HY-PRO FILTRATION

OA-PATLKF (replaces OA1)

Oil Analysis Kits

Bottle Sample Oil Analysis

ISO4406:1999 particle count (4/6/14)

Spectroscopy, FTIR, Wear Metals

AN (acid number) mg KOH/g

Water Content by KF (ppm)

Hy-Pro qualified objective lab results

Prepaid tests in 10 pack cartons

Benefits of Fluid Monitoring

Fluid conditioning monitoring is critical for making proper condition based contamination solution recommendations. With a complete snapshot of the fluid condition from oil analysis Hy-Pro can help diagnose any problems caused by contamination or fluid degradation and craft a solution to yield optimum system reliability and yield maximum useful fluid life.

When used in a routine sampling program the OA1 oil analysis kit results provide all the information needed to trend changes in fluid condition and identify types of contamination to catch component or fluid problems before they result in unplanned downtime or premature fluid replacement.

Sampling Procedure Requirements

- Sample must be representative of the system
- Sample should be taken during system operation
- Fluid should be at operating temperature
- Sampling method must not introduce contamination
- Only use sampling bottles pre-cleaned per ISO3722

Obtaining Representative Sample

For oil analysis data to be most effective the sample must be acquired properly so that it is representative of the fluid that is going to sensitive bearings hydraulic components. Select a position of maximum turbulence and constant flow.

- If general system cleanliness is required, sample from a main flow line upstream of a filter or from an active reservoir
- If the cleanliness of the fluid entering a sensitive component is required, sample in a main flow line upstream of the component
- Identify best sample port location and type
- Completely purge sample port
- Rinse sample bottle 3 times with oil from sample port oil before collecting the sample
- Develop a procedure to ensure consistency
- Sample port must be properly flushed to prevent introduction of background contamination

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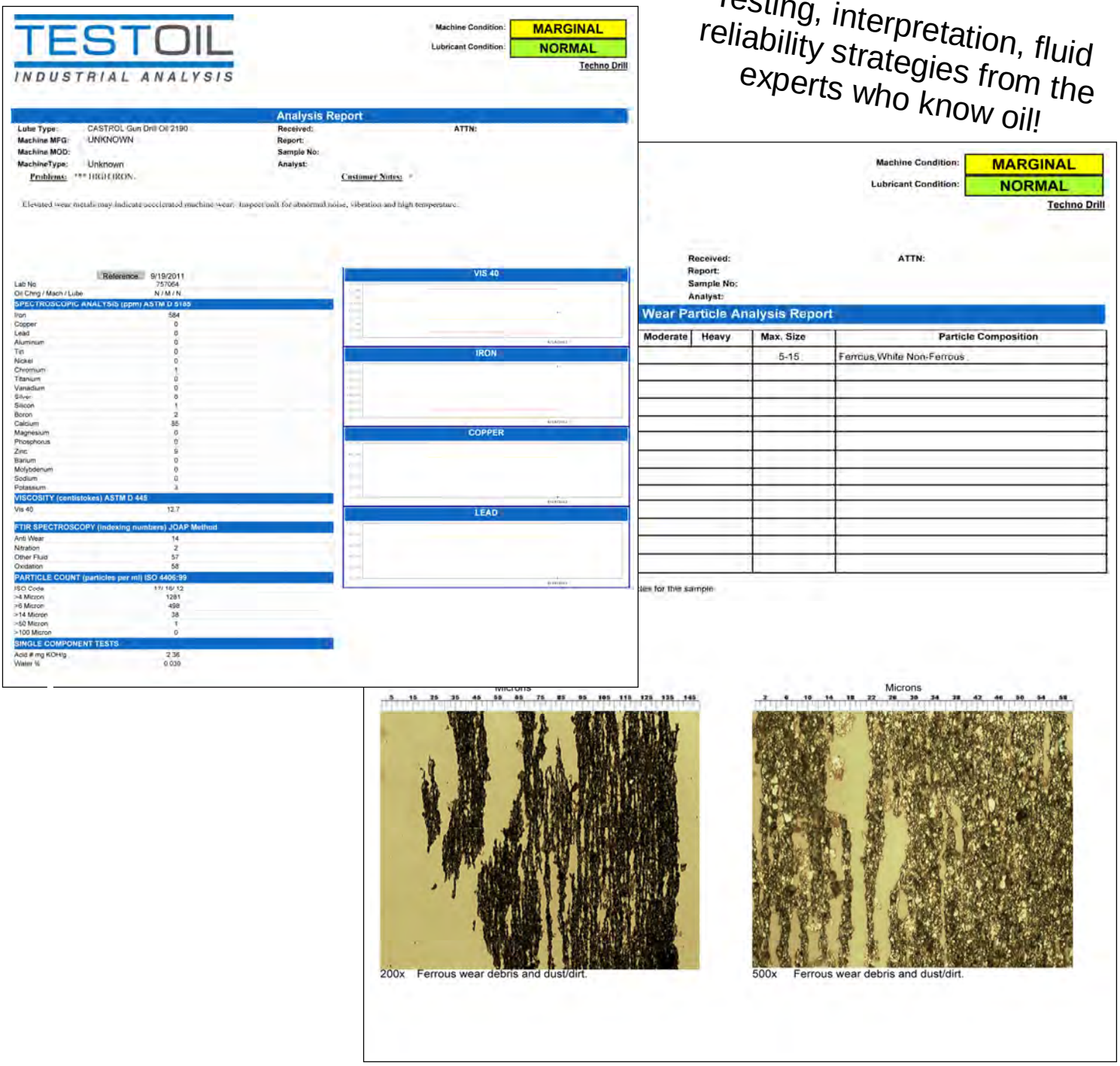
Testing, interpretation, fluid reliability strategies from the experts who know oil!



TESTOIL
INDUSTRIAL ANALYSIS

Machine Condition: MARGINAL
Lubricant Condition: NORMAL
Techno Drill

Analysis Report

Lube Type: CASTROL Gun Drill Oil 2190
Machine MFG: UNKNOWN
Machine MOD:
MachineType: Unknown
Problems: *** HIGH IRON.
Received:
Report:
Sample No:
Analyst:
ATTN:
Customer Notes:

Elevated wear metals may indicate accelerated machine wear. Inspect unit for abnormal noise, vibration and high temperature.

Reference	9/19/2011
Lab No	757064
Oil Chng / Mach / Lube	N / M / N
SPECTROSCOPIC ANALYSIS (ppm) ASTM D 5185	
Iron	584
Copper	0
Lead	0
Aluminum	0
Tin	0
Nickel	0
Chromium	1
Titanium	0
Vanadium	0
Silver	0
Silicon	1
Boron	2
Calcium	85
Magnesium	0
Phosphorus	0
Zinc	9
Barium	0
Molybdenum	0
Sodium	0
Potassium	3
VISCOSITY (centistokes) ASTM D 445	
Vis 40	12.7
FTIR SPECTROSCOPY (indexing numbers) JOAP Method	
Anti Wear	14
Nitration	2
Other Fluid	57
Oxidation	58
PARTICLE COUNT (particles per ml) ISO 4406:99	
ISO Code	17/ 16/ 12
>4 Micron	1281
>6 Micron	498
>14 Micron	38
>50 Micron	1
>100 Micron	0
SINGLE COMPONENT TESTS	
Acid # mg KOH/g	2.36
Water %	0.039

VIS 40

IRON

COPPER

LEAD

Machine Condition: MARGINAL
Lubricant Condition: NORMAL
Techno Drill

Received:
Report:
Sample No:
Analyst:
ATTN:

Wear Particle Analysis Report

Moderate	Heavy	Max. Size	Particle Composition
		5-15	Ferrous,White Non-Ferrous

...ies for this sample:

Microns

200x Ferrous wear debris and dust/dirt.

Microns

500x Ferrous wear debris and dust/dirt.

Tests Included	Description
Metals	Spetroscopic Analysis (ppm) per ASTM D 5185
Viscosity	Centistokes per ASTM D 445
FTIR	Spetroscopy (index number) JOAP
Particle Count	ISO 4406:99 (particles per ml)
Acid Number	Reported in mg KOH/g
Water in oil	Reported ppm by KF
Wear Metals	Detected size range & composition
Ferrous Metals	200x & 500x magnified photos & ferrous metal composition

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