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info@orlandoaircon.co.uk

## TIMESHEET REPORT

CUSTOMER NAME BIRDSALL LTD		SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE) ANDY CAMISH - ENG MANAGER			SHEET NUMBER <b>04113</b>
SITE NAME & ADDRESS (PLANT OWNER F-GAS) VOCALINK, LANGSTON RD, LOUGHTON. IG10 3TN		ENGINEER STEVE ORLANDO	MATE		CLIENT ASSET NUMBER 00037
REASON FOR VISIT MINOR PPM MAINTENANCE VISIT	MANUFACTURER CARRIER	MODEL 30GX-132-A0095			
JOB NUMBER VISIT No. 12850/PO059003	SERIAL No. 12R108341	YEAR INSTALLED 01/01/2001			
PLANT LOCATION ROOF EXTERNAL PLANT AREA	REFRIGERANT TYPE R134A	QUANTITY (KG) 54 + 56 KG			
PLANT REFERENCE VOCALINK BUILDING. CHILLER No1.	CLG LOAD SERVED PROCESS & COMFORT COOLING CHILLED WATER LOAD				

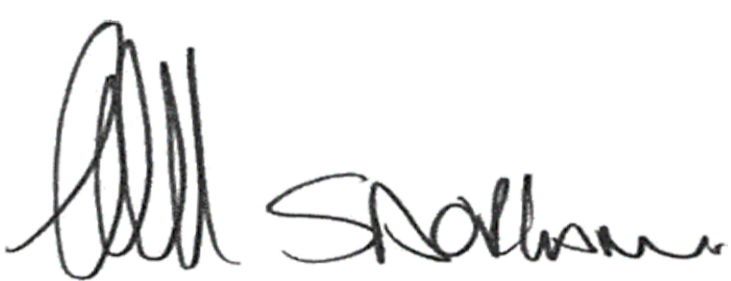
WORK CARRIED OUT:

ATTENDED SITE AND CARRIED OUT PPM VISIT TO CHILLER AS DETAILED ABOVE.

REFER TO ATTACHED F-GAS LOG AND CHILLER PPM SCHEDULE.

ENGINEERS TIME ON SITE & TRAVEL									MATERIALS USED	
DAY	DATE	START	FINISH	TRAVEL	TOTAL	COMPLETE Y/N	MILEAGE	No. ENG	QUANTITY	DESCRIPTION
MON	02/02/2015	08:00	10:00	1	3	N	40	1		
TUES										
WED										
THUR										
FRI										
SAT										
SUN										

CUSTOMER TO SIGN FOR ENGINEERS TIME ON SITE

ENGINEER SIGNATURE: 

CUSTOMERS SIGNATURE: \_\_\_\_\_

F-GAS QUALIFICATION: C&G 2079 PART 1

CUSTOMER NAME: ANDY CAMISH

SIGNATURE DATE: 02/02/2015

CUSTOMERS JOB TITLE: ENG MANAGER

ADDITIONAL WORKS RECOMMENDED / REQUIRED:

\* DOOR HINGE BROKEN, UNABLE TO SOURCE REPLACEMENT FROM CARRIER.

\* ORIGINAL AMBIENT SENSOR IN USE. HAS NOT BEEN DUMMIED WITH RESISTORS TO OVERCOME LOW AMBIENT REFRIGERANT TRIP PROBLEMS.

\* RECOMMEND REPLACING INTERNAL & EXTERNAL OIL FILTERS ON SYSTEM B1.

ISO9001:2008. CUSTOMER SATISFACTION:

1 = UNSATISFIED 2 = BELOW AVERAGE 3 = MET EXPECTATION 4 = ABOVE AVERAGE 5 = EXCELLENT

CUSTOMER COMMENTS ABOUT PERFORMANCE ON THIS JOB / CONTRACT:



## F-GAS & BOTTLE LOG

CUSTOMER NAME BIRDSALL LTD			SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE) ANDY CAMISH - ENG MANAGER			SHEET NUMBER <b>04113</b>
SITE NAME & ADDRESS (PLANT OWNER F-GAS) VOCALINK, LANGSTON RD, LOUGHTON. IG10 3TN			ENGINEER STEVE ORLANDO	QUALIFICATION C&G 2079 PART 1		CLIENT ASSET NUMBER <b>00037</b>
MANUFACTURER	MODEL	SERIAL	REFRIG TYPE	REFRIG QUANTITY	PLANT REFERENCE	
CARRIER	30GX-132-A0095	12R108341	R134A	54 + 56 KG	VOCALINK BUILDING. CHILLER No1.	

### VIRGIN REFRIGERANT BOTTLE LOG (KG)

DATE RECEIVED	DELIVERY NOTE NUMBER	BOTTLE NUMBER	SUPPLIER	REFRIGERANT	BOTTLE TYPE	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT	NET USED	DATE RETURNED	RETURNS NOTE NUMBER

### RECOVERY BOTTLE LOG (KG)

DATE RECEIVED	DELIVERY NOTE NUMBER	BOTTLE NUMBER	SUPPLIER	REFRIGERANT	BOTTLE TYPE	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT	NET USED	DATE RETURNED	RETURNS NOTE NUMBER

### F-GAS REFRIGERATION LOG RECORD

#### REFRIGERANT ADDITIONS

DATE	ENGINEER	AMOUNT ADDED (KG)	REASON FOR ADDITION

#### REFRIGERANT REMOVALS

DATE	ENGINEER	AMOUNT REMOVED (KG)	REASON FOR REMOVAL

#### REFRIGERANT LEAK TEST

DATE	ENGINEER	TEST RESULT	FOLLOW UP ACTIONS REQUIRED
02/02/2015	STEVE ORLANDO	<b>PASS</b>	PPM - CARRIED OUT ELECTRONIC REFRIGERANT LEAK TEST BOTH SYSTEMS

#### FOLLOW UP ACTIONS

DATE	ENGINEER	RELATED TO TEST ON	ACTIONS TAKEN

#### TESTING AUTOMATIC LEAK DETECTION SYSTEM (IF FITTED)

DATE	ENGINEER	TEST RESULT	COMMENTS

## PPM REPORT - SCREW CHILLERS

CUSTOMER NAME BIRDSALL LTD		SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE) ANDY CAMISH - ENG MANAGER		SHEET NUMBER <b style="color: red;">04113</b>
SITE NAME & ADDRESS VOCALINK, LANGSTON RD, LOUGHTON. IG10 3TN		ENGINEER STEVE ORLANDO	CLIENT ASSET NUMBER <b style="color: red;">00037</b>	
REASON FOR VISIT MINOR PPM MAINTENANCE VISIT	MANUFACTURER CARRIER	MODEL 30GX-132-A0095		
JOB NUMBER VISIT No. 12850/PO059003	SERIAL No. 12R108341	YEAR INSTALLED 01/01/2001		
PLANT LOCATION ROOF EXTERNAL PLANT AREA	REFRIGERANT TYPE R134A	QUANTITY (KG) 54 + 56 KG		
PLANT REFERENCE VOCALINK BUILDING. CHILLER No1.	CLG LOAD SERVED PROCESS & COMFORT COOLING CHILLED WATER LOAD			
COMPRESSOR MANUFACTURER: CARRIER	COMPRESSOR OIL TYPE: DAPHNE FVC68D	OIL VOLUME: 2 OFF 20 LTRS		
COMPRESSOR 1 MODEL: 06NA2250S7NA-A00	SERIAL: NCBSHA6001 / 1301J09283	HRS RUN: 9979 (320 DIFF)	STARTS: 2535 (25 DIFF)	
COMPRESSOR 2 MODEL: 06NA2250S7NA-A00	SERIAL: NCBSHA6001 / 1301J09289	HRS RUN: 10507 (358 DIFF)	STARTS: 2464 (30 DIFF)	
COMPRESSOR 3 MODEL: N/A	SERIAL: N/A	HRS RUN: N/A	STARTS: N/A	
COMPRESSOR 4 MODEL: N/A	SERIAL: N/A	HRS RUN: N/A	STARTS: N/A	

**BOX CODES**     Y YES     N NO     G GOOD     F FAIR     P POOR     B BAD     N/A NOT APPLICABLE

<b>COMPRESSOR Min/Maj</b> <input type="checkbox"/> GG Check Oil Level  <b>COMPRESSOR Min/Maj</b> <input type="checkbox"/> GG Pump Down Test <input type="checkbox"/> Check Unloader Operation <input type="checkbox"/> NN 20K Hours Inspection Required <b>COMPRESSOR Maj</b> <input type="checkbox"/> Replace Internal Oil Filter <b>OIL SEPARATOR Min/Maj</b> <input type="checkbox"/> NN Oil Sample Test (One Shot) <input type="checkbox"/> GG Oil Separator Level <input type="checkbox"/> GG Check Heater Operation <b>OIL SEPARATOR Maj</b> <input type="checkbox"/> NN Oil Sample Taken (Lab Test) <input type="checkbox"/> NN Replace External Oil Filter  <b>ECONOMISER Min/Maj</b> <input type="checkbox"/> N/A Check TX Valve Operation <input type="checkbox"/> N/A Check Solenoid Operation <input type="checkbox"/> N/A Check Liquid Level Control  <b>LIQUID INJECTION Min/Maj</b> <input type="checkbox"/> GG Check Injection Valve Operation  <b>AIR CONDENSERS Min/Maj</b> <input type="checkbox"/> GG Condition of Coils <input type="checkbox"/> GG Check Fans <b>AIR CONDENSERS Maj</b> <input type="checkbox"/> YY Condenser Coils Brushed <input type="checkbox"/> YY Condenser Chemical Cleaned <b>S &amp; T CONDENSERS Maj</b> <input type="checkbox"/> N/A Remove End Covers <input type="checkbox"/> N/A Condition of Tubes <input type="checkbox"/> N/A Condition of Water Boxes <input type="checkbox"/> N/A Check for Water Leaks  <b>CONTROL PANELS Min/Maj</b> <input type="checkbox"/> G Check Main Wiring <input type="checkbox"/> G Check Main Controller <input type="checkbox"/> *1 B Door Seals, Hinges & Latches <input type="checkbox"/> G Load / Unload of Compressor <input type="checkbox"/> Y Chiller Print-Out Taken	<b>CONTROL PANELS Min/Maj</b> <input type="checkbox"/> GG Check Compressor Contactors  <b>CONTROL PANELS Min/Maj</b> <input type="checkbox"/> G Check Timer Sequences <input type="checkbox"/> G Check Electrical Connections <input type="checkbox"/> N/A Check Cond Fan Voltage Regulator <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Standard</th> <th>Micro</th> <th></th> </tr> <tr> <td>21.8 BarG</td> <td>21.0 BarG</td> <td>H.P Cut-Out</td> </tr> <tr> <td>N/A</td> <td>0.5 BarG</td> <td>L.P Cut-Out</td> </tr> <tr> <td>N/A</td> <td>N/A</td> <td>Pumpdown C/O</td> </tr> <tr> <td colspan="2">DP-OP&gt;540KPaG : 6 SEC</td> <td>Oil Press C/O</td> </tr> <tr> <td>N/A</td> <td>2.1 Deg C</td> <td>LTL Cut-Out</td> </tr> <tr> <td colspan="3">UNTESTED Actual H.P Cut-Out Pressure</td> </tr> <tr> <td colspan="3">G Test Flow Switches</td> </tr> <tr> <td>6.0 Deg C</td> <td colspan="2">Temp Control S.P</td> </tr> <tr> <td>1.0 Deg C</td> <td colspan="2">Temp Control D.B/Range</td> </tr> <tr> <td>-18.0 Deg C</td> <td colspan="2">Low Ambient Temp C/O</td> </tr> <tr> <td>45.0 Deg C</td> <td colspan="2">High Ambient Temp C/O</td> </tr> <tr> <td>14.0 BarG</td> <td colspan="2">Condenser Fan S.P</td> </tr> <tr> <td>6.0 BarG</td> <td colspan="2">Condenser Fan Range</td> </tr> <tr> <td>18.0 BarG</td> <td colspan="2">High Pressure Force Unload</td> </tr> </table> <b>UNIT CONDITION Min/Maj</b> <input type="checkbox"/> G Check Panels, Paintwork & AV Mounts <input type="checkbox"/> G Check Pipework & Insulation <input type="checkbox"/> G Check Solenoid Valves <input type="checkbox"/> N/A Check Motorised Shut-off Valves <input type="checkbox"/> G Door Seals, Hinges & Latches <table border="1" style="width: 100%; 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(Identify Below)</b></p>	System A	System B	System #3	System #4		224.2 KPaG	234.2 KPaG	N/A	N/A	Evap Pressure	845.4 KPaG	854.0 KPaG	N/A	N/A	Cond Pressure	377.5 KPaD	346.1 KPaD	N/A	N/A	Oil Differential	104.3 KPaD	142.3 KPaD	N/A	N/A	Oil Filter Differential	11.4 DegC		N/A		Chld Water ON	6.0 DegC		N/A		Chld Water OFF	N/A		N/A		Cond Water ON	N/A		N/A		Cond Water OFF	2.4 DegC				Ambient	102.0 Amps	104.0 Amps	N/A	N/A	Compressor Amps	43.7 DegC	47.6 DegC	N/A	N/A	Oil Temp	N/A	N/A	N/A	N/A	EconTemp Diff.	68.5%	87.4%	N/A	N/A	EEV Position	100.0%	100.0%	N/A	N/A	Slide Valve Position	System #1	System #2	System #3	System #4				N/A	N/A	Evap Tsat			N/A	N/A	Suction Temp	0.0 Deg K	0.0 Deg K	N/A	N/A	Suct Superheat			N/A	N/A	Cond Tsat			N/A	N/A	Discharge Temp	0.0 Deg K	0.0 Deg K	N/A	N/A	Disch Superheat			N/A	N/A	Liquid Line Temp	0.0 Deg K	0.0 Deg K	N/A	N/A	Subcooling	N/A	N/A	N/A	N/A	Winding Thermistor	System #1	System #2	System #3	System #4		G	G	N/A	N/A	Comp. 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0.0 Deg K	0.0 Deg K	N/A	N/A	Subcooling																																																																																																																																																																																																													
N/A	N/A	N/A	N/A	Winding Thermistor																																																																																																																																																																																																													
System #1	System #2	System #3	System #4																																																																																																																																																																																																														
G	G	N/A	N/A	Comp. Windings																																																																																																																																																																																																													
				Cond Fans 1-4																																																																																																																																																																																																													
				Cond Fans 5-8																																																																																																																																																																																																													
N/A	N/A	N/A	N/A	Cond Fans 9-12																																																																																																																																																																																																													

**FAULTS FOUND:**

- \*1 DOOR HINGE BROKEN. UNABLE TO GET CORRECT LATCH FROM CARRIER.
- \*2 ORIGINAL AMBIENT SENSOR IN USE. HAS NOT BEEN DUMMIED WITH RESISTORS TO OVERCOME LOW AMBIENT REFRIGERANT TRIP PROBLEMS.
- \*3 RECOMMEND REPLACING INTERNAL & EXTERNAL OIL FILTERS ON SYSTEM B1.

ENGINEER SIGNATURE:



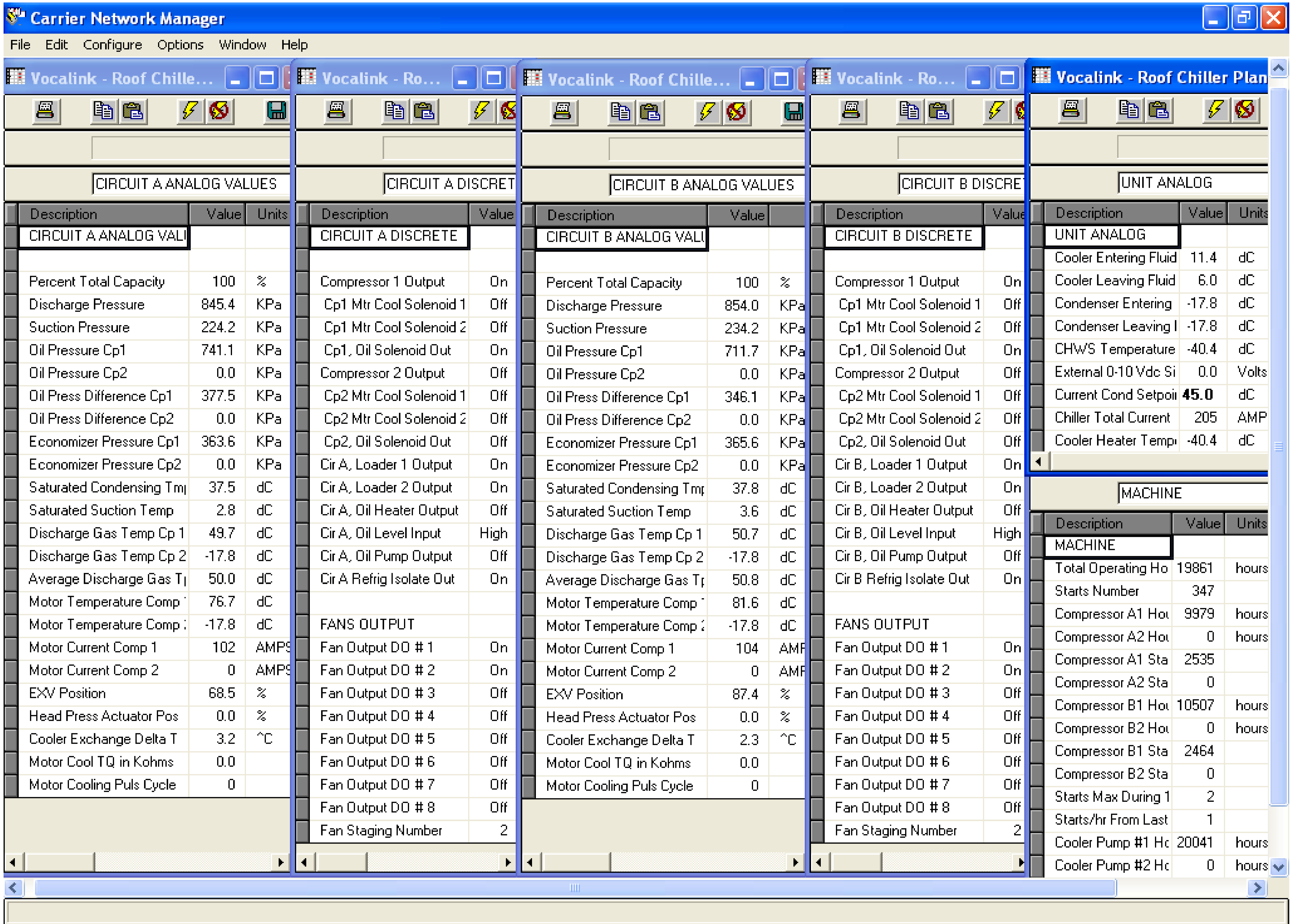
CUSTOMERS SIGNATURE:

DATE: 02/02/2015

## PPM REPORT - CHILLER LOGS

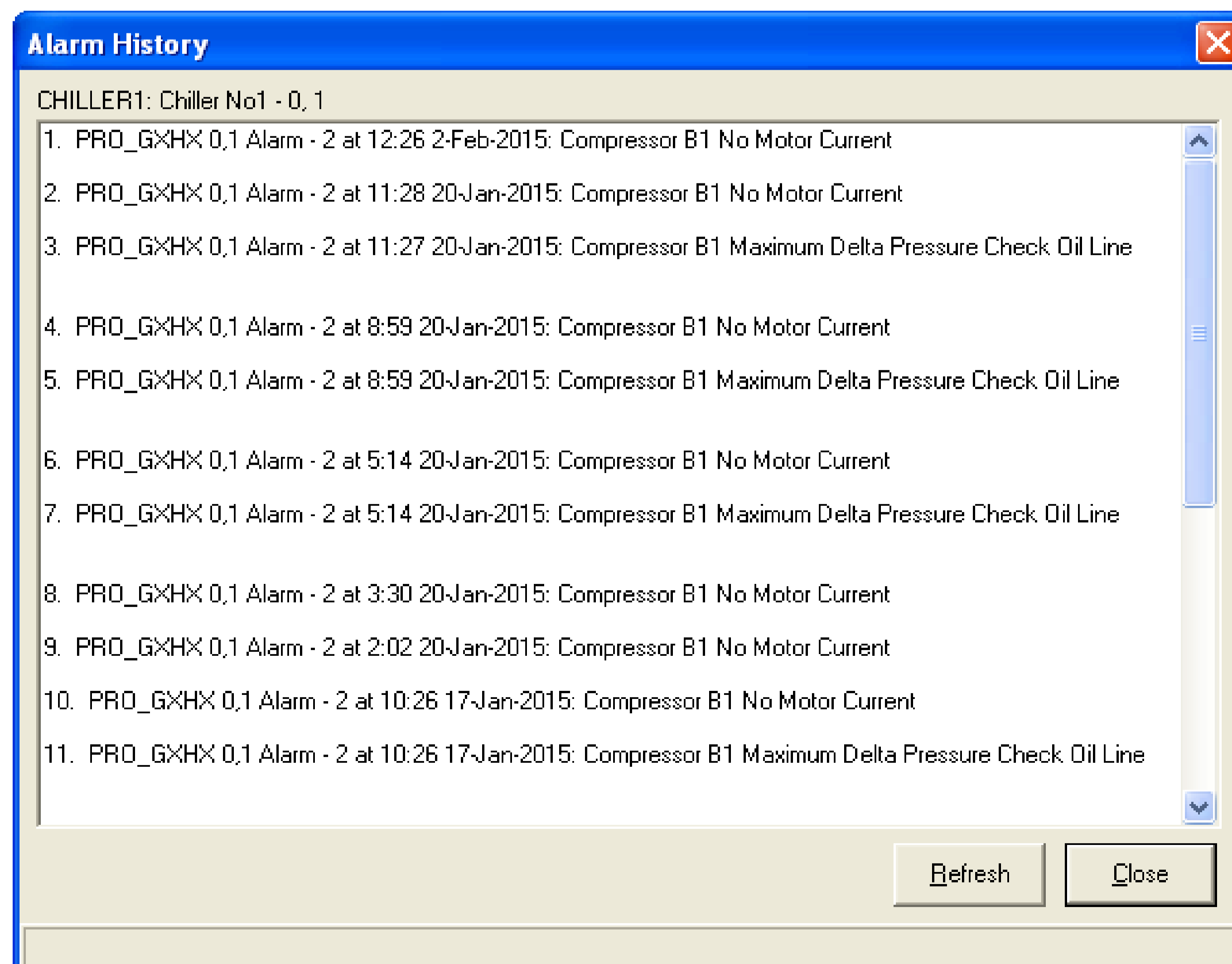
CUSTOMER NAME BIRDSALL LTD		SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE) ANDY CAMISH - ENG MANAGER		SHEET NUMBER <b>04113</b>
SITE NAME & ADDRESS VOCALINK, LANGSTON RD, LOUGHTON. IG10 3TN		ENGINEER STEVE ORLANDO	CLIENT ASSET NUMBER <b>00037</b>	
REASON FOR VISIT MINOR PPM MAINTENANCE VISIT	F-GAS QUALIFICATION C&G 2079 PART 1		MANUFACTURER CARRIER	MODEL 30GX-132-A0095
JOB NUMBER VISIT No. 12850/PO059003	SERIAL No. 12R108341	YEAR INSTALLED 01/01/2001		
PLANT LOCATION ROOF EXTERNAL PLANT AREA	REFRIGERANT TYPE R134A	QUANTITY (KG) 54 + 56 KG		
PLANT REFERENCE VOCALINK BUILDING. CHILLER No1.	CLG LOAD SERVED PROCESS & COMFORT COOLING CHILLED WATER LOAD			

### CARRIER CHILLER LOG CAPTURE



The screenshot shows the Carrier Network Manager interface with five data panels:

- CIRCUIT A ANALOG VALUES:** Includes parameters like Percent Total Capacity (100%), Discharge Pressure (845.4 KPa), Suction Pressure (224.2 KPa), Oil Pressure Cp1 (741.1 KPa), Oil Pressure Cp2 (0.0 KPa), Oil Press Difference Cp1 (377.5 KPa), Oil Press Difference Cp2 (0.0 KPa), Economizer Pressure Cp1 (363.6 KPa), Economizer Pressure Cp2 (0.0 KPa), Saturated Condensing Temp (37.5 dC), Saturated Suction Temp (2.8 dC), Discharge Gas Temp Cp 1 (49.7 dC), Discharge Gas Temp Cp 2 (-17.8 dC), Average Discharge Gas T<sub>l</sub> (50.0 dC), Motor Temperature Comp (76.7 dC), Motor Temperature Comp ( -17.8 dC), Motor Current Comp 1 (102 AMP), Motor Current Comp 2 (0 AMP), EXV Position (68.5%), Head Press Actuator Pos (0.0%), Cooler Exchange Delta T (3.2 °C), Motor Cool TQ in Kohms (0.0), Motor Cooling Puls Cycle (0).
- CIRCUIT A DISCRETE:** Includes Compressor 1 Output (On), Cp1 Mtr Cool Solenoid 1 (Off), Cp1 Mtr Cool Solenoid 2 (Off), Cp1, Oil Solenoid Out (On), Compressor 2 Output (Off), Cp2 Mtr Cool Solenoid 1 (Off), Cp2 Mtr Cool Solenoid 2 (Off), Cp2, Oil Solenoid Out (Off), Cir A, Loader 1 Output (On), Cir A, Loader 2 Output (On), Cir A, Oil Heater Output (Off), Cir A, Oil Level Input (High), Cir A, Oil Pump Output (Off), Cir A Refrig Isolate Out (On), FANS OUTPUT (Fan Output DO #1-8 Off, Fan Staging Number 2).
- CIRCUIT B ANALOG VALUES:** Similar to Circuit A, with Discharge Pressure (854.0 KPa), Suction Pressure (234.2 KPa), Oil Pressure Cp1 (711.7 KPa), Oil Pressure Cp2 (0.0 KPa), Oil Press Difference Cp1 (346.1 KPa), Oil Press Difference Cp2 (0.0 KPa), Economizer Pressure Cp1 (365.6 KPa), Economizer Pressure Cp2 (0.0 KPa), Saturated Condensing Temp (37.8 dC), Saturated Suction Temp (3.6 dC), Discharge Gas Temp Cp 1 (50.7 dC), Discharge Gas Temp Cp 2 (-17.8 dC), Average Discharge Gas T<sub>l</sub> (50.8 dC), Motor Temperature Comp (81.6 dC), Motor Temperature Comp ( -17.8 dC), Motor Current Comp 1 (104 AMP), Motor Current Comp 2 (0 AMP), EXV Position (87.4%), Head Press Actuator Pos (0.0%), Cooler Exchange Delta T (2.3 °C), Motor Cool TQ in Kohms (0.0), Motor Cooling Puls Cycle (0).
- CIRCUIT B DISCRETE:** Similar to Circuit A, with Compressor 1 Output (On), Cp1 Mtr Cool Solenoid 1 (Off), Cp1 Mtr Cool Solenoid 2 (Off), Cp1, Oil Solenoid Out (On), Compressor 2 Output (Off), Cp2 Mtr Cool Solenoid 1 (Off), Cp2 Mtr Cool Solenoid 2 (Off), Cp2, Oil Solenoid Out (Off), Cir B, Loader 1 Output (On), Cir B, Loader 2 Output (On), Cir B, Oil Heater Output (Off), Cir B, Oil Level Input (High), Cir B, Oil Pump Output (Off), Cir B Refrig Isolate Out (On), FANS OUTPUT (Fan Output DO #1-8 Off, Fan Staging Number 2).
- UNIT ANALOG:** Includes Cooler Entering Fluid (11.4 dC), Cooler Leaving Fluid (6.0 dC), Condenser Entering (-17.8 dC), Condenser Leaving (-17.8 dC), CHWS Temperature (-40.4 dC), External 0-10 Vdc Si (0.0 Volts), Current Cond Setpoi (45.0 dC), Chiller Total Current (205 AMP), Cooler Heater Temp (-40.4 dC).
- MACHINE:** Includes Total Operating Ho (19861 hours), Starts Number (347), Compressor A1 Ho (9979 hours), Compressor A2 Ho (0 hours), Compressor A1 Sta (2535), Compressor A2 Sta (0), Compressor B1 Ho (10507 hours), Compressor B2 Ho (0 hours), Compressor B1 Sta (2464), Compressor B2 Sta (0), Starts Max During 1 (2), Starts/hr From Last (1), Cooler Pump #1 Hc (20041 hours), Cooler Pump #2 Hc (0 hours).



**Alarm History**  
CHILLER1: Chiller No1 - 0, 1

1. PRO\_GXHX 0,1 Alarm - 2 at 12:26 2-Feb-2015: Compressor B1 No Motor Current
2. PRO\_GXHX 0,1 Alarm - 2 at 11:28 20-Jan-2015: Compressor B1 No Motor Current
3. PRO\_GXHX 0,1 Alarm - 2 at 11:27 20-Jan-2015: Compressor B1 Maximum Delta Pressure Check Oil Line
4. PRO\_GXHX 0,1 Alarm - 2 at 8:59 20-Jan-2015: Compressor B1 No Motor Current
5. PRO\_GXHX 0,1 Alarm - 2 at 8:59 20-Jan-2015: Compressor B1 Maximum Delta Pressure Check Oil Line
6. PRO\_GXHX 0,1 Alarm - 2 at 5:14 20-Jan-2015: Compressor B1 No Motor Current
7. PRO\_GXHX 0,1 Alarm - 2 at 5:14 20-Jan-2015: Compressor B1 Maximum Delta Pressure Check Oil Line
8. PRO\_GXHX 0,1 Alarm - 2 at 3:30 20-Jan-2015: Compressor B1 No Motor Current
9. PRO\_GXHX 0,1 Alarm - 2 at 2:02 20-Jan-2015: Compressor B1 No Motor Current
10. PRO\_GXHX 0,1 Alarm - 2 at 10:26 17-Jan-2015: Compressor B1 No Motor Current
11. PRO\_GXHX 0,1 Alarm - 2 at 10:26 17-Jan-2015: Compressor B1 Maximum Delta Pressure Check Oil Line

Buttons: Refresh, Close