

APPENDIX F: PARALLEL SENSOR TEST

Date: August 10, 2009

Common folder: V01.44

QuickLay: V2.30.14

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INTRODUCTION

Location:

Location: UTM NAD 27 / Zone 08V		
	Easting	Northing
PST site	0649118	6840658

Coil Azimuth: 0° true

Declination: 23° E

Results:

All P50 coils have the same PSD and have good coherency.

BF6-6335: lower coherency and lower PSD.

BF6-6336 lower coherency and higher PSD.

BF6-9915 slightly lower PSD

LOW FREQUENCY COILS

Available Coils:

TS Strip	Manufacturer	Serial #	Tasked To
1	Phoenix	P50-1970	Remote Hx
2	Phoenix	P50-1987	Remote spare
3	Phoenix	P50-2126	Remote Hy
4	Phoenix	P50-2235	Line Hx
5	Phoenix	P50-2236	Line Hy
6	Phoenix	P50-2249	Line spare

Processing Parameters:

Parameter	Value
QuickLay Version	2.30.14
PSD Method	Welch
Window	Hanning
Window length	2048
Segment Overlap	50%

TEST RESULTS: 120SPS

Titan NetEvent: 9015.000009
Sample Rate: 120sps
TS Length: 50,000 samples (~7min)

Results:

All P50 coils have the same PSD and have good coherency.

Time Series

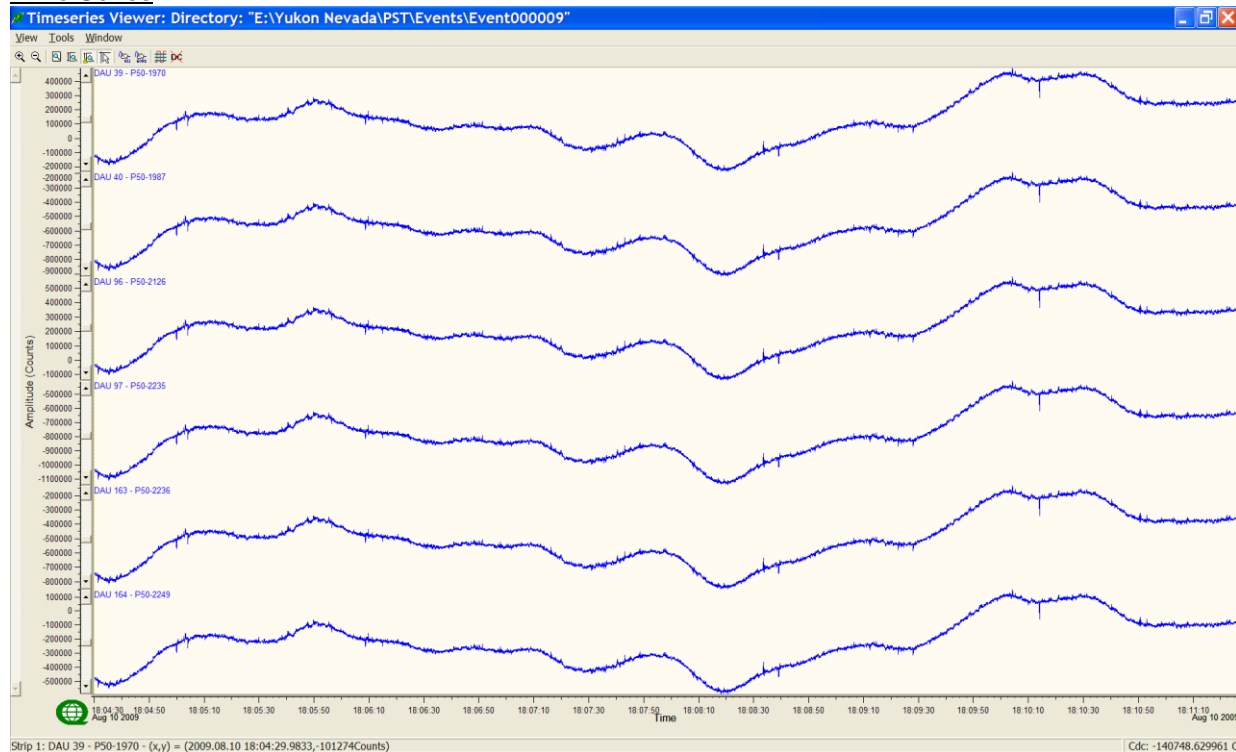


Figure 0-1: Complete time series @ 120sps

Low Frequency Coil Results: 120sps Coherency to P50-1970

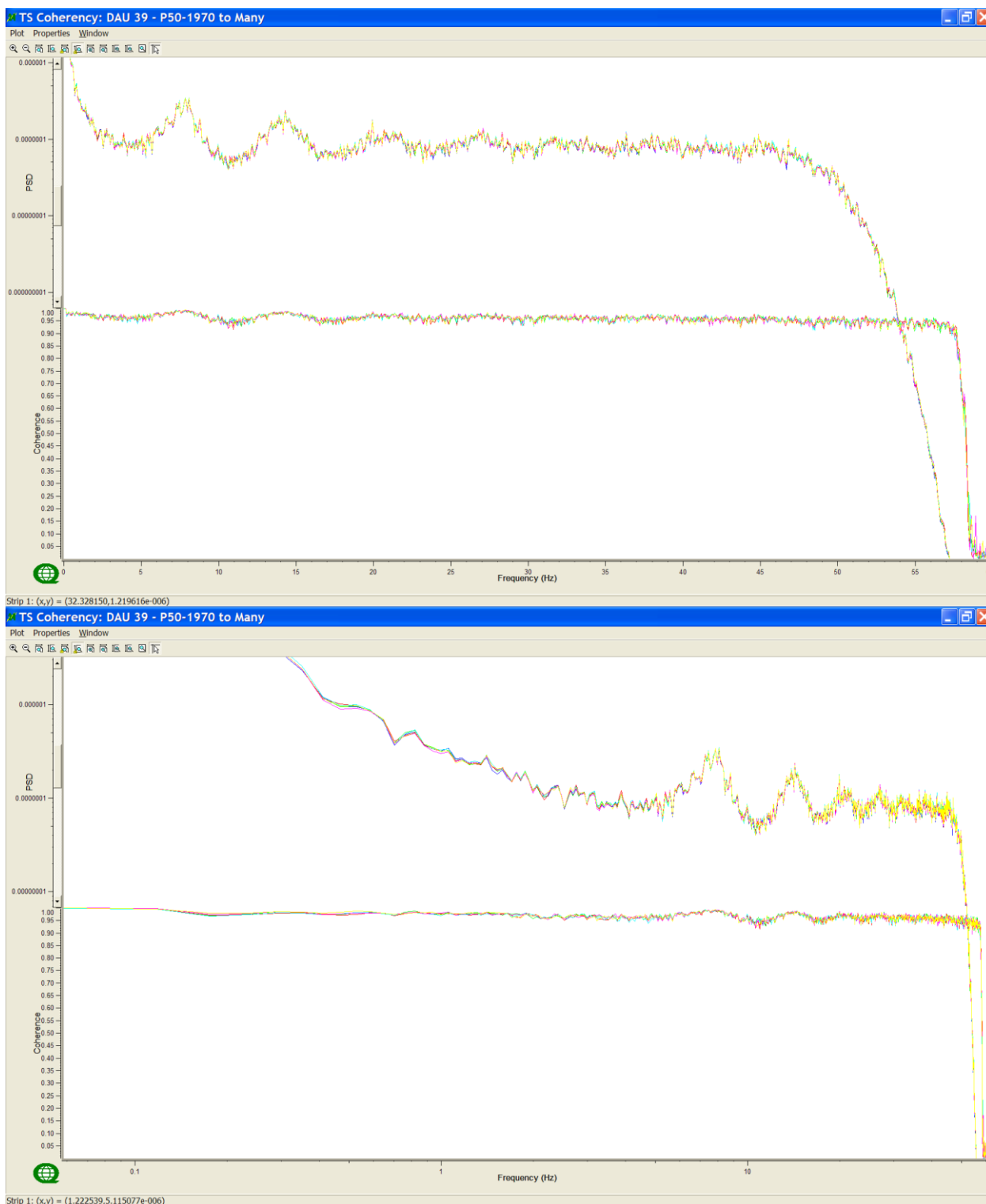


Figure 0-2: Coherencies are P50-1970 (blue). Upper linear, lower logarithmic frequency scales.

Table 1: Colours table for tested coils.

Colour	Channel
Blue	P50-1970
Green	P50-1987
Red	P50-2126
Cyan	P50-2235
Magenta	P50-2236
Yellow	P50-2249

HIGH FREQUENCY COILS

Available Coils:

TS Strip	Manufacturer	Serial #	Tasked To
1	EMI	BF6-9915	Remote Hx
2	EMI	BF6-0302	Line Hx
3	EMI	BF6-0303	Line Hy
4	EMI	BF6-0305	Remote Hy
5	EMI	BF6-6335	To be sent out
6	EMI	BF6-6336	Line spare?

Processing Parameters:

Parameter	Value
QuickLay Version	2.30.14
PSD Method	Welch
Window	Hanning
Window length	2048
Segment Overlap	50%

Results:

BF6-6335: lower coherency and lower PSD.
BF6-6336 lower coherency and higher PSD.
BF6-9915 slightly lower PSD

TEST RESULTS: 48KSPS

Titan NetEvent: 9015.000013
Sample Rate: 48ksps
TS Length: 1,500,000 samples (~31s)

Time Series

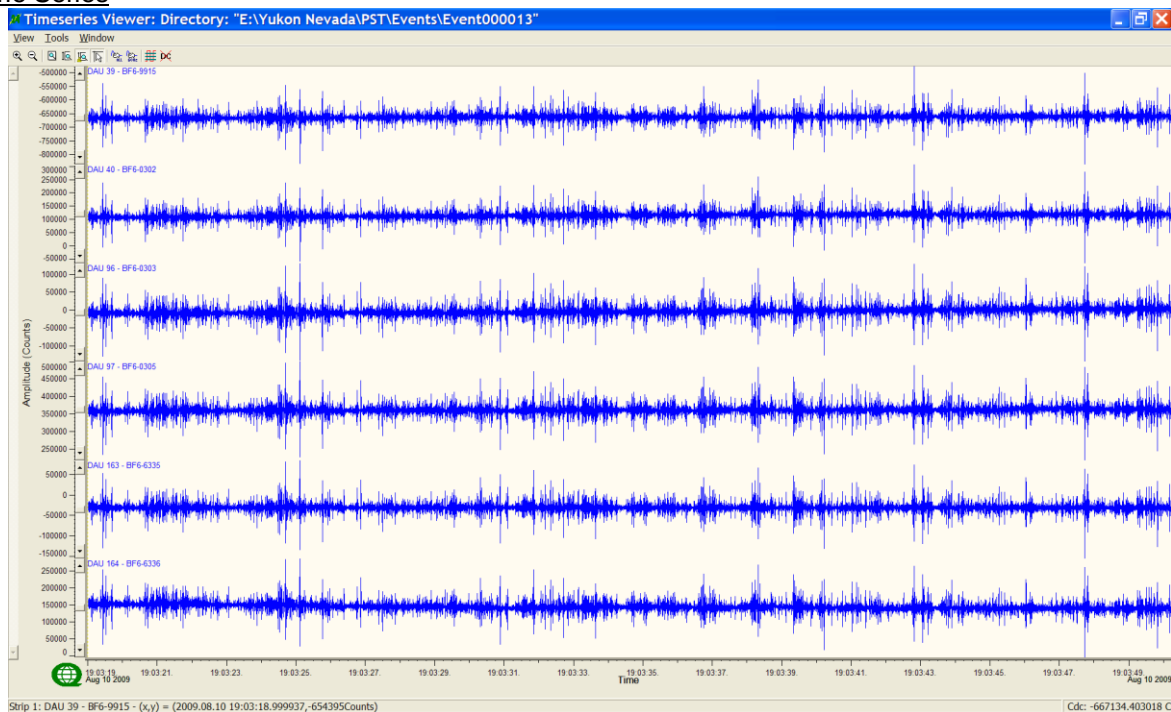


Figure 0-1: Complete time series (not scrubbed) at 48kps

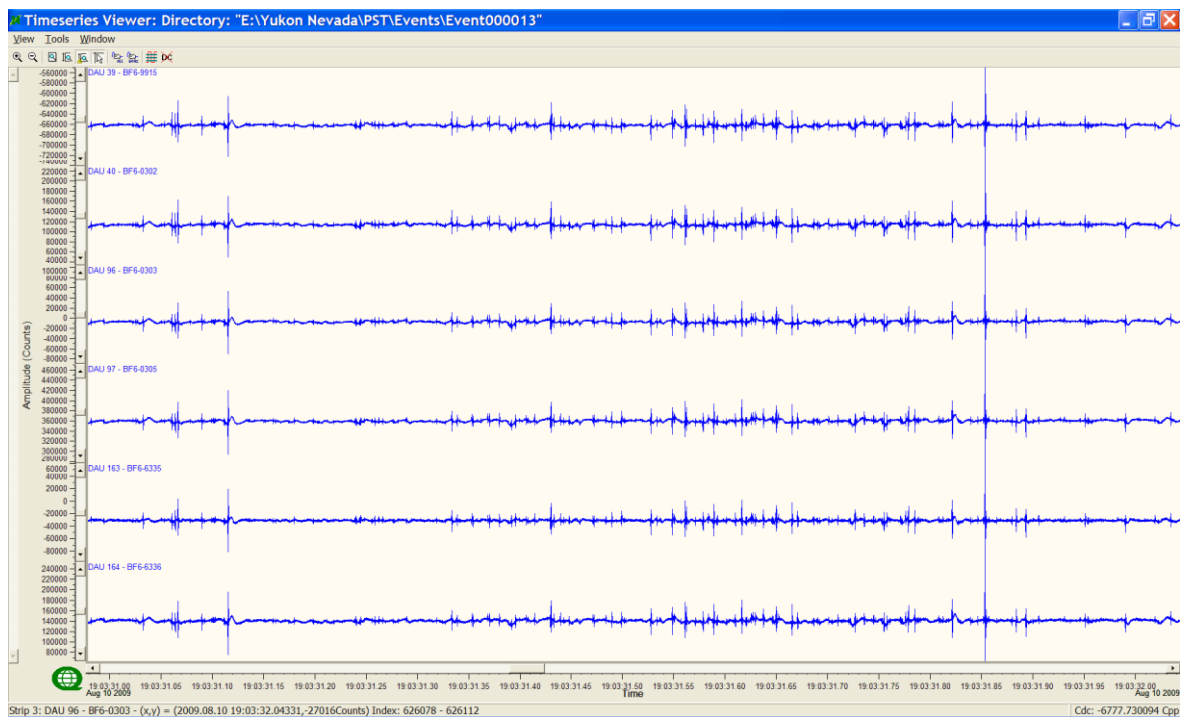


Figure 0-2: Time series focused in on ~1s (not scrubbed) at 48kps

High Frequency Coil Results: 48ksps Coherency to BF6-0305

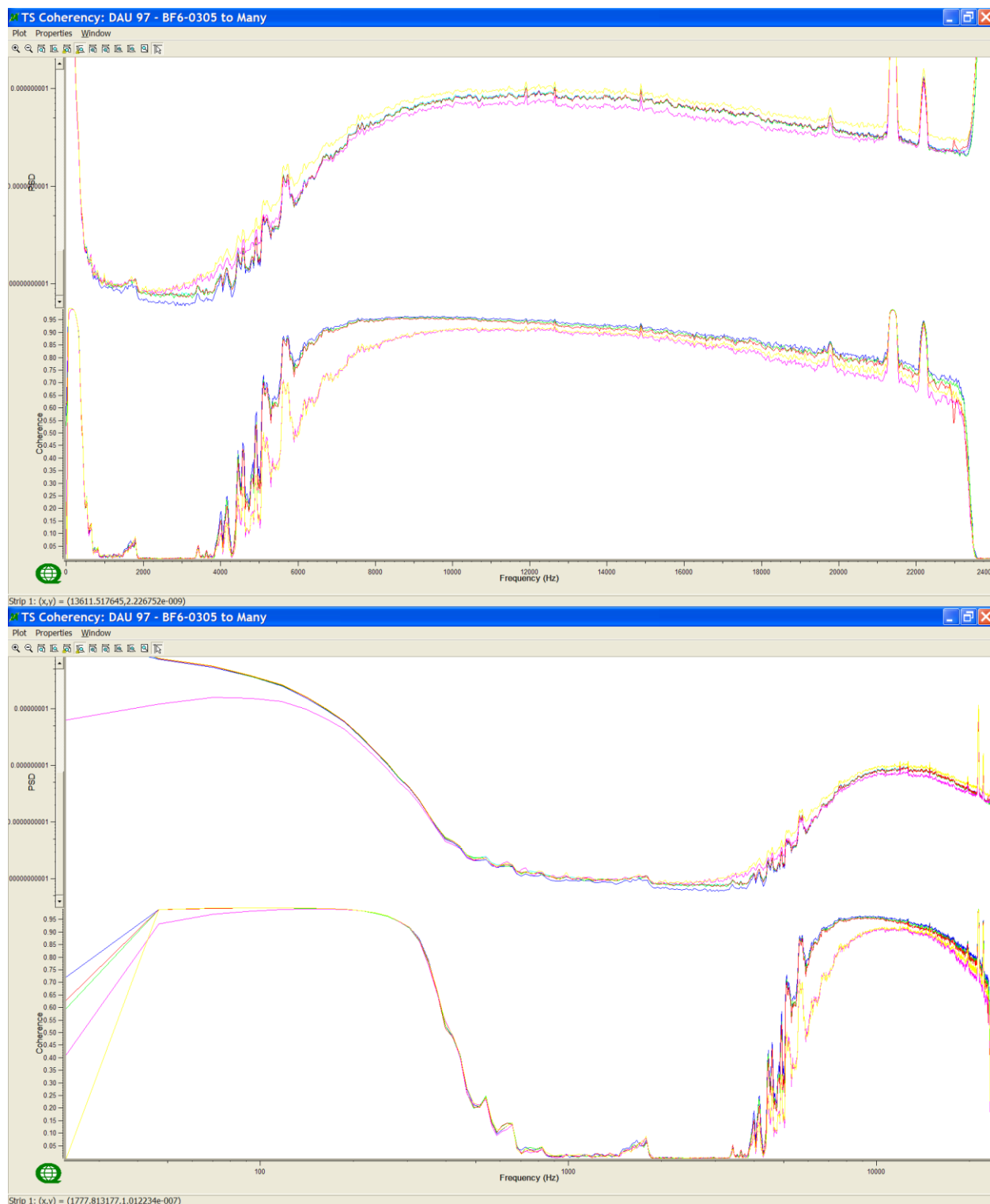


Figure 0-3: Coherencies are to BF6-0305 (cyan). Upper linear, lower logarithmic frequency scales.

Table 2: Colours table for tested coils.

Colour	Channel
Blue	BF6-9915
Green	BF6-0302
Red	BF6-0303
Cyan	BF6-0305
Magenta	BF6-6335
Yellow	BF6-6336

Note:

- A higher PSD for BF6-6336 (yellow) & lower PSD for BF6-6335 (magenta), and lower coherency for these coils.
- Similar results were obtained for CA00646T.
- There is less signal; no coherency at frequencies with less signal.

TEST RESULTS: 9600SPS

Titan NetEvent: 9015.000015
Sample Rate: 9600sps
TS Length: 1,500,000 samples (~2min 36s)

Time Series

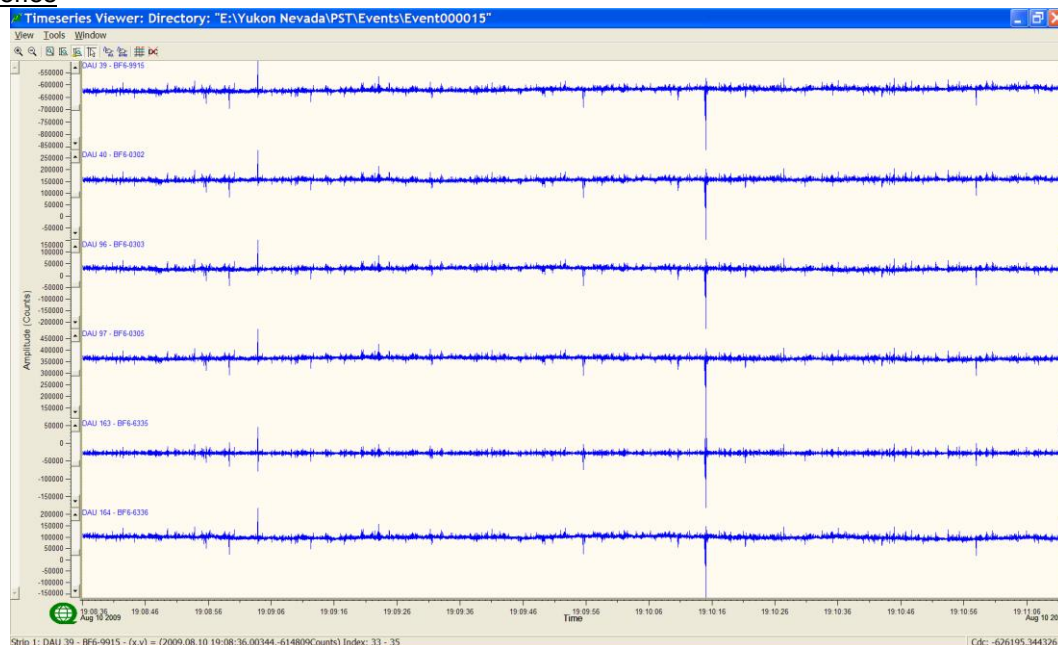


Figure 0-1: Complete time series @9600sps (not scrubbed)

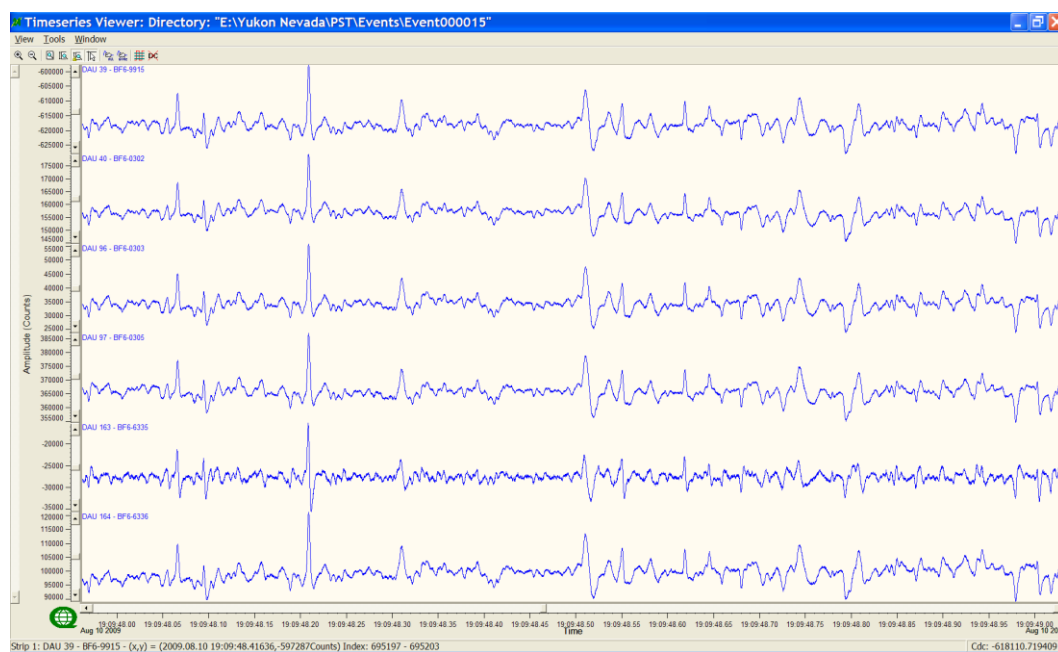


Figure 0-2: Focus on 1s of the time series @9600sps (not scrubbed). BF6-6335 shows a bit of noise

High Frequency Coil Results: 9600sps Coherency to BF6-0305

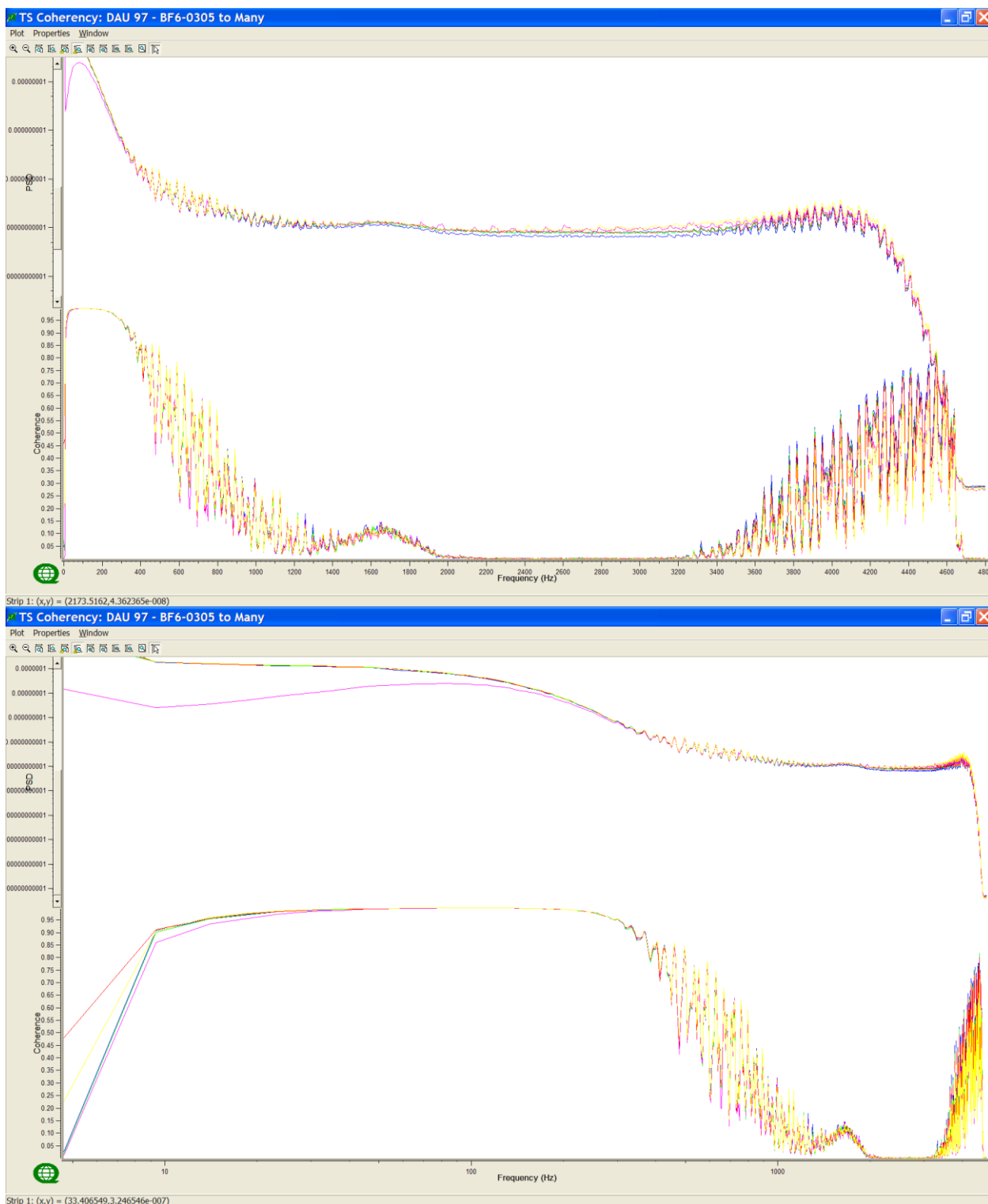


Figure 0-3: Coherencies are to BF6-0305 (cyan). Upper linear, lower logarithmic frequency scales.

Table 3: Colours table for tested coils.

Colour	Channel
Blue	BF6-9915
Green	BF6-0302
Red	BF6-0303
Cyan	BF6-0305
Magenta	BF6-6335
Yellow	BF6-6336

Note:

Higher PSD for BF6-6336 (yellow) & lower PSD for BF6-6335 (magenta), and lower coherency for these coils.

Please note that after these high frequency events, we swapped the coils at the coil connectors to see if the lower coherency and different PSD will move with the coil (refer to field notes). The lower coherency and different PSD followed the coils; therefore the slight mismatch is coming from the coils.

BF6-9915 has a lower PSD, this coil will be used as remote Hx.