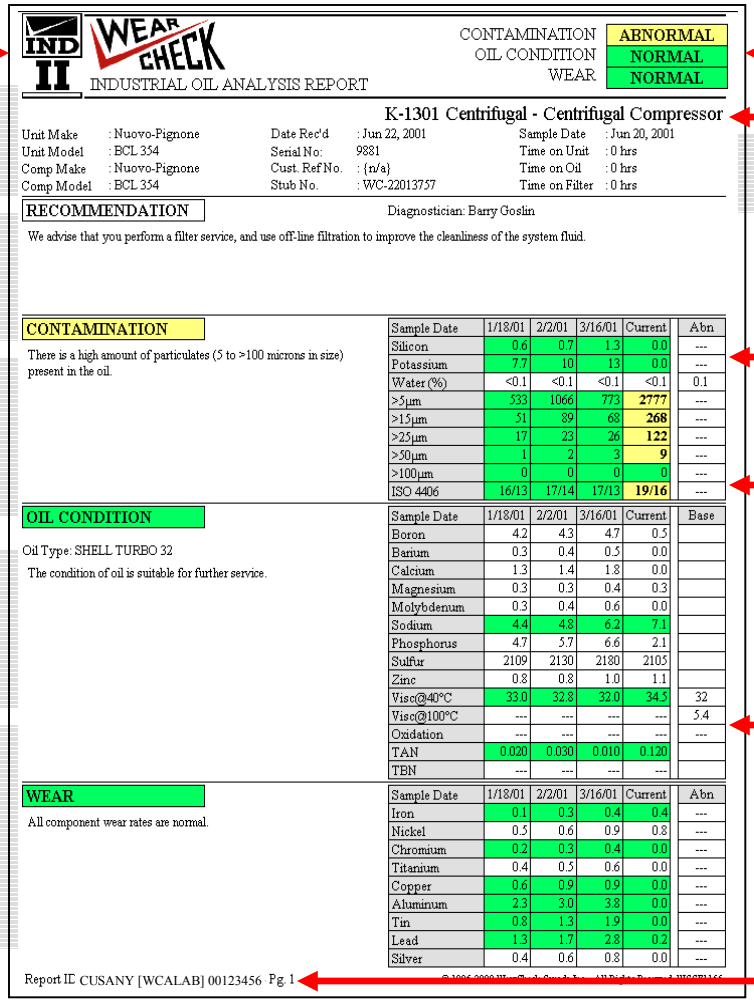
Review Reports

IND 2 Sample Report



IND II — WEAR CHECK INDUSTRIAL OIL ANALYSIS REPORT

CONTAMINATION: ABNORMAL
OIL CONDITION: NORMAL
WEAR: NORMAL

K-1301 Centrifugal - Centrifugal Compressor

Unit Make	: Nuovo-Pignone	Date Rec'd	: Jun 22, 2001	Sample Date	: Jun 20, 2001
Unit Model	: BCL 354	Serial No:	9881	Time on Unit	: 0 hrs
Comp Make	: Nuovo-Pignone	Cust. Ref No.	: (n/a)	Time on Oil	: 0 hrs
Comp Model	: BCL 354	Stub No.	: WC-22013757	Time on Filter	: 0 hrs

RECOMMENDATION — Diagnostician: Barry Goslin

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

CONTAMINATION

There is a high amount of particulates (5 to >100 microns in size) present in the oil.

Sample Date	1/18/01	2/2/01	3/16/01	Current	Abn
Silicon	0.6	0.7	1.3	0.0	---
Potassium	7.7	10	13	0.0	---
Water (%)	<0.1	<0.1	<0.1	<0.1	0.1
>5µm	533	1066	773	2777	---
>15µm	51	89	68	268	---
>25µm	17	23	26	122	---
>50µm	1	2	3	9	---
>100µm	0	0	0	0	---
ISO 4406	16/13	17/14	17/13	19/16	---

OIL CONDITION

Oil Type: SHELL TURBO 32

The condition of oil is suitable for further service.

Sample Date	1/18/01	2/2/01	3/16/01	Current	Base
Boron	4.2	4.3	4.7	0.5	
Barium	0.3	0.4	0.5	0.0	
Calcium	1.3	1.4	1.8	0.0	
Magnesium	0.3	0.3	0.4	0.3	
Molybdenum	0.3	0.4	0.6	0.0	
Sodium	4.4	4.8	6.2	7.1	
Phosphorus	4.7	5.7	6.6	2.1	
Sulfur	2109	2130	2180	2105	
Zinc	0.8	0.8	1.0	1.1	
Visc@40°C	33.0	32.8	32.0	34.5	32
Visc@100°C	---	---	---	---	5.4
Oxidation	---	---	---	---	---
TAN	0.020	0.030	0.010	0.120	
TBN	---	---	---	---	

WEAR

All component wear rates are normal.

Sample Date	1/18/01	2/2/01	3/16/01	Current	Abn
Iron	0.1	0.3	0.4	0.4	---
Nickel	0.5	0.6	0.9	0.8	---
Chromium	0.2	0.3	0.4	0.0	---
Titanium	0.4	0.5	0.6	0.0	---
Copper	0.6	0.9	0.9	0.0	---
Aluminum	2.3	3.0	3.8	0.0	---
Tin	0.8	1.3	1.9	0.0	---
Lead	1.3	1.7	2.8	0.2	---
Silver	0.4	0.6	0.8	0.0	---

Report ID: CUSANY [WCALAB] 00123456 Pg. 1

Test kit used

Quick Sample Status

Unit Identification

Sample Information
Sample, Recieved Date
Sample Number
Time on oil, filter, component

Abnormal Limits

Target ISO Cleanliness Level

New oil baseline

Report Identification

Unit Information
Including make, model, s/n

Recommendation
Summary and any necessary corrective actions required.

Contamination
Dirt, Water, Particle Count (ISO Code)
Identifies any abnormal contaminants present in the oil.

Wear
Wear metals in parts per million (ppm)
Determines if equipment is wearing Abnormally.

Oil Condition
Oil additive levels in ppm
Viscosity @ 40°C
Total Acid Number (AN)
Determines if oil is suitable for continued use.

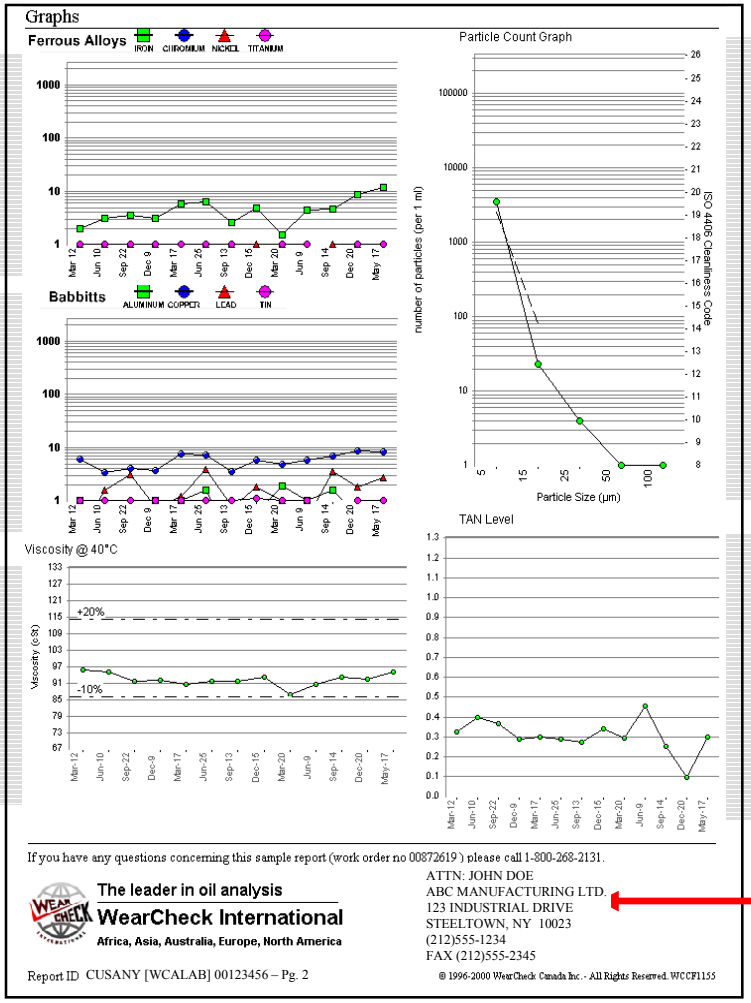
Review Reports

IND 2 Sample Report (back)

Ferrous Wear Metal Graph
All ferrous wear metals charted on a log graph showing up to 25 samples chronologically. Allows for the visual identification of wear of alloyed components.

Babbitt Wear Metal Graph
All non-ferrous wear metals charted on a log graph showing up to 25 samples chronologically. Allows for the visual identification of wear of alloyed components.

Viscosity Graph
Trend of the viscosity in cSt showing both upper and lower limits.



Particle Count Graph
A chart of the current particle levels in an easy to read format showing the current particle levels against the ISO level. The chart also shows the target level.

TAN Graph
Trend of the TAN level of the oil showing both the base and typical levels of the base oil.

Customer contact info