

The PALLSCOPE Analysis Report

Shown below is a typical hydraulic or lube report. Highlighted on the report are some of the features that make our report unique, and provide superior benefits to you.

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UNIT ID: 06 H
 SECOND ID: HYDRAULIC TANK

ABC Manufacturing
 John Smith
 888-555-1212
 9109 Blossom Dr
 Centerville, OH 45458

PALL Pall Corporation

UNIT TYPE: FORKLIFT
 APPLICATION: HYDRAULIC SYSTEM
 MODEL: HEAVY LIFTER

MFR: LUBE/FLUID MFR
 RELIABLE MFG
 GOOD LUBRICANTS

LUBE TYPE: GOOD OIL
 SUMP CAPACITY: 00750
 LUBE TIME: [blank]
 DATE SAMP.: 12/13/2004
 SEVERITY: **3**

GRADE: ISO 32
 HYD SYS PRESS: 3000
 UNIT: [blank]
 DATE REC.: 12/17/2004
 ACCOUNT No.: [blank]

FILTER TYPE: RETURN
 MICRON RATING: 010
 Loc Lab No.: DA
 529810
 JJS

System Information

Observations and recommendations based on analysis of data and system parameters

COMMENTS Filter change suggested if not done at sampling time (as applicable); Chrome is at a SIGNIFICANT LEVEL; CHROMIUM in hydraulic systems could possibly be pistons/rods (if piston), gears or bearings (if gear pump); Iron is at a MODERATE LEVEL; IRON in hydraulic systems could possibly be pistons/rods (if piston pump), gears or bearings (if gear pump), or fluid conductors such as piping, tubing or steel fittings; Copper is at a MINOR LEVEL; Lead is at a MINOR LEVEL; Viscosity is SLIGHTLY HIGH.

ISO CODE: 23 22 20
 Volume: 25mL
 Magnification: 100 X
 Scale: 10 micrometers p

Photomicrograph of actual system contaminants

Spectrometric analysis performed by state-of-the-art inductively coupled plasma emission spectrometer

VALUES EXPRESSED IN PARTS PER MILLION (PPM) BY WEIGHT

WEAR METALS											CONTAMINANT METALS				MULTI-SOURCE METALS				ADDITIVE METALS				
Fe	Cr	Ni	Al	Cu	Pb	Sn	Cd	Ag	Ti	V	Si	Na	K	Mo	Sb	Mn	Li	B	Mg	Ca	Ba	P	Zn
3	2	0	2	4	3	0	0	0	0	0	2	2	88	5	0	0	0	1	27	249	1	430	482
2	1	0	3								3	2	1	4	0	0	0	1	20	268	0	412	466
											2	2	0	5	0	0	0	2	24	267	0	442	486
											2	1	0	6	0	0	0	2	26	257	1	409	422

Each sample is also analyzed for water content, viscosity, and acid number

TEST DATA	LUBE UNIT	LCU B A N E N G E D	W A T E R P P M	W A T E R % SAT	V I S C O S I T Y cSt	T A N Total Acid No.	I S O C O D E	4 M I C R O N	6 M I C R O N	10 M I C R O N	14 M I C R O N	21 M I C R O N	38 M I C R O N	70 M I C R O N	100 M I C R O N
09/03/2004		N		43	36.8	0.52	19 18 15	3224	1295	292	163	82	8	1	0
09/07/2004															
10/06/2004		N		78	35.8	0.55	18 17 15	2080	907	386	220	63	14	2	0
10/08/2004															
							16	6529	3402	1109	543	149	32	9	0
							2 20	63130	24845	12605	6605	2231	417	22	2
12/17/2004							AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	

Results for the current sample and previous 5 analyses provide quick access to trend data

Particle counts and ISO 4406 cleanliness level is reported

Severity of results will be highlighted using this symbol (^). Symbol can range from no arrows (best scenario) to four arrows (worst scenario.)

What Analyses Do You Get With Your Report?

Standard analyses of hydraulic and lube oil samples include:

- Particle count by automatic counter with size calibration per ISO 11171
- Photomicrograph taken at 100 X magnification for visual image of contamination
- Analysis of 24 chemical elements by ICP
- Water content – either % saturation, or Karl Fischer if saturation is above 100%
- Total acid number
- Viscosity at 40°C

Standard engine sample analyses include:

- Analysis of 24 chemical elements by ICP
- Fuel dilution %
- Soot %
- Water determination by crackle test
- Total base number
- Viscosity at 40°C
- Oxidation/Nitration