Q-Borehole Survey Report

Schlumberger

Survey type:	Vertical Seismic Profile
Company:	International Ocean Discovery Program
Well:	Expedition 374, Site U1522A
Field:	Ross Sea W. Antarctic Ice Sheet History
Country:	
Run:	1
Date:	27-Jan-2018

Recorded by: K. Swain

Witnessed by: J. Gales, B. Romans, L. De Santis

Well Information

Company	**International Ocean Discovery Program**
Well	**Expedition 374, Site U1522A**
Field	**Ross Sea W. Antarctic Ice Sheet History**
Country	
State	Southern
Logging Date	27-Jan-2018
Run Number	1
Service Order	
Well Head (Latitude)	S 76.55377
Well Head (Longitude)	W 174.75775333
Well Head (X Coordinate)	0.0 UTM
Well Head (Y Coordinate)	0.0 UTM
Total Depth - Driller	1270.3 m
Total Depth - Logger	1217.0 m
Maximum Hole Deviation	1.0 deg
Azimuth of Maximum Deviation	
Program Version	19C0-187
Bit Size	9.875 in
Recorded by	K. Swain
Witnessed by	J. Gales, B. Romans, L. De Santis

Elevation Information

Permanent Datum	MSL
Elevation Permanent Datum	0.0 m
Above Permanent Datum	568.5 m
Drilling Measured From	Rig Floor
Derrick Floor	11.0 m
Ground Level	-557.5 m
Kelly Bush	11.0 m
Log Measured From	Rig Floor
Elevation Log Zero	11.0 m

Depth Corrected Information

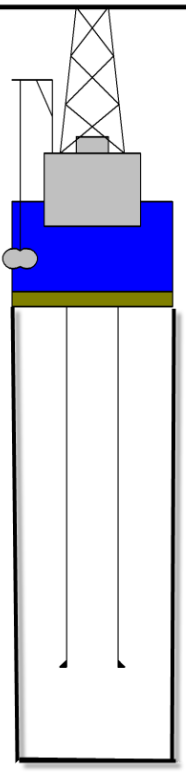
Water Velocity	1450.0 m/s
Seismic Reference Datum	0.0 m

Remarks

Hole drilled with RCB bottom hole assembly (BHA) at 9-7/8" BS
Bit dropped using Mechanical Bit Release (MBR) prior to logging.
Drilled TD was 1270.3mbrf.
Drill pipe set at 659.8mbrf and raised to 644.6m for main uplog.
Fluid type was Sepeolite mud weighted with Barite to a density of 10.5ppg
Depth recorded from drill floor; logs presented as-logged without depth corrections or shifts, as per client instructions.
All logs presented in wireline measured depth below rig floor (MDBRF).
Caliper opened during upward passes; closed inside pipe.
Hole size corrections made using caliper measurements for upward passes.
AHC used from TD then switched off to facilitate pipe entry.
10.5 lb/gal mud pumped in hole prior to logging.

Well Sketch

Client: **IODP**
Well: **U1522A**
Field:
State:
Country: **Ross Sea W. Antarctic Ice Sheet**
Rig Name: **JOIDES Resolution**
Reference Datum: Mean Sea Level
Elevation: 0.0 m

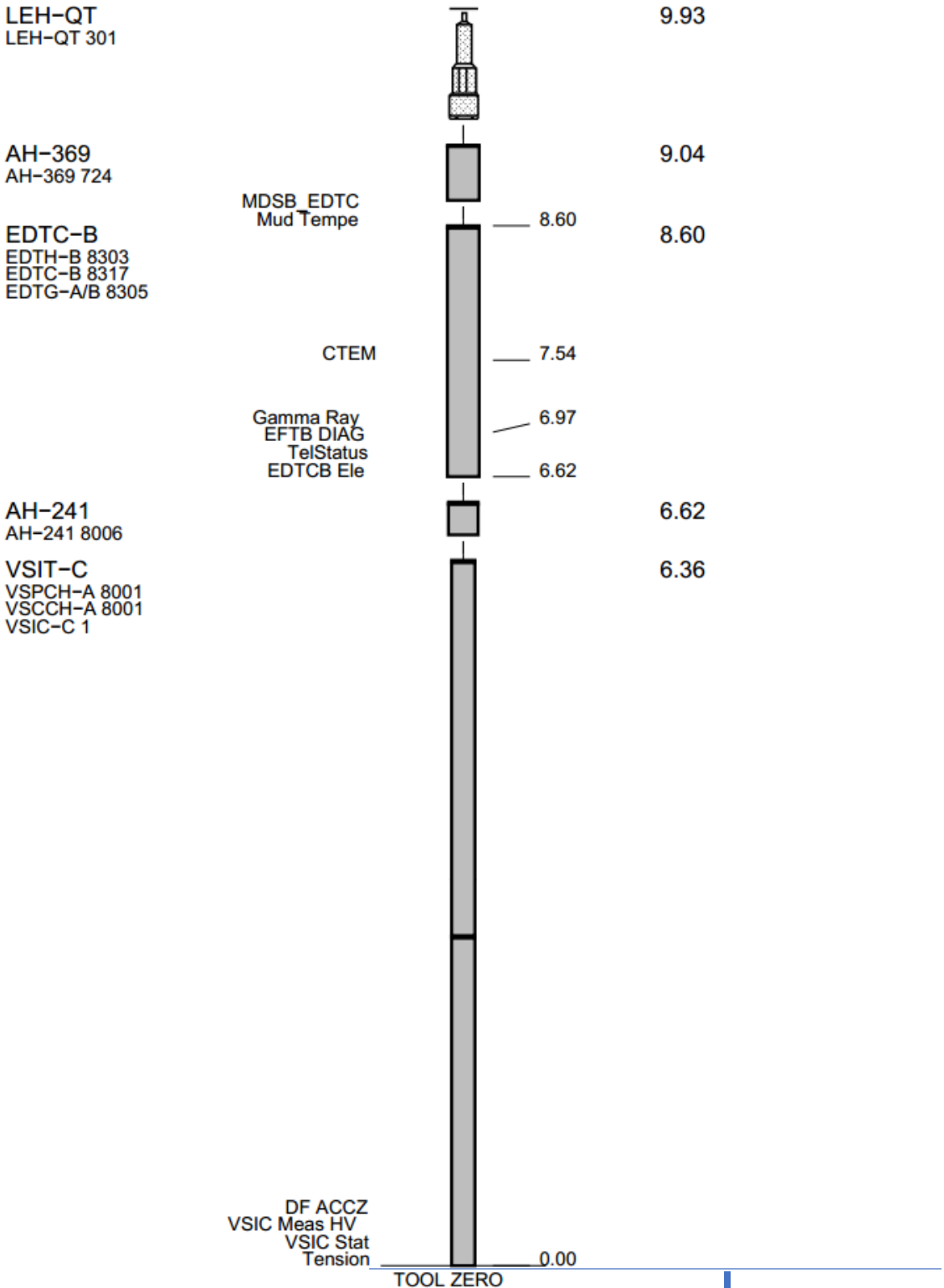
Production String	(in) OD	(in) ID	(m) MD	Well Schematic	(m) MD	(in) OD	(in) ID	Casing String
Kelly Bushing Elevation			0					
Derrick Floor Elevation			0					
Mean Sea Level			11					
Seismic Gun depth below MSL			18					
					568.5			Sea Bed
						4.125		Drill Pipe
					1270.3	9.875		Total Depth

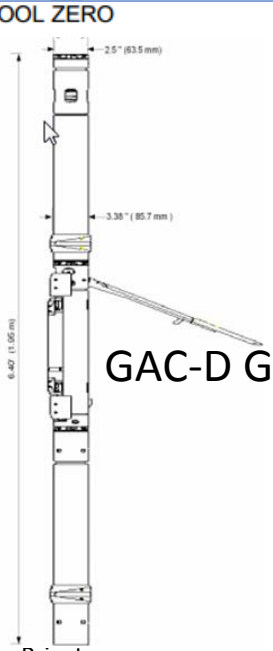
Driller's Depths

SURFACE EQUIPMENT

WSAM 808
WITM (EDTS)-A 1

DOWNHOLE EQUIPMENT





1.1 m below
Winch depth

GAC-D Geophone

Source Configuration (Air Gun)

Source Location (Rig, Boat, Pit, Borehole)	Crane #3 (port side aft)
Source Group ID (A, B, C, …)	A IODP Dual Air gun
Source Offset (for fixed offset)	48m
Source Azimuth (for fixed offset)	225 deg
Source Depth from Surface	7m
Source Depth from Logging Zero	18m

Gun Controller Type	WSI
Gun Controller Model Name	WSI-A
Gun Controller Serial Number	864
Gun Type	G-Gun
Gun Serial Number(s)	N/A-IODP
Gun Configuration (3 Gun Cluster, Gun Array, etc.)	2 Gun horizontal cluster
Gun Chamber Volumes	250 cubic inch per gun
Gun Pit/Borehole Information	Offshore air guns in sea
Compressor Type	Rig air
Compressor Flow Rate	n/a
Air Regulator Pressure	1750 psi

Surface Sensor Configuration

Number of Surface Reference Sensors	1
Surface Recording Length	500ms
Surface Sampling Rate	1ms
Sensor Type (S1)	MP24-H
Sensor Type (S2)	
Sensor Type (S3)	
Sensor Depth from Surface (S1)	9m
Sensor Depth from Surface (S2)	
Sensor Depth from Surface (S3)	
Sensor Depth from Logging Zero (S1)	20m
Sensor Depth from Logging Zero (S2)	
Sensor Depth from Logging Zero (S2)	
Sensor Offset from Source (S1)	0
Sensor Offset from Source (S2)	
Sensor Offset from Source (S3)	

Downhole Equipment Information

Tool Type	VSI single shuttle
Surface Equipment	WSI
Combined Tool	EDTC-B
Number of Shuttles	1
Nominal Receiver Spacing	1.1m below tool zero
Gimbaled (Y/N)	Y
Downhole Geophone Type	GAC-D
Sensitivity	0.54
Natural Frequency	20.0
Damping Factor	5.74
DC Resistance	1500
Receiver #1	VSIS-PC 8006
Receiver #2	
Receiver #3	
Receiver #4	
Receiver #5	
Receiver #6	
Receiver #7	
Receiver #8	

VSP

General Information

Survey Type	Zero Offset VSP
Surface Recording Length	500.0 ms
Suface Sampling Rate	1.0 ms
Downhole Recording Length	5000.0 ms
Downhole Sampling Rate	1.0 ms
Top of Survey	664.0 m
Bottom of Survey	867.4 m
Number of Shots	53
Number of Downhole Traces	53
Number of Downhole Traces used for Processing	35

Stack Summary Listing (1/1) from VSI_001_A_geo_wavefield_z.ldf

Stack Number	Measured Depth [m]	True Vertical Depth [m]	Measured Time [s]	One-way Vertical Time [s]	Two-way Vertical Time [s]	Interval Velocity [m/s]	Average Velocity [m/s]	RMS Velocity [m/s]
	0	0	0	0	0			
						1500.5		
12	664.0	653.0	0.4302	0.4352	0.8704		1500.5	1500.5
						1861.1		
11	675.0	664.0	0.4361	0.4411	0.8822		1505.3	1505.9
						2148.9		
10	698.0	687.0	0.4467	0.4518	0.9036		1520.6	1524.3
						2023.8		
9	723.9	712.9	0.4595	0.4646	0.9292		1534.5	1540.2
						2064.7		
6	777.9	766.9	0.4855	0.4908	0.9815		1562.7	1572.6
						2126.2		
5	799.9	788.9	0.4958	0.5011	1.0022		1574.3	1586.0
						1986.7		
3	845.0	834.0	0.5185	0.5238	1.0476		1592.2	1605.4
						2054.8		
2	867.4	856.4	0.5294	0.5347	1.0694		1601.6	1615.8

Shot Summary Listing (1/1)

Measured Depth [m]	Tool Number	Stack Number	Relative Bearing [deg]	Caliper [in]	Anchoring force [kg]	Shot number
664.0	1	12	16.4	13.6	895.3	63, 64, 66
675.0	1	11	-11.7	14.0	888.8	52, 53, 57, 58, 59, 60
698.0	1	10	-36.1	13.7	910.3	45, 46, 48, 49, 50, 51
723.9	1	9	-36.3	14.3	925.2	42
777.9	1	6	-7.0	12.0	887.8	33, 36, 37, 38
799.9	1	5	-18.8	12.2	804.5	26, 27, 28, 29, 32
845.0	1	3	-12.5	13.1	890.2	19, 20, 21, 22, 23
867.4	1	2	-66.7	3.9	866.5	14, 15, 16, 17, 18

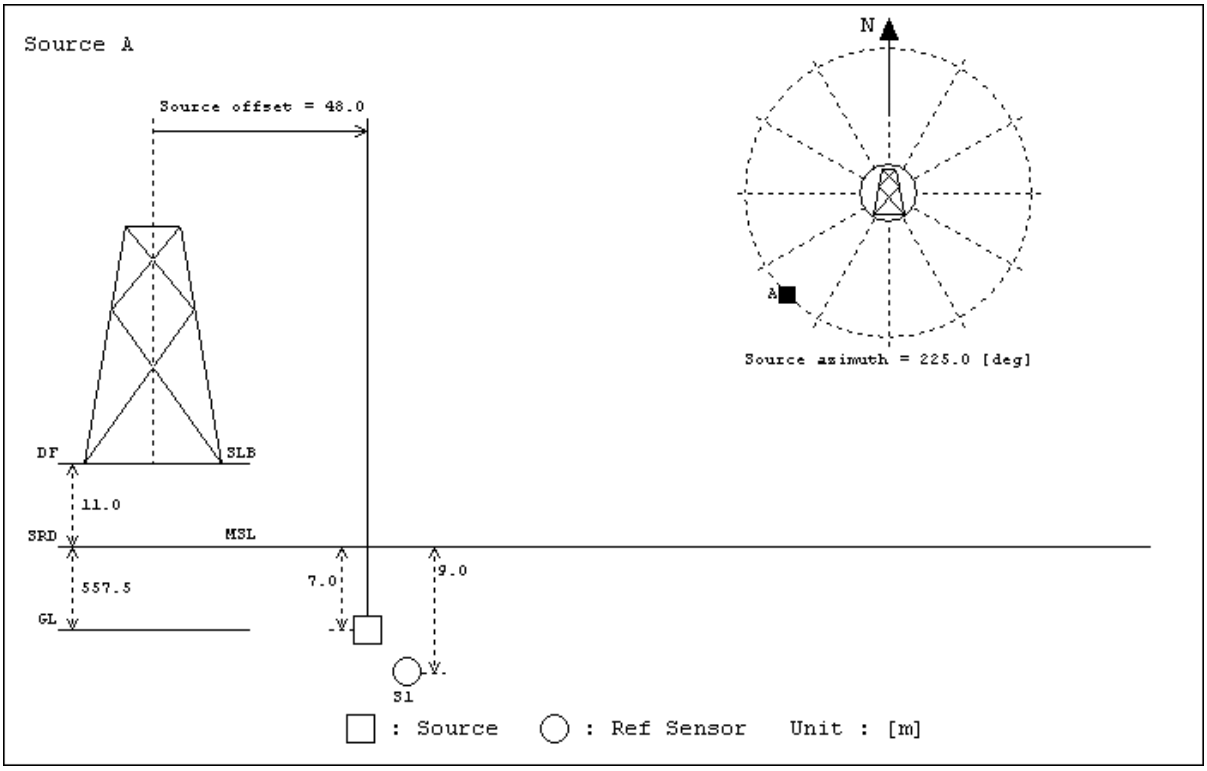
Observer's Note (1/2)

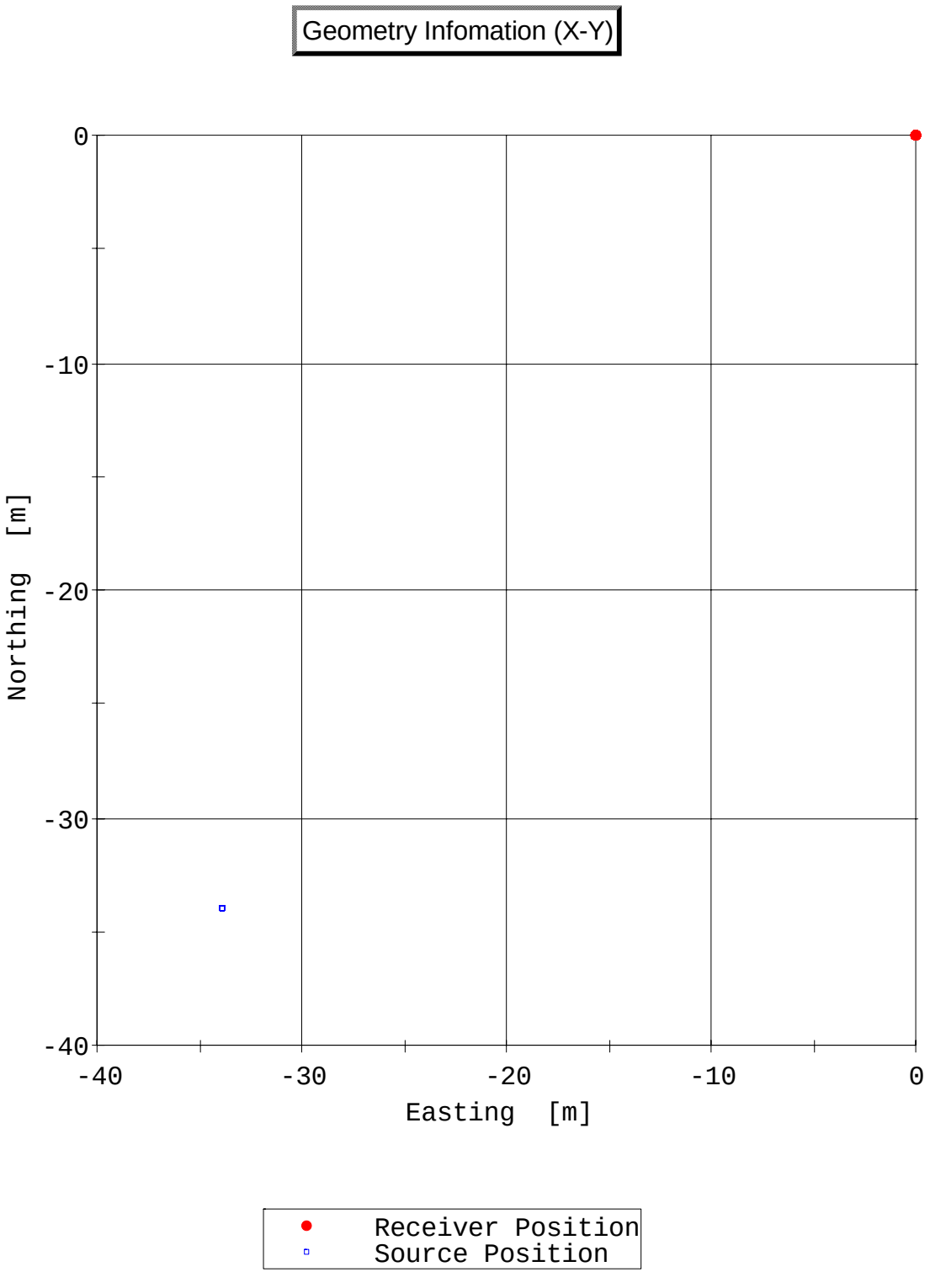
Well depth[m]	Time	Shot Type	Shot#	Stack#	Source	Remarks
38.2	20:35:32	ENLO	1			surface test
38.2	20:35:56	ENHI	2			
38.2	20:36:05	ETHD	3			
38.2	20:36:19	DRNG	4			
38.2	20:36:33	GA02	5			
38.2	20:36:43	GA04	6			
38.2	20:36:53	GA08	7			
38.2	20:37:03	GA16	8			
38.2	20:37:13	GA32	9			
38.2	20:37:28	XTLK	10			
38.2	20:37:46	XTLK	11			
38.2	20:38:05	XTLK	12			
38.2	20:38:23	EIMP	13			surface test end successful
867.4	01:51:43	SHOT	14	2	A	good a little noisy
867.4	01:52:48	SHOT	15	2	A	same
867.4	01:54:03	SHOT	16	2	A	same
867.4	01:54:31	SHOT	17	2	A	same
867.4	01:54:52	SHOT	18	2	A	same
845.0	02:04:10	SHOT	19	3	A	good
845.0	02:05:19	SHOT	20	3	A	
845.0	02:05:37	SHOT	21	3	A	
845.0	02:06:08	SHOT	22	3	A	
845.0	02:06:32	SHOT	23	3	A	good
805.0	02:13:09	SHOT	24	4	A	bad
805.0	02:13:36	SHOT	25	4	A	bad
799.9	02:17:29	SHOT	26	5	A	
799.9	02:17:56	SHOT	27	5	A	
799.9	02:18:29	SHOT	28	5	A	
799.9	02:19:38	SHOT	29	5	A	
799.9	02:20:09	SHOT	30	5	A	bad
799.9	02:20:29	SHOT	31	5	A	bad
799.9	02:20:54	SHOT	32	5	A	good
777.9	02:28:50	SHOT	33	6	A	
777.9	02:29:10	SHOT	34	6	A	
777.9	02:29:33	SHOT	35	6	A	
777.9	02:30:01	SHOT	36	6	A	
777.9	02:30:19	SHOT	37	6	A	
777.9	02:30:37	SHOT	38	6	A	
751.9	02:40:19	SHOT	39	7	A	
751.9	02:40:46	SHOT	40	7	A	
751.9	02:41:04	SHOT	41	7	A	
723.9	02:52:25	SHOT	42	9	A	
723.9	02:52:43	SHOT	43	9	A	
723.9	02:53:02	SHOT	44	9	A	
698.0	03:07:52	SHOT	45	10	A	
698.0	03:08:11	SHOT	46	10	A	
698.0	03:08:29	SHOT	47	10	A	
698.0	03:08:47	SHOT	48	10	A	
698.0	03:09:19	SHOT	49	10	A	
698.0	03:09:39	SHOT	50	10	A	
698.0	03:10:50	SHOT	51	10	A	
675.0	03:25:40	SHOT	52	11	A	
675.0	03:25:58	SHOT	53	11	A	
675.0	03:26:16	SHOT	54	11	A	
675.0	03:26:34	SHOT	55	11	A	
675.0	03:26:55	SHOT	56	11	A	
675.0	03:27:13	SHOT	57	11	A	
675.0	03:27:41	SHOT	58	11	A	
675.0	03:28:12	SHOT	59	11	A	

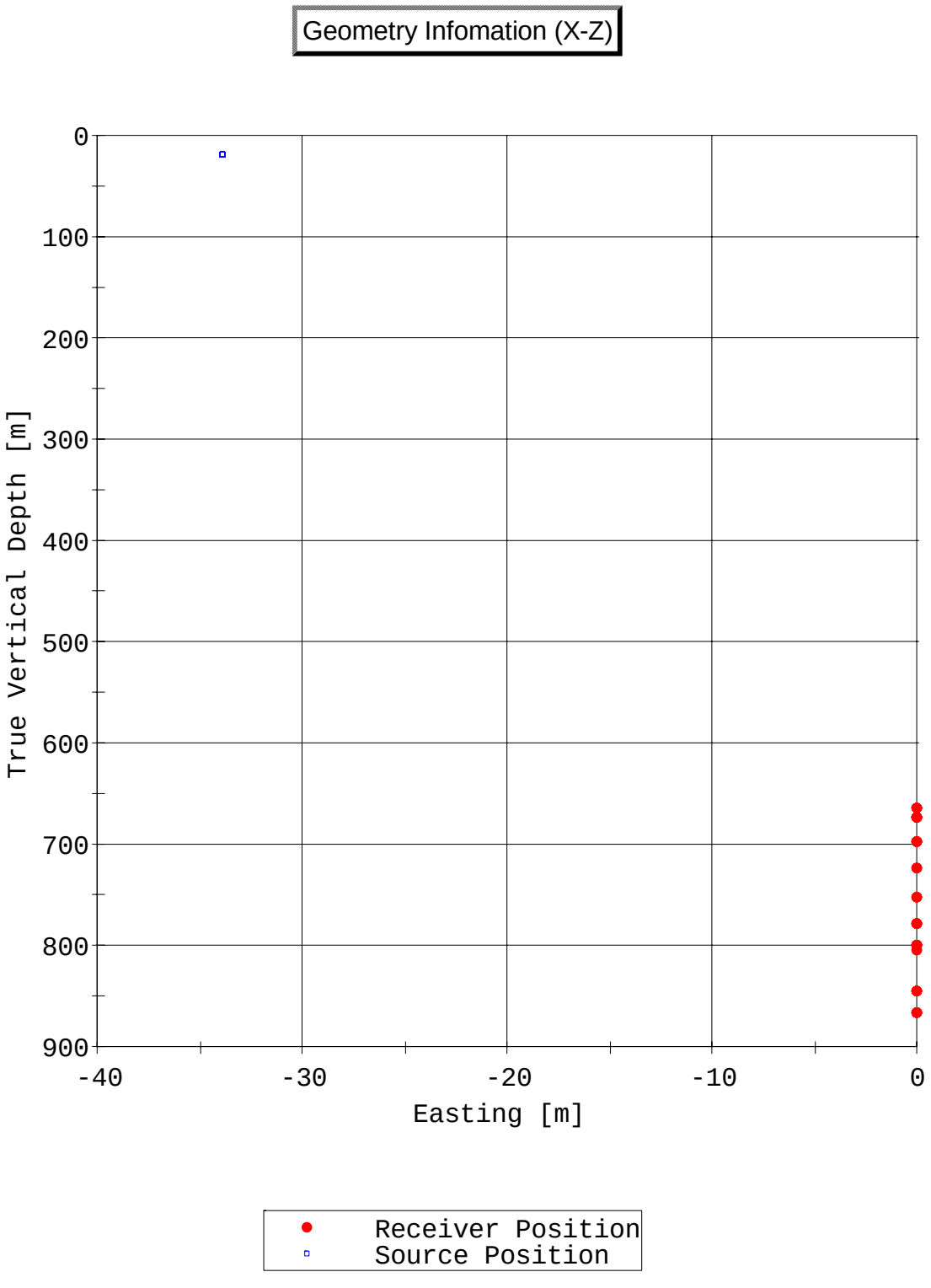
Observer's Note (2/2)

Well depth[m]	Time	Shot Type	Shot#	Stack#	Source	Remarks
675.0	03:28:30	SHOT	60	11	A	
664.0	04:02:07	SHOT	61	12	A	
664.0	04:02:25	SHOT	62	12	A	
664.0	04:02:47	SHOT	63	12	A	
664.0	04:03:19	SHOT	64	12	A	
664.0	04:04:05	SHOT	65	12	A	
664.0	04:05:10	SHOT	66	12	A	

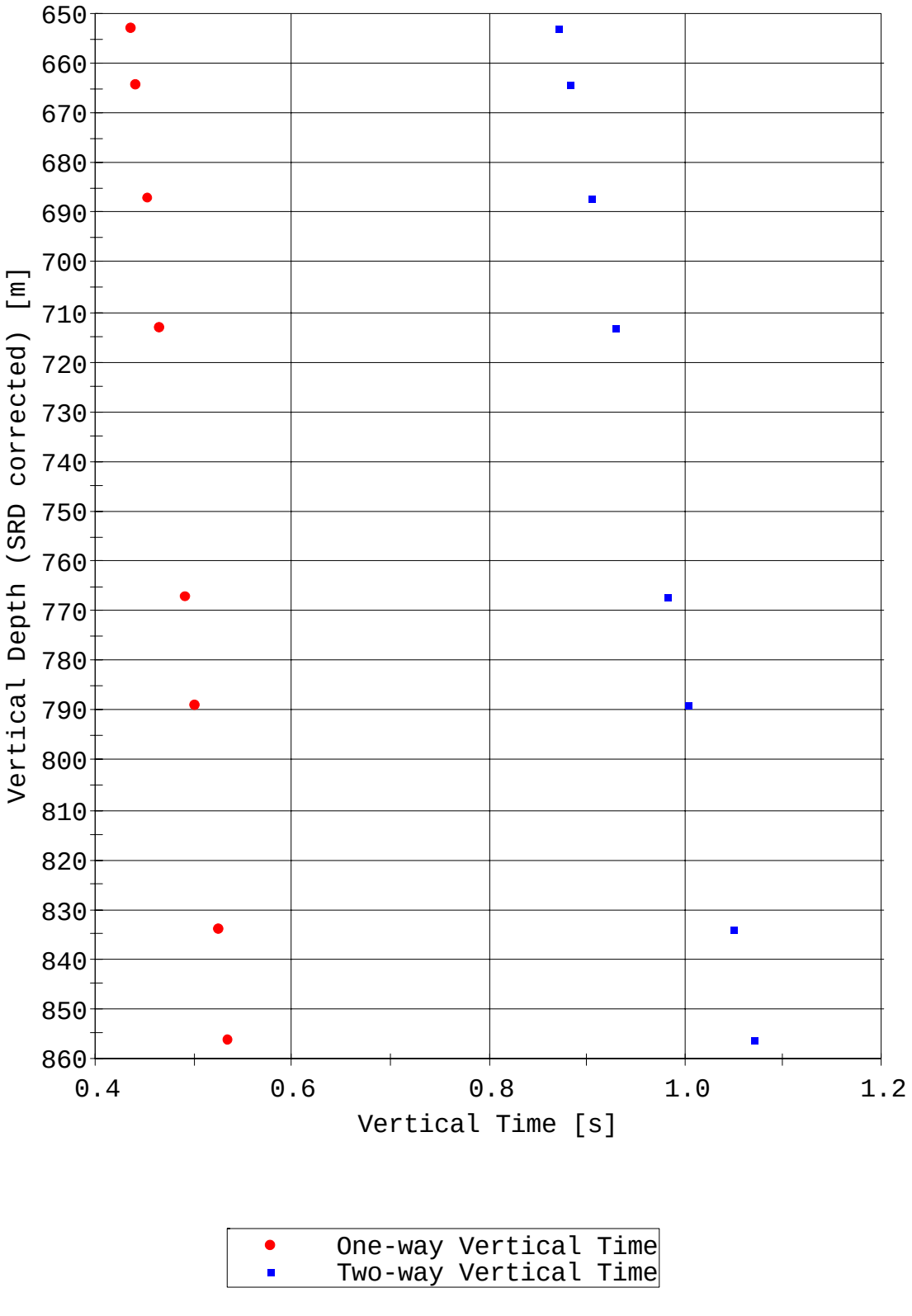
Source Geometry Sketch



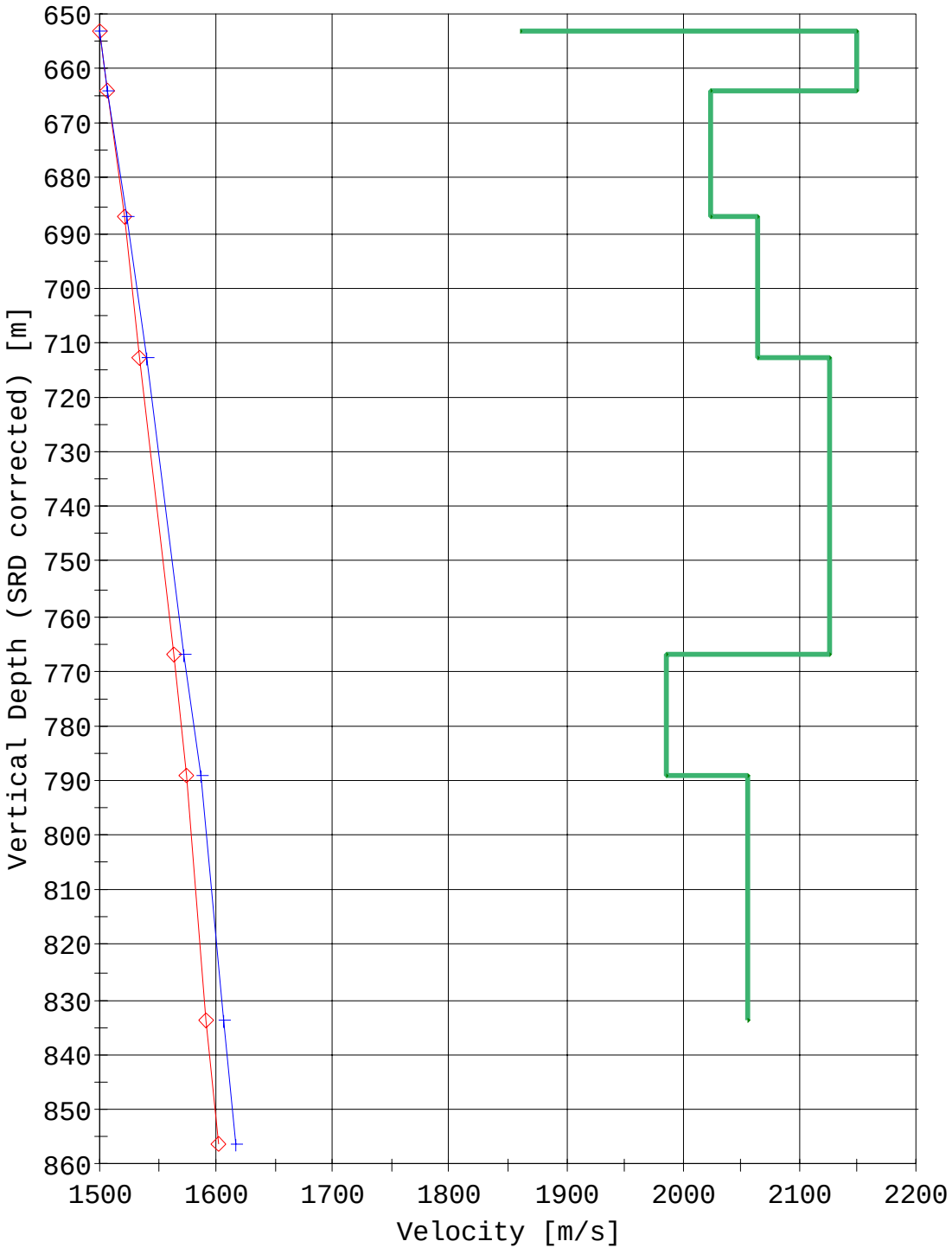

Geometry Infomation (X-Y)
0
-10
-20
-30
-40
Northing [m]
-40
-30
-20
-10
0
Easting [m]
Receiver Position
Source Position

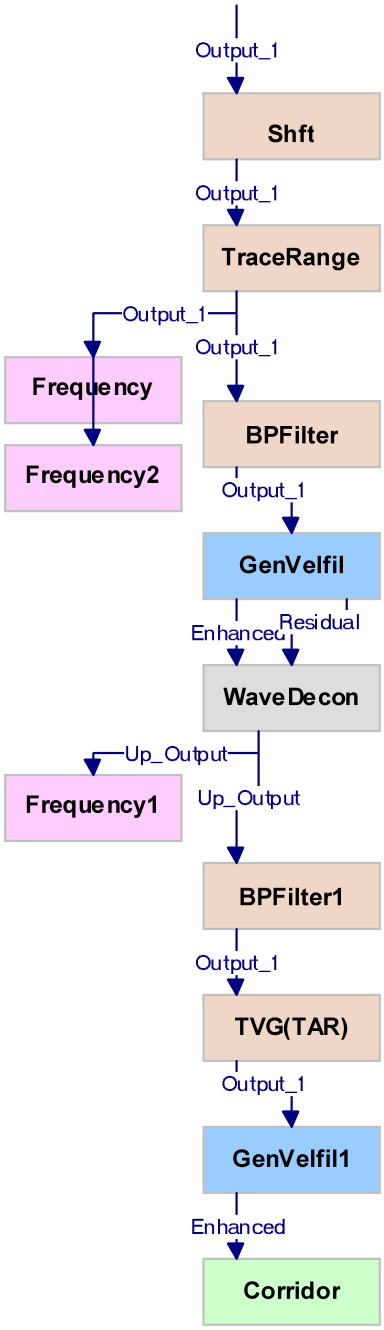

Geometry Infomation (X-Z)
True Vertical Depth [m]
0
100
200
300
400
500
600
700
800
900
-40
-30
-20
-10
0
Easting [m]
Receiver Position
Source Position

Time Depth Plot



Velocity Plot

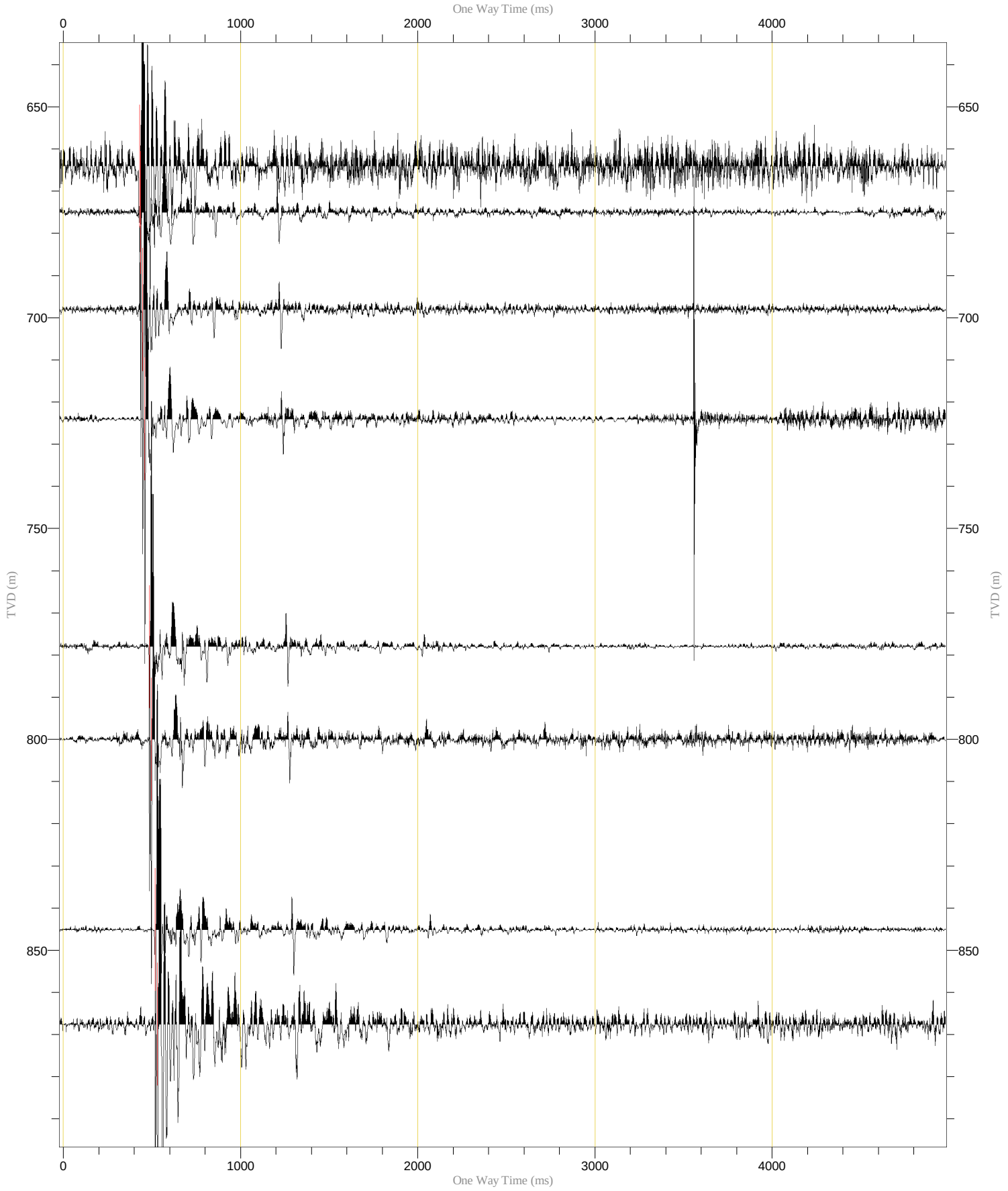


Process Flow	Parameter
	**[LoadLdf]** Input 1: VSI_001_A_geo_wavefield_z.ldf **[Frequency2]** Process all samples Apply FZ **[BPFilter]** Phase: Zero Band Width: 5.0 - 90.0Hz **[GenVelfil]** Apply internal Normalization/Denormalization Median Filter 9 Traces **[WaveDecon]** Waveshape Deconvolution Design Filter trace Input start at TRANSIT_TIME wavelet: 8.0 - 85.0 Hz zero-phase Polarity: Positive **[BPFilter1]** Phase: Zero Band Width: 8.0 - 85.0Hz **[TVG(TAR)]** Travel time exponent = 1.50 **[GenVelfil1]** Median Filter 7 Traces **[Corridor]** Window Start: TRANSIT_TIME - 0.000 (s) Window End: TRANSIT_TIME - -0.200 (s) (Deepest 5 traces remain) Mean Stack BPF 5.0 - 90.0Hz **[Frequency1]** Process all samples Apply FK **[Frequency]** Process all samples Apply FK

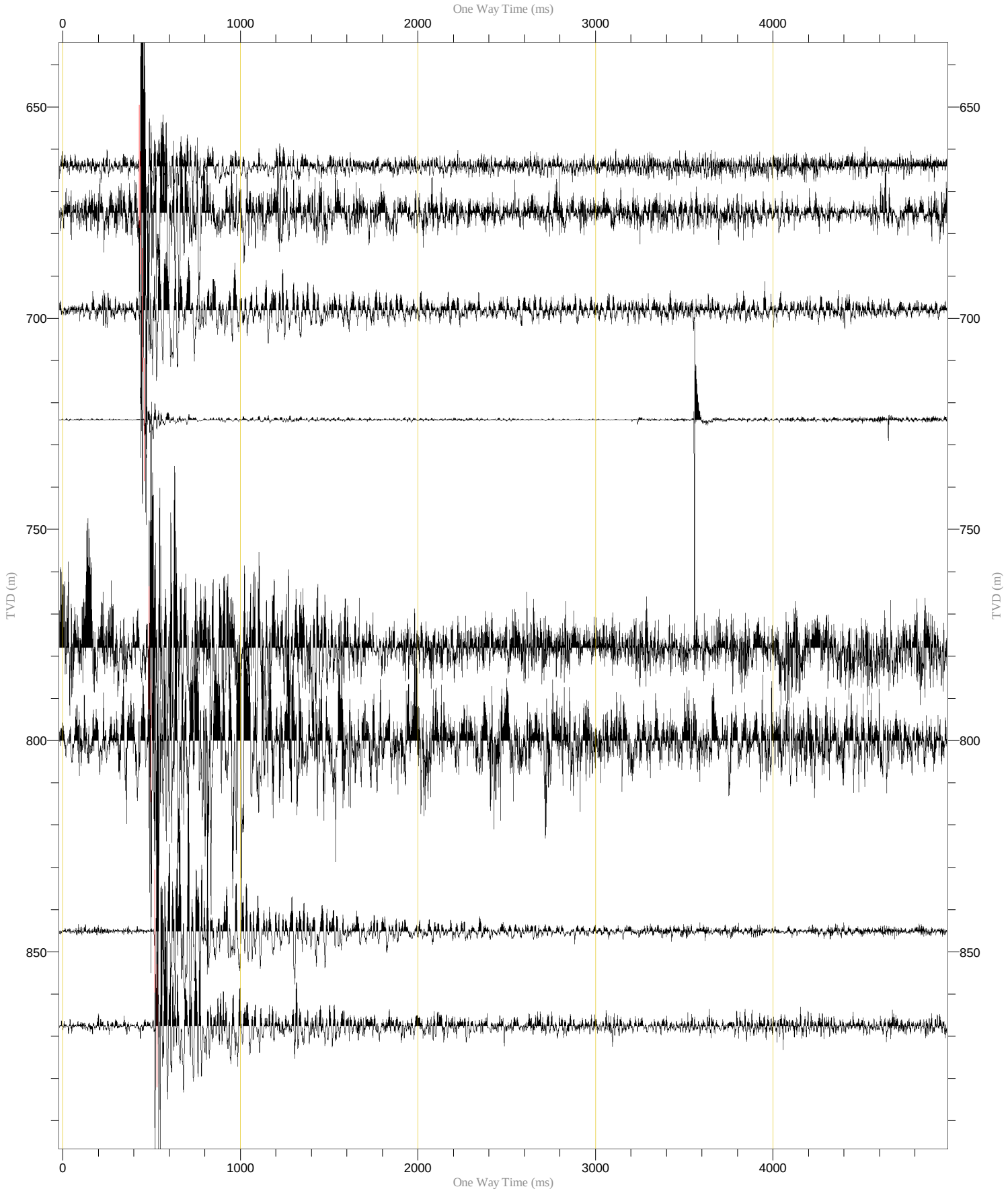
```
[LoadLdf]

FileLoadLdf Parameters
    Input 1:  VSI_001_A_geo_wavefield_z.ldf

[Shft]

Shift Parameters
    Shift: +  TT_SRD to TT Difference -  0 s
     Update selected headers

[TraceRange]

Trace Range Set Manual Parameters
    Trace Range Set Parameters
        Remove Bad Trace

[Frequency2]

Spectral Analyser Parameters
    Process all samples
    Depth/Offset header =  CABLE_LENGTH
    Output is Frequency Domain
    Compute Amplitude spectrum  in dB

[BPFilter]

BPF Parameters
    Butterworth Filter,  Zero Phase
    Charasteristic:  5.000 Hz  to  90.000 Hz  Order  3

[GenVelfil]

Mean/Median Generalized Velocity Filter Parameters
    Align events using times of  TRANSIT_TIME x 1.000
    Compute both enhanced and residual output
    Apply internal Normalization/Denormalization based on RMS of time window
       From  TRANSIT_TIME  -  0.020 s
       Windown length =  0.500 s
    Median Stacking
     Stacking window (traces):  9
    Stacking window (samples):  1
    Source and receiver coordinates Parameters
        Source Offset:   SOURCE_LINE_POSITION_RHO
        Source Depth:    SOURCE_LINE_POSITION_Z
        Receiver Offset: RECEIVER_LINE_POSITION_RHO
        Receiver Depth:  RECEIVER_LINE_POSITION_Z

[WaveDecon]

Waveshaping deconvolution Parameters
    Design Filter trace by trace
    Filter input start at TRANSIT_TIME  -  0.080 s
    Filter input window: 1.000 s
    Filter Length is filter input window
    Desired wavelet created by filtered unit impulse from   8.000 Hz  to  85.000 Hz  , zero-phase
    Positive wavelet polarity
    Wavelet delay time = Filter Length / 2
    White noise (%): 5.000
    Waveshaping optimization Parameters

[BPFilter1]

BPF Parameters
    Butterworth Filter,  Zero Phase
    Charasteristic:  8.000 Hz  to  85.000 Hz  Order  3

[TVG(TAR)]

Time-Varying Gain Parameters
```

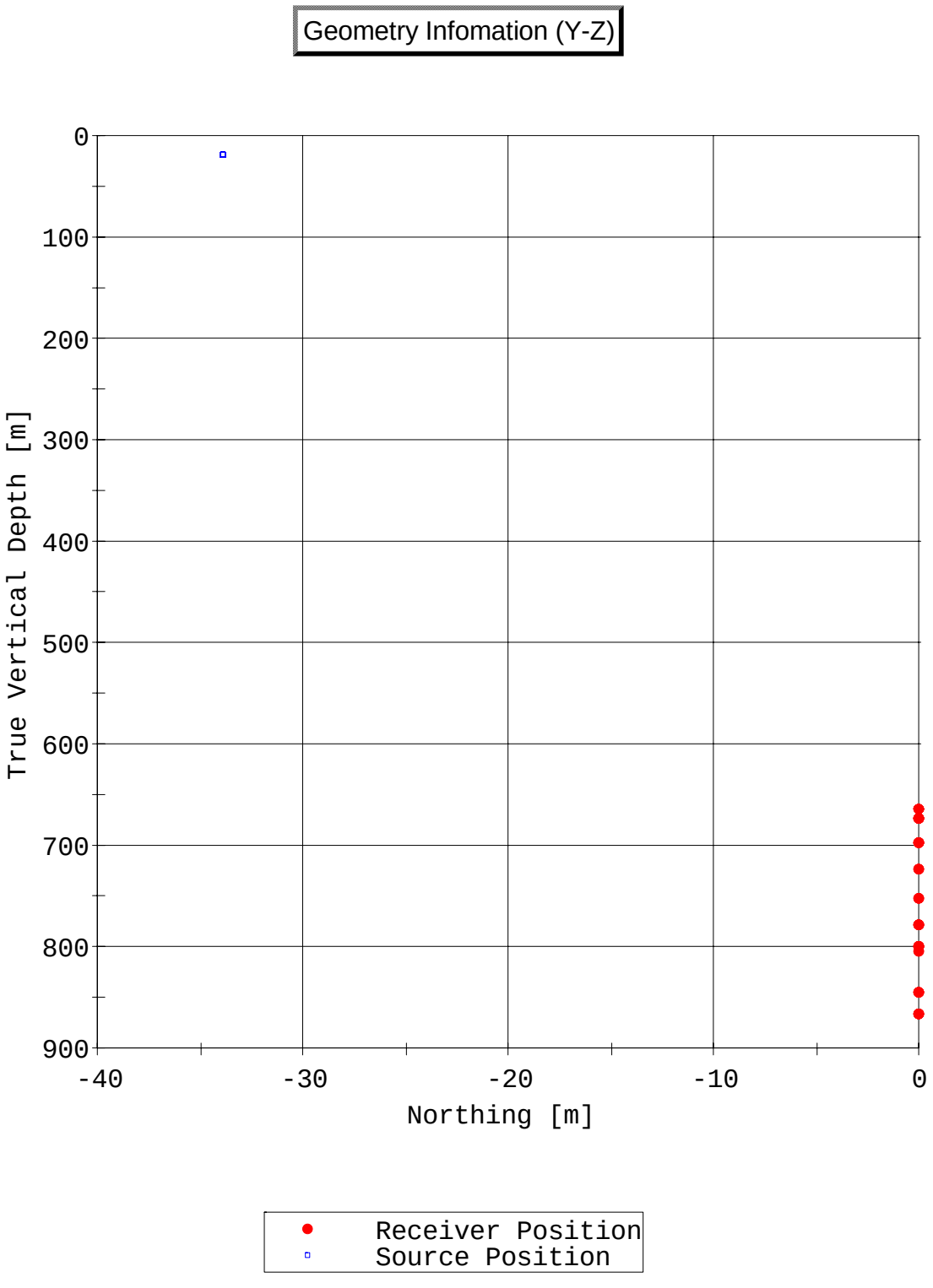
```
    Window start at  TRANSIT_TIME - 0.000000
    Window length = 4.999000
    Travel time exponent = 1.500000
    Exponential Weighting = 0.000000

[GenVelfil1]

Mean/Median Generalized Velocity Filter Parameters
    Align events using times of  TRANSIT_TIME x -1.000
    Compute both enhanced and residual output
    Median Stacking
     Stacking window (traces):  7
    Stacking window (samples):  1
    Source and receiver coordinates Parameters
        Source Offset:   SOURCE_LINE_POSITION_RHO
        Source Depth:    SOURCE_LINE_POSITION_Z
        Receiver Offset: RECEIVER_LINE_POSITION_RHO
        Receiver Depth:  RECEIVER_LINE_POSITION_Z

[Corridor]

Corridor stack Parameters
    Mute before  TRANSIT_TIME  -  0 s
    Mute after  TRANSIT_TIME  -  -0.200 s
        All traces except the deepest (traces):  5
        Depth header:  RECEIVER_POSITION_Z
    Mean stack
    Apply +TT with  TRANSIT_TIME
    Replicate corridor stack x  10
    Apply BPF on resulting corridor stack
    BPF Parameters
        Butterworth Filter,  Zero Phase
        Charasteristic:  5.000 Hz  to  90.000 Hz  Order  3

[Frequency1]

Spectral Analyser Parameters
    Process all samples
    Depth/Offset header =  CABLE_LENGTH
    Output is FK Domain
    Compute Amplitude spectrum  in dB

[Frequency]

Spectral Analyser Parameters
    Process all samples
    Depth/Offset header =  CABLE_LENGTH
    Output is FK Domain
    Compute Amplitude spectrum  in dB
```

Raw Stack (Z)	Normalization Trace by Trace (250%) Polarity Normal One Way Time (ms) Scaling 3.5 cm/sec, 1/1200	

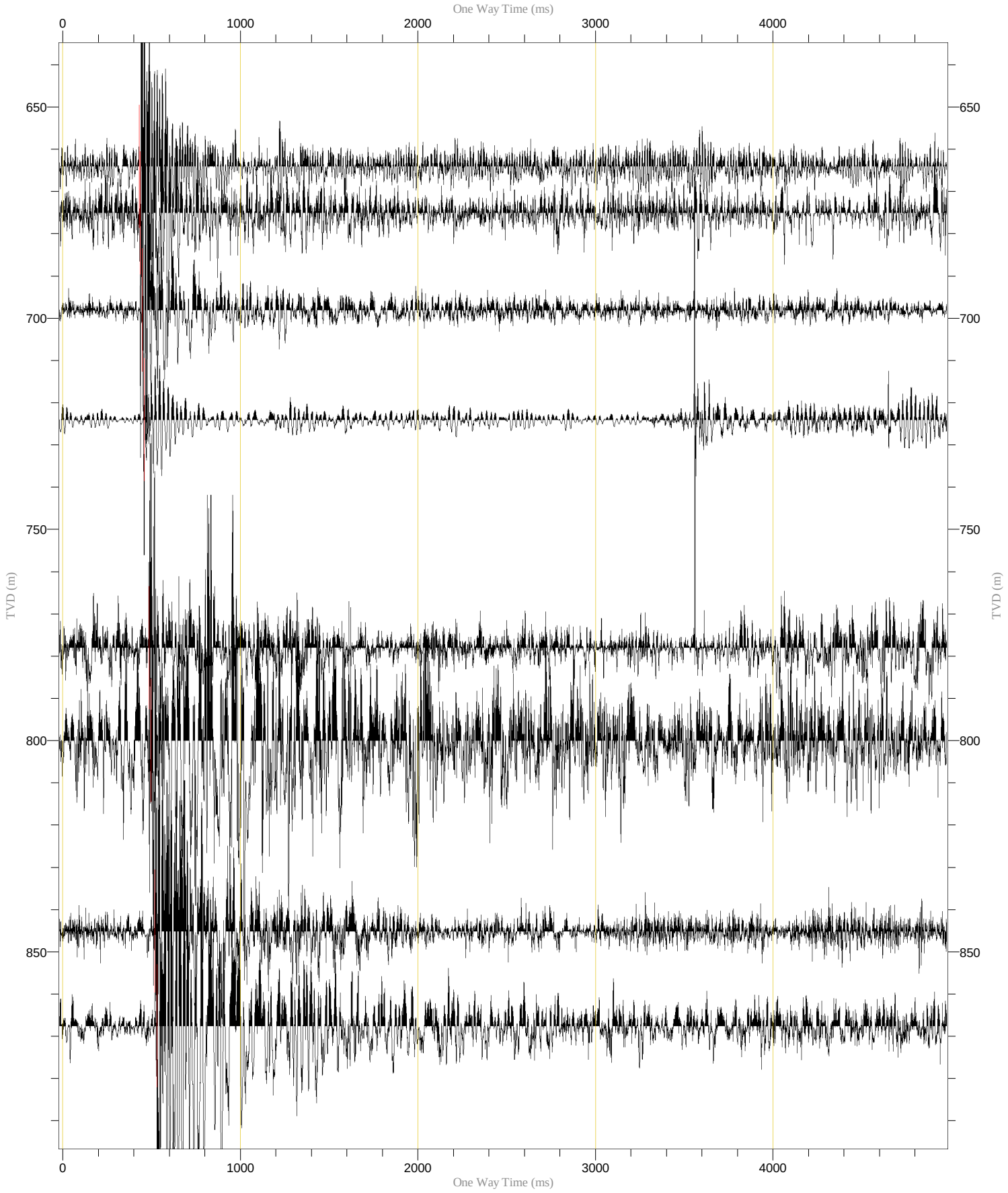


Raw Stack (X)	Normalization Trace by Trace (250%) Polarity Normal One Way Time (ms) Scaling 3.5 cm/sec, 1/1200	

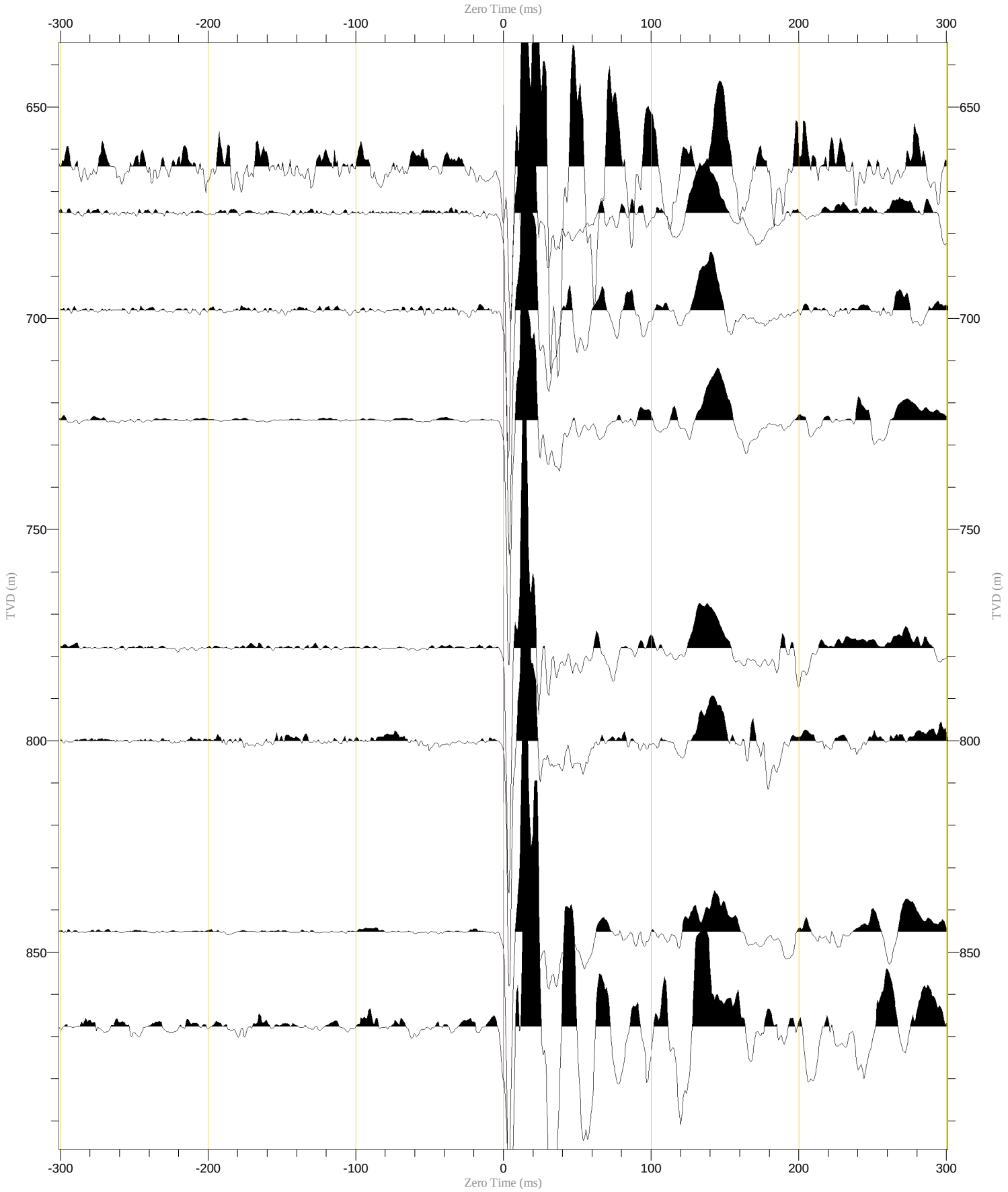



Geometry Infomation (Y-Z)
True Vertical Depth [m]
0
100
200
300
400
500
600
700
800
900
-40
-30
-20
-10
0
Northing [m]
Receiver Position
Source Position

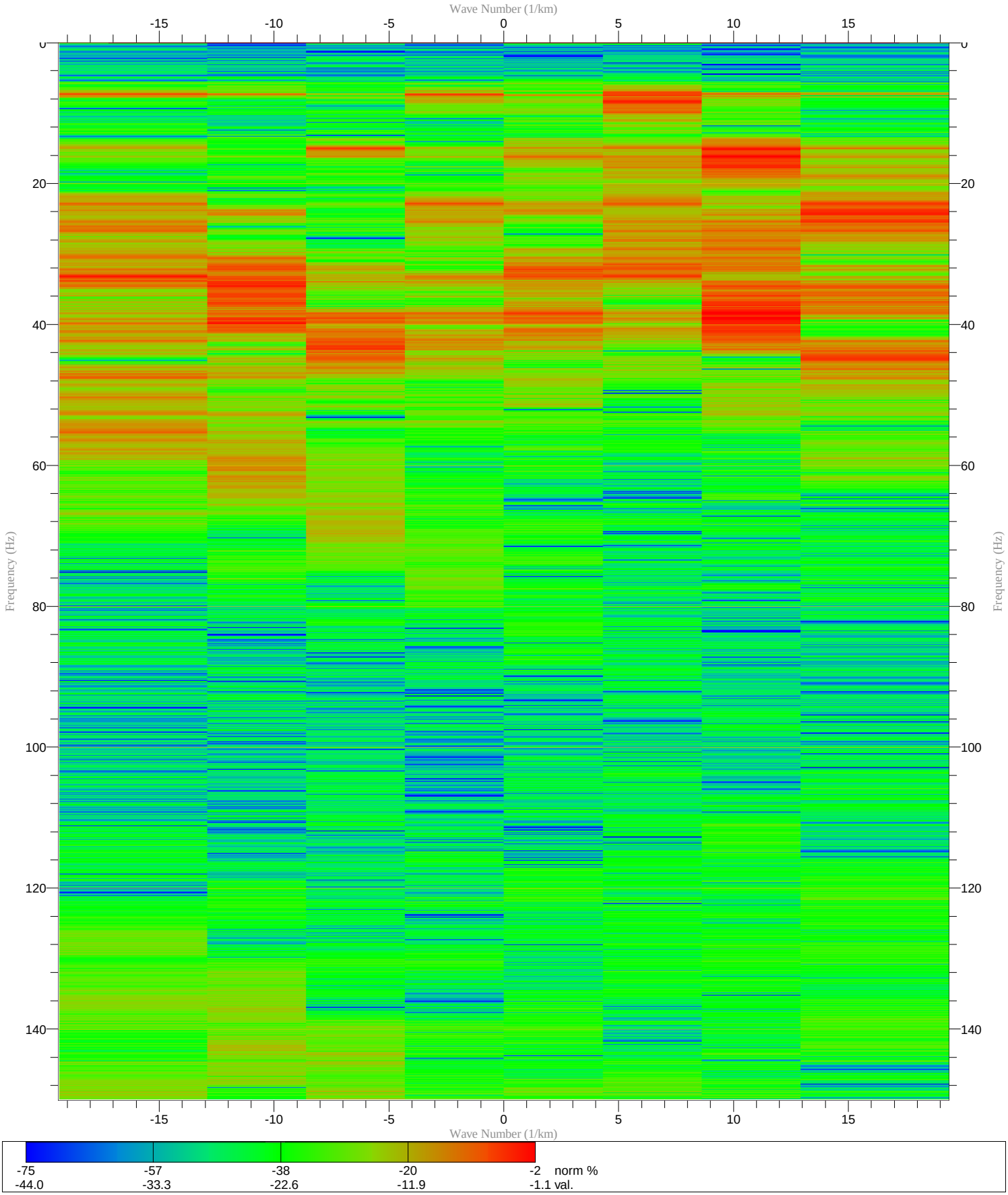
Raw Stack (Y)	Normalization Trace by Trace (250%) Polarity Normal One Way Time (ms) Scaling 3.5 cm/sec, 1/1200	



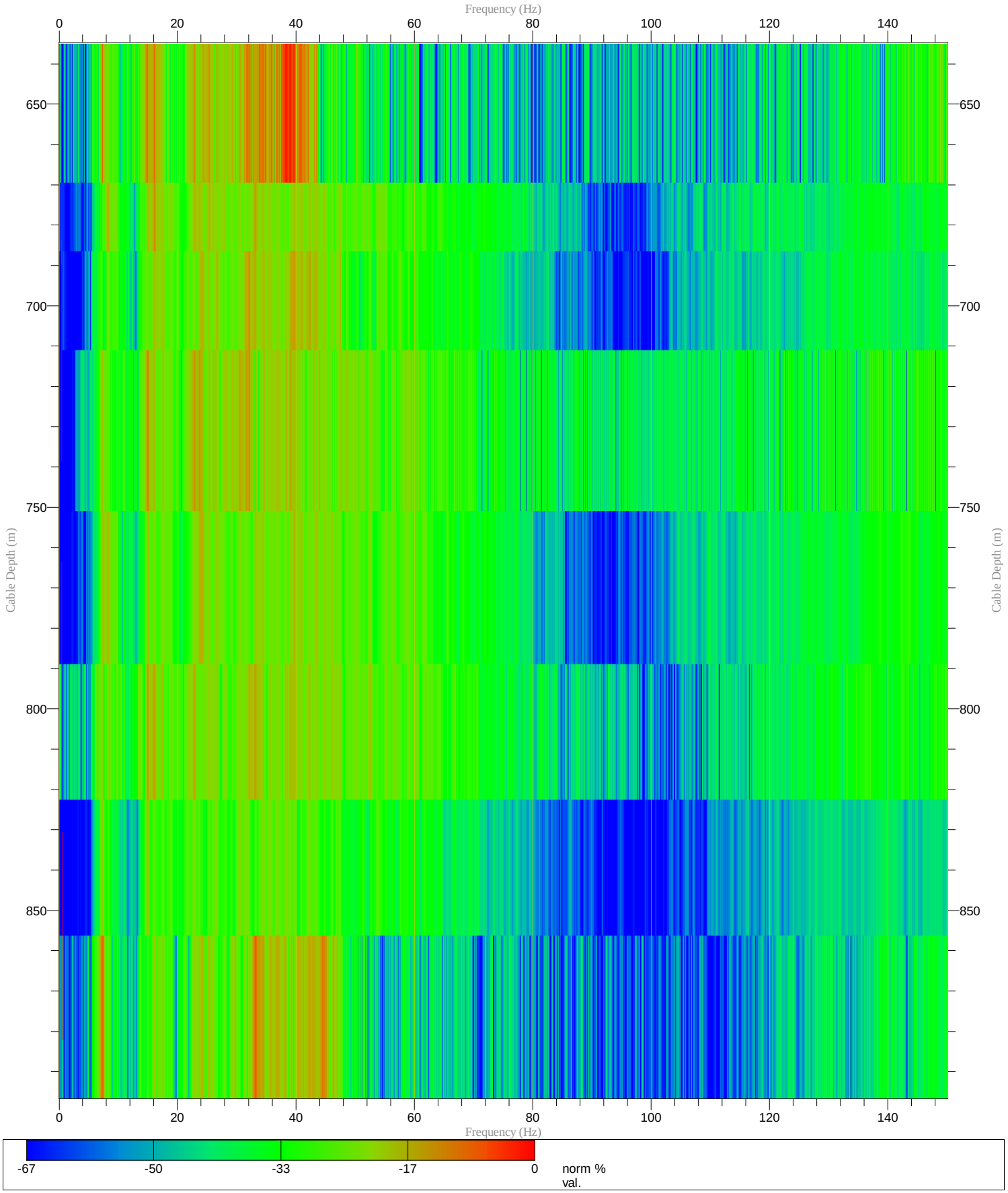
Raw Stack (Z) (Magnified)	Normalization Trace by Trace (250%) Polarity Normal Zero Time (ms) Scaling 29.1 cm/sec, 1/1200	



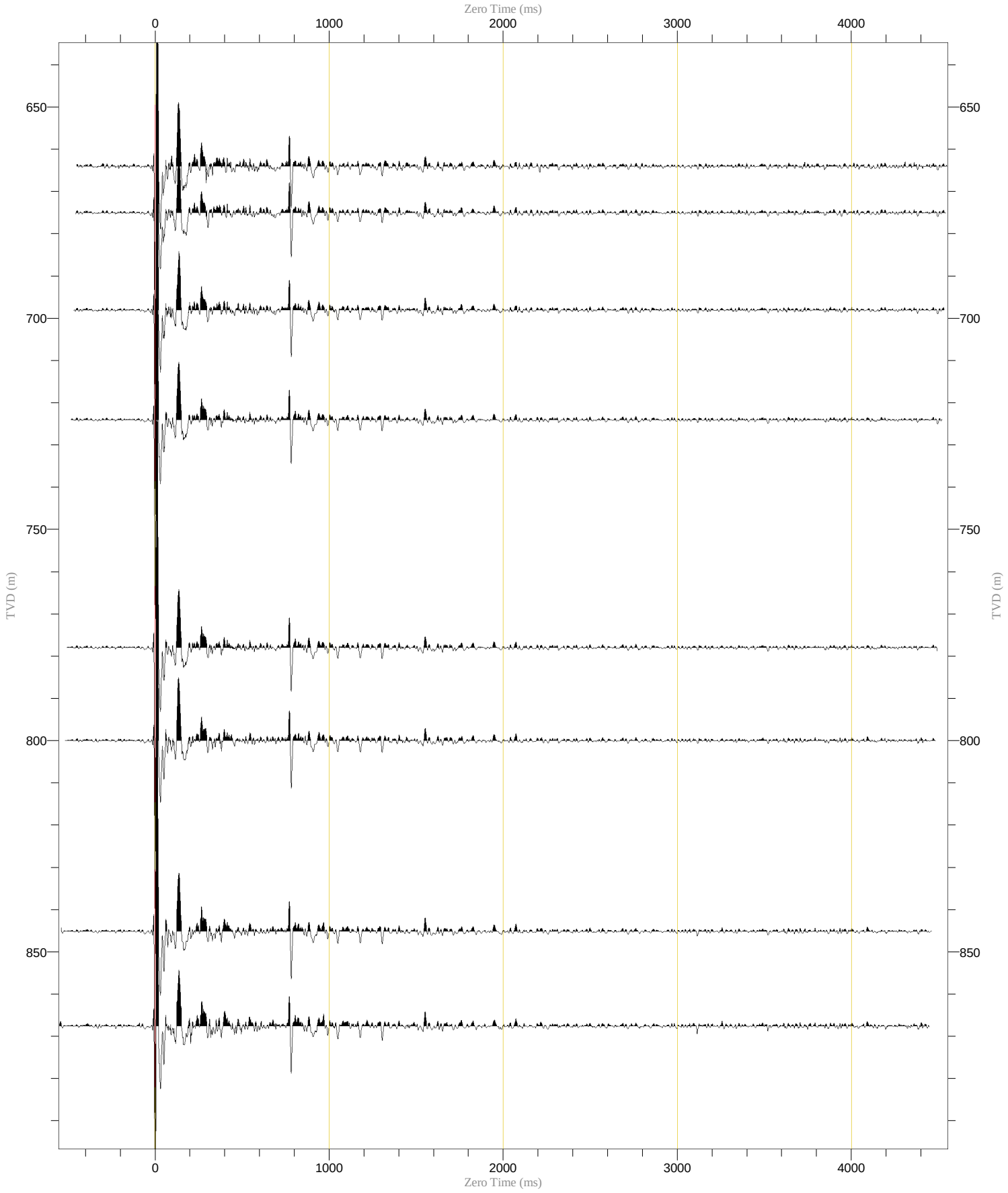
VSP Raw Stack (Z) FK Apply FK	Normalization First Trace in Gather (100%) Polarity Normal Frequency (Hz) Scaling 0.14 cm/Hz, 2.22(1/km)/cm



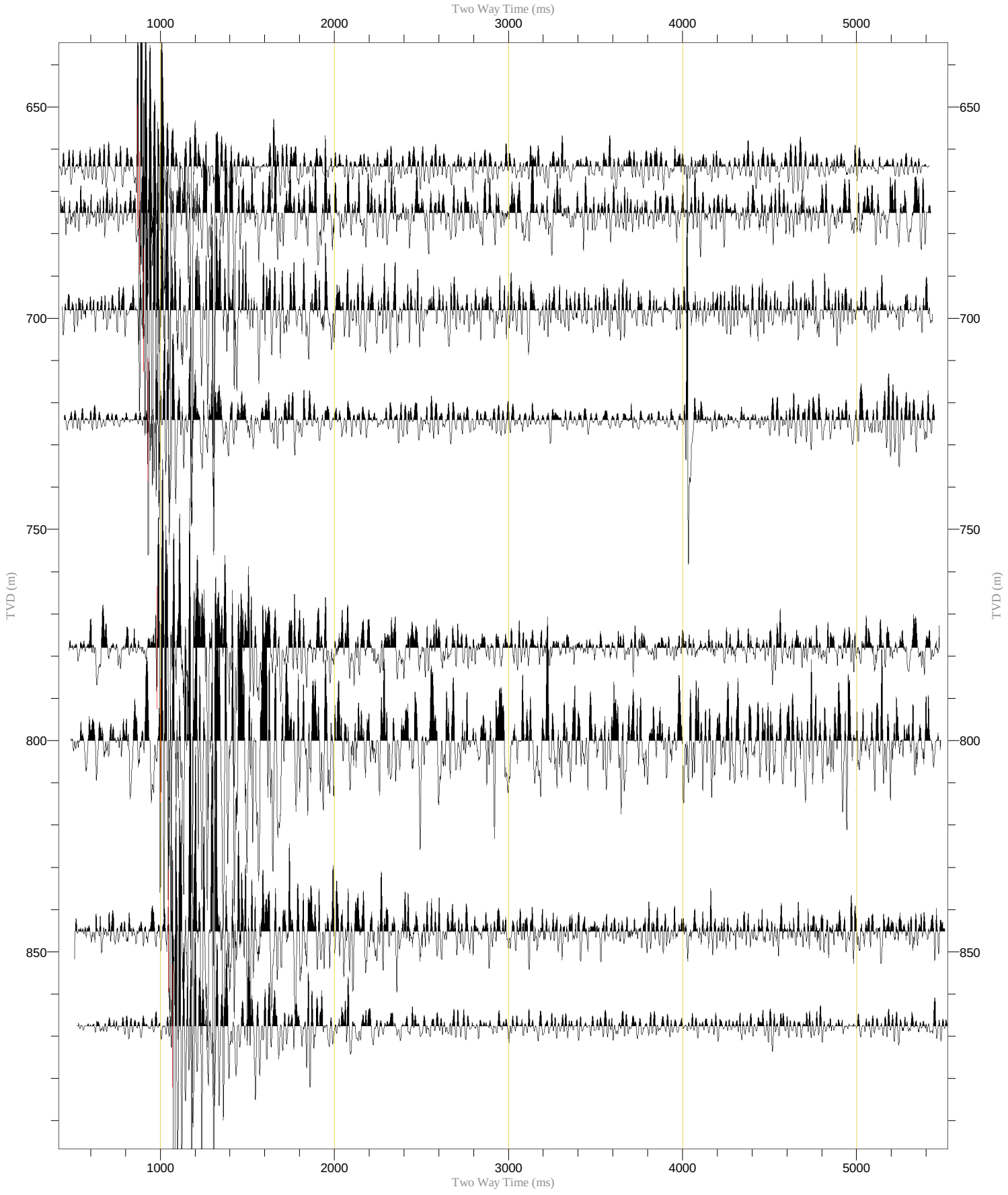
VSP Raw Stack (Z) FZ Apply FZ	Normalization Trace by Trace (100%) Polarity Normal Frequency (Hz) Scaling 0.1 cm/Hz, 1/1210



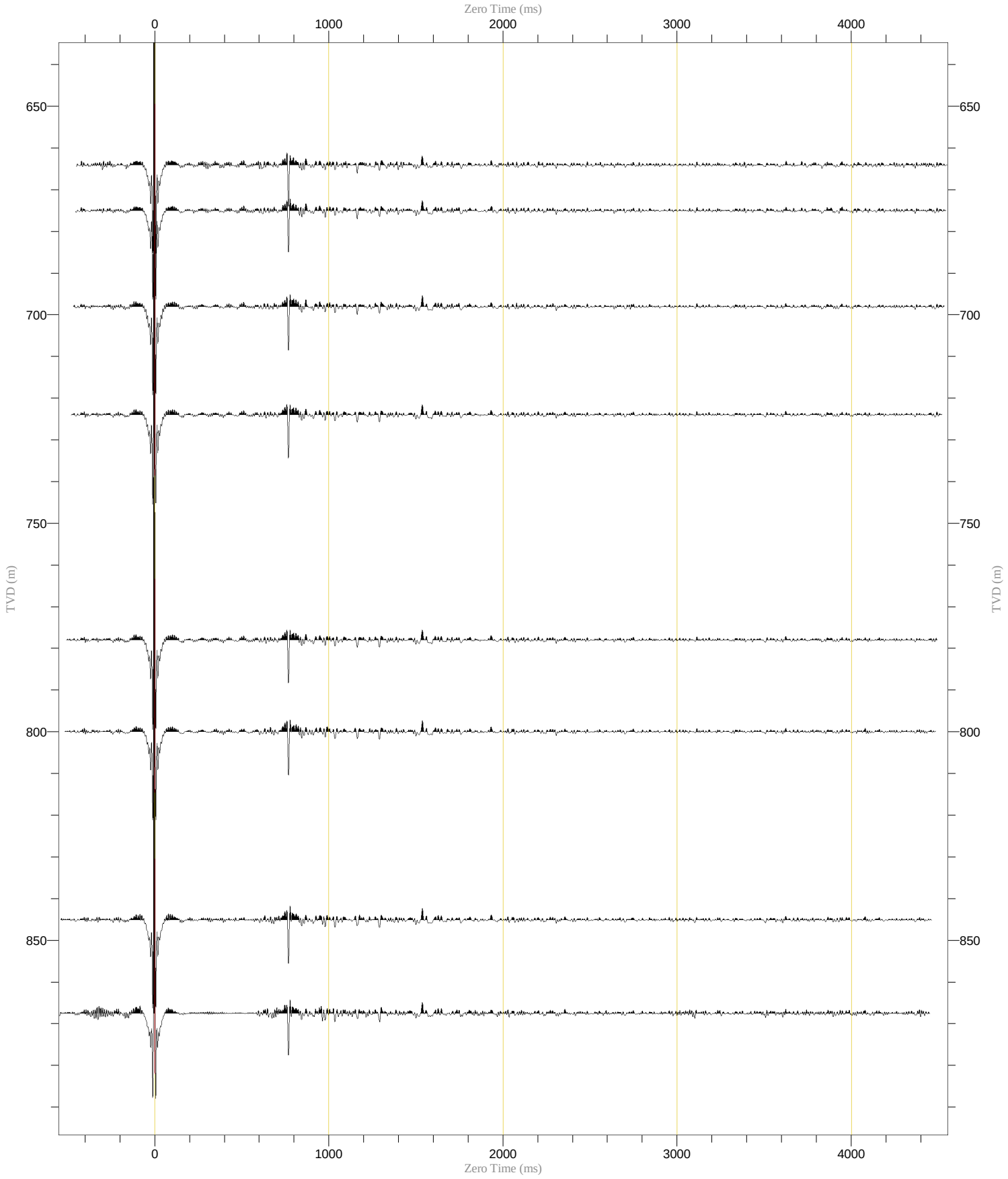
VSP Downgoing BPF 5.0 - 90.0Hz Median Filter 9 Traces	Normalization Trace by Trace (250%) Polarity Normal Zero Time (ms) Scaling 3.4 cm/sec, 1/1200



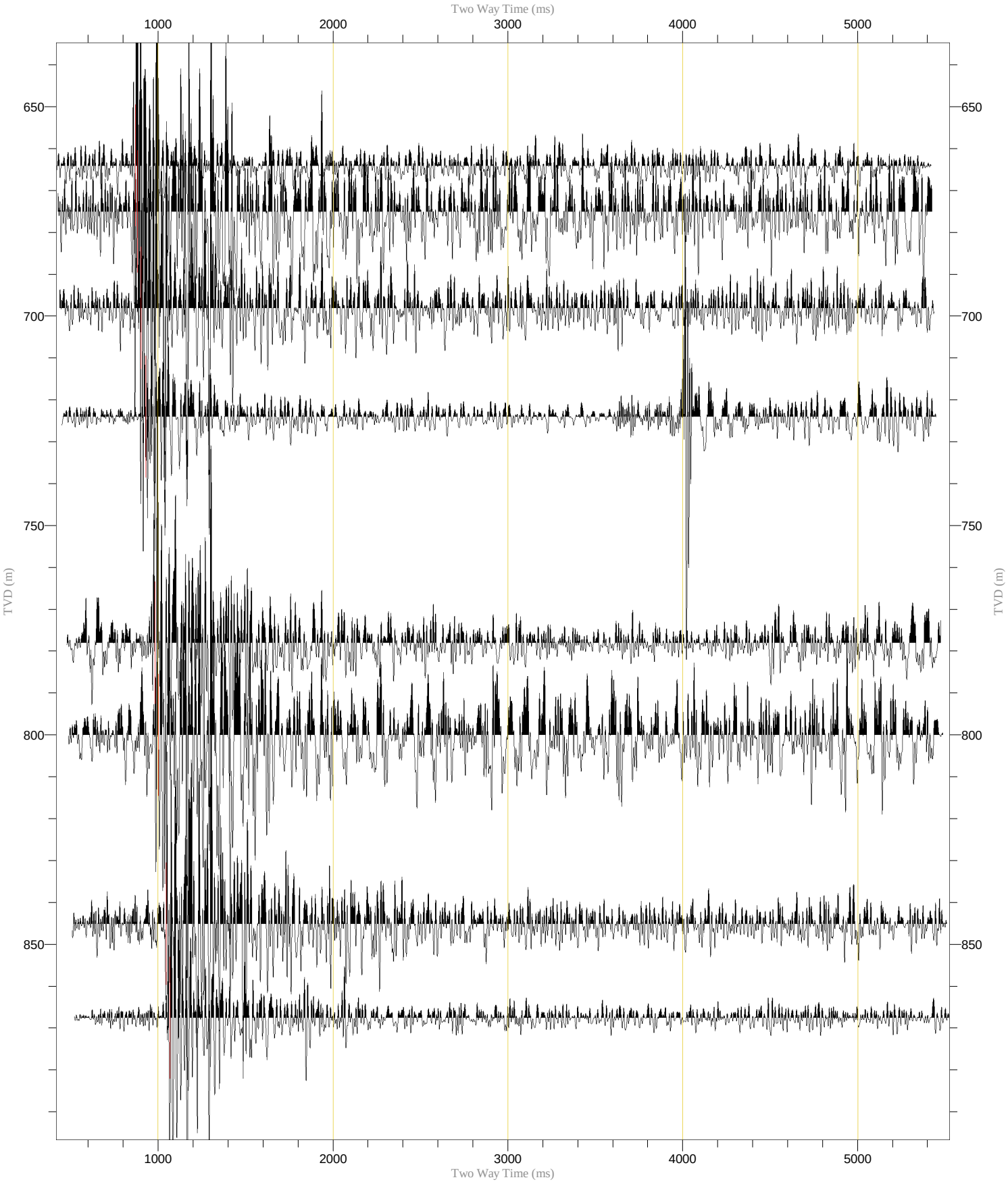
VSP Upgoing BPF 5.0 - 90.0Hz Median Filter 9 Traces	Normalization Trace by Trace (250%) Polarity Normal Two Way Time (ms) Scaling 3.4 cm/sec, 1/1200



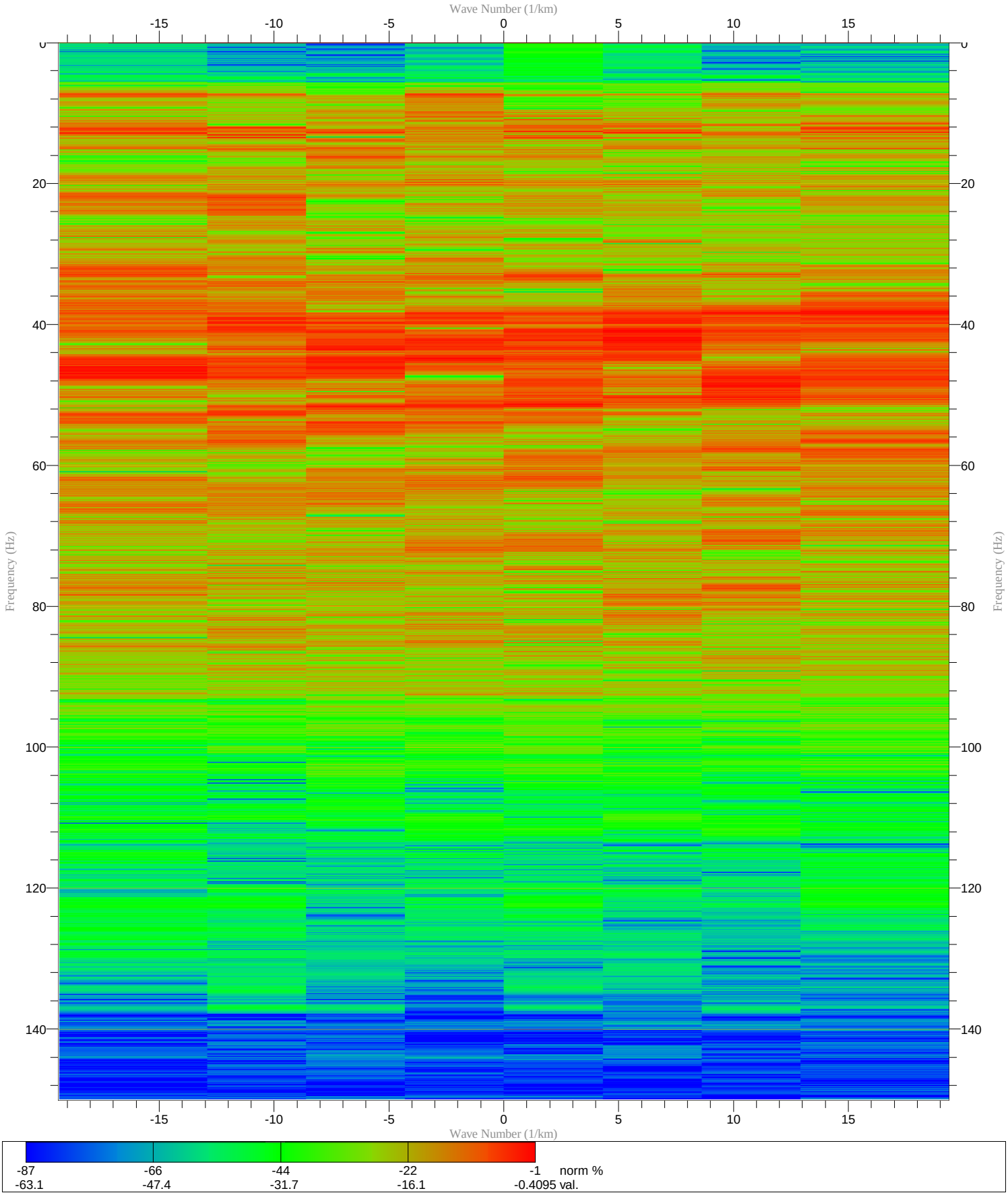
VSP Waveshape decon downgoing BPF 5.0 - 90.0Hz Median Filter 9 Traces Waveshape Decon.(wavelet: 8.0 - 85.0 Hz zero-phase)	Normalization Trace by Trace (250%) Polarity Normal Zero Time (ms) Scaling 3.4 cm/sec, 1/1220



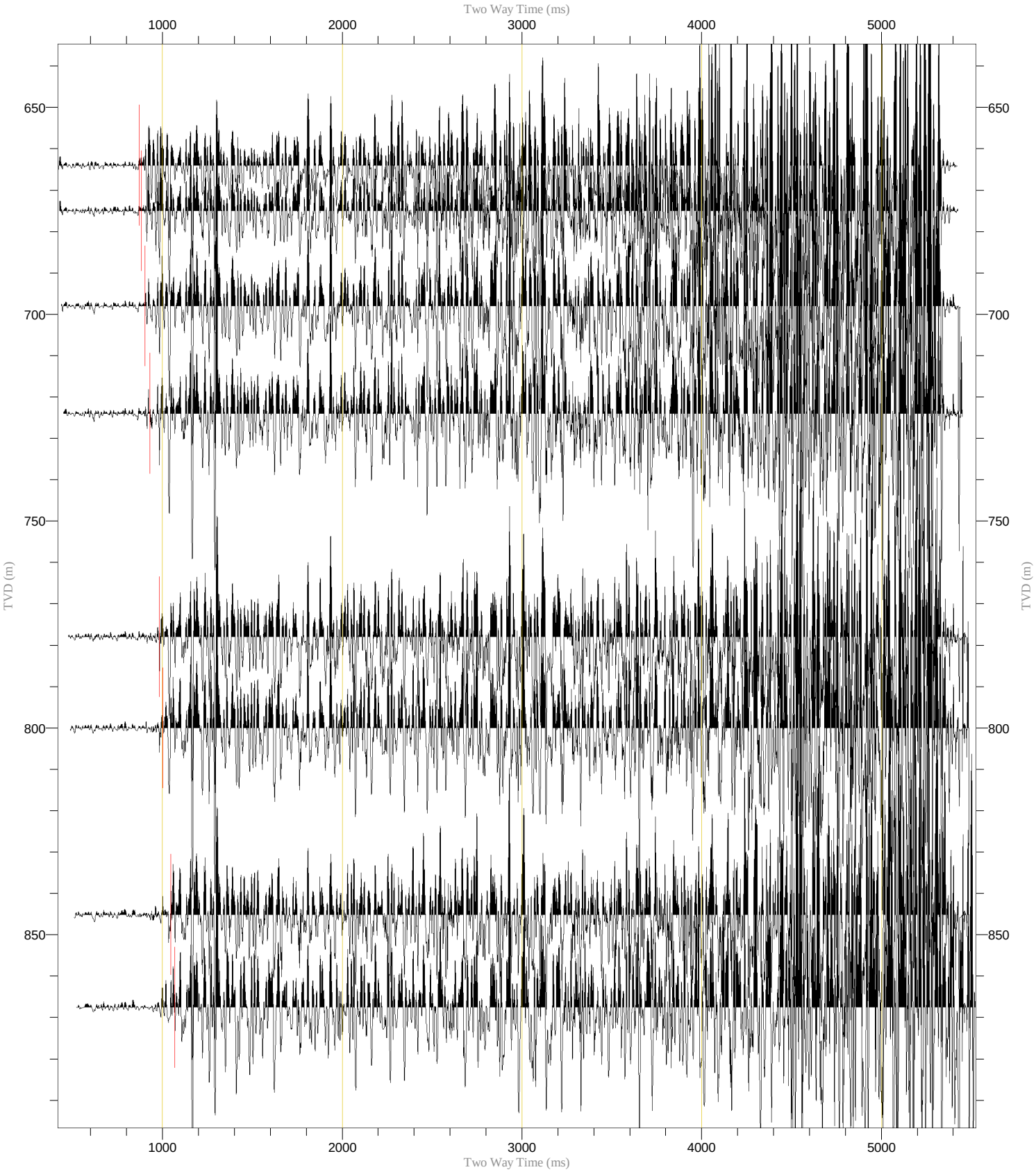
VSP Waveshape decon upgoing BPF 5.0 - 90.0Hz Median Filter 9 Traces Waveshape Decon.(wavelet: 8.0 - 85.0 Hz zero-phase)	Normalization Trace by Trace (250%) Polarity Normal Two Way Time (ms) Scaling 3.4 cm/sec, 1/1220



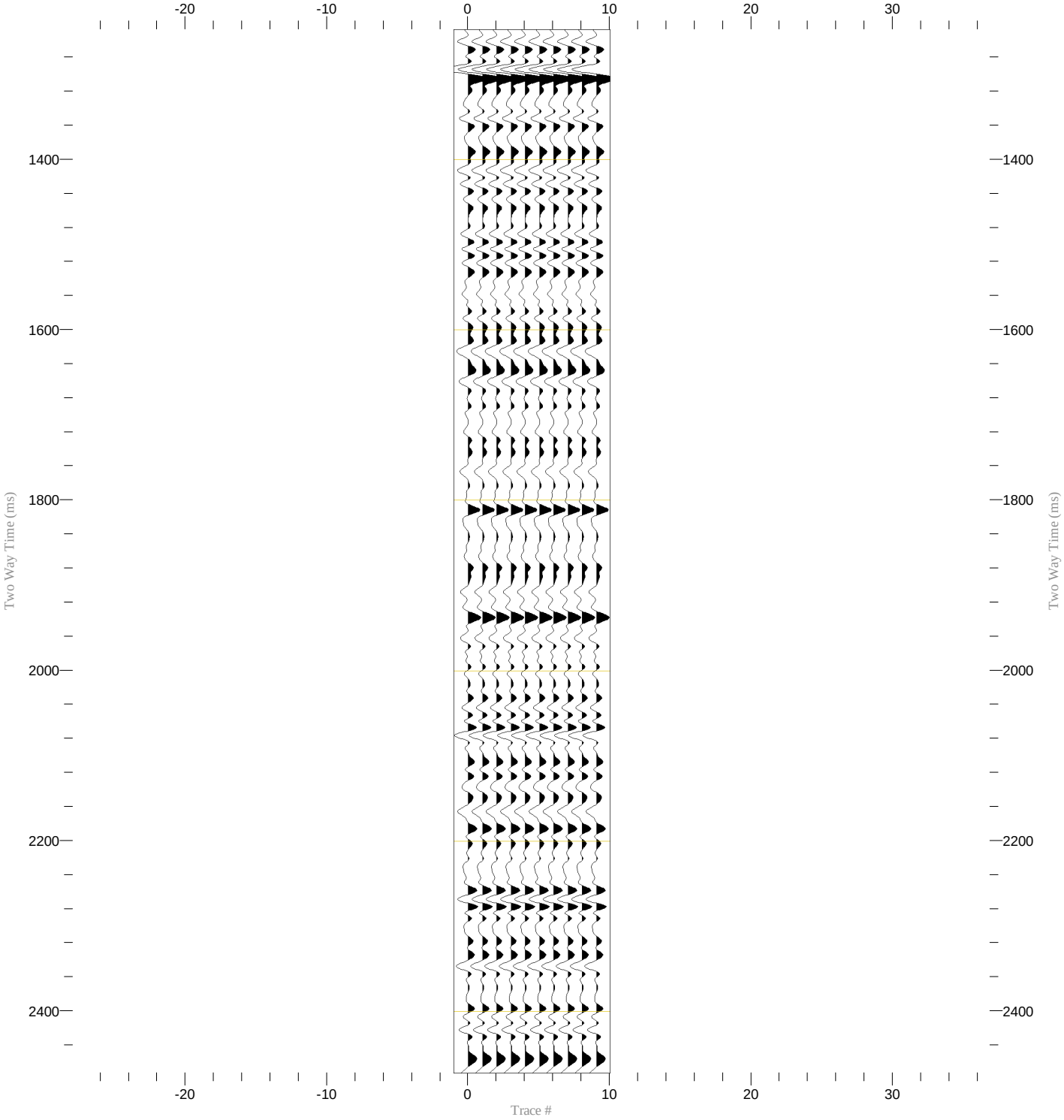
VSP Waveshape decon upgoing FK Apply FK	Normalization First Trace in Gather (100%) Polarity Normal Frequency (Hz) Scaling 0.14 cm/Hz, 2.22(1/km)/cm



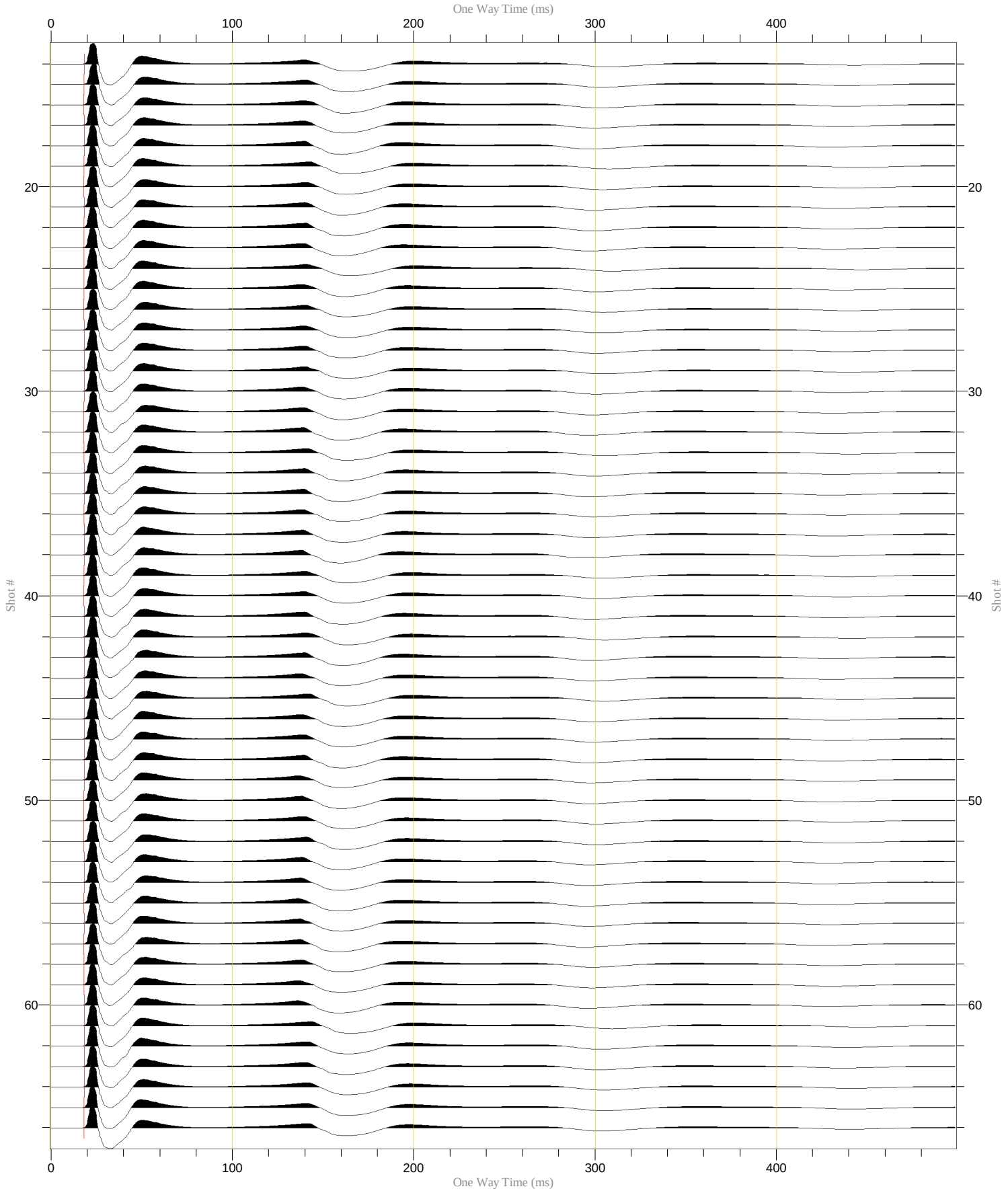
VSP Corridor Stack (Input) BPF 5.0 - 90.0Hz Median Filter 9 Traces Waveshape Decon.(wavelet: 8.0 - 85.0 Hz zero-phase) BPF 8.0 - 85.0Hz Travel time exponent = 1.50 Median Filter 7 Traces	Normalization Trace by Trace (250%) Polarity Normal Two Way Time (ms) Scaling 3.4 cm/sec, 1/1270	



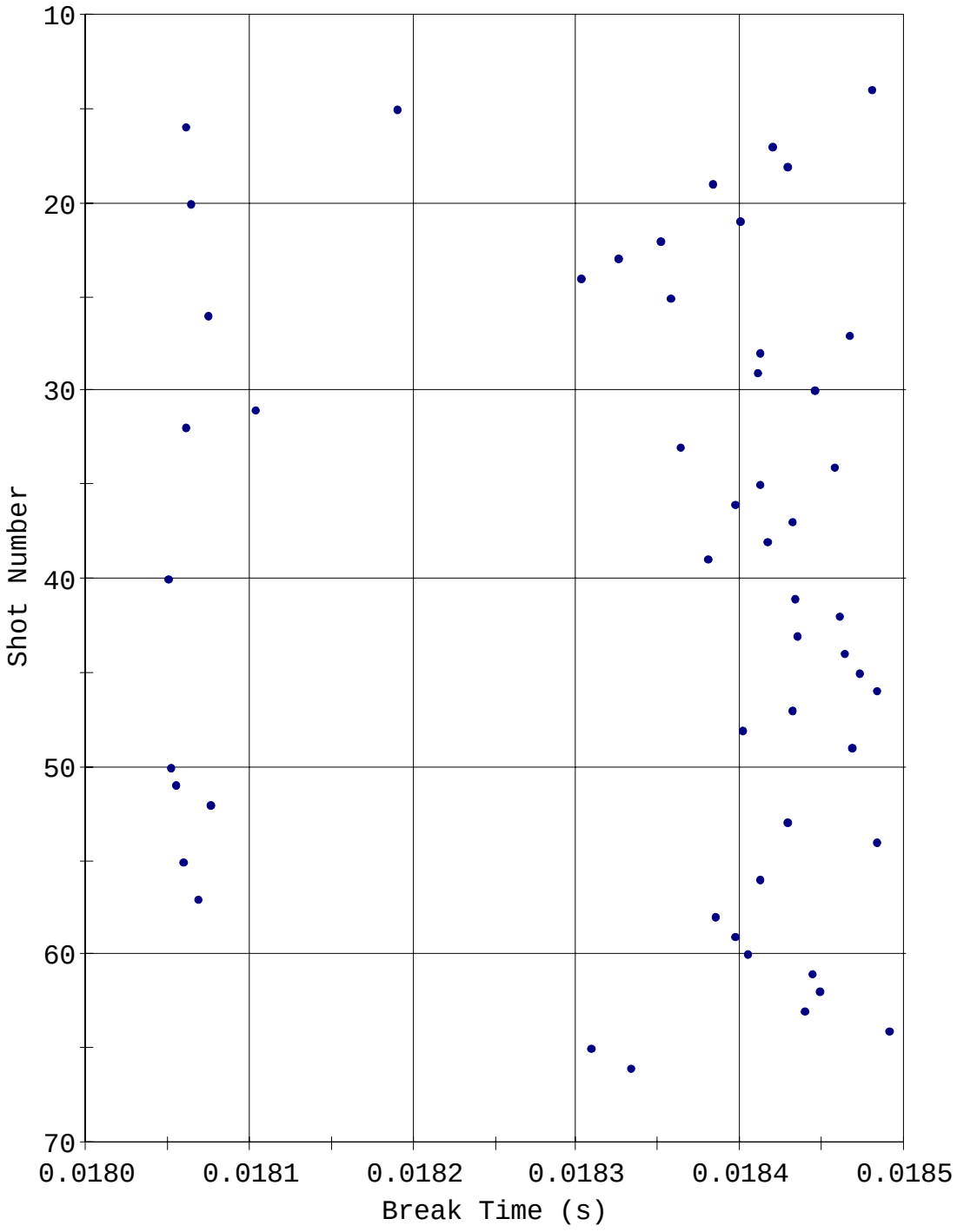
VSP Corridor Stack (output) BPF 5.0 - 90.0Hz Median Filter 9 Traces Waveshape Decon.(wavelet: 8.0 - 85.0 Hz zero-phase) BPF 8.0 - 85.0Hz Travel time exponent = 1.50 Median Filter 7 Traces Corridor Stack (Mean): BPF 5.0 - 90.0Hz	Normalization Trace by Trace (250%) Polarity Normal Two Way Time (ms) Scaling 15.00 cm/sec, 4.01/cm	



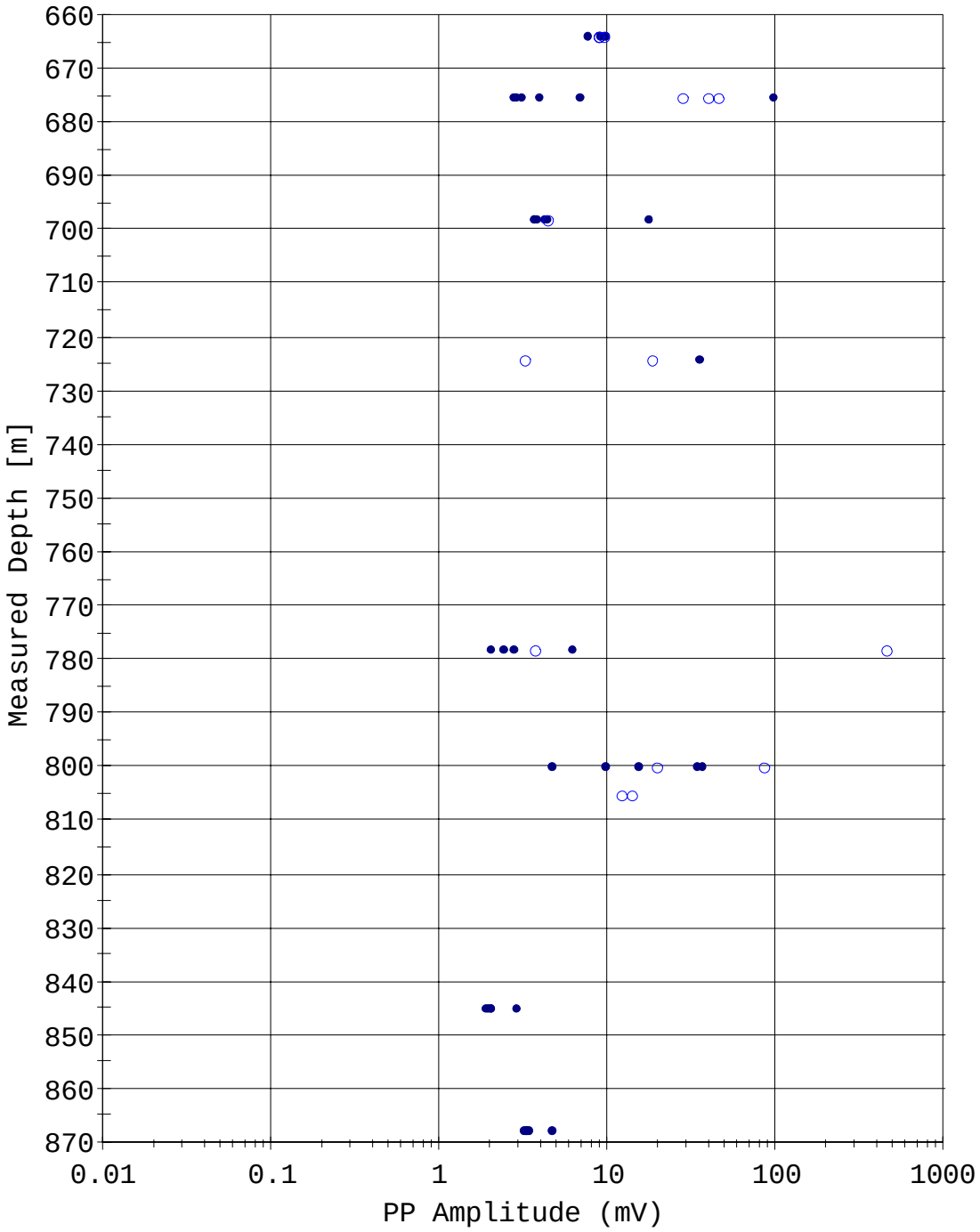
Source Sensor Signature	Normalization Trace by Trace (100%) Polarity Normal One Way Time (ms) Scaling 35.67 cm/sec, 2.48/cm	



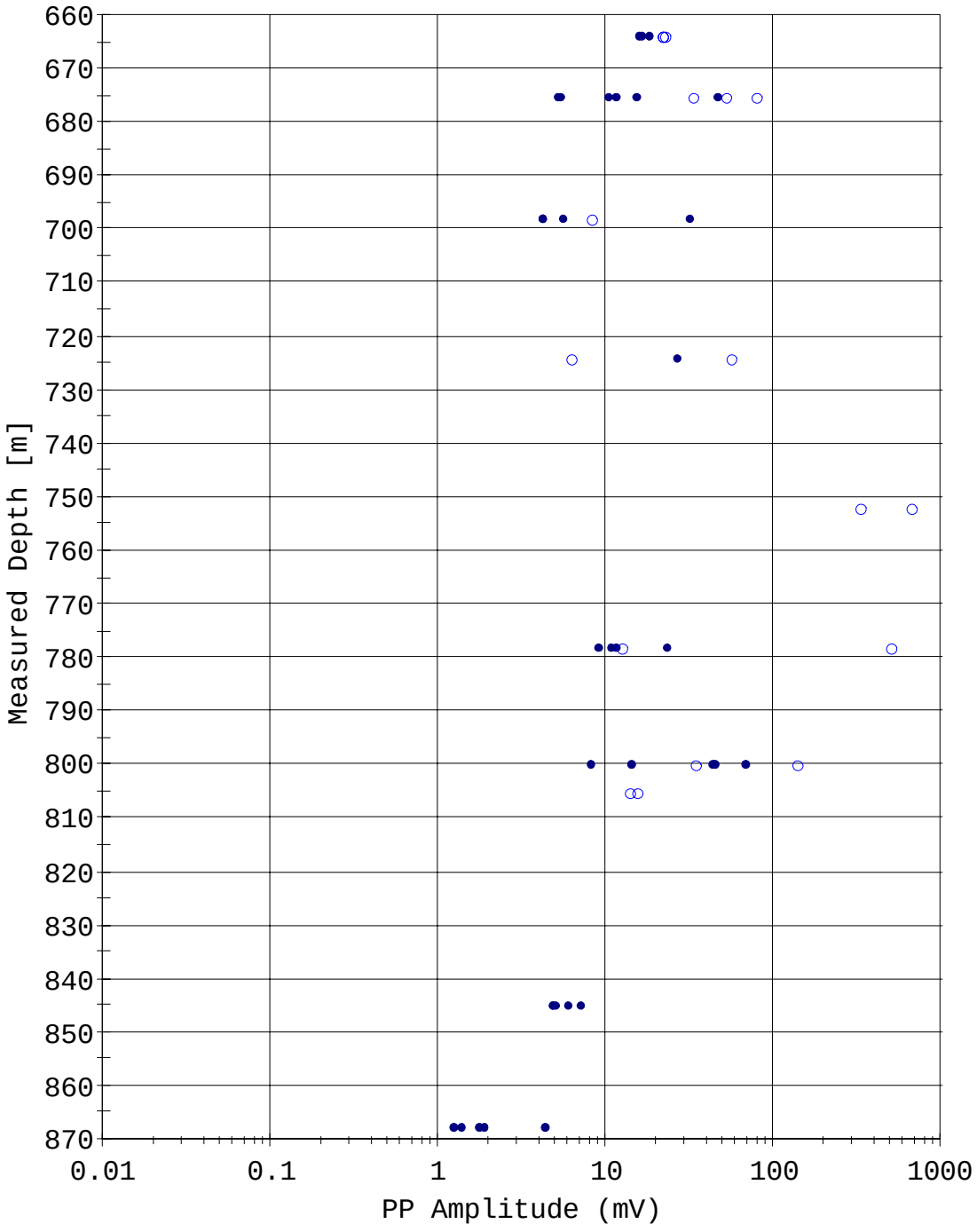
Surface Sensor QC Plot Page



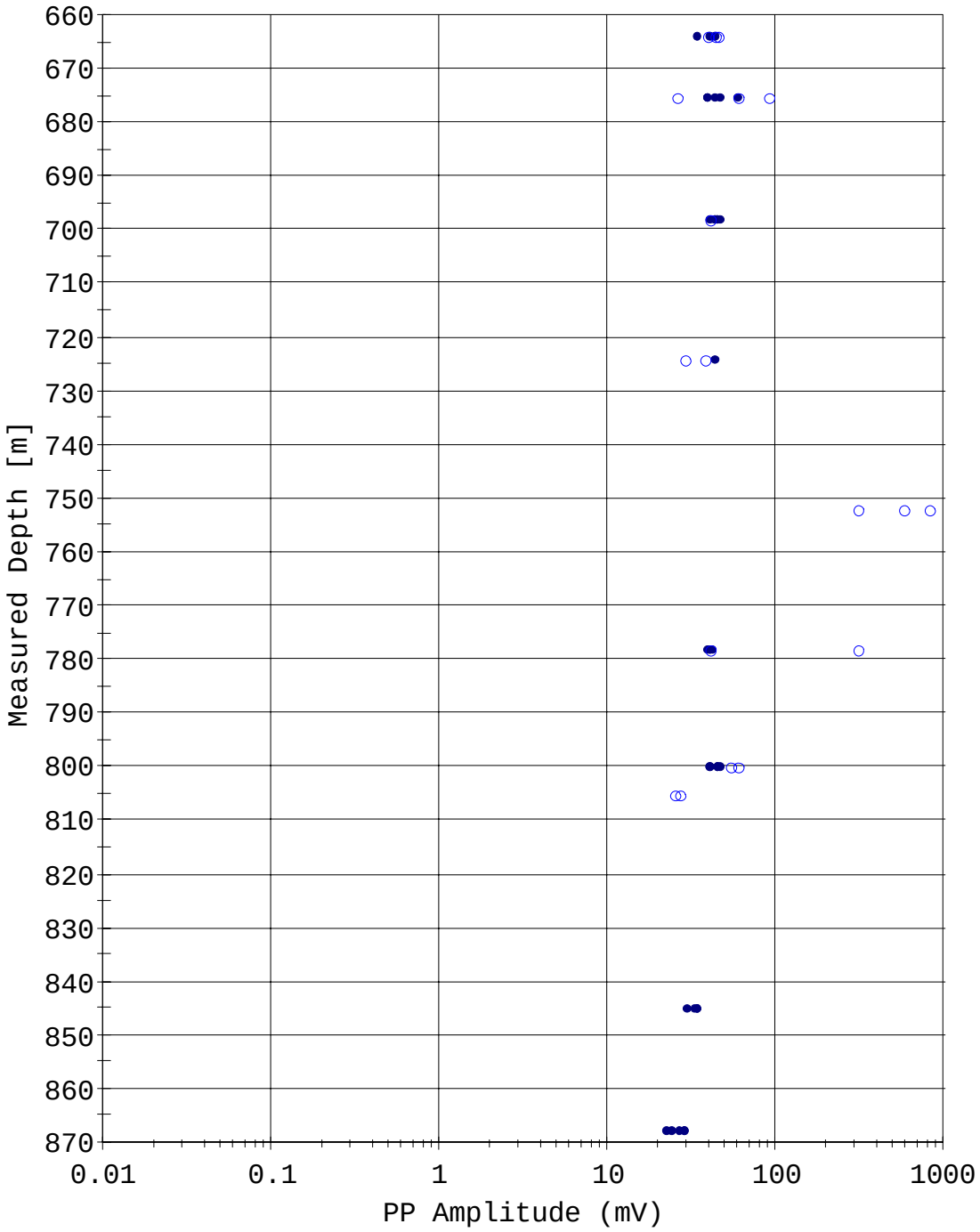
Peak To Peak Plot (X)



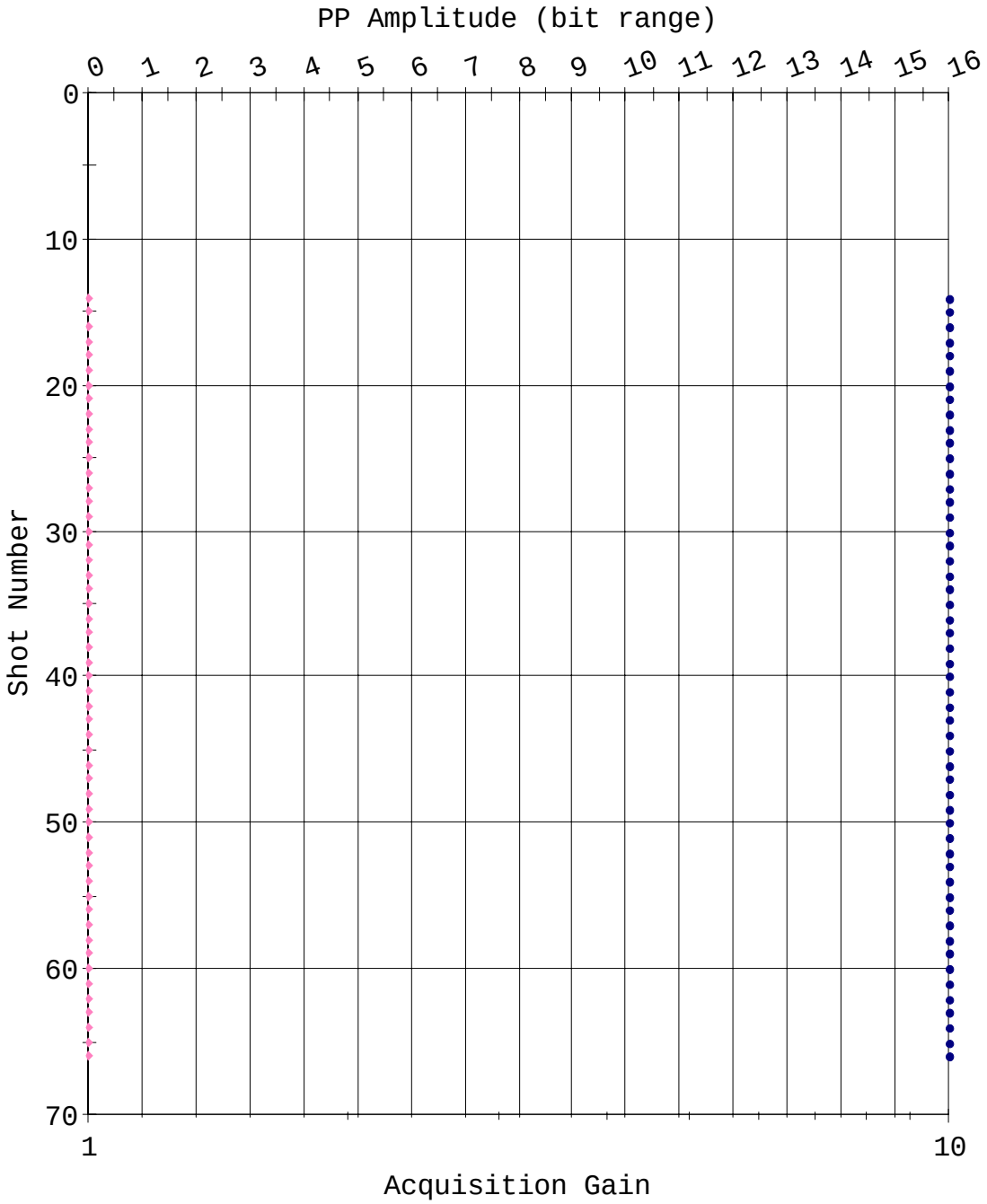
Peak To Peak Plot (Y)



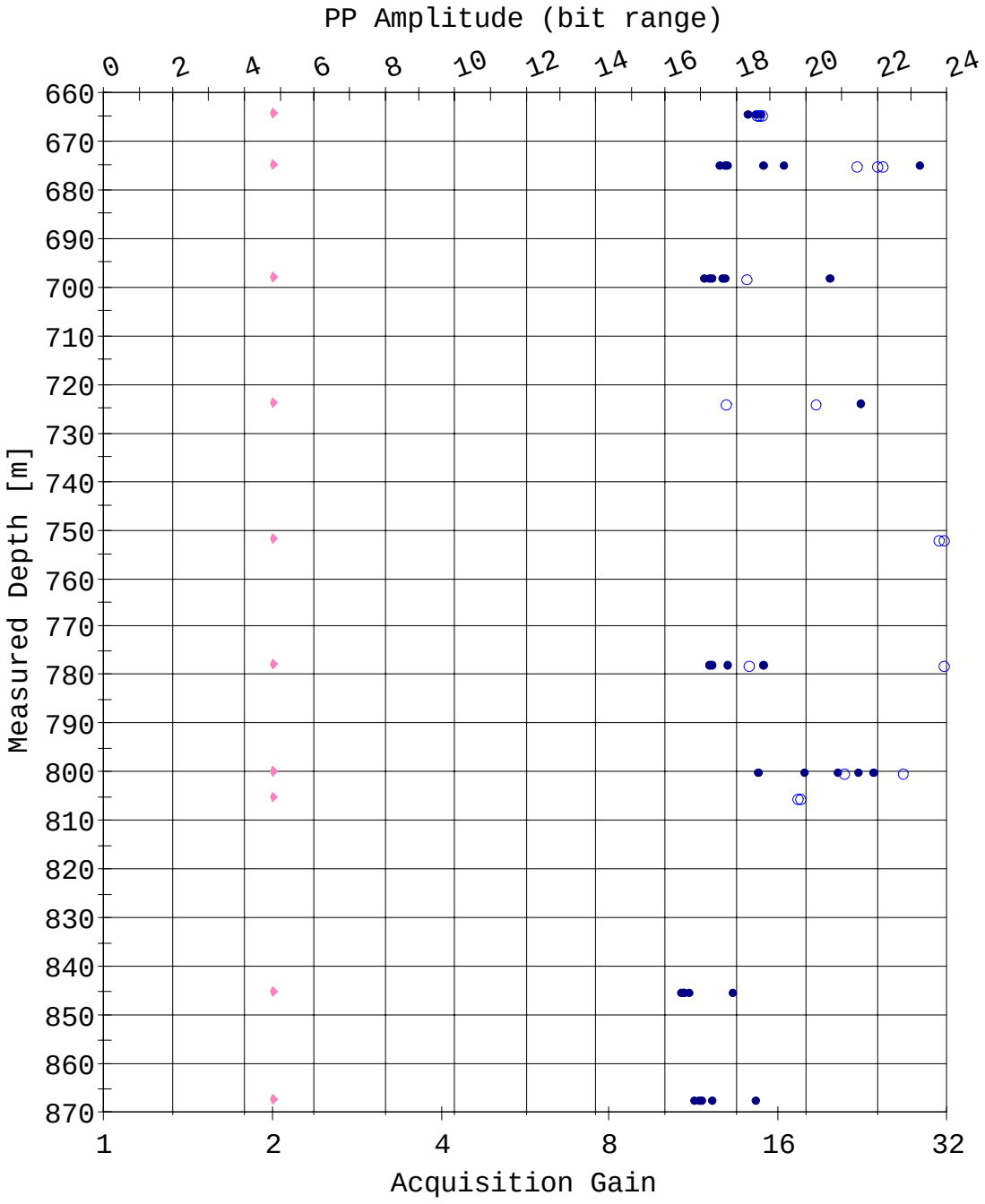
Peak To Peak Plot (Z)



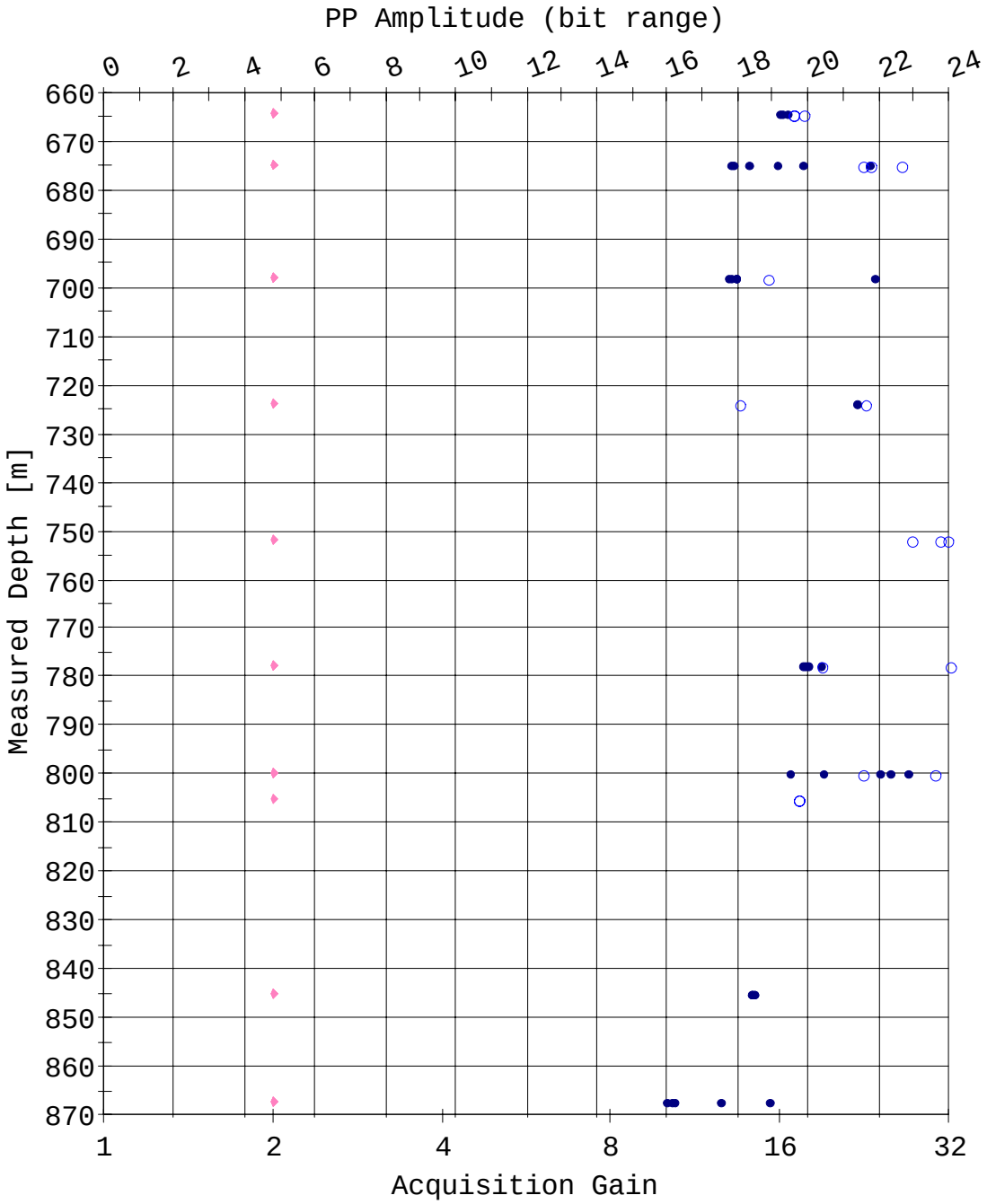
Amplitude QC Plot (Surface)



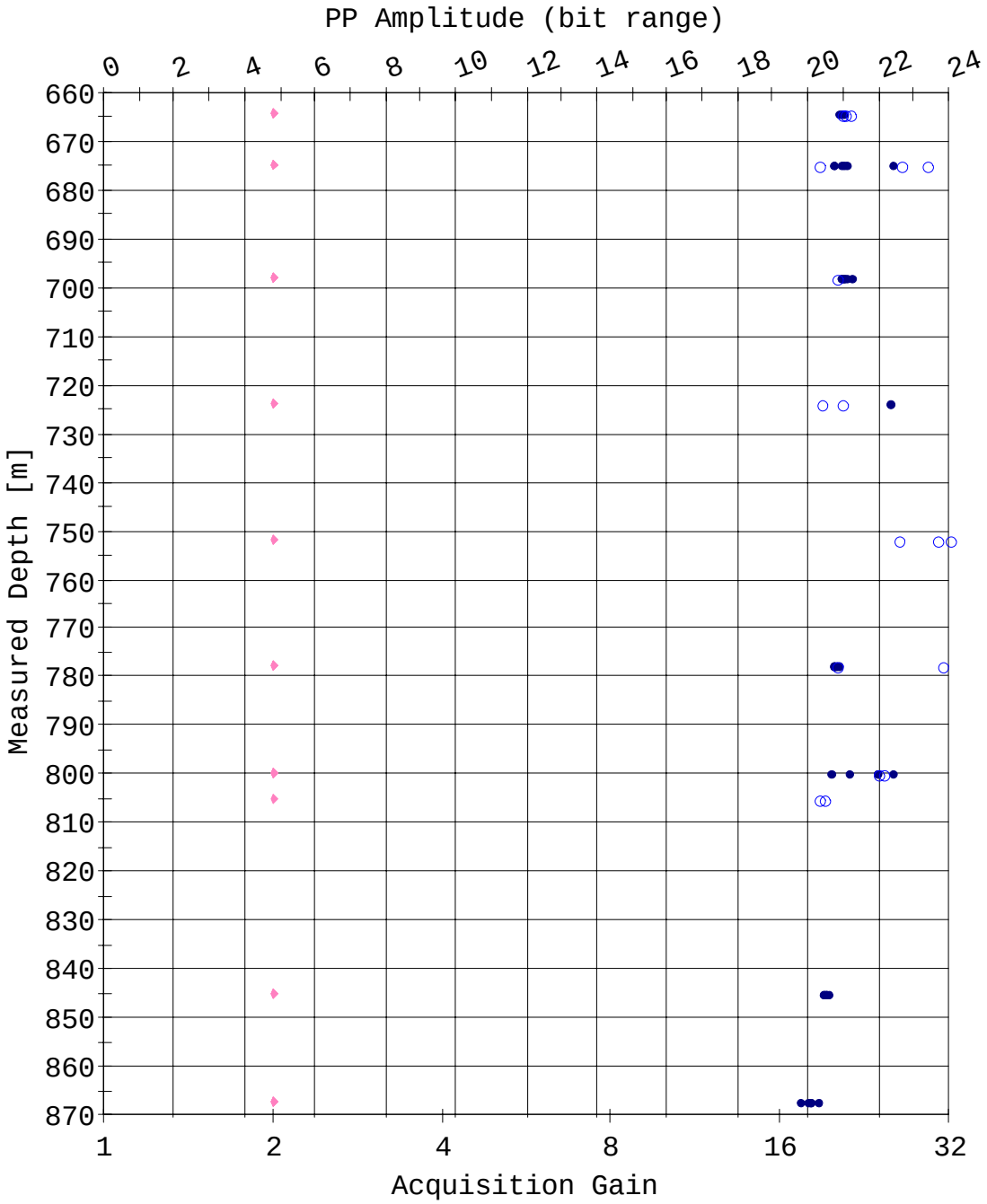
Amplitude QC Plot (X)



Amplitude QC Plot (Y)



Amplitude QC Plot (Z)



VSI Seismic Evaluation Report

ELECTRICAL NOISE LOW TEST

2018/01/27 20:35:32

Shot No: 1 | **Station Depth: 38.21 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
DC Offset	1	X	-25.4839	milli V	-100.0000	100.0000	PASS
RMS Noise Level	1	X	0.1193	micro V	-	0.5000	PASS
Noise Peak	1	X	0.3990	micro V	-	2.0000	PASS
DC Offset	1	Y	-25.2790	milli V	-100.0000	100.0000	PASS
RMS Noise Level	1	Y	0.1181	micro V	-	0.5000	PASS
Noise Peak	1	Y	0.3765	micro V	-	2.0000	PASS
DC Offset	1	Z	-25.3740	milli V	-100.0000	100.0000	PASS
RMS Noise Level	1	Z	0.1143	micro V	-	0.5000	PASS
Noise Peak	1	Z	0.4977	micro V	-	2.0000	PASS

ELECTRICAL NOISE HIGH TEST

2018/01/27 20:35:56

Shot No: 2 | **Station Depth: 38.21 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
DC Offset	1	X	-25.4753	milli V	-100.0000	100.0000	PASS
RMS Noise Level	1	X	0.1131	micro V	-	0.5000	PASS
Noise Peak	1	X	0.3865	micro V	-	2.0000	PASS
DC Offset	1	Y	-24.9536	milli V	-100.0000	100.0000	PASS
RMS Noise Level	1	Y	0.1171	micro V	-	0.5000	PASS
Noise Peak	1	Y	0.4610	micro V	-	2.0000	PASS
DC Offset	1	Z	-24.7866	milli V	-100.0000	100.0000	PASS
RMS Noise Level	1	Z	0.1169	micro V	-	0.5000	PASS
Noise Peak	1	Z	0.4007	micro V	-	2.0000	PASS

ELECTRICAL DISTORTION TEST

2018/01/27 20:36:05

Shot No: 3 | **Station Depth: 38.21 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
Total Harmonic Distortion	1	X	-102.3072	dB	-	-90.0000	PASS
Total Harmonic Distortion	1	Y	-107.2913	dB	-	-90.0000	PASS
Total Harmonic Distortion	1	Z	-107.0356	dB	-	-90.0000	PASS

SYSTEM DYNAMIC RANGE TEST

2018/01/27 20:36:19

Shot No: 4 | **Station Depth: 38.21 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
System Dynamic Range	1	X	107.0766	dB	103.0000	-	PASS
System Dynamic Range	1	Y	107.1116	dB	103.0000	-	PASS
System Dynamic Range	1	Z	106.4911	dB	103.0000	-	PASS

AMPLIFIER GAIN 2 TEST

2018/01/27 20:36:33

Shot No: 5 | **Station Depth: 38.21 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
Gain Accuracy	1	X	0.1478	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	X	0.0000	dB	-0.5000	0.5000	PASS
Gain Accuracy	1	Y	0.1518	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Y	0.0000	dB	-0.5000	0.5000	PASS
Gain Accuracy	1	Z	0.1512	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Z	0.0000	dB	-0.5000	0.5000	PASS

AMPLIFIER GAIN 4 TEST

2018/01/27 20:36:43

Shot No: 6 | **Station Depth: 38.21 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
Gain Accuracy	1	X	0.1444	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	X	0.0034	dB	-0.5000	0.5000	PASS

Gain Accuracy	1	Y	0.1515	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Y	0.0004	dB	-0.5000	0.5000	PASS
Gain Accuracy	1	Z	0.1493	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Z	0.0019	dB	-0.5000	0.5000	PASS

AMPLIFIER GAIN 8 TEST

2018/01/27 20:36:53

Shot No: 7 **Station Depth: 38.21 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
Gain Accuracy	1	X	0.1451	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	X	0.0027	dB	-0.5000	0.5000	PASS
Gain Accuracy	1	Y	0.1514	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Y	0.0004	dB	-0.5000	0.5000	PASS
Gain Accuracy	1	Z	0.1510	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Z	0.0002	dB	-0.5000	0.5000	PASS

AMPLIFIER GAIN 16 TEST

2018/01/27 20:37:03

Shot No: 8 **Station Depth: 38.21 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
Gain Accuracy	1	X	0.1420	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	X	0.0058	dB	-0.5000	0.5000	PASS
Gain Accuracy	1	Y	0.1476	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Y	0.0043	dB	-0.5000	0.5000	PASS
Gain Accuracy	1	Z	0.1457	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Z	0.0055	dB	-0.5000	0.5000	PASS

AMPLIFIER GAIN 32 TEST

2018/01/27 20:37:13

Shot No: 9 **Station Depth: 38.21 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
Gain Accuracy	1	X	0.1428	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	X	0.0050	dB	-0.5000	0.5000	PASS
Gain Accuracy	1	Y	0.1507	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Y	0.0011	dB	-0.5000	0.5000	PASS
Gain Accuracy	1	Z	0.1440	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Z	0.0073	dB	-0.5000	0.5000	PASS

CROSS TALK X TEST

2018/01/27 20:37:28

Shot No: 10 **Station Depth: 38.21 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
Cross Talk X-Y	1	-	-100.4549	dB	-	-90.0000	PASS
Cross Talk X-Z	1	-	-99.1595	dB	-	-90.0000	PASS

CROSS TALK Y TEST

2018/01/27 20:37:46

Shot No: 11 **Station Depth: 38.21 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
Cross Talk Y-Z	1	-	-98.5586	dB	-	-90.0000	PASS
Cross Talk Y-X	1	-	-100.0641	dB	-	-90.0000	PASS

CROSS TALK Z TEST

2018/01/27 20:38:05

Shot No: 12 **Station Depth: 38.21 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
Cross Talk Z-X	1	-	-97.3161	dB	-	-90.0000	PASS
Cross Talk Z-Y	1	-	-97.0685	dB	-	-90.0000	PASS

IMPULSE RESPONSE TEST

2018/01/27 20:38:23

Shot No: 13 **Station Depth: 38.21 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result

Amplitude (0.3Hz)	1	X	-1.6789	dB	-5.0000	-	PASS
Amplitude (400Hz)	1	X	-3.5736	dB	-5.0000	-	PASS
Impulse Amplitude	1	X	573.7709	milli V	-	-	-
Phase Diff. at 0.3Hz from X1	1	X	0.0000	degree	-	-	-
Amplitude (0.3Hz)	1	Y	-1.6081	dB	-5.0000	-	PASS
Amplitude (400Hz)	1	Y	-3.5709	dB	-5.0000	-	PASS
Impulse Amplitude	1	Y	574.3411	milli V	-	-	-
Phase Diff. at 0.3Hz from X1	1	Y	-0.5579	degree	-	-	-
Amplitude (0.3Hz)	1	Z	-1.7214	dB	-5.0000	-	PASS
Amplitude (400Hz)	1	Z	-3.5729	dB	-5.0000	-	PASS
Impulse Amplitude	1	Z	574.1993	milli V	-	-	-
Phase Diff. at 0.3Hz from X1	1	Z	0.3731	degree	-	-	-

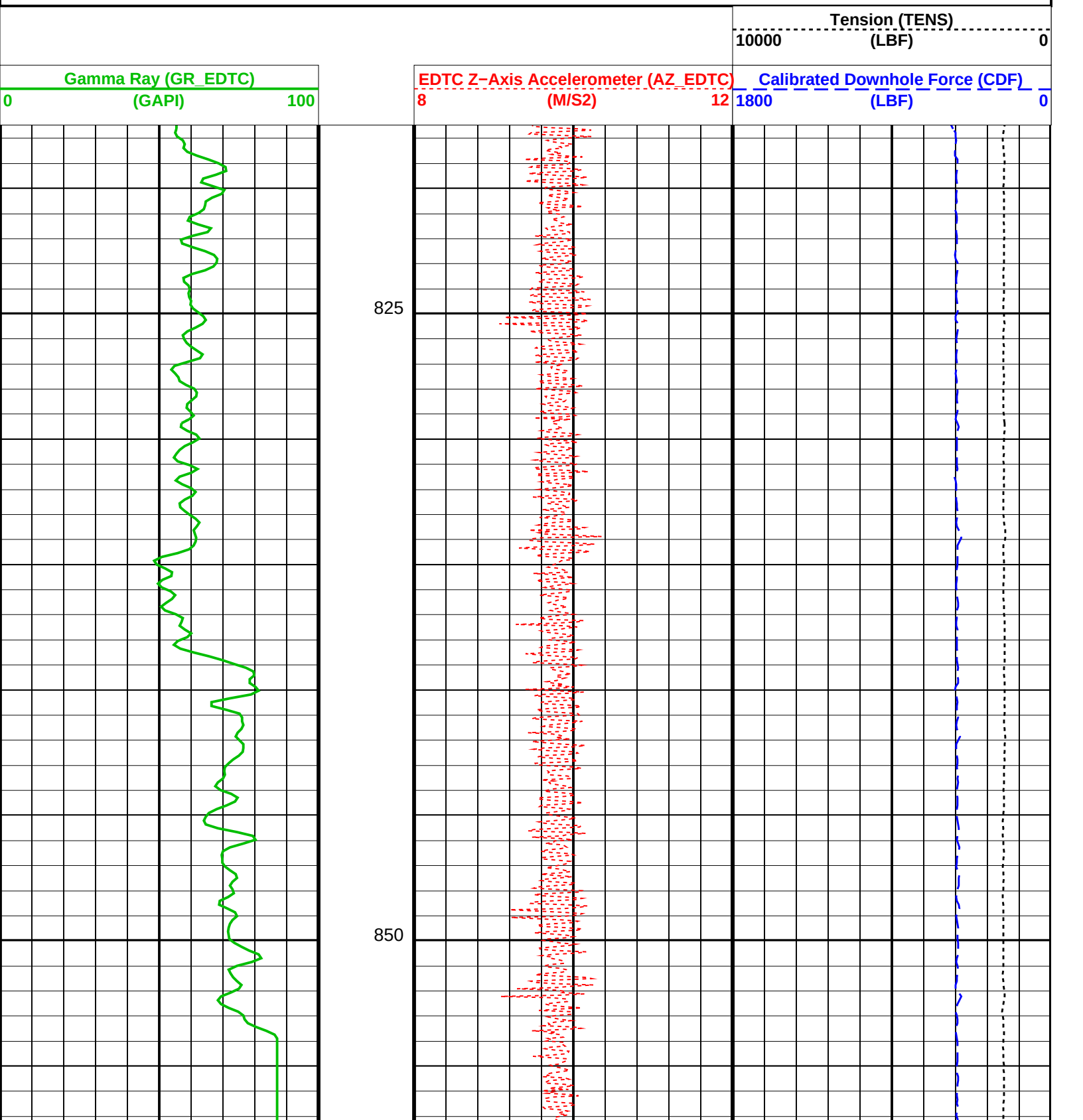
Company: International Ocean Discovery Program	Well: Expedition 374, Site U1522A

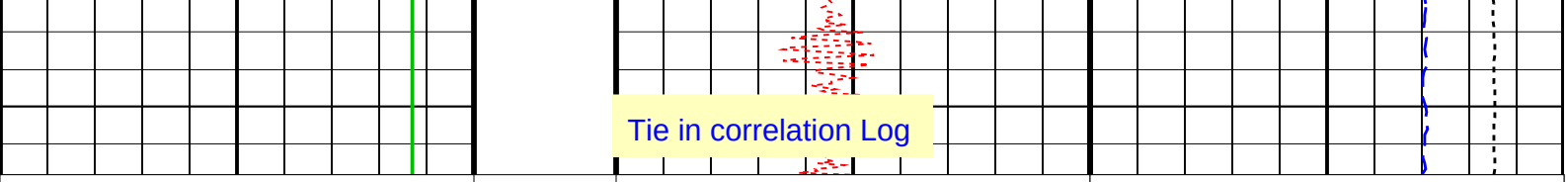
Output DLIS Files

DEFAULT	VSIT_NGS_022LUP	FN:32	PRODUCER	28−Jan−2018 01:16	861.8 M	817.6 M
BACKUP	VSIT_NGS_022LUP	FN:33	PRODUCER	28−Jan−2018 01:16	861.8 M	817.6 M

OP System Version: 19C0−187

VSIT−C	19C0−187	HNGC−B	19C0−187
HNGS−BA	19C0−187	EDTC−B	SKK−5169−EDTCB





Gamma Ray (GR_EDTC)			EDTC Z−Axis Accelerometer (AZ_EDTC)			Calibrated Downhole Force (CDF)		
0	(GAPI)	100	8	(M/S2)	12	1800	(LBF)	0

Tension (TENS)		
10000	(LBF)	0

Format: CORRELATION_EDTCB_1 **Vertical Scale: 1:200** **Graphics File Created: 28−Jan−2018 01:16**

OP System Version: 19C0−187

VSIT−C	19C0−187	HNGC−B	19C0−187
HNGS−BA	19C0−187	EDTC−B	SKK−5169−EDTCB

Output DLIS Files

DEFAULT	VSIT_NGS_022LUP	FN:32	PRODUCER	28−Jan−2018 01:16
BACKUP	VSIT_NGS_022LUP	FN:33	PRODUCER	28−Jan−2018 01:16