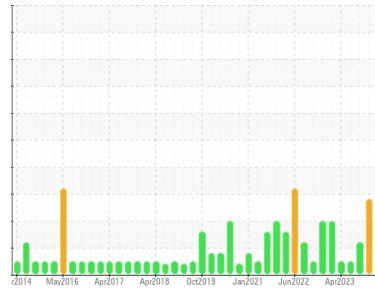




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

System 33 - Gas Compression [01954098]

Machine Id

Z-3300 1ST STAGE GAS COMPRESSOR LUBE OIL (S/N F-3305)

Component

Hydraulic System

Fluid

IRVING HYDRAULIC OIL LP 32 (2195 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.

Contaminants

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Oil Condition

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

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	WC	PP	PP
Sample Date	Client Info	15 Jun 2024	04 Apr 2024	04 Apr 2024
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		NORMAL	ABNORMAL	ATTENTION

WEAR METALS

method	limit/base	current	history1	history2	
PQ	ASTM D8184*	0	0	---	
Iron	ppm	ASTM D5185(m) >20	0	<1	2
Chromium	ppm	ASTM D5185(m) >10	0	0	0
Nickel	ppm	ASTM D5185(m) >10	<1	0	0
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	0	0	0
Aluminum	ppm	ASTM D5185(m) >10	0	0	0
Lead	ppm	ASTM D5185(m) >20	0	0	0
Copper	ppm	ASTM D5185(m) >20	<1	<1	<1
Tin	ppm	ASTM D5185(m) >10	0	0	0
Antimony	ppm	ASTM D5185(m)	0	0	0
Vanadium	ppm	ASTM D5185(m)	0	0	0
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	<1	<1	<1
Barium	ppm	ASTM D5185(m)	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	0
Magnesium	ppm	ASTM D5185(m)	<1	<1	<1
Calcium	ppm	ASTM D5185(m)	51	51	48
Phosphorus	ppm	ASTM D5185(m)	322	324	329
Zinc	ppm	ASTM D5185(m) 400	412	409	406
Sulfur	ppm	ASTM D5185(m)	1030	1036	1045
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >15	0	0	0
Sodium	ppm	ASTM D5185(m)	0	<1	<1
Potassium	ppm	ASTM D5185(m) >20	<1	<1	<1
Water	%	ASTM D6304* >0.05	0.001	0.002	---
ppm Water	ppm	ASTM D6304* >500	15	17	---

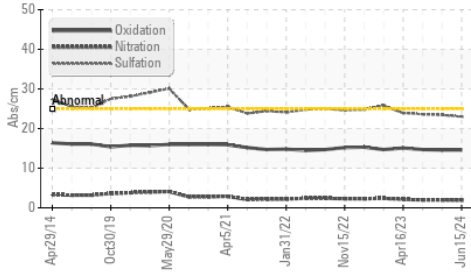
INFRA-RED

method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	0	0	---
Nitration	Abs/cm	ASTM D7624*	1.9	2.0	---
Sulfation	Abs/.1mm	ASTM D7415*	23.0	23.4	---

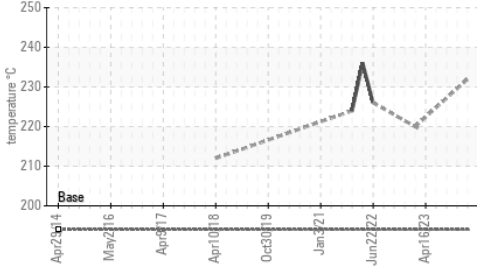


OIL ANALYSIS REPORT

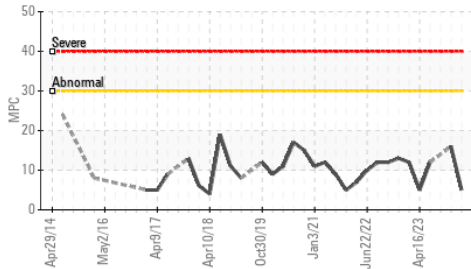
FT-IR (Direct Trend)



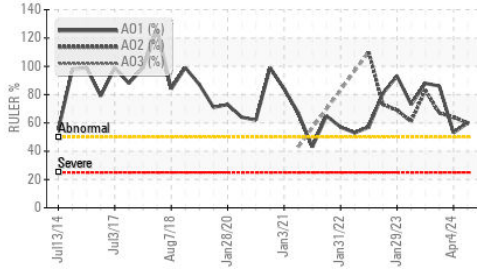
Flash Point (°C)



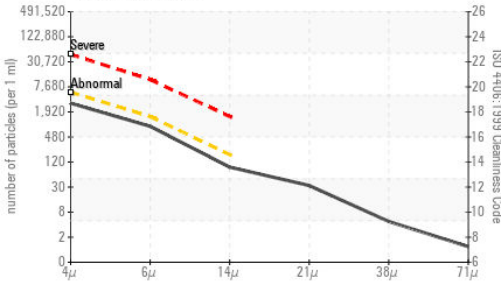
Varnish Potential



Remaining Life (RULER)



Particle Count



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	2716	▲ 19335	● 8378
Particles >6µm	ASTM D7647	>1300	760	▲ 4901	● 1680
Particles >14µm	ASTM D7647	>160	80	▲ 493	85
Particles >21µm	ASTM D7647	>40	29	▲ 152	19
Particles >38µm	ASTM D7647	>10	4	● 16	3
Particles >71µm	ASTM D7647	>3	1	2	1
Oil Cleanliness	ISO 4406 (c)	>19/17/14	19/17/13	▲ 21/19/16	● 20/18/14

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	14.6	14.6	---
Acid Number (AN)	mg KOH/g	ASTM D974*	0.51	0.48	0.46
Anti-Oxidant 1	%	ASTM D6971*	60	53	---
Anti-Oxidant 2	%	ASTM D6971*	60	64	---
MPC Varnish Potential	Scale	ASTM D7843(m)*	5	▲ 16	---

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	VLITE	VLITE
Sand/Dirt	scalar	Visual*	NONE	VLITE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	NEG	NEG	NEG
Free Water	scalar	Visual*	NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	31.3	31.2	31.3
Visc @ 100°C	cSt	ASTM D7279(m)	6.1	6.1	---
Viscosity Index (VI)	Scale	ASTM D2270*	146	147	---
COC Flash Point	°C	ASTM D92*	232	---	---

SEDIMENT	method	limit/base	current	history1	history2
Pentane Insolubles	%	ASTM D893(m)*	0.051	0.031	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					
PrtFilter				no image	no image
					no image



Laboratory Sample No. : \\
 Lab Number : 02644606
 Unique Number : 5802145
 Test Package : AOM 2 (Additional Tests: COC Flash, PntInsol)

Tested : 05 Jul 2024
 Diagnosed : 05 Jul 2024 - Bill Quesnel

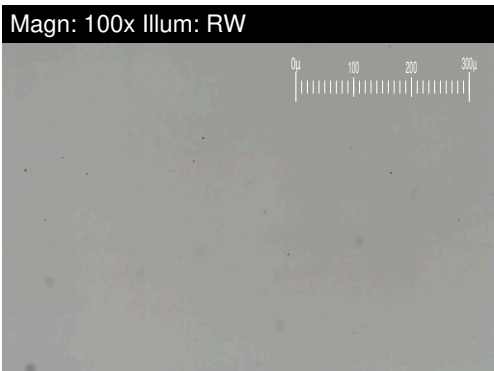
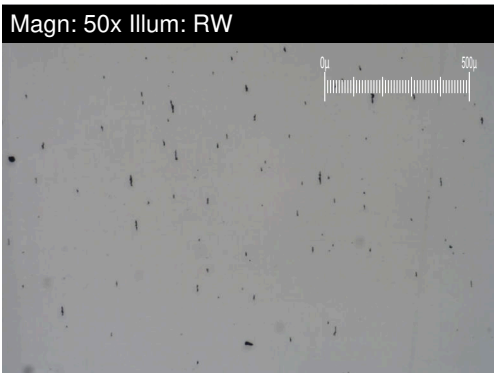
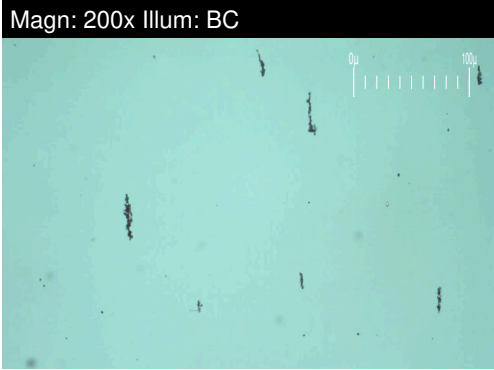
To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.

ST. JOHNS, NL
 CA A1C 6K3
 Contact: Sam Nash
 samantha.m.nash@exxonmobil.com
 T:
 F: (709)722-3766



FERROGRAPHY REPORT

Area
System 33 - Gas Compression [01954098]
 Machine Id
Z-3300 1ST STAGE GAS COMPRESSOR LUBE OIL (S/N F-3305)
 Component
Hydraulic System
 Fluid
IRVING HYDRAULIC OIL LP 32 (2195 GAL)

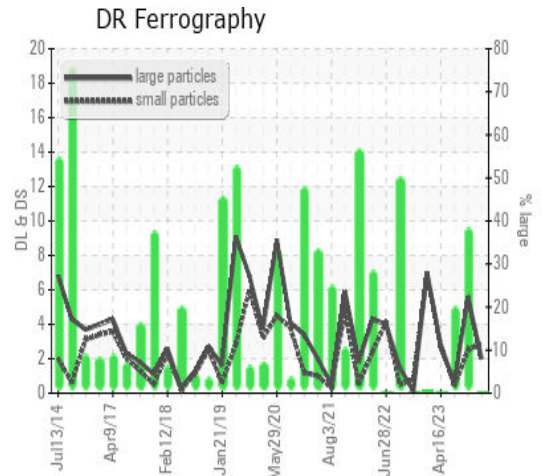


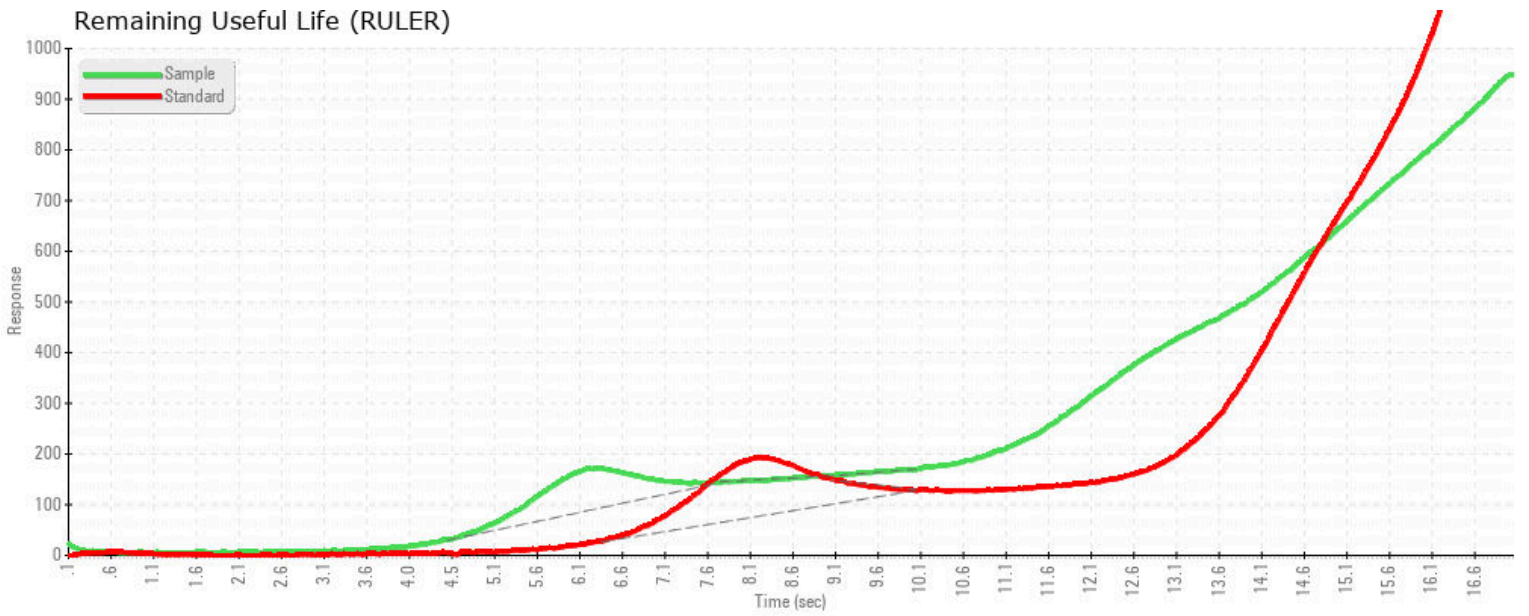
DR-FERROGRAPHY		method	limit/base	current	history1	history2
Large Particles		DR-Ferr*		2.0	5.6	---
Small Particles		DR-Ferr*		2.9	2.5	---
Total Particles		DR-Ferr*	>---	4.9	8.1	---
Large Particles Percentage	%	DR-Ferr*		0	38.3	---
Severity Index		DR-Ferr*		2	17	---

FERROGRAPHY		method	limit/base	current	history1	history2
Ferrous Rubbing	Scale 0-10	ASTM D7684*		2	2	
Ferrous Sliding	Scale 0-10	ASTM D7684*				
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*		1	1	
Ferrous Break-in	Scale 0-10	ASTM D7684*				
Ferrous Spheres	Scale 0-10	ASTM D7684*				
Ferrous Black Oxides	Scale 0-10	ASTM D7684*			1	
Ferrous Red Oxides	Scale 0-10	ASTM D7684*				
Ferrous Corrosive	Scale 0-10	ASTM D7684*				
Ferrous Other	Scale 0-10	ASTM D7684*				
Nonferrous Rubbing	Scale 0-10	ASTM D7684*				
Nonferrous Sliding	Scale 0-10	ASTM D7684*				
Nonferrous Cutting	Scale 0-10	ASTM D7684*				
Nonferrous Rolling	Scale 0-10	ASTM D7684*				
Nonferrous Other	Scale 0-10	ASTM D7684*				
Carbonaceous Material	Scale 0-10	ASTM D7684*				
Lubricant Degradation	Scale 0-10	ASTM D7684*				
Sand/Dirt	Scale 0-10	ASTM D7684*		1	1	
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*		1	1	

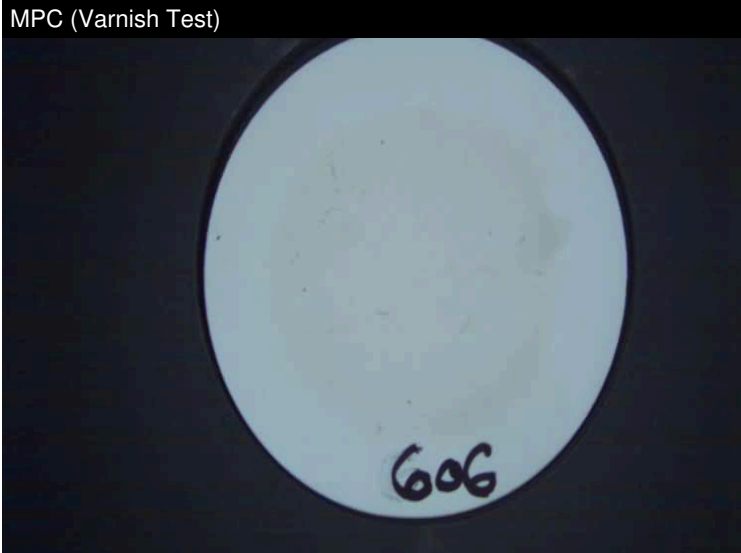
WEAR

All component wear rates are normal.
 The ferrography results are normal indicating no abnormal wear in the system.





MPC (Varnish Test)



Sample Color & Clarity

