APPENDIX F: PARALLEL SENSOR TEST 2

Date: January 21st, 2009

Report: Susanna Scappin

Staff: Susanna Scappin
Clinton Efford

1. Introduction

Location:

Site	Location: UTM WGS 84 Zone 54J	
	Easting	Northing
BC23	379872	6688178

Coil Azimuth: 360° true N (declination approx. 7˚ E)

Results:
P50: All good except P50-2444 that failed

Tested a total of 12 coils:
12 Phoenix MTC-50 (P50)

P50-2444 was put aside after decent coherency results could not be achieved (failed test 2, 3 and 4).
Test 3 and 4 didn't yield better results for coil P50-2444, therefore were not included in the document.

Coil #	Coil Type	Result		Role	Comments
		Pass	Fail		
P50-1964	Phoenix	Test 1		Hx	
P50-1996	Phoenix	Test 1		Hy	
P50-2012	Phoenix	Test 1		Hz	
P50-2113	Phoenix	Test 1		Hx	
P50-2115	Phoenix	Test 1		Hy	
P50-2127	Phoenix	Test 1		Spare	
P50-2387	Phoenix	Test 2		Hx	
P50-2388	Phoenix	Test 2		Hy	
P50-2389	Phoenix	Test 2		Hz	
P50-2390	Phoenix	Test 2		Hz	
P50-2444	Phoenix		Test 2,3 & 4		Changed cable and port
P50-2458	Phoenix	Test 2		Spare	

2. Low Frequency Coils – Test 1

Available Coils:

TS Strip	Manufacturer	Serial #	Tasked To
1	Phoenix	P50-1964	Logger Site - Hx
2	Phoenix	P50-1996	Logger Site - Hy
3	Phoenix	P50-2012	Logger Site - Hz
4	Phoenix	P50-2113	Logger Site - Hx
5	Phoenix	P50-2115	Logger Site - Hy
6	Phoenix	P50-2127	Logger Site - Spare

Processing Parameters:

Parameter	Value
QuickLay Version	3_Alpha.33
PSD Method	Welch
Window	Hanning
Window length	8196
Segment Overlap	50%

2.1 Test Results: 1000sps

NetEvent: PST_AU00056S_20090121.0756.net
Sample Rate: 1000sps
TS Length: 700000 samples (~12min)

Results:
All good

Time Series

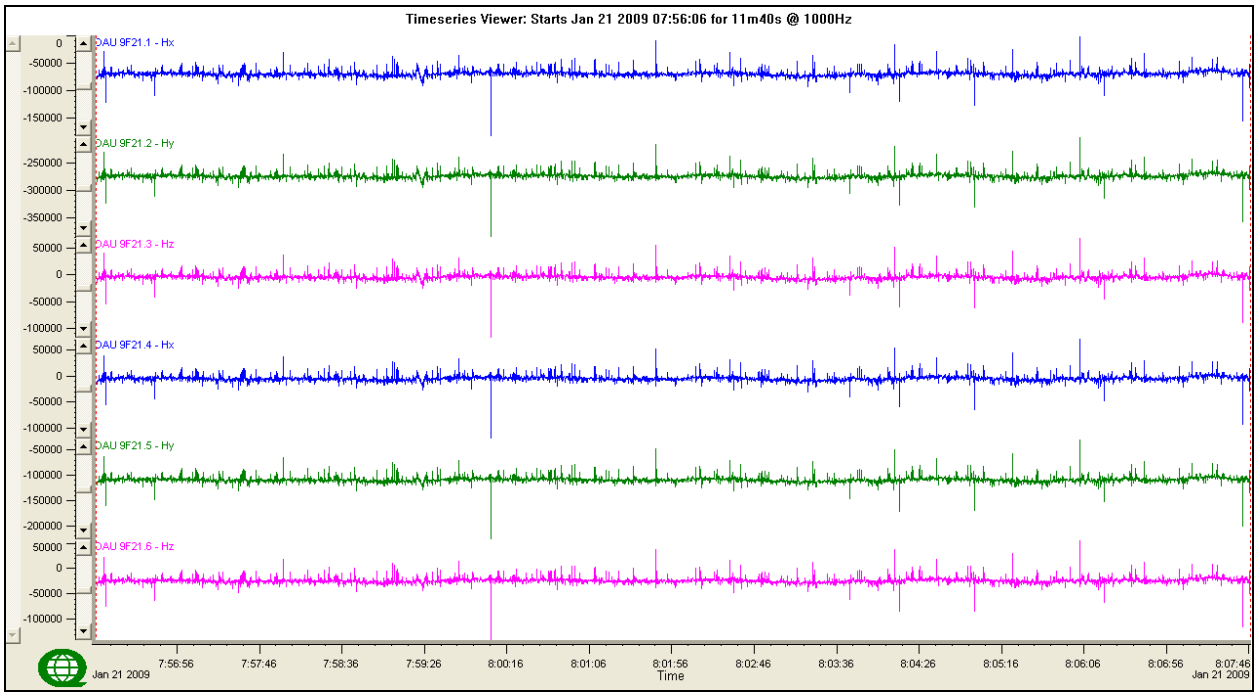

Figure 2-1: Complete time series @ 1000sps

Low Frequency Coil Results: 1000sps
Coherency to P50-1964

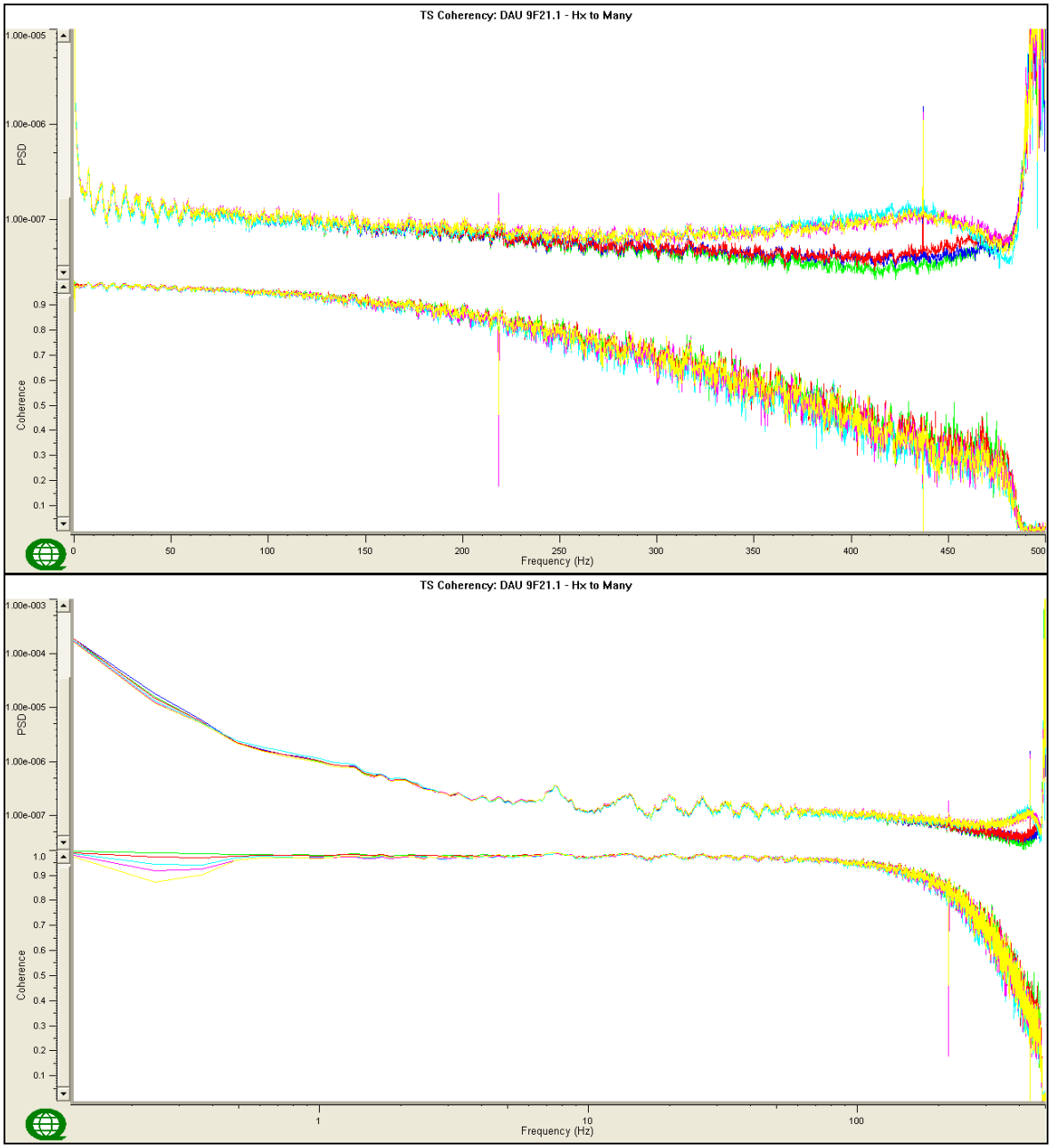

Figure 2-2: Coherencies are to P50-1964 (blue). Upper linear, lower logarithmic frequency scales.

Colour	Channel	Notes
Blue	P50-1964	
Green	P50-1996	
Red	P50-2012	
Cyan	P50-2113	
Magenta	P50-2115	
Yellow	P50-2127	

3. Low Frequency Coils – Test 2

Available Coils:

TS Strip	Manufacturer	Serial #	Tasked To
1	Phoenix	P50-2387	Logger Site – Hx
2	Phoenix	P50-2388	Logger Site – Hy
3	Phoenix	P50-2389	Logger Site – Hz
4	Phoenix	P50-2390	Logger Site – Hz
5	Phoenix	P50-2444	Logger Site – failed
6	Phoenix	P50-2458	Logger Site – spare

Processing Parameters:

Parameter	Value
QuickLay Version	3_Alpha.33
PSD Method	Welch
Window	Hanning
Window length	8196
Segment Overlap	50%

3.1 Test Results: 1000sps

NetEvent: PST_AU00056S_20090121.0756.net
Sample Rate: 1000sps
TS Length: 700000 samples (~12min)

Results:
All good, except P50-2444 changed port, then cable in next 2 tests but still same results.

Time Series

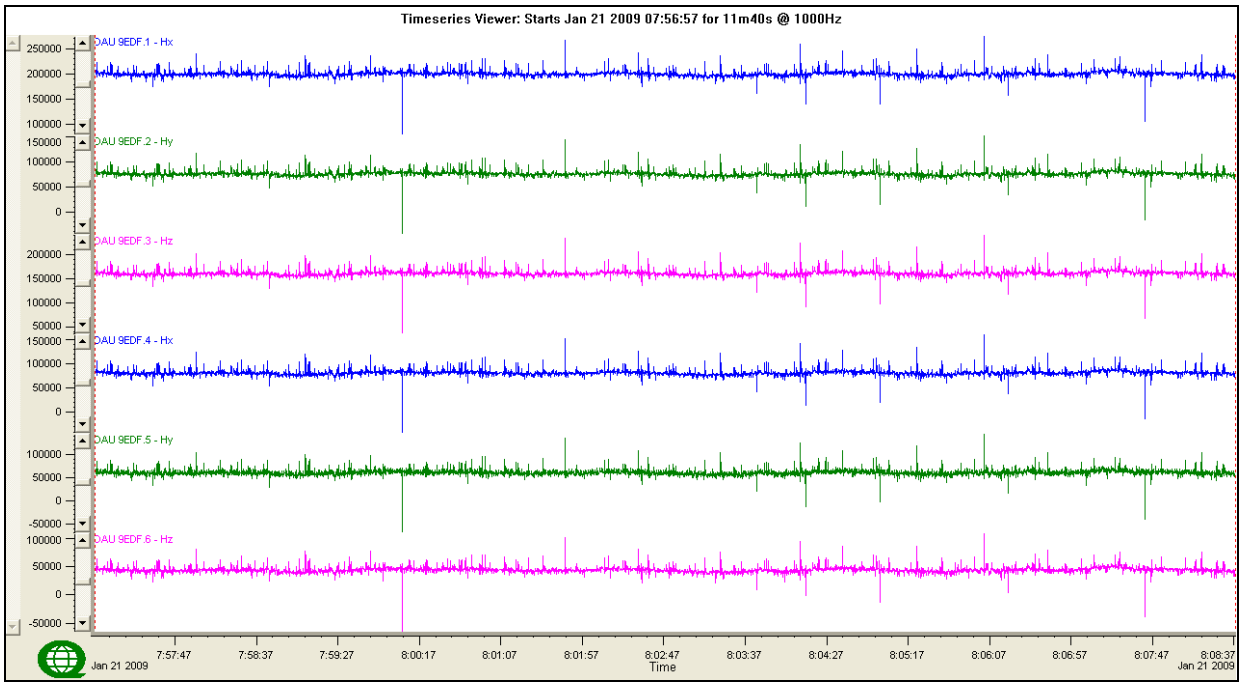

Figure 3-1: Complete time series @ 1000sps

Time Series

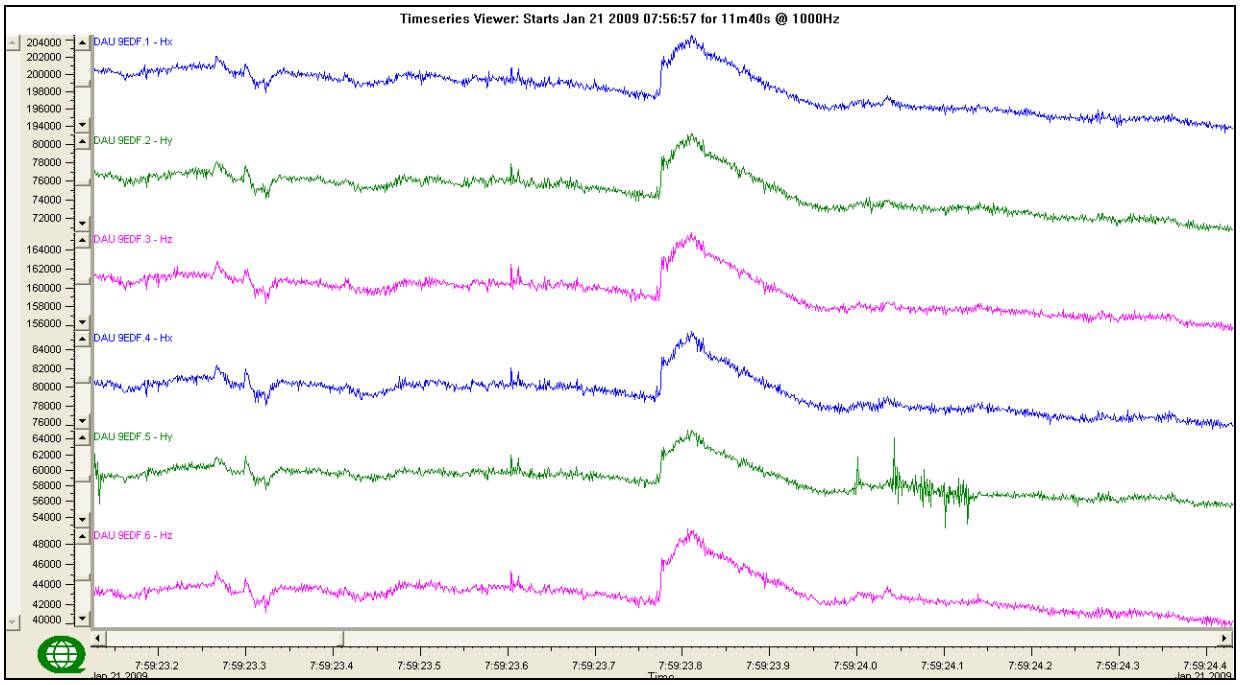

Figure 3-2: Zoom in time series @ 1000sps to show extra noise recorded by channel 5 (P50-2444)

Low Frequency Coil Results: 1000sps
Coherency to P50-2387

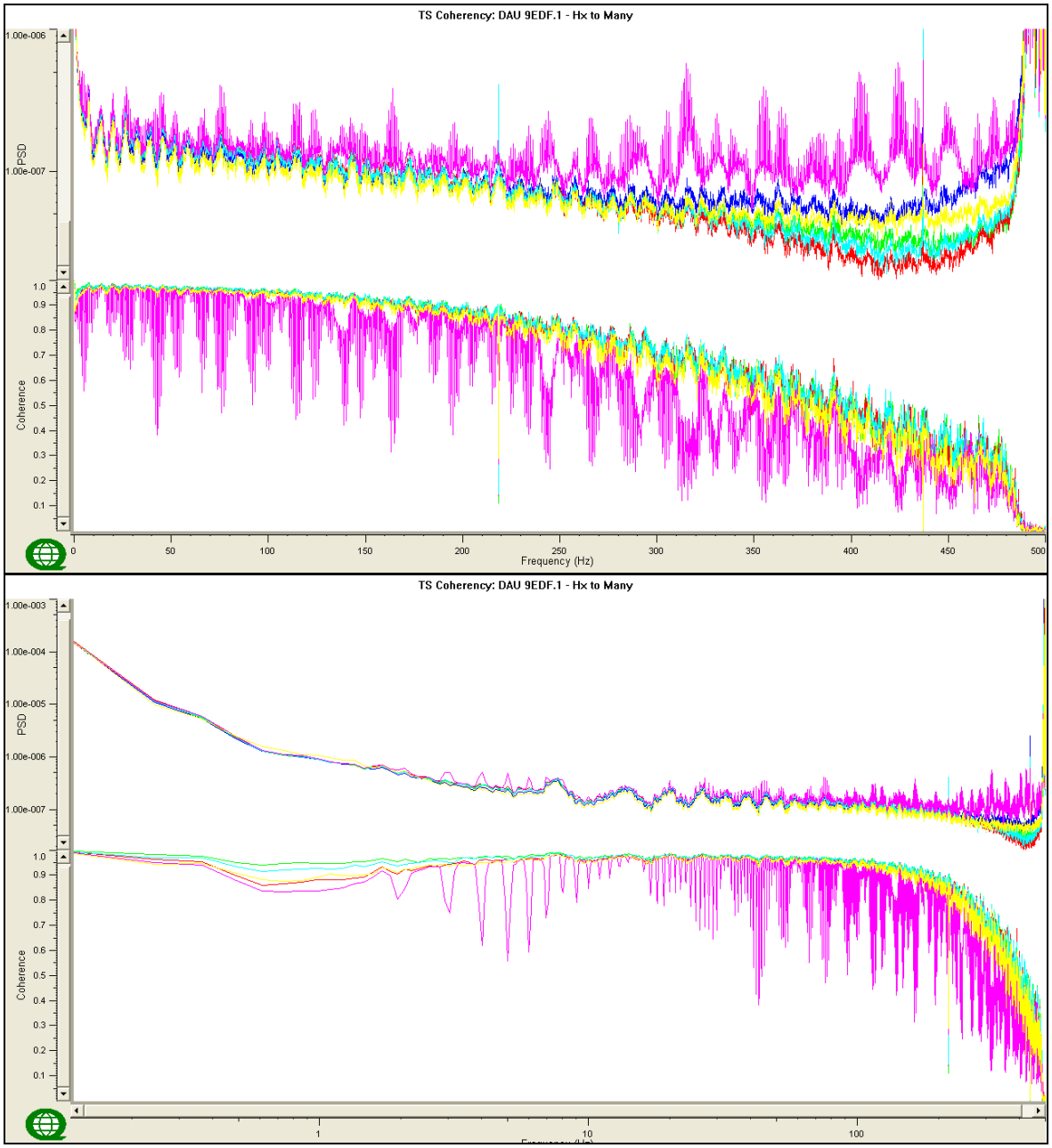

Figure 3-3: Coherencies are to P50-2387 (blue). Upper linear, lower logarithmic frequency scales.

Colour	Channel	Notes
Blue	P50-2387	
Green	P50-2388	
Red	P50-2389	
Cyan	P50-2390	
Magenta	P50-2444	Poor performance
Yellow	P50-2458	