ppm         ASTM D5185m         >20         <1         1         2           FLUID CLEANLINESS         method         limit/base         current         history1         history1           Particles >4μm         ASTM D7647         >2500         184         208         84           Particles >14μm         ASTM D7647         >320         25         19         12           Particles >21μm         ASTM D7647         >80         6         6         5           Particles >38μm         ASTM D7647         >20         1         0         0           Particles >71μm         ASTM D7647         >4         0	Silicon	ppm	ASTM D5185m		<1	<1	<1
FLUID CLEANLINESS         method         limit/base         current         history1         history1           Particles >4μm         ASTM D7647         410         524         233           Particles >6μm         ASTM D7647         >2500         184         208         84           Particles >14μm         ASTM D7647         >320         25         19         12           Particles >21μm         ASTM D7647         >80         6         6         5           Particles >38μm         ASTM D7647         >20         1         0         0           Particles >71μm         ASTM D7647         >4         0         0	Sodium	ppm	ASTM D5185m		0	0	0
Particles >4μm       ASTM D7647       410       524       233         Particles >6μm       ASTM D7647       >2500       184       208       84         Particles >14μm       ASTM D7647       >320       25       19       12         Particles >21μm       ASTM D7647       >80       6       6       5         Particles >38μm       ASTM D7647       >20       1       0       0         Particles >71μm       ASTM D7647       >4       0       0       0         Dil Cleanliness       ISO 4406 (c)       >/18/15       16/15/12       16/15/11       15/14/1         FLUID DEGRADATION       method       limit/base       current       history1       history1	Potassium	ppm	ASTM D5185m	>20	<1	1	2
Particles >6μm         ASTM D7647         >2500         184         208         84           Particles >14μm         ASTM D7647         >320         25         19         12           Particles >21μm         ASTM D7647         >80         6         6         5           Particles >38μm         ASTM D7647         >20         1         0         0           Particles >71μm         ASTM D7647         >4         0         0         0           Dil Cleanliness         ISO 4406 (c)         >/18/15         16/15/12         16/15/11         15/14/1           FLUID DEGRADATION         method         limit/base         current         history         history	FLUID CLEANLIN	NESS	method	limit/base	current	history1	history2
Particles >14μm       ASTM D7647       >320       25       19       12         Particles >21μm       ASTM D7647       >80       6       6       5         Particles >38μm       ASTM D7647       >20       1       0       0         Particles >71μm       ASTM D7647       >4       0       0       0         Dil Cleanliness       ISO 4406 (c)       >/18/15       16/15/12       16/15/11       15/14/1         FLUID DEGRADATION       method       limit/base       current       history	Particles >4µm		ASTM D7647		410	524	233
Particles >21μm         ASTM D7647         >80         6         6         5           Particles >38μm         ASTM D7647         >20         1         0         0           Particles >71μm         ASTM D7647         >4         0         0         0           Oil Cleanliness         ISO 4406 (c)         >/18/15         16/15/12         16/15/11         15/14/1           FLUID DEGRADATION         method         limit/base         current         history	Particles >6µm		ASTM D7647	>2500	184	208	84
Particles >38μm         ASTM D7647         >20         1         0         0           Particles >71μm         ASTM D7647         >4         0         0         0           Dil Cleanliness         ISO 4406 (c)         >/18/15         16/15/12         16/15/11         15/14/1           FLUID DEGRADATION         method         limit/base         current         history         history	Particles >14µm		ASTM D7647	>320	25	19	12
Particles >38μm         ASTM D7647         >20         1         0         0           Particles >71μm         ASTM D7647         >4         0         0         0           Dil Cleanliness         ISO 4406 (c)         >/18/15         16/15/12         16/15/11         15/14/1           FLUID DEGRADATION         method         limit/base         current         history         history			ASTM D7647	>80	6	6	5
Particles >71μm         ASTM D7647         >4         0         0         0           Dil Cleanliness         ISO 4406 (c)         >/18/15         16/15/12         16/15/11         15/14/1           FLUID DEGRADATION         method         limit/base         current         history         history						0	0
Dil Cleanliness         ISO 4406 (c)         >/18/15         16/15/12         16/15/11         15/14/1           FLUID DEGRADATION         method         limit/base         current         history1         history	•			>4	0	0	0
	•					16/15/11	15/14/11
Acid Number (AN) mg KOH/g ASTM D8045 0.04 0.12 0.12 0.12	FLUID DEGRAD	NOITA	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045	0.04	0.12	0.12	0.12

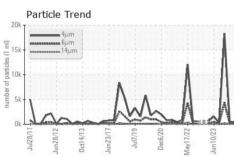


# **OIL ANALYSIS REPORT**









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
<b>Emulsified Water</b>	scalar	*Visual		NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	TIFS	method	limit/base	current	historv1	historv2

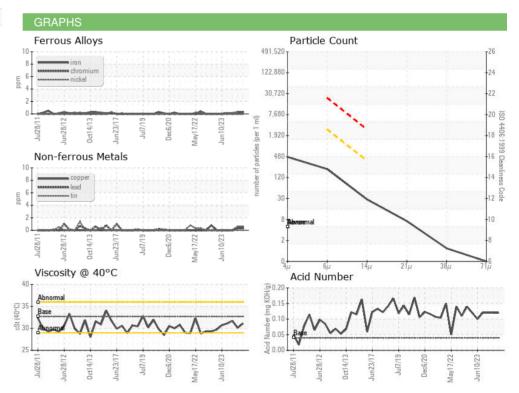
Visc @ 40°C	cSt	ASTM D445	32.7	31.1	30.1	31.7

Color		

SAMPLE IMAGES

**Bottom** 









Certificate L2367

Laboratory Sample No. Lab Number : 06131361 Unique Number: 10950826

: HLC0003085

To discuss this sample report, contact Customer Service at 1-800-237-1369.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received **Tested** 

Diagnosed Test Package: IND 2 (Additional Tests: PrtCount)

: 28 Mar 2024 : 01 Apr 2024 - Don Baldridge

: 27 Mar 2024

**HILCORP ALASKA LLC - ENDICOTT** 604 WAREHOUSE ENDICOTT

PRUDHOE BAY, AK US 99734

Contact: SEAN LOWTHER slowther@hilcorp.com T: (907)659-6800

\* - 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)

Contact/Location: SEAN LOWTHER - BPEEND

F: