

APPENDIX 1

Selected Pressure Trend Displays Olympic Pipeline June 10, 1999 Historical Data¹

NOTE:

All of the trend graphs presented in this appendix cover the time period when the Olympic SCADA system was experiencing a computer system slowdown and stoppage. Any time the computer is not executing the SCADA data acquisition program, it will not be acquiring new data and there will be gaps in the historical trend data corresponding to the time the computer was not running. If a controller displayed trend data from a time period that contained gaps, the trend graph would attempt to plot what data it did have. The graph would display the last value and would draw a horizontal straight line at that last value until a new value was available. Unchanging data (either because the acquired value is not changing or because the SCADA system did not acquire a new value) appears as a straight horizontal line on the trend graph. There was no special highlighting feature programmed to alert the controllers that they are looking at a graph that may contain gaps in the displayed data.

The trend graphs attached in this addendum are plotted against the same data that was available to the controllers at the Olympic Control Center. The attached graphs display selected station historical data that was collected by the Olympic SCADA system on June 10, 1999 , from approximately 1400 to 1700 local time.

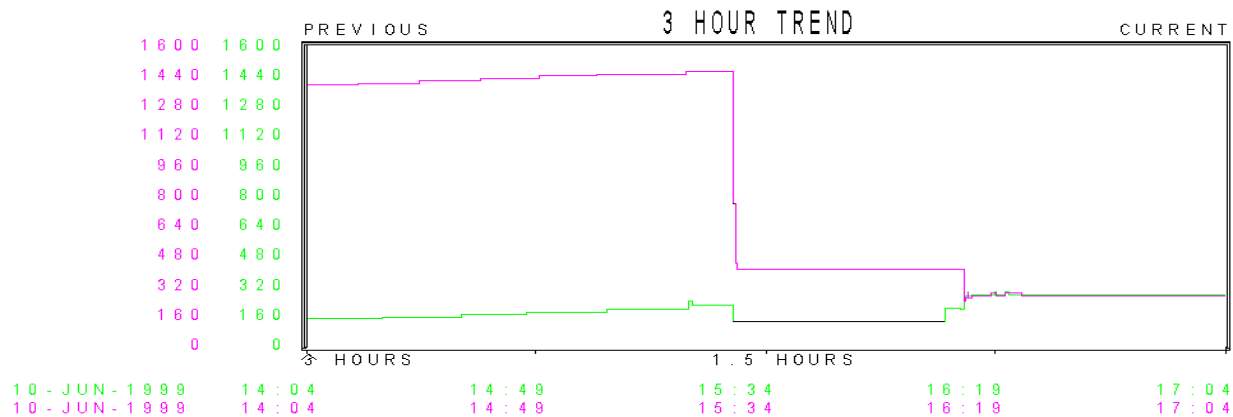
¹ The colors in the following graphs do not represent the original colors that were shown on the controllers workstation display. The original color scheme used primary display colors on a black background. To include these pictures in this report, the original color scheme was inverted to display colored text and lines on a white background

Pressure Trend A

Allen Station 3-hour Trend suction-discharge pressures

CPU VAX
CRT 005

10 - JUN - 1999 17 : 04 : 14
005



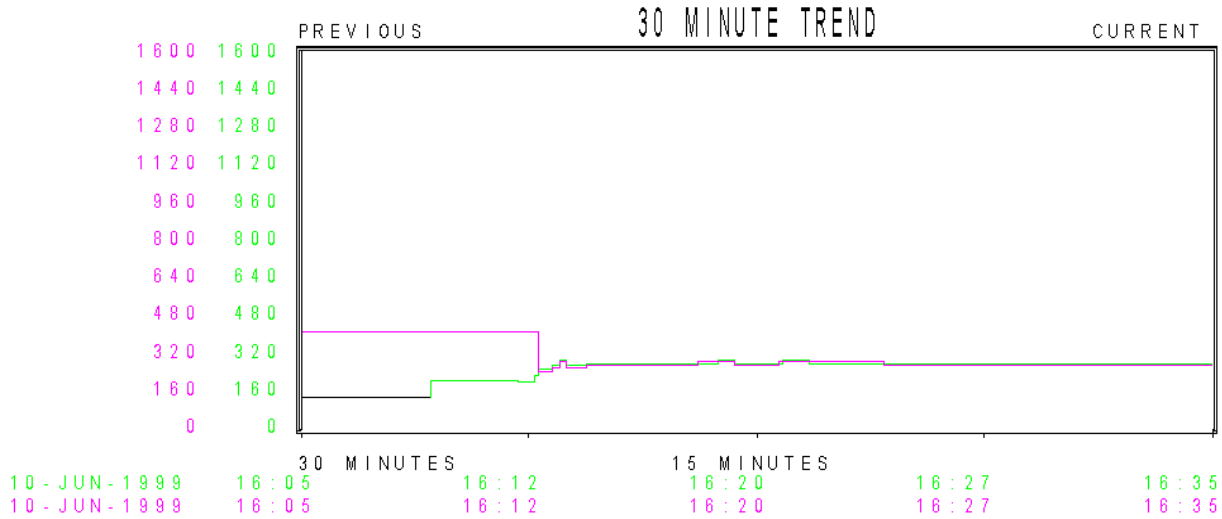
INS	RECORD ID	CURRENT VALUE	LOW LIMIT	HIGH LIMIT	---- CURSOR READINGS ----
INS	AL1H16SUCT	210	35	1000	DD - MMM - YYYY HH : MM VALUE
	AL1HDISCH16	225	0	1150	NO TREND
					NO TREND

Pressure Trend B

Allen Station 30-minute Trend suction-discharge pressures

CPU VAX
CRT 005

10 - JUN - 1999 16 : 35 : 13
005



INS	RECORD ID	CURRENT VALUE	LOW LIMIT	HIGH LIMIT	---- CURSOR READINGS ----
INS	AL1H16SUCT	210	35	1000	DD - MMM - YYYY HH : MM VALUE
	AL1HDISCH16	225	0	1150	NO TREND
					NO TREND

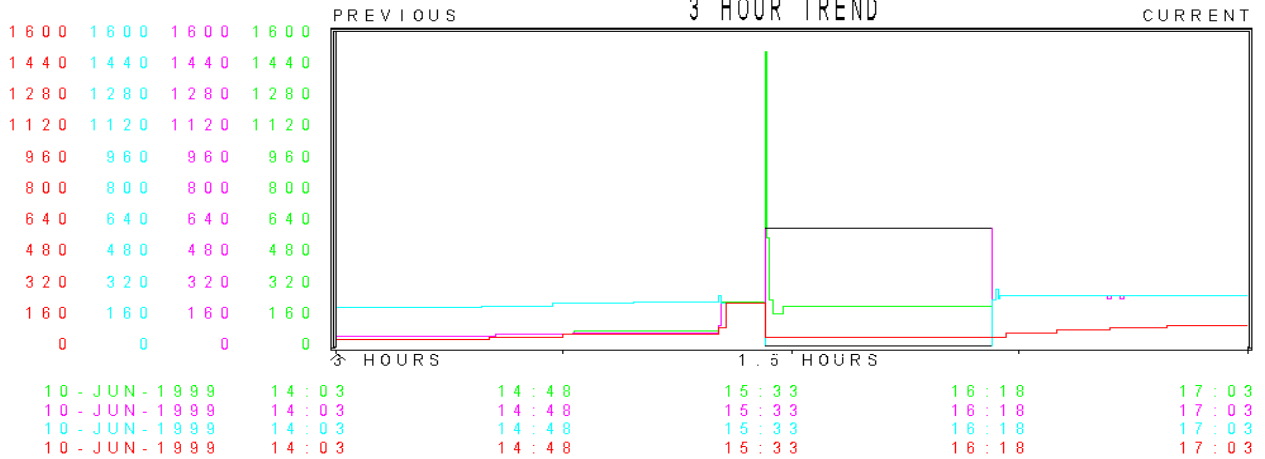
Pressure Trend C

Bayview Station 3-hour Trend

suction-discharge pressures

CPU VAX
CRT 005

10 - JUN - 1999 17:03:09
005



	RECORD ID	CURRENT VALUE	LOW LIMIT	HIGH LIMIT	CURSOR	READINGS	VALUE
INS	BPTHPT1901	243	25	620	NO TREND		
INS	BPTHPT1911	0	30	620	NO TREND		
INS	BPTHPT1930	0	60	620	NO TREND		
INS	BPTHPT2016	53	2	620	NO TREND		

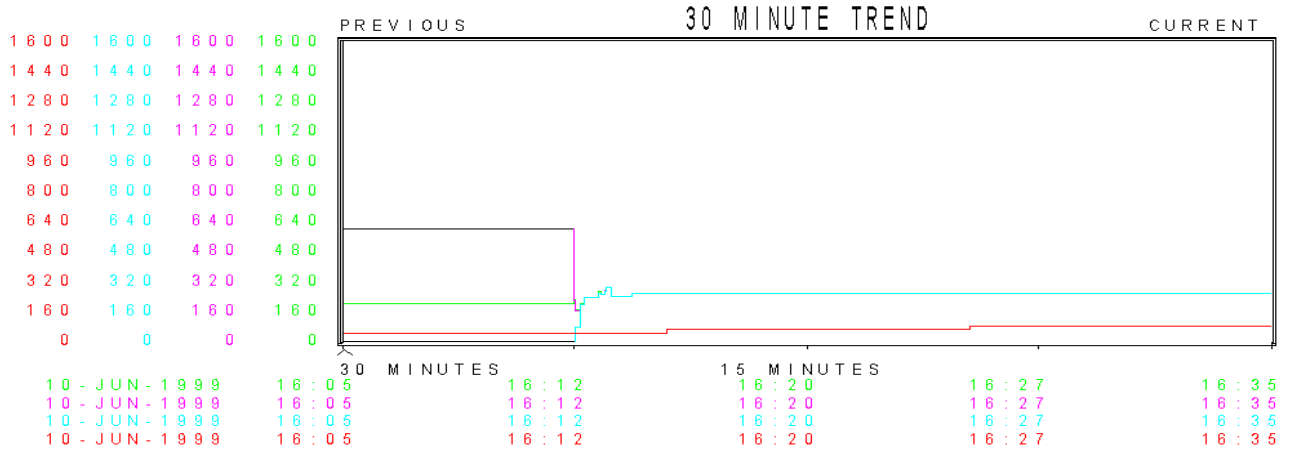
Pressure Trend D

Bayview Station 30-minute Trend

suction-discharge pressures

CPU VAX
CRT 005

10 - JUN - 1999 16:35:13
005



	RECORD ID	CURRENT VALUE	LOW LIMIT	HIGH LIMIT	CURSOR	READINGS	VALUE
INS	BPTHPT1901	243	25	620	NO TREND		
INS	BPTHPT1911	0	30	620	NO TREND		
INS	BPTHPT1930	0	60	620	NO TREND		
INS	BPTHPT2016	53	2	620	NO TREND		

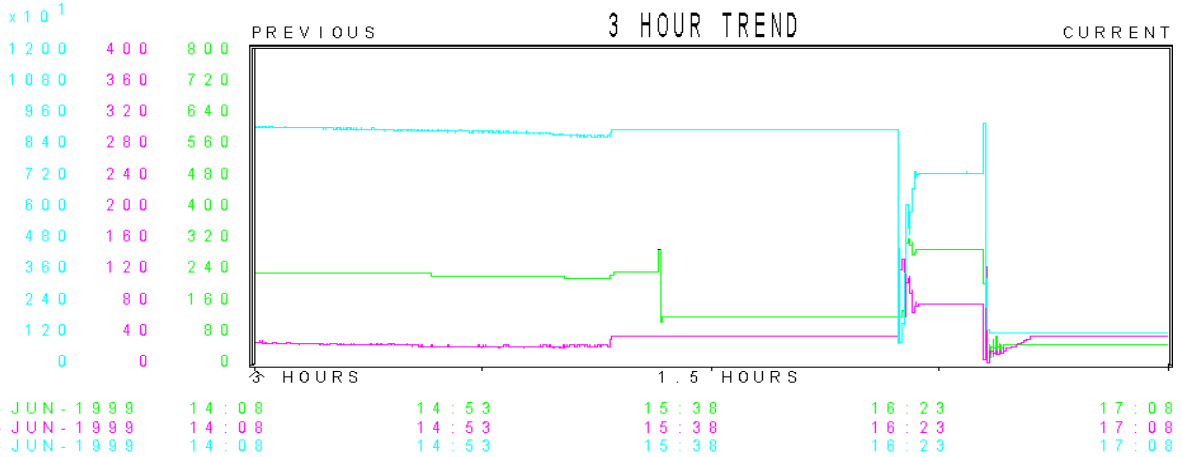
Pressure Trend E

Cherry Point Station 3-hour Trend

suction-discharge pressures

CPU VAX
CRT 005

10 - JUN - 1999 17:08:30
005



RECORD ID	CURRENT VALUE	LOW LIMIT	HIGH LIMIT	CURSOR READINGS
CHPHDISCHRG	32	70	550	NO TREND
CHPHSUCTION	34	15	325	NO TREND
CHPHNETFLOW	0	0	10000	NO TREND

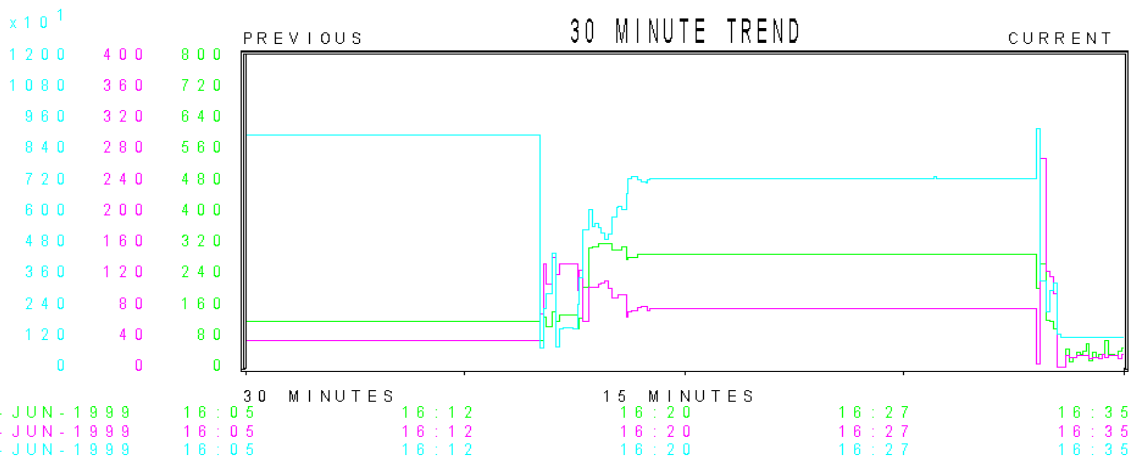
Pressure Trend F

Cherry Point Station 30-Minute Trend

Suction-discharge pressures

CPU VAX
CRT 005

10 - JUN - 1999 16:35:08
005



RECORD ID	CURRENT VALUE	LOW LIMIT	HIGH LIMIT	CURSOR READINGS
CHPHDISCHRG	32	70	550	NO TREND
CHPHSUCTION	34	15	325	NO TREND
CHPHNETFLOW	0	0	10000	NO TREND

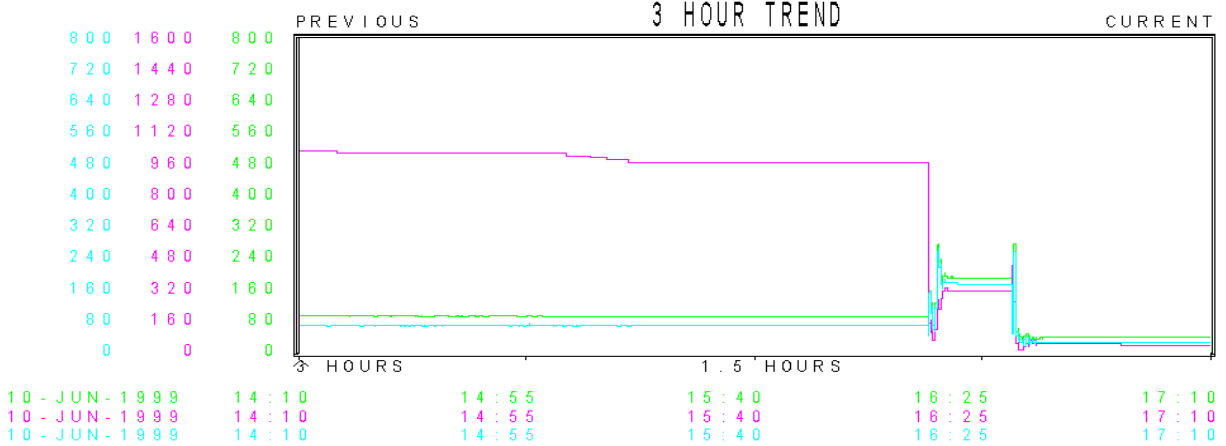
Pressure Trend G

Ferndale Station 3-hour Trend

suction-discharge pressures

CPU VAX
CRT 005

10 - JUN - 1999 17:11:06
005



	RECORD ID	CURRENT VALUE	LOW LIMIT	HIGH LIMIT	CURSOR	READINGS	VALUE
INS	FERHCHPINPSI	28	50	600	NO TREND		
INS	FERHDISCHRG	23	225	1321	NO TREND		
INS	FERHSUCTION	23	50	500	NO TREND		

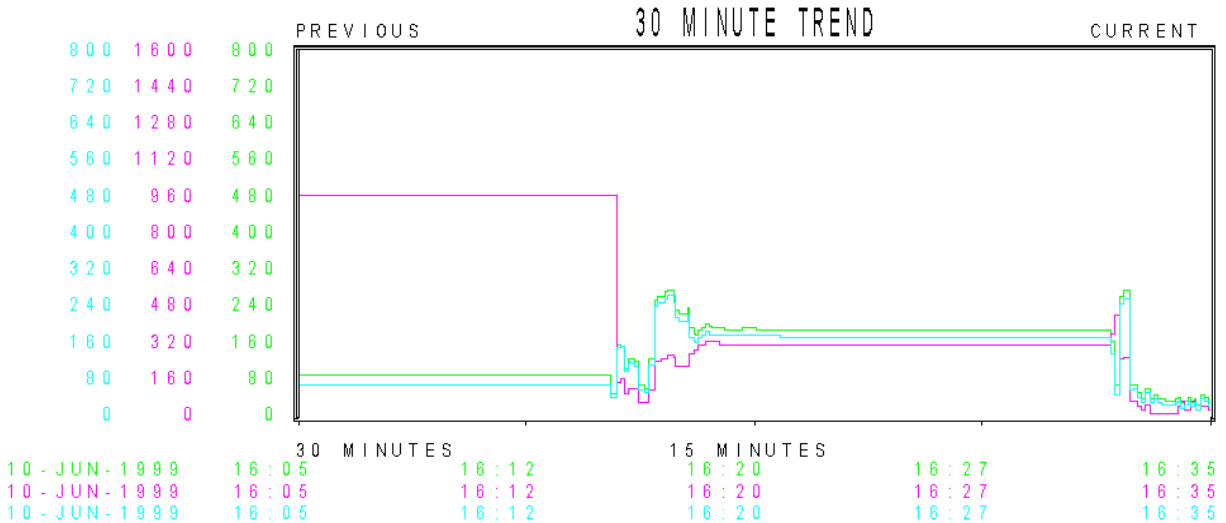
Pressure Trend H

Ferndale Station 30-minute Trend

suction-discharge pressures

CPU VAX
CRT 005

10 - JUN - 1999 16:35:08
005



	RECORD ID	CURRENT VALUE	LOW LIMIT	HIGH LIMIT	CURSOR	READINGS	VALUE
INS	FERHCHPINPSI	28	50	600	NO TREND		
INS	FERHDISCHRG	23	225	1321	NO TREND		
INS	FERHSUCTION	23	50	500	NO TREND		

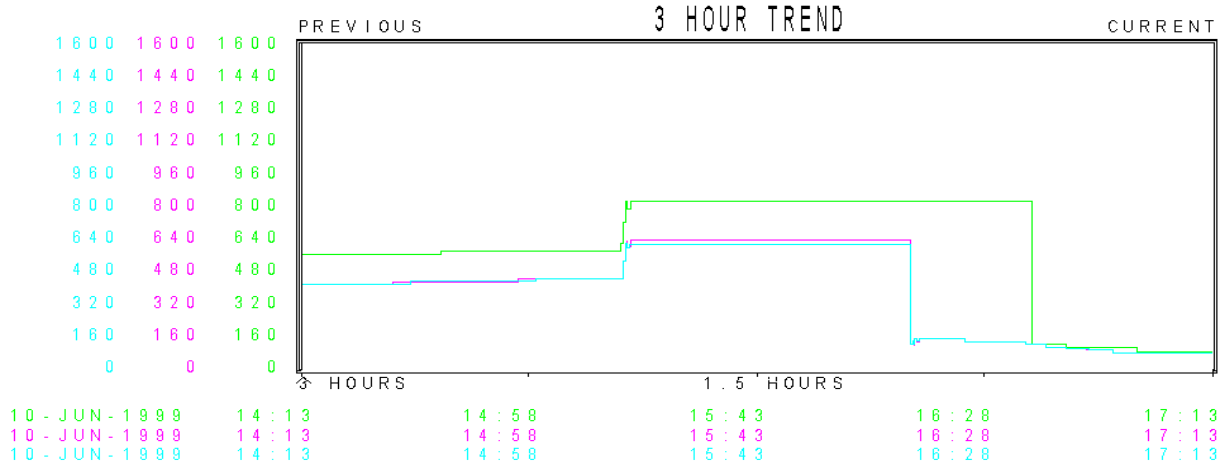
Pressure Trend I

Woodinville Station 3-hour Trend

suction-discharge pressures

CPU VAX
CRT 005

10 - JUN - 1999 17:13:39
005



	RECORD ID	CURRENT VALUE	LOW LIMIT	HIGH LIMIT	--- CURSOR READINGS ---
INS	WDNHDISCHRG	481	50	1020	DD-MMM-YYYY HH:MM VALUE
INS	WDNHSUCTION	91	40	850	NO TREND
INS	WDNHUPPS116	92	40	850	NO TREND

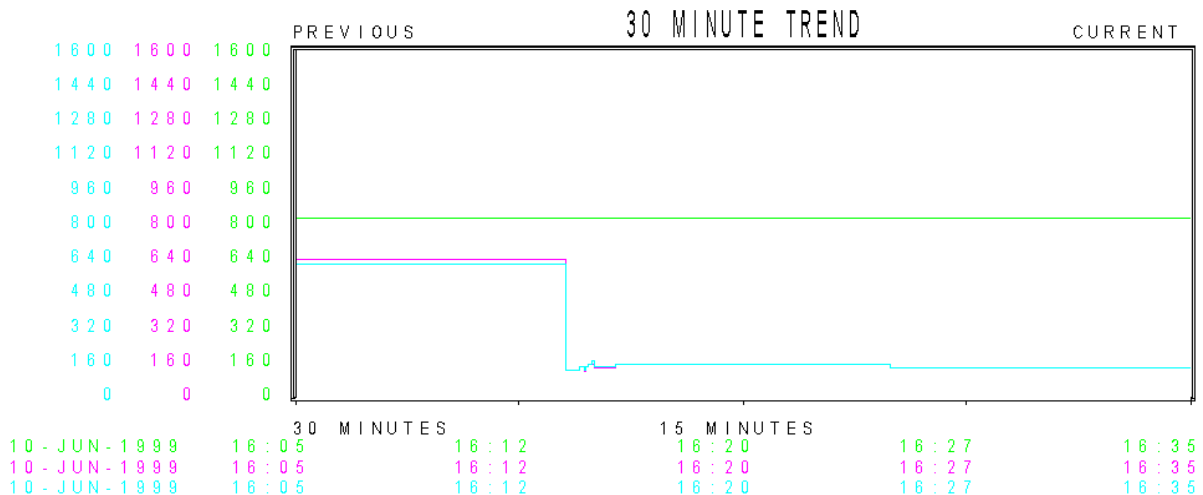
Pressure Trend J

Woodinville Station 30-Minute Trend

Suction-Discharge pressure

CPU VAX
CRT 005

10 - JUN - 1999 16:35:07
005



	RECORD ID	CURRENT VALUE	LOW LIMIT	HIGH LIMIT	--- CURSOR READINGS ---
INS	WDNHDISCHRG	481	50	1020	DD-MMM-YYYY HH:MM VALUE
INS	WDNHSUCTION	91	40	850	NO TREND
INS	WDNHUPPS116	92	40	850	NO TREND