

Fluid Analysis Report

<i>Equipment</i>	EXAMPLE TX	<i>Oil preservation type</i>	DESSICANT-BREATHING
<i>Serial No.</i>	123456	<i>In-service</i>	1
<i>Apparatus type</i>	TRN	<i>Equipment remarks</i>	IN SERVICE
<i>Owner</i>	YOUR CLIENT	<i>Tank</i>	MAIN
<i>Norms</i>	TRN_IEEE_INC_69KV	<i>Norms used</i>	TRN_IEEE_INC_69KV
<i>Fluid type</i>	OIL	<i>DGA result</i>	1/3
<i>Manufacturer</i>	FP	<i>Fluid condition</i>	1/1
<i>Year manufactured</i>	1992	<i>Moisture code</i>	1/1
<i>kV ratings</i>	66/13.8	<i>PCB result code</i>	0/0
<i>MVA ratings</i>	30/37.5	<i>Oil test status</i>	UNREVIEWED

Gas Analysis

<i>Lab Report Number</i>	3244-5	2232-1	1496-3	1250-5
<i>Sample date</i>	2012-10-01	2011-08-08	2009-10-30	2008-10-06
<i>Fluid temp</i>	33	50		
<i>Hydrogen (H2)</i>	6	7	4	8
<i>Methane (CH4)</i>	20	8	5	6
<i>Ethane (C2H6)</i>	11.7	4.0	4.0	3.0
<i>Ethylene (C2H4)</i>	87.7	38.0	31.0	30.0
<i>Acetylene (C2H2)</i>	0.6	0.0	0.0	0.0
<i>Carbon Monoxide (CO)</i>	161	149	164	222
<i>Carbon Dioxide (CO2)</i>	1170	1140	1170	1280
<i>Oxygen (O2)</i>	30200	34400	29900	8800
<i>Nitrogen (N2)</i>	67600	68100	71900	70500
<i>Total heat gas</i>	119	50	40	39
<i>TDCG</i>	287	206	208	269
<i>Equivalent TCG</i>	0.164	0.146		
<i>Total partial press</i>	91.8	89.7		
<i>Est. safe handling limit</i>	9.2	9.6		
<i>Calculated monitor ppm</i>	36	34	34	48
<i>CO2/CO</i>	7.267	7.651	7.134	5.766
<i>Oxygen/Nitrogen (O2/N2)</i>	0.447	0.505	0.416	0.125
<i>DGA retest days</i>	30	365	365	365
<i>DGA retest date</i>	2012-10-31	2012-08-07	2010-10-30	2009-10-06
<i>DGA reference days</i>	420.0	647.0	389.0	0.0
<i>DGA result</i>	3	1	1	1
<i>DGA diagnosis</i>	T3			

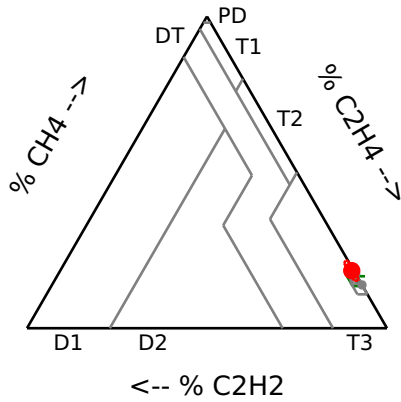
Gas Analysis Remarks

One or more combustible gases have a positive long-term average rate. (CH4, C2H6, C2H4) Sharp jump (!). Several combustible gases have increased. (CH4, C2H6, C2H4) High level (*). Thermal fault (above 700 C). Consider investigative sampling.

Gas Analysis Summary

c2h4*!

Diagnosis



Triangle Diagnosis: T3

Rogers Diagnosis: T3

Fluid Quality

Lab Report Number	3244-5	2057-2	1496-3	1250-5
Sample date	2012-10-01	2011-05-03	2009-10-30	2008-10-06
Fluid temp	33	26		
Dielectric breakdown D1816 (1 mm)	37.0	40.0	26.0	30.0
PF at 25 C	0.053	0.015	0.063	0.008
Acid number	0.014	0.013	0.011	0.020
Interfacial tension	35.8	35.2	36.0	34.7
Oil quality index	0.4	0.4	0.3	0.6
Fluid quality retest days	365	365	365	365
Fluid quality retest date	2013-10-01	2012-05-02	2010-10-30	2009-10-06
Fluid condition	1	1	1	1

Fluid Quality Analysis Remarks

No oil quality problems were detected.

Moisture Analysis

Lab Report Number	3244-5	2232-1	1496-3	1250-5
Sample date	2012-10-01	2011-08-08	2009-10-30	2008-10-06
Fluid temp	33	50		
Moisture	7	3	4	15
Relative saturation	7	2		
Dew point	-21	-34	-30	-7
Solubility parameter A	7.3000	7.3000	7.3000	7.3000
Solubility parameter B	1630	1630	1630	1630
Moisture code	1	1	1	1

Moisture Remarks

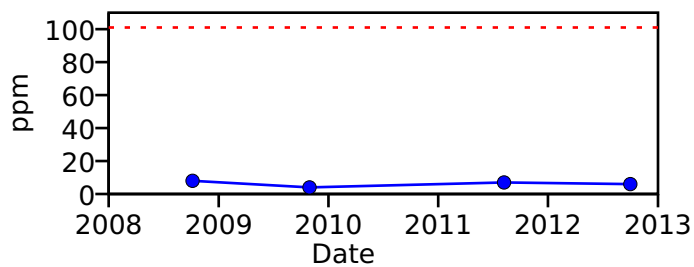
The water content of the oil seems acceptable.

PCB Analysis

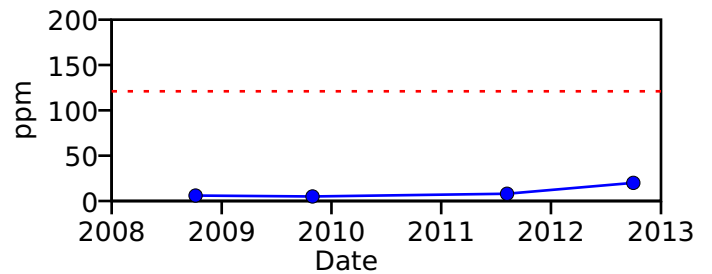
Lab Report Number	1328-5
Sample date	2009-05-15
Aroclor 1242	0.0
Aroclor 1254	0.0
Aroclor 1260	0.0
Total PCB	0.0

History Graphs and Diagnostic Charts

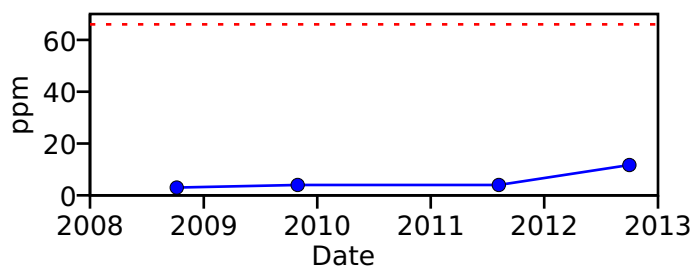
Hydrogen (H2)



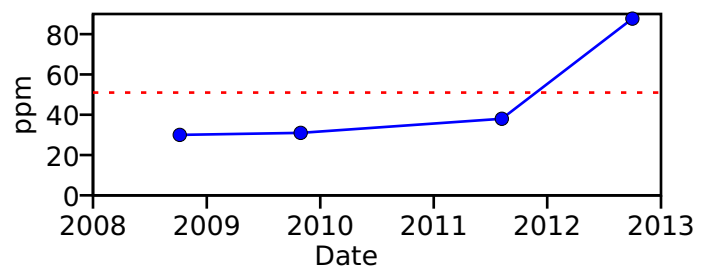
Methane (CH4)



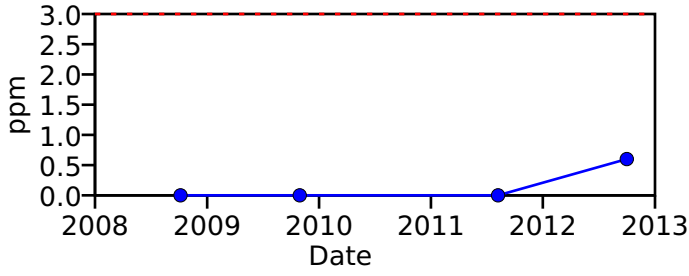
Ethane (C2H6)



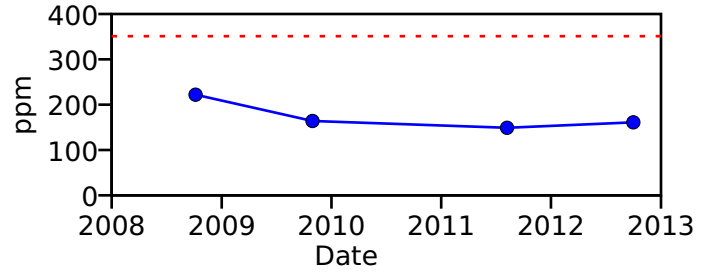
Ethylene (C2H4)



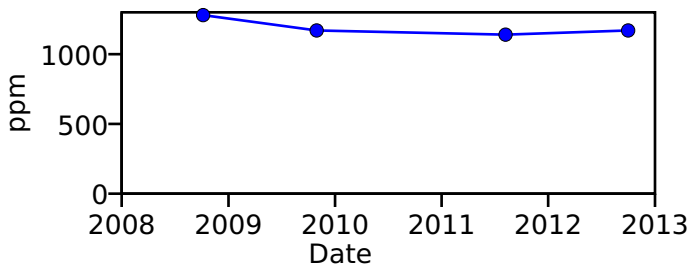
Acetylene (C2H2)



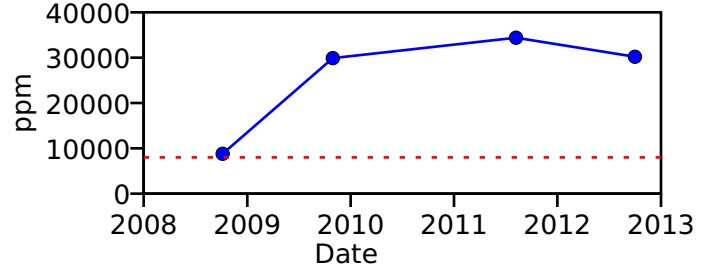
Carbon Monoxide (CO)



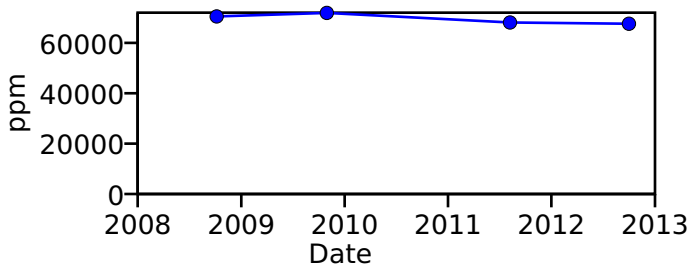
Carbon Dioxide (CO2)



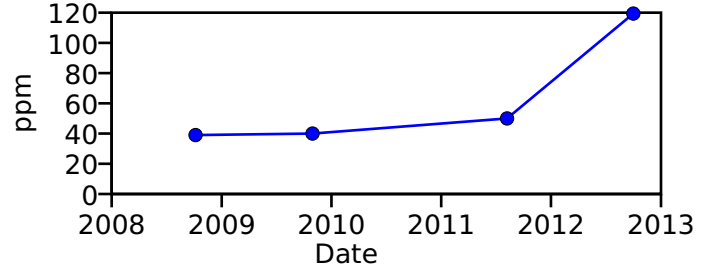
Oxygen (O2)



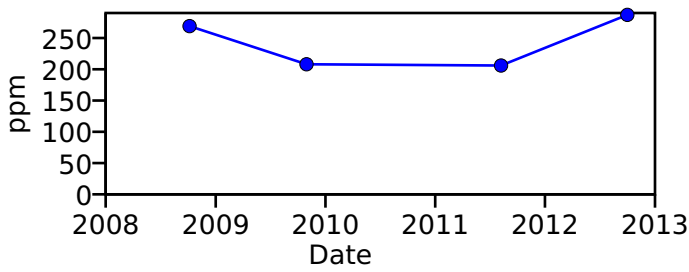
Nitrogen (N2)



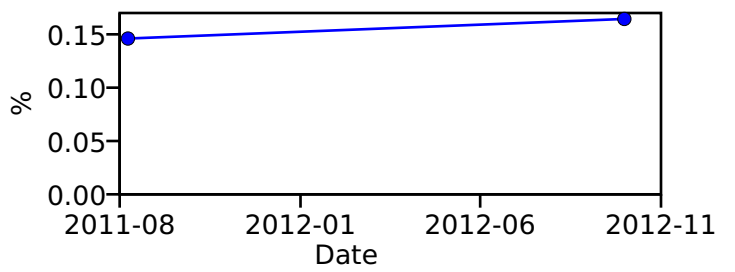
Total heat gas



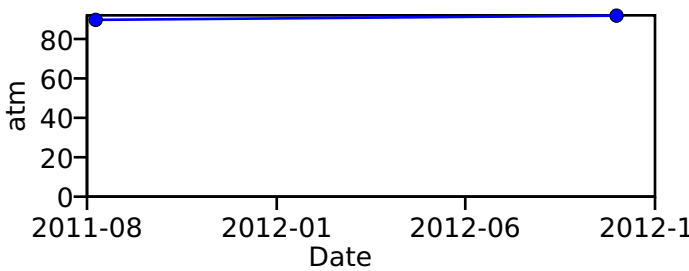
TDCG



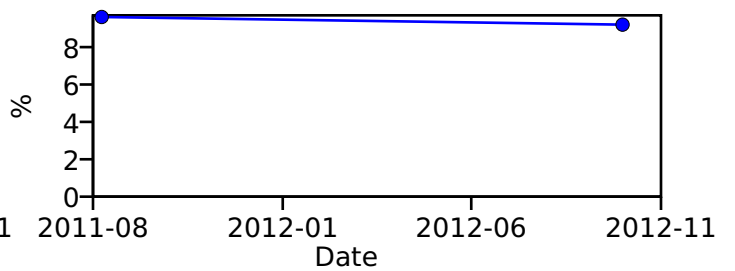
Equivalent TCG



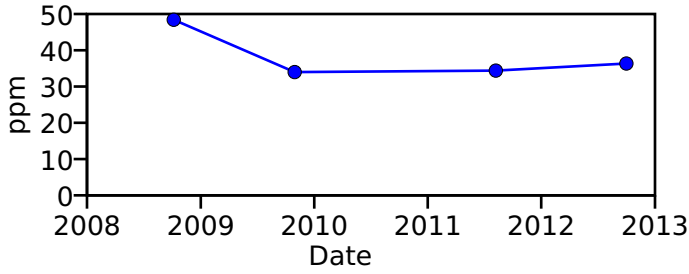
Total partial press



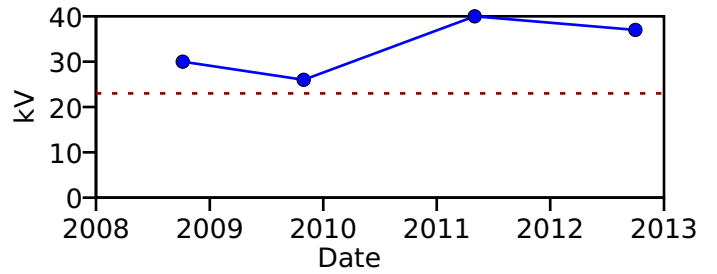
Est. safe handling limit



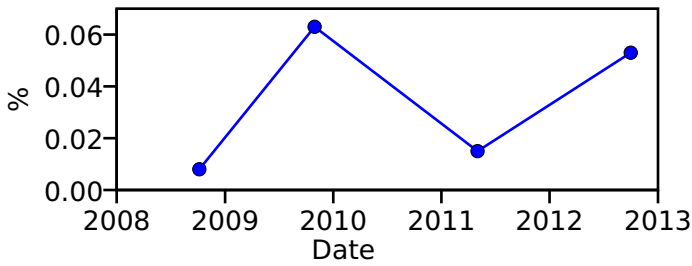
Calculated monitor ppm



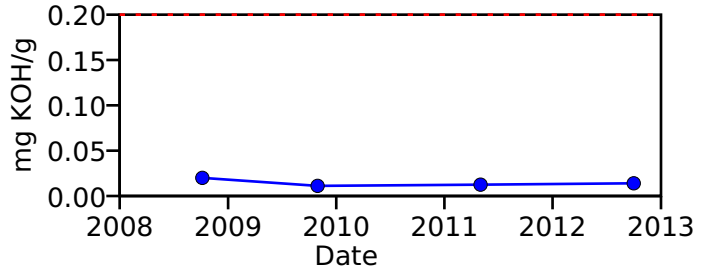
Dielectric breakdown D1816 (1 mm)



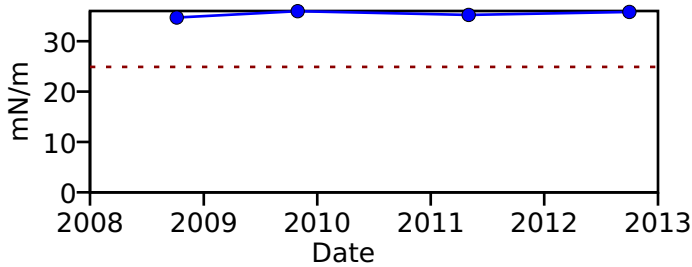
PF at 25 C



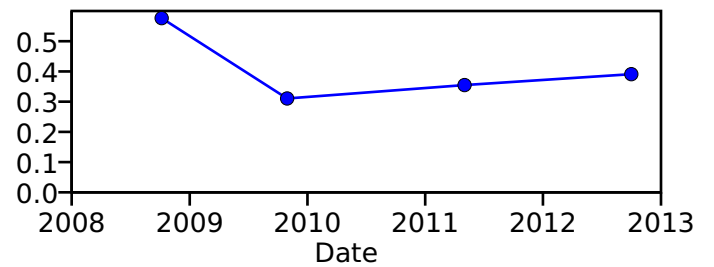
Acid number



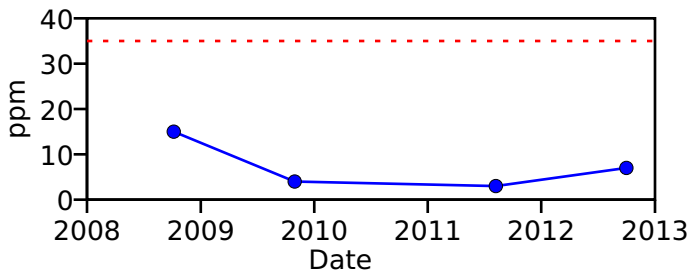
Interfacial tension



Oil quality index



Moisture



Relative saturation

