

Survey type: Zero Offset VSP  
Company: International Ocean Discovery Program  
Well: Expedition 401, Site U1609A  
Field: Mediterranean-Atlantic Gateway  
Country: Portugal  
Run: Run 2  
Date: 12/23/2023

Recorded by: Kirby Garrett

Witnessed by: Zenon Mateo

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## Well Information

<b>Company</b>	<b>International Ocean Discovery Program</b>
<b>Well</b>	<b>Expedition 401, Site U1609A</b>
<b>Field</b>	<b>Mediterranean-Atlantic Gateway</b>
<b>Country</b>	Portugal
<b>State</b>	Atlantic Ocean
<b>Logging Date</b>	12/23/2023
<b>Run Number</b>	Run 2
<b>Service Order</b>	
<b>Well Head (Latitude)</b>	37.377090 degrees
<b>Well Head (Longitude)</b>	-9.5985330 degrees
<b>Well Head (X Coordinate)</b>	0.0 UTM
<b>Well Head (Y Coordinate)</b>	0.0 UTM
<b>Total Depth - Driller</b>	2280.5 m
<b>Total Depth - Logger</b>	2274.0 m
<b>Maximum Hole Deviation</b>	0.0 deg
<b>Azimuth of Maximum Deviation</b>	0.0 deg
<b>Program Version</b>	
<b>Bit Size</b>	9.875 in
<b>Recorded by</b>	Kirby Garrett
<b>Witnessed by</b>	Zenon Mateo

## Elevation Information

<b>Permanent Datum</b>	MSL
<b>Elevation Permanent Datum</b>	0.0 m
<b>Above Permanent Datum</b>	12.2 m
<b>Drilling Measured From</b>	
<b>Derrick Floor</b>	12.2 m
<b>Ground Level</b>	-1670.5 m
<b>Kelly Bush</b>	0.0 m
<b>Log Measured From</b>	DF
<b>Elevation Log Zero</b>	12.2 m

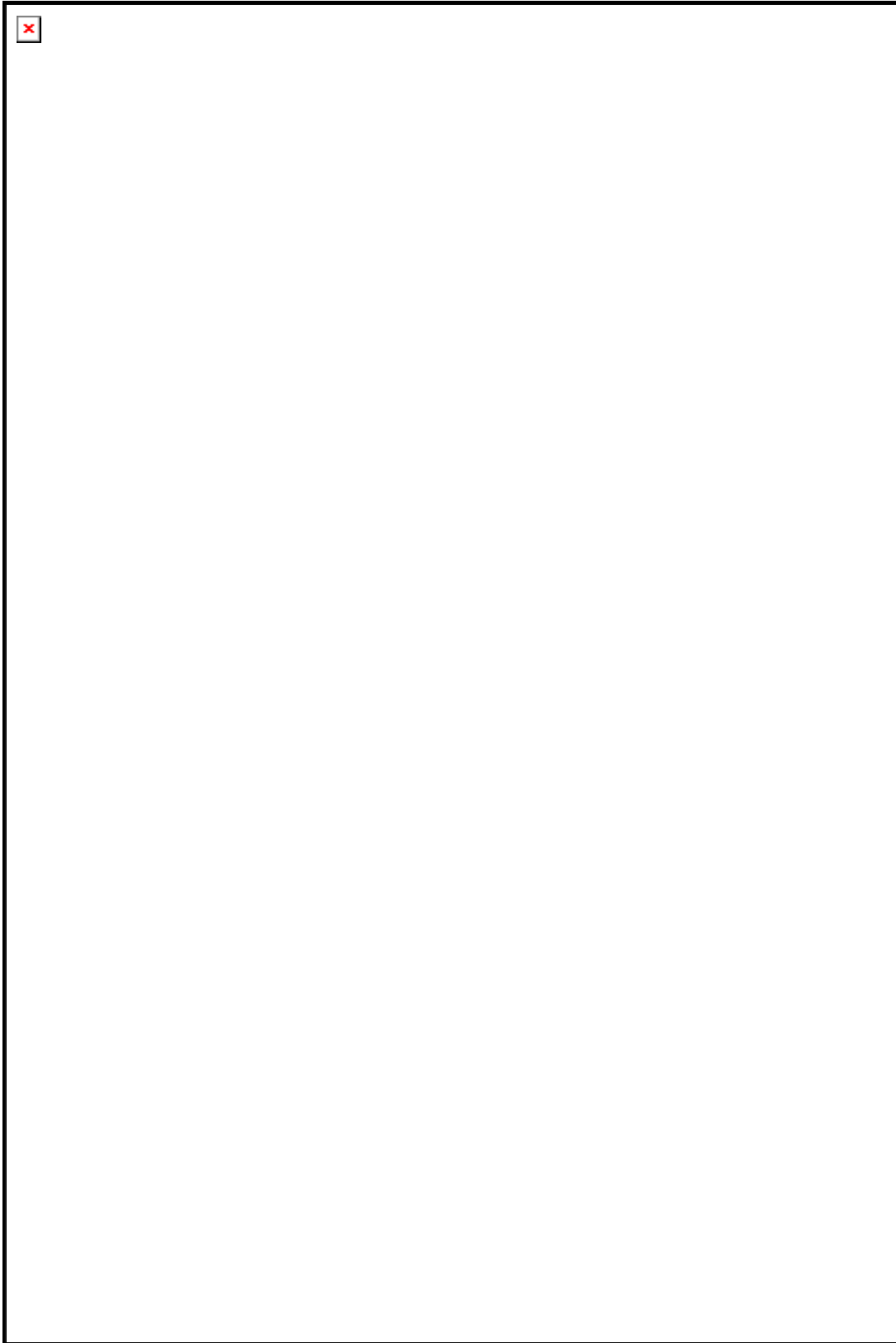
## Depth Corrected Information

<b>Water Velocity</b>	1500.0 m/s
<b>Seismic Reference Datum</b>	0.0 m

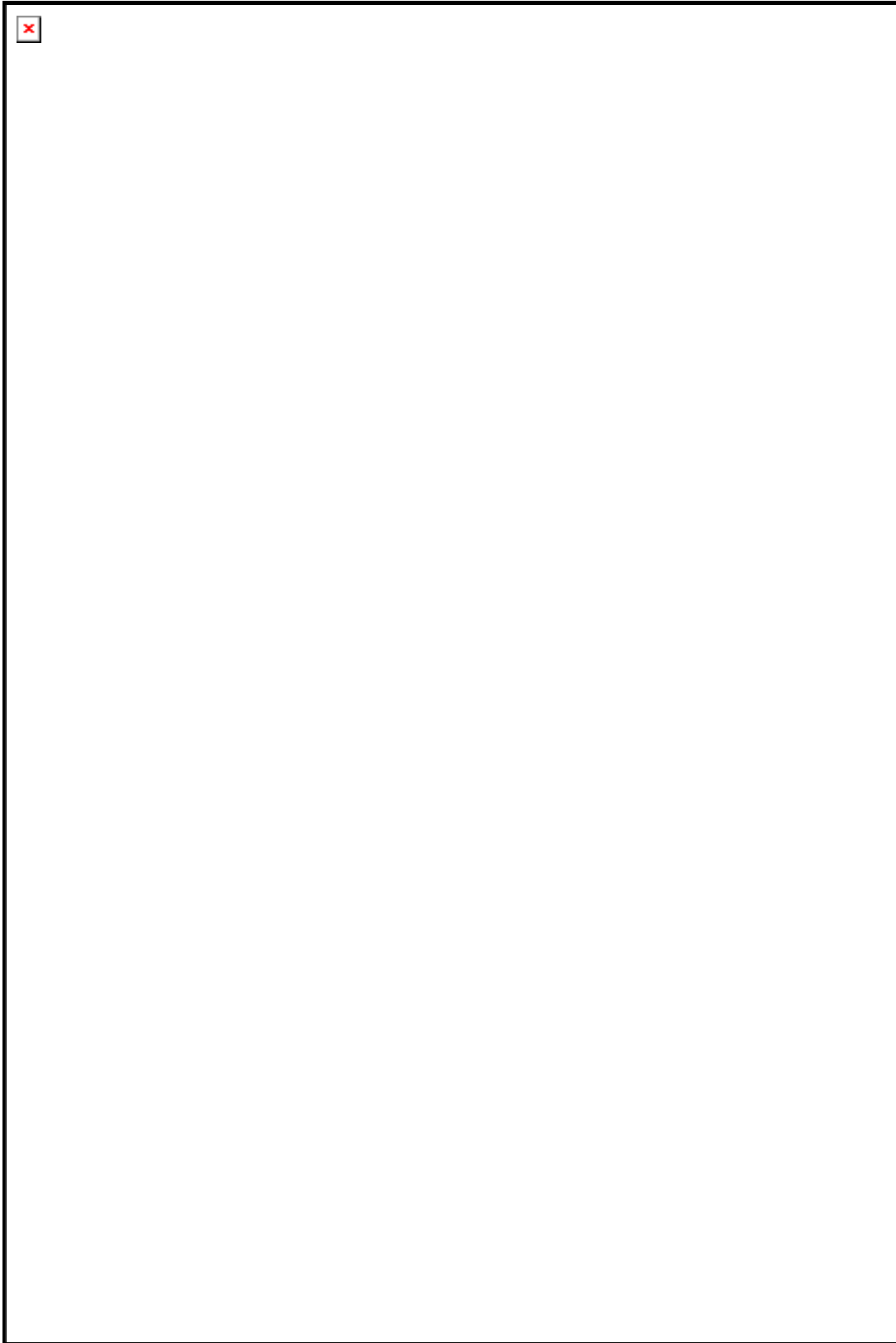
### Remarks

[illegible]

## Well Sketch



## Tool Sketch



**Well Information**

Well Type	
Rig / Platform Type	
Well Reference Azimuth (Magnetic, True, or Grid North)	

**Elevation Information**

Water Depth	
Water Temperature	
Water Salinity	
Weathered Zone Depth	
Elevation Depth	

**Sea Condition**

Sea Condition	
Wave Height	
High Tide Level	
High Tide Time	
Low Tide Level	
Low Tide Time	

**Velocity Information**

Weathered Velocity	
Elevation Velocity	

**Downhole Equipment Information**

<b>Tool Type</b>	VSI
<b>Surface Equipment</b>	
<b>Combined Tool</b>	
<b>Number of Shuttles</b>	
<b>Nominal Receiver Spacing</b>	
<b>Gimbaled (Y/N)</b>	
<b>Downhole Geophone Type</b>	
<b>Sensitivity</b>	
<b>Natural Frequency</b>	
<b>Damping Factor</b>	
<b>DC Resistance</b>	
<b>Receiver #1</b>	
<b>Receiver #2</b>	
<b>Receiver #3</b>	
<b>Receiver #4</b>	
<b>Receiver #5</b>	
<b>Receiver #6</b>	
<b>Receiver #7</b>	
<b>Receiver #8</b>	

**General Information**

<b>Survey Type</b>	Zero Offset VSP
<b>Surface Recording Length</b>	1000.0 msec
<b>Surface Sampling Rate</b>	1.0 msec
<b>Downhole Recording Length</b>	4000.0 msec
<b>Downhole Sampling Rate</b>	1.0 msec
<b>Top of Survey</b>	1736.1 m
<b>Bottom of Survey</b>	2273.8 m
<b>Number of Shots</b>	90
<b>Number of Downhole Traces</b>	90
<b>Number of Downhole Traces used for Processing</b>	90



**Stack Summary Listing (1/1) from  
U1609A\_WAVEFIELD\_RECEIVER\_GEO\_Z\_for\_Report.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			
						1536.0		
4	2075.1	2062.9	1.3387	1.3430	2.6860		1536.0	1536.0
						1708.3		
2	2226.1	2213.9	1.4271	1.4314	2.8628		1546.6	1547.2
						2245.3		
1	2273.8	2261.6	1.4483	1.4527	2.9053		1556.9	1559.7
						0.0		

**Shot Summary Listing (1/1)**

Measured Depth [m]	Tool Number	Stack Number	Relative Bearing [deg]	Caliper [in]	Anchoring force [kg]	Shot number
2075.1	1	4	9.2	15.5	704.0	81, 82
2226.1	1	2	9.0	11.6	580.0	47, 49, 50, 52
2273.8	1	1	1.0	11.5	637.5	15, 16, 26, 27, 28

**Observer's Note (1/2)**

Well depth [m]	Time(UTC)	Shot Type	Shot#	Stack#	Source	Remarks
114.9	10:45:50	ETHD	1			
114.9	10:46:00	GA01	2			
114.9	10:46:10	GA02	3			
114.9	10:46:20	GA04	4			
114.9	10:46:31	GA08	5			
114.9	10:46:41	GA16	6			
114.9	10:46:56	XTLK	7			
114.9	10:47:10	XTLK	8			
114.9	10:47:25	XTLK	9			
114.9	10:47:35	EIMP	10			
114.9	10:47:47	ENHI	11			
114.9	10:47:59	ENLO	12			
114.9	10:48:09	DRNG	13			
114.9	12:03:07	SHAK	14			
2273.8	12:04:20	SHOT	15	1		Good
2273.8	12:05:31	SHOT	16	1		Good
2273.8	12:05:53	SHOT	17	1		
2273.8	12:06:16	SHOT	18	1		
2273.8	12:06:38	SHOT	19	1		
2273.8	12:07:00	SHOT	20	1		
2273.8	12:07:22	SHOT	21	1		
2273.8	12:07:44	SHOT	22	1		
2273.8	12:08:06	SHOT	23	1		
2273.8	12:08:28	SHOT	24	1		
2273.8	12:09:18	SHOT	25	1		
2273.8	12:09:40	SHOT	26	1		maybe
2273.8	12:10:11	SHOT	27	1		repick
2273.8	12:10:33	SHOT	28	1		good
2226.1	12:22:35	SHOT	29	2		
2226.1	12:22:57	SHOT	30	2		
2226.1	12:23:19	SHOT	31	2		
2226.1	12:23:41	SHOT	32	2		
2226.1	12:24:07	SHOT	33	2		
2226.1	12:24:37	SHOT	34	2		
2226.1	12:24:59	SHOT	35	2		
2226.1	12:25:21	SHOT	36	2		
2226.1	12:25:43	SHOT	37	2		
2226.1	12:26:05	SHOT	38	2		
2226.1	12:26:27	SHOT	39	2		
2226.1	12:26:49	SHOT	40	2		
2226.1	12:27:11	SHOT	41	2		
2226.1	12:27:33	SHOT	42	2		
2226.1	12:27:55	SHOT	43	2		
2226.1	12:28:18	SHOT	44	2		
2226.1	12:28:40	SHOT	45	2		
2226.1	12:29:02	SHOT	46	2		
2226.1	12:29:24	SHOT	47	2		good
2226.1	12:29:46	SHOT	48	2		
2226.1	12:30:09	SHOT	49	2		Good
2226.1	12:30:30	SHOT	50	2		Good
2226.1	12:31:39	SHOT	51	2		
2226.1	12:32:01	SHOT	52	2		Good
2226.1	12:32:23	SHOT	53	2		
2226.1	12:32:45	SHOT	54	2		
2176.2	12:40:02	SHOT	55	3		
2176.2	12:40:24	SHOT	56	3		
2176.2	12:40:46	SHOT	57	3		
2176.2	12:42:22	SHOT	58	3		
2176.2	12:43:15	SHOT	59	3		

**Observer's Note (2/2)**

Well depth [m]	Time(UTC)	Shot Type	Shot#	Stack#	Source	Remarks
2176.2	12:43:37	SHOT	60	3		
2176.2	12:44:48	SHOT	61	3		
2176.2	12:45:10	SHOT	62	3		
2176.2	12:45:32	SHOT	63	3		
2176.2	12:46:25	SHOT	64	3		
2176.2	12:46:47	SHOT	65	3		
2176.2	12:47:09	SHOT	66	3		
2176.2	12:47:31	SHOT	67	3		
2176.2	12:47:53	SHOT	68	3		
2176.2	12:48:15	SHOT	69	3		
2176.2	12:48:37	SHOT	70	3		
2176.2	12:48:59	SHOT	71	3		
2176.2	12:49:44	SHOT	72	3		No Good Shot for S3
2075.1	13:06:40	SHOT	73	4		
2075.1	13:07:05	SHOT	74	4		
2075.1	13:07:27	SHOT	75	4		
2075.1	13:07:49	SHOT	76	4		
2075.1	13:08:11	SHOT	77	4		
2075.1	13:08:33	SHOT	78	4		
2075.1	13:08:55	SHOT	79	4		
2075.1	13:09:17	SHOT	80	4		
2075.1	13:09:50	SHOT	81	4		xBest shot here
2075.1	13:10:13	SHOT	82	4		repick
2075.1	13:10:35	SHOT	83	4		
2075.1	13:11:00	SHOT	84	4		
2075.1	13:11:22	SHOT	85	4		
1741.1	14:04:05	SHOT	86	5		
1741.1	14:04:26	SHOT	87	5		
1741.1	14:04:48	SHOT	88	5		
1741.1	14:05:20	SHOT	89	5		
1741.1	14:05:42	SHOT	90	5		
1741.1	14:06:04	SHOT	91	5		
1741.1	14:06:26	SHOT	92	5		
1741.1	14:06:48	SHOT	93	5		
1741.1	14:07:10	SHOT	94	5		
1741.1	14:07:32	SHOT	95	5		
1741.1	14:07:54	SHOT	96	5		
1741.1	14:08:16	SHOT	97	5		
1736.1	14:11:46	SHOT	98	6		
1736.1	14:12:08	SHOT	99	6		
1736.1	14:12:30	SHOT	100	6		
1736.1	14:12:52	SHOT	101	6		
1736.1	14:13:14	SHOT	102	6		
1736.1	14:13:38	SHOT	103	6		
1736.1	14:14:17	SHOT	104	6		

**Source Configuration (Air Gun)**

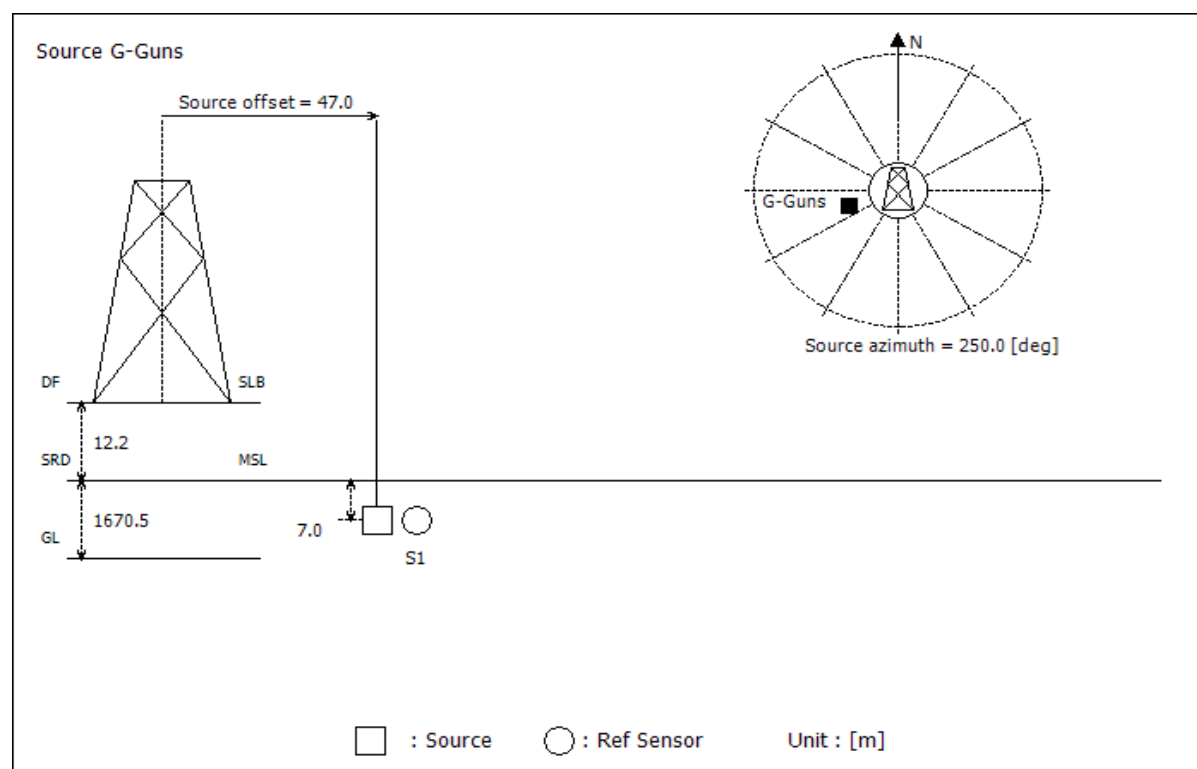
Source Location (Rig, Boat, Pit, Borehole)	
Source Group ID (A, B, C, ...)	
Source Offset (for fixed offset)	
Source Azimuth (for fixed offset)	
Source Depth from Surface	
Source Depth from Logging Zero	

Gun Controller Type	
Gun Controller Model Name	
Gun Controller Serial Number	
Gun Type	
Gun Serial Number(s)	
Gun Configuration (3 Gun Cluster, Gun Array, etc.)	
Gun Chamber Volumes	
Gun Pit/Borehole Information	
Compressor Type	
Compressor Flow Rate	
Air Regulator Pressure	

**Surface Sensor Configuration**

Number of Surface Reference Sensors	
Surface Recording Length	
Surface Sampling Rate	
Sensor Type (S1)	
Sensor Type (S2)	
Sensor Type (S3)	
Sensor Depth from Surface (S1)	
Sensor Depth from Surface (S2)	
Sensor Depth from Surface (S3)	
Sensor Depth from Logging Zero (S1)	
Sensor Depth from Logging Zero (S2)	
Sensor Depth from Logging Zero (S3)	
Sensor Offset from Source (S1)	
Sensor Offset from Source (S2)	
Sensor Offset from Source (S3)	

## Source Geometry Sketch



**Source Vessel Information**

Vessel Name	
Vessel Supplier	
Seismic & Positioning Operator/Technician	
Gyrocompass Type	

**Positioning Information**

Positioning Contractor	
DGPS Reference Station(s)	
RTCM Supplier(s)	
Time Zone (e.g. UTC-6hours)	

**Geodetic Information**

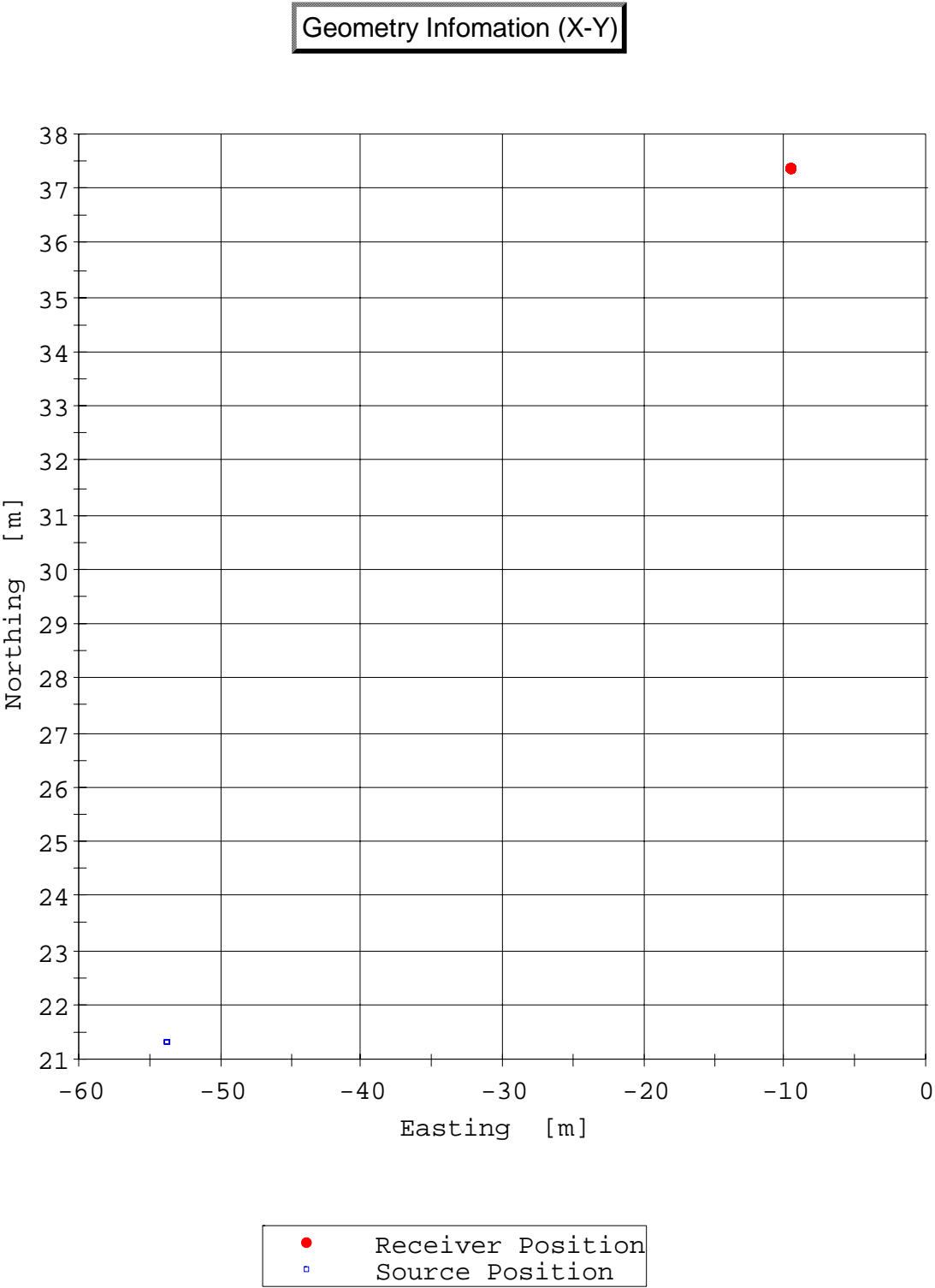
GPS Spheroid Name	WGS84
Semi-Major Axis	6378137.0
Inverse Flattening	298.257223563
Local Spheroid Name	
Semi-Major Axis	
Inverse Flattening	
Datum Name	
Datum Shift from WGS84 to Local (Bursa Wolf)	
dX	
dY	
dZ	
rX	
rY	
rZ	
Scale (ppm)	
Projection Type (TM,UTM,Lambert)	
UTM Zone (if applicable)	
Central Meridian	
Scale Factor	
Origin Latitude	
Origin Longitude	
Standard Parallel 1 (Lambert only)	
Standard Parallel 2 (Lambert only)	
False Easting	
False Northing	

**Walkaway Parameters**

Shot Point Interval	
Cross-Line Tolerance	
In-Line Tolerance	

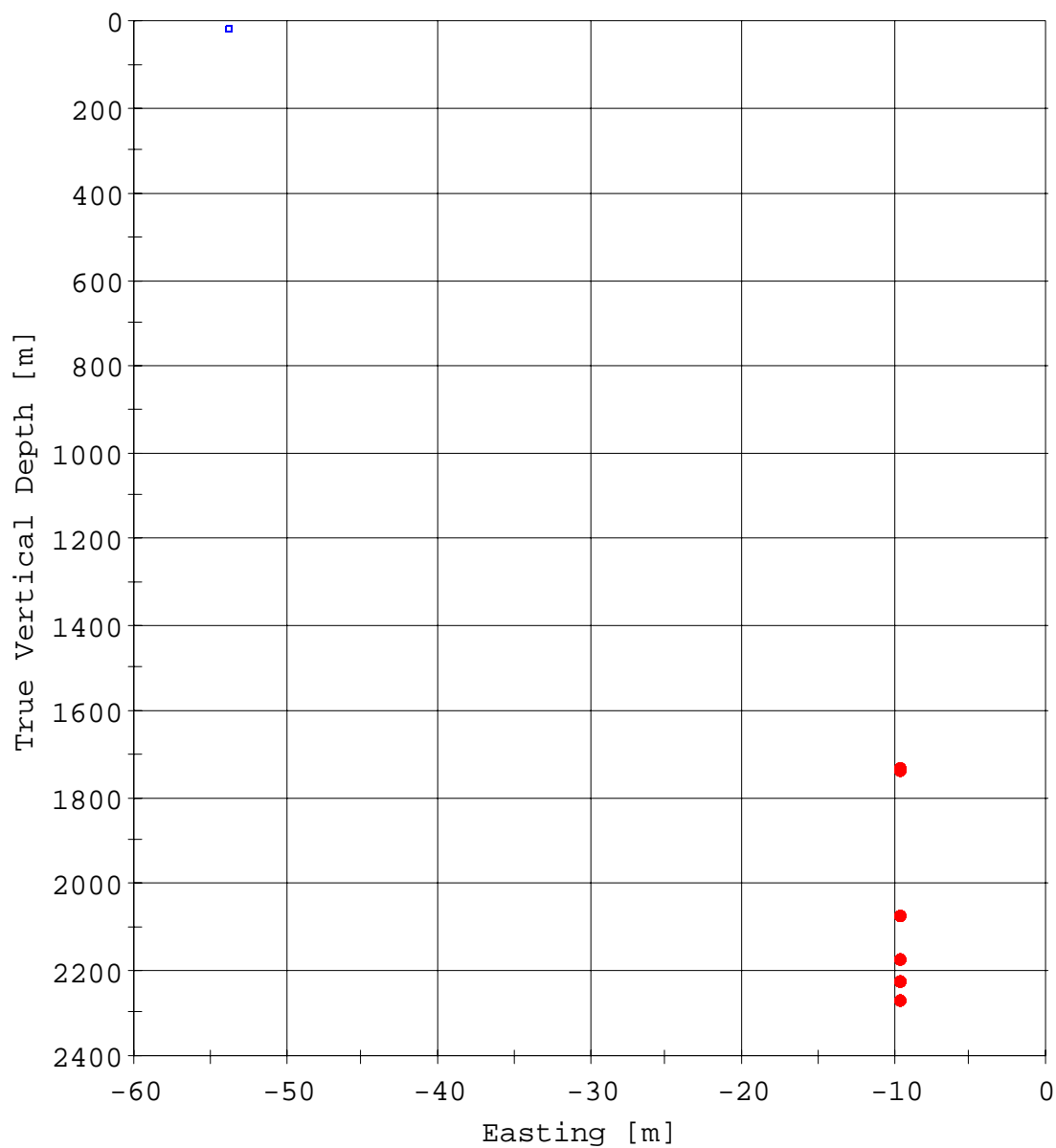
**Walkabove Tolerance**

Radius of Target Circle (e.g. TVD/80 or Fixed)	
------------------------------------------------	--

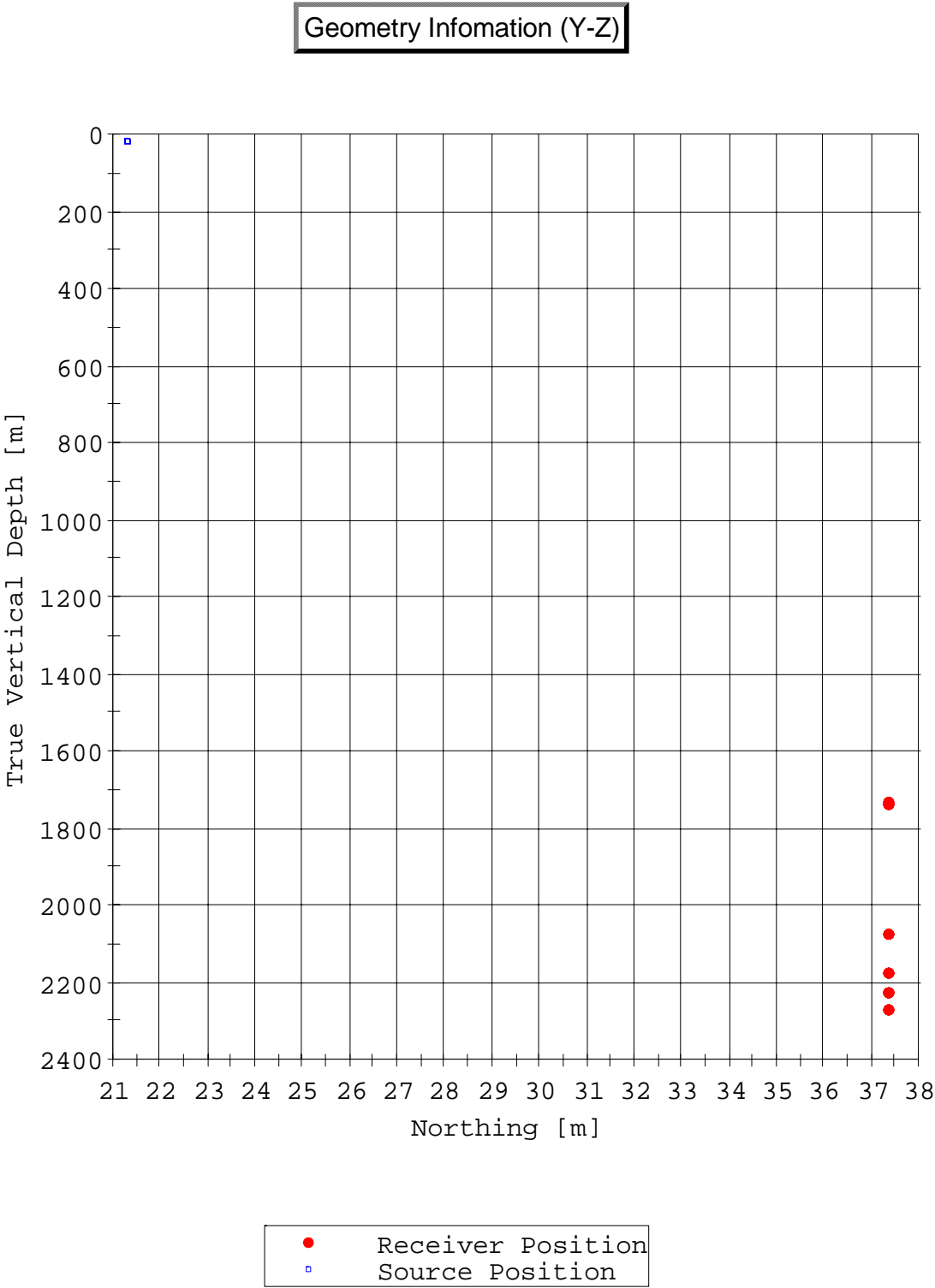




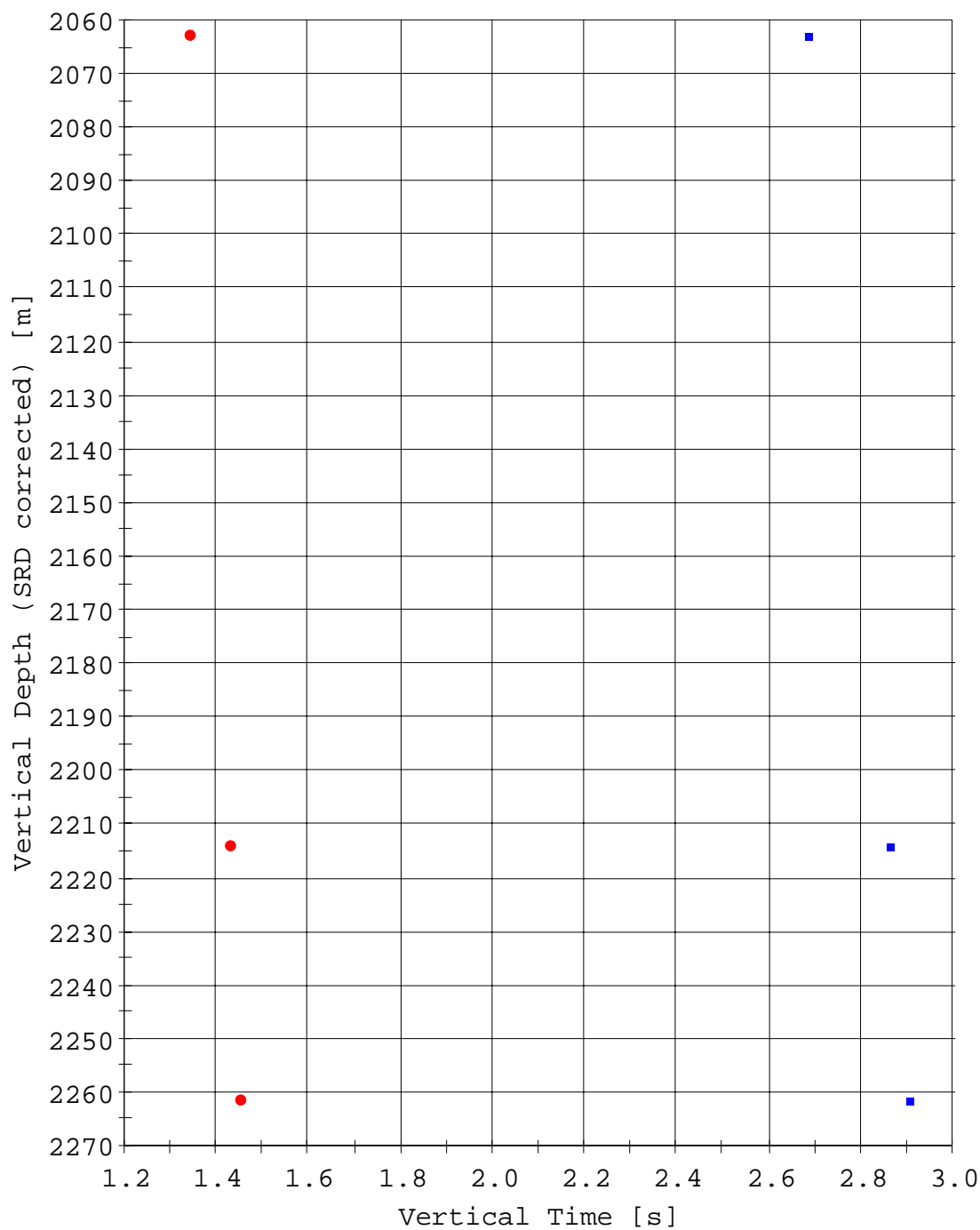
## Geometry Information (X-Z)



● Receiver Position  
□ Source Position

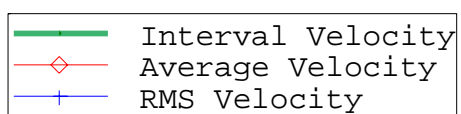
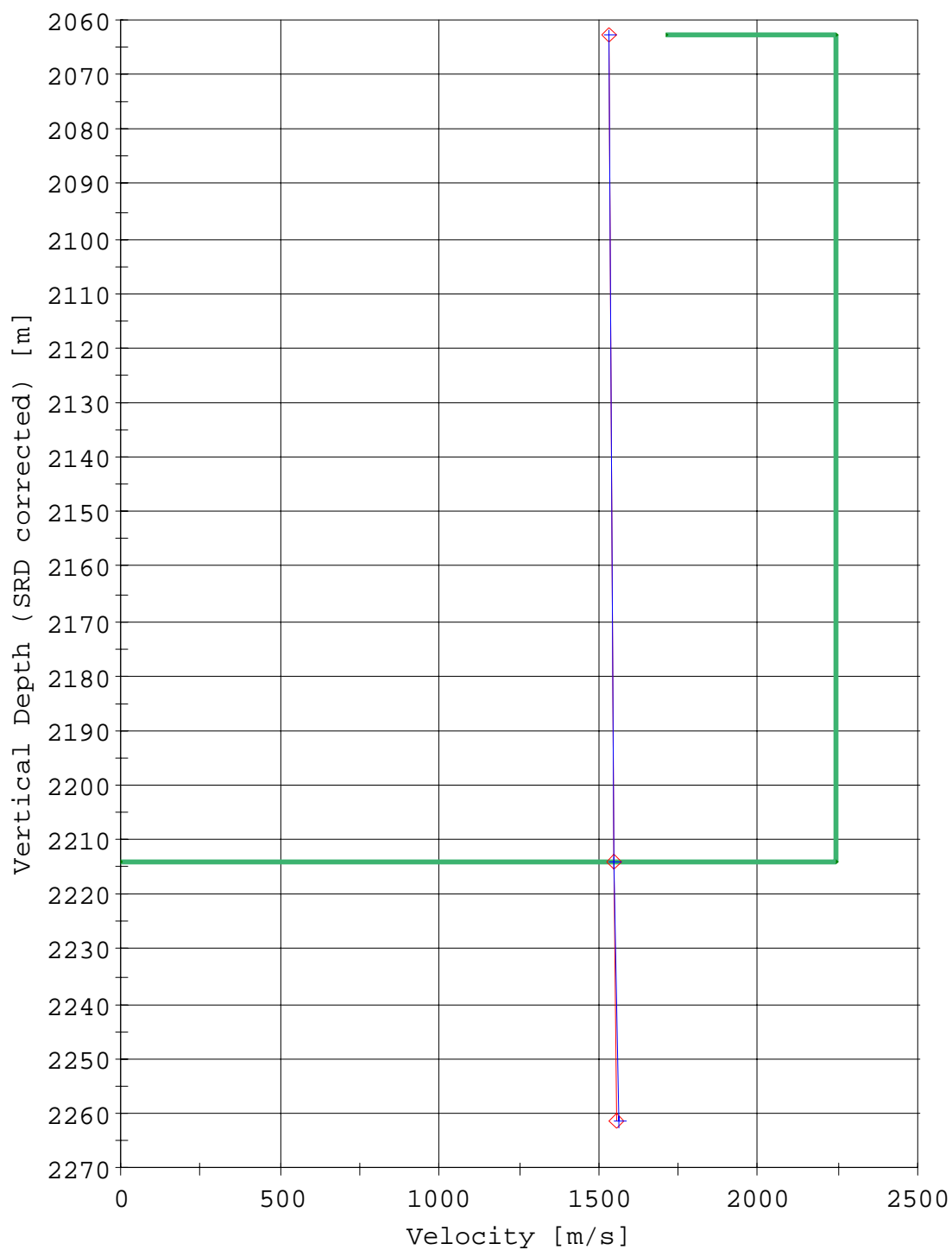


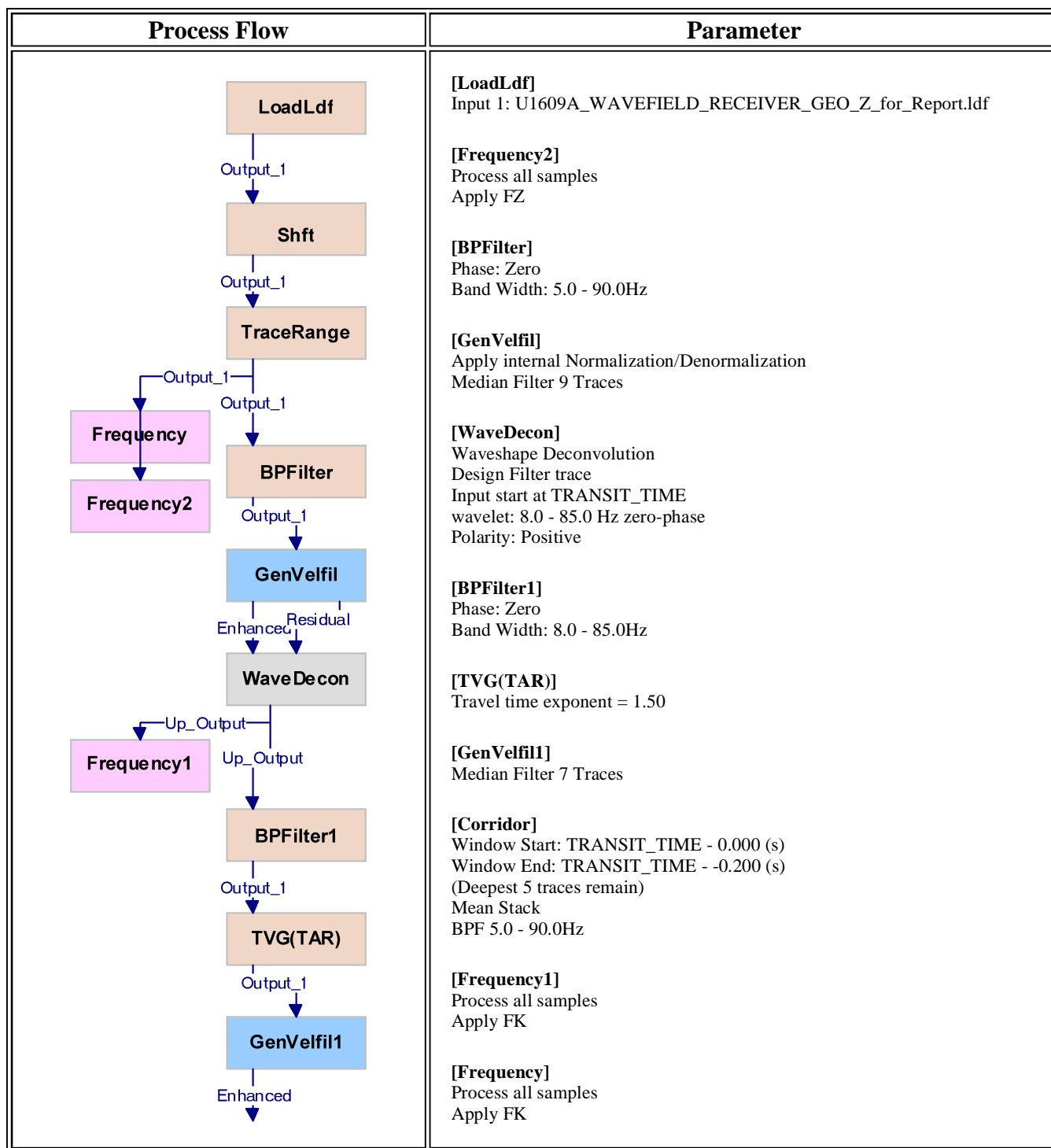
Time Depth Plot



● One-way Vertical Time  
■ Two-way Vertical Time

## Velocity Plot





[LoadLdf]

FileLoadLdf Parameters

Input 1: U1609A\_WAVEFIELD\_RECEIVER\_GEO\_Z\_for\_Report.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

Characteristic: 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

Characteristic: 8.000 Hz to 85.000 Hz Order 3

[TVG(TAR)]

Time-Varying Gain Parameters

```
Window start at TRANSIT_TIME - 0.000000
Window length = 3.999000
Travel time exponent = 1.500000
Exponential Weighting = 0.000000
```

[GenVelfill]

```
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
Characteristic: 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
```

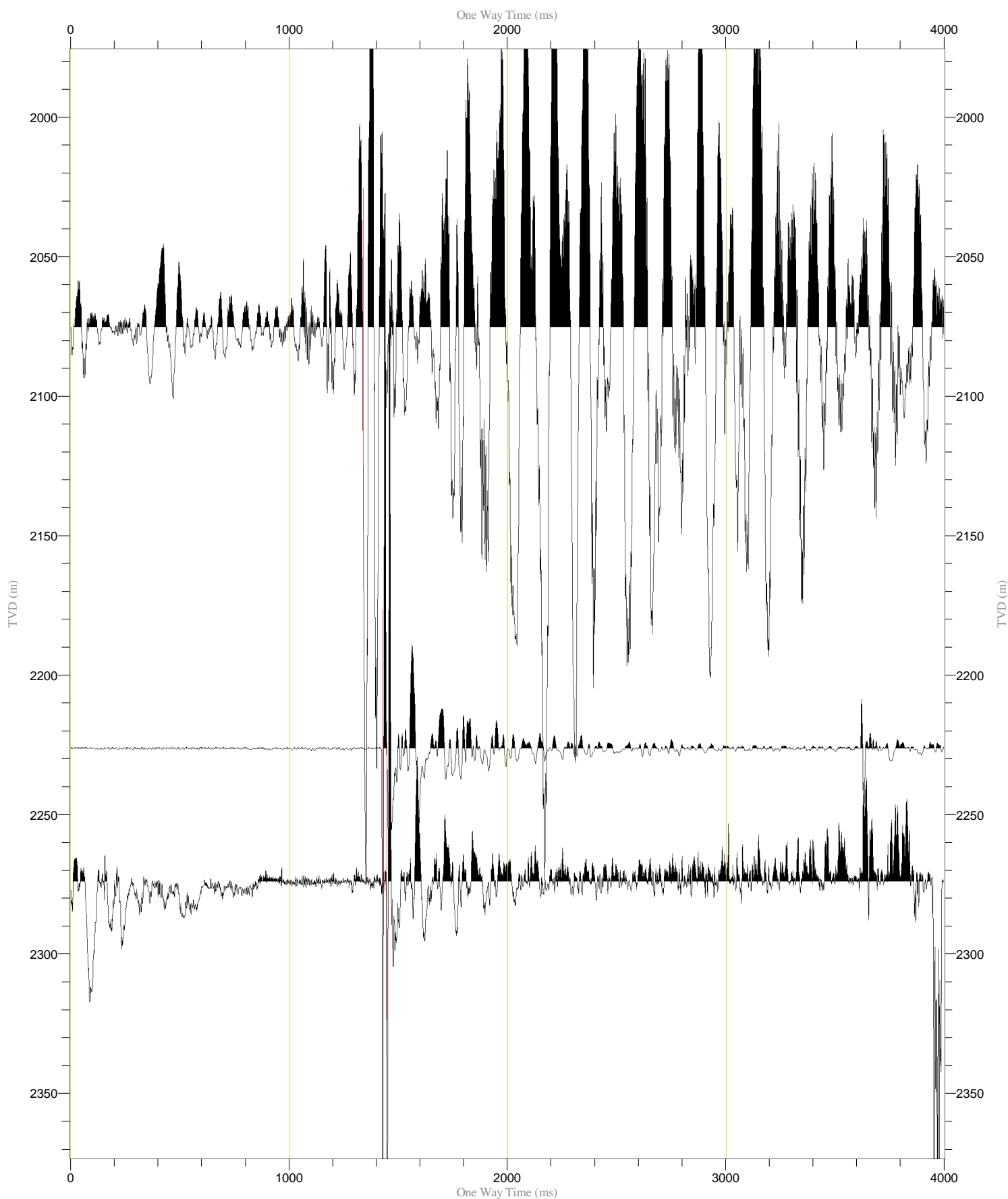
Raw Stack (Z)

Normalization Trace by Trace (250%)

Polarity Normal

One Way Time (ms)

Scaling 4.3 cm/sec, 1/1830





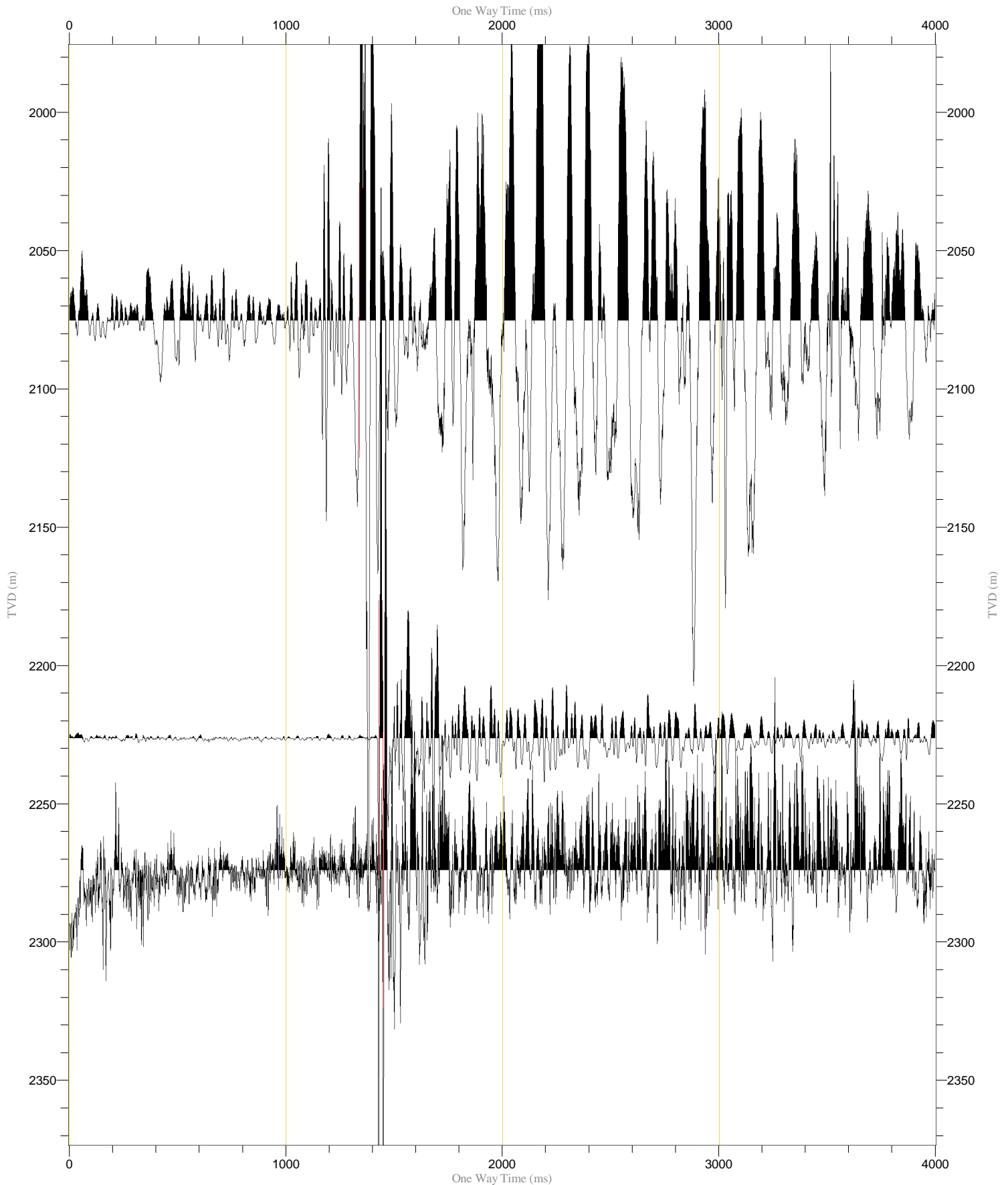
Raw Stack (X)

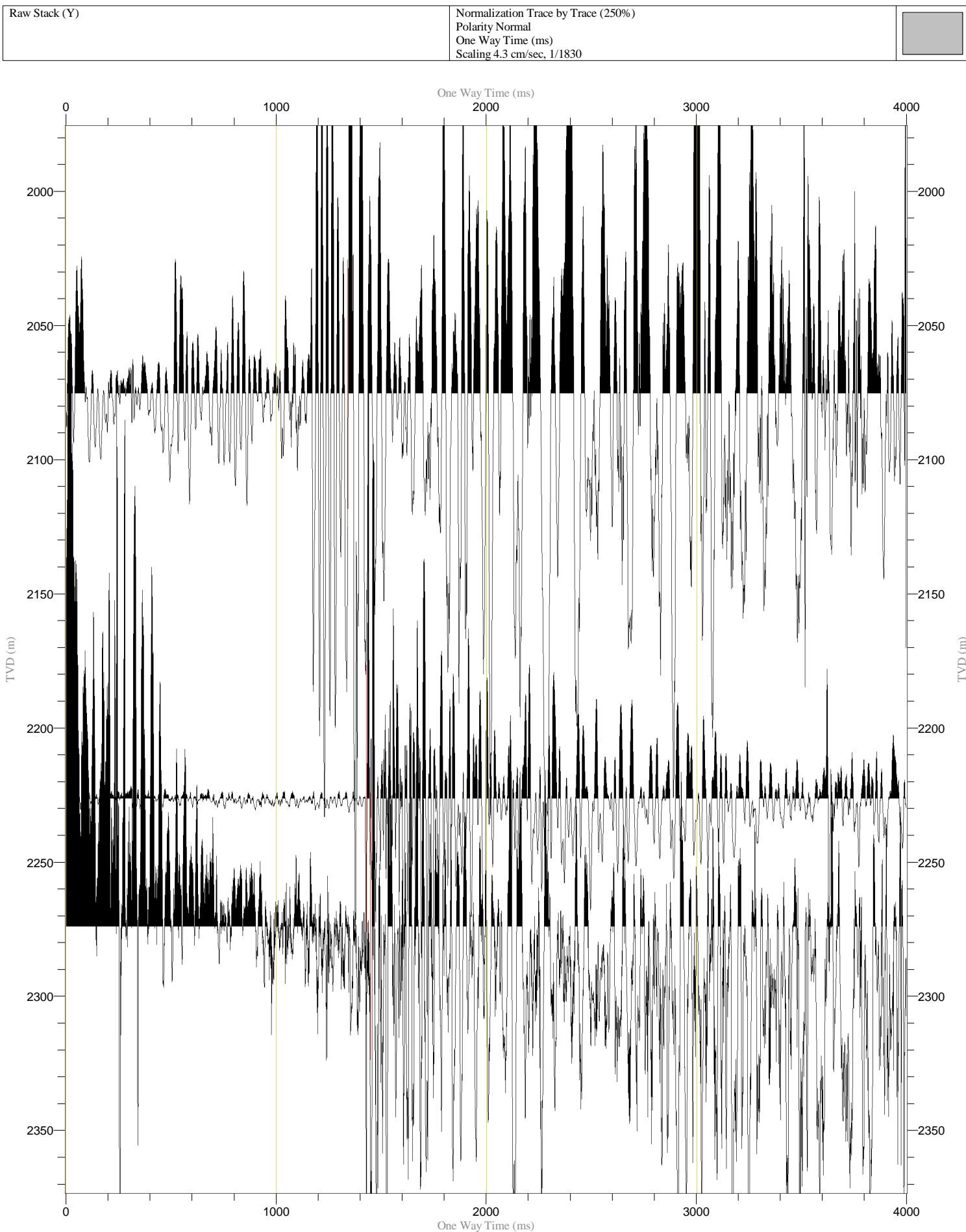
Normalization Trace by Trace (250%)

Polarity Normal

One Way Time (ms)

Scaling 4.3 cm/sec, 1/1830





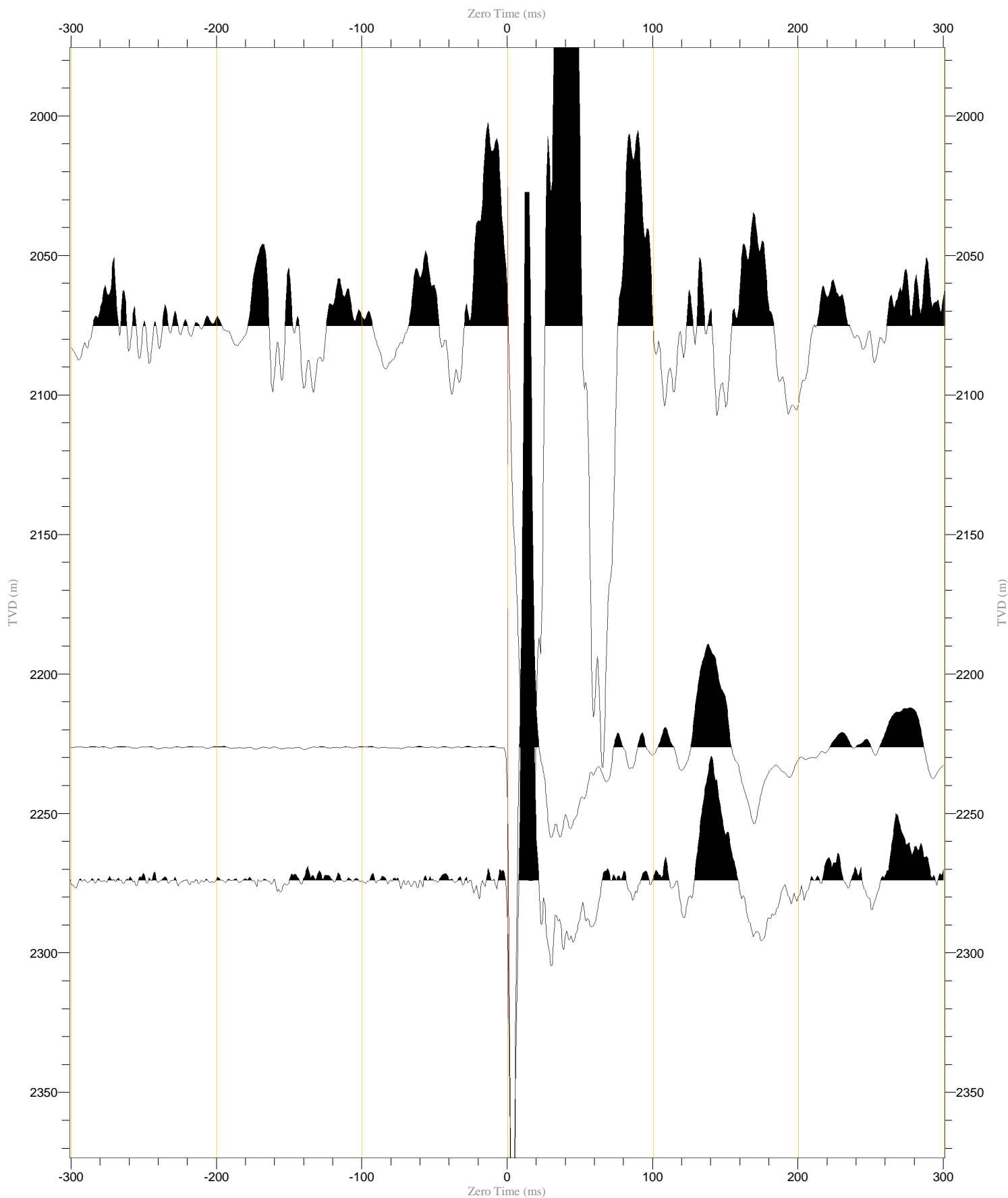
Raw Stack (Z) (Magnified)

Normalization Trace by Trace (250%)

Polarity Normal

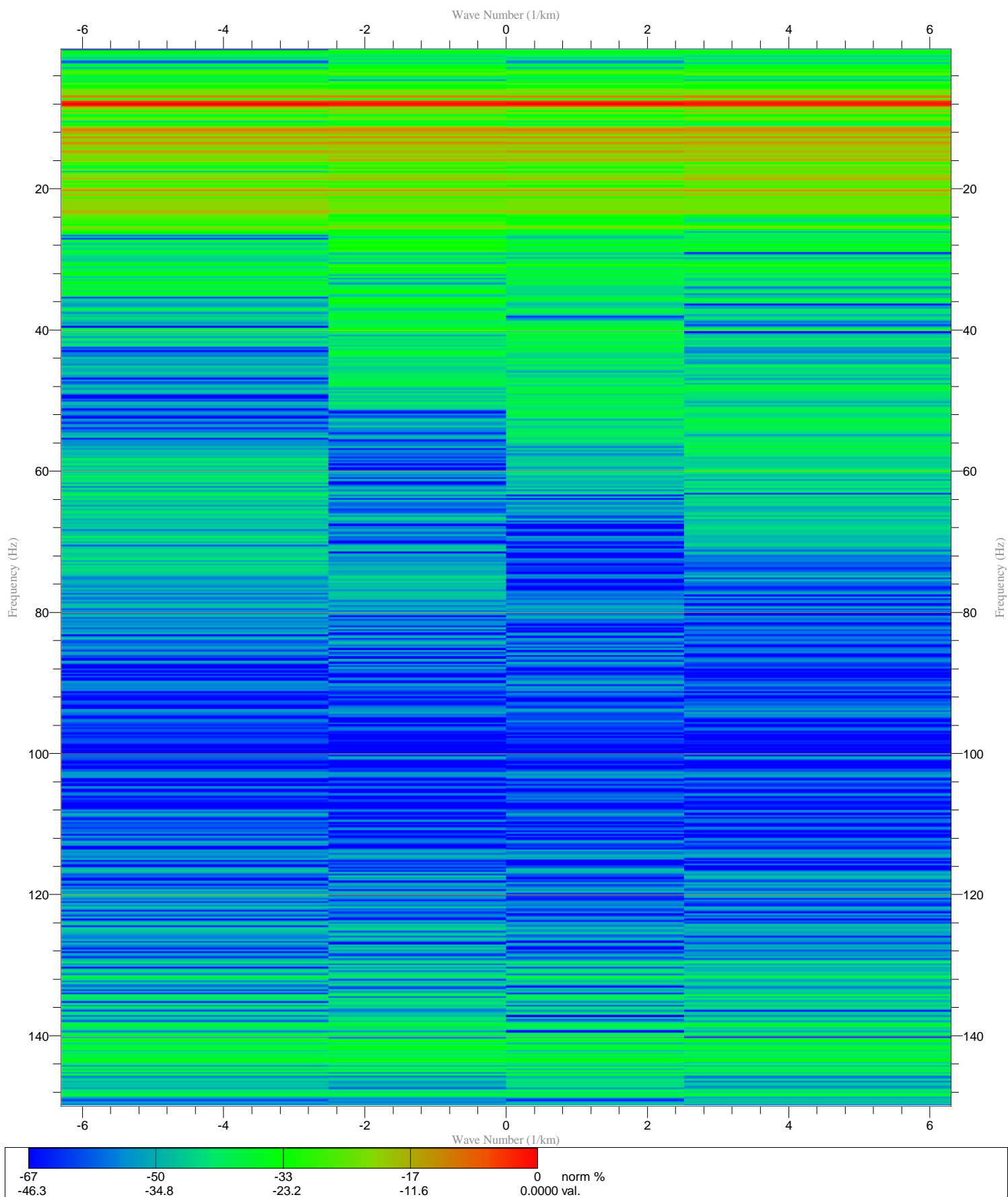
Zero Time (ms)

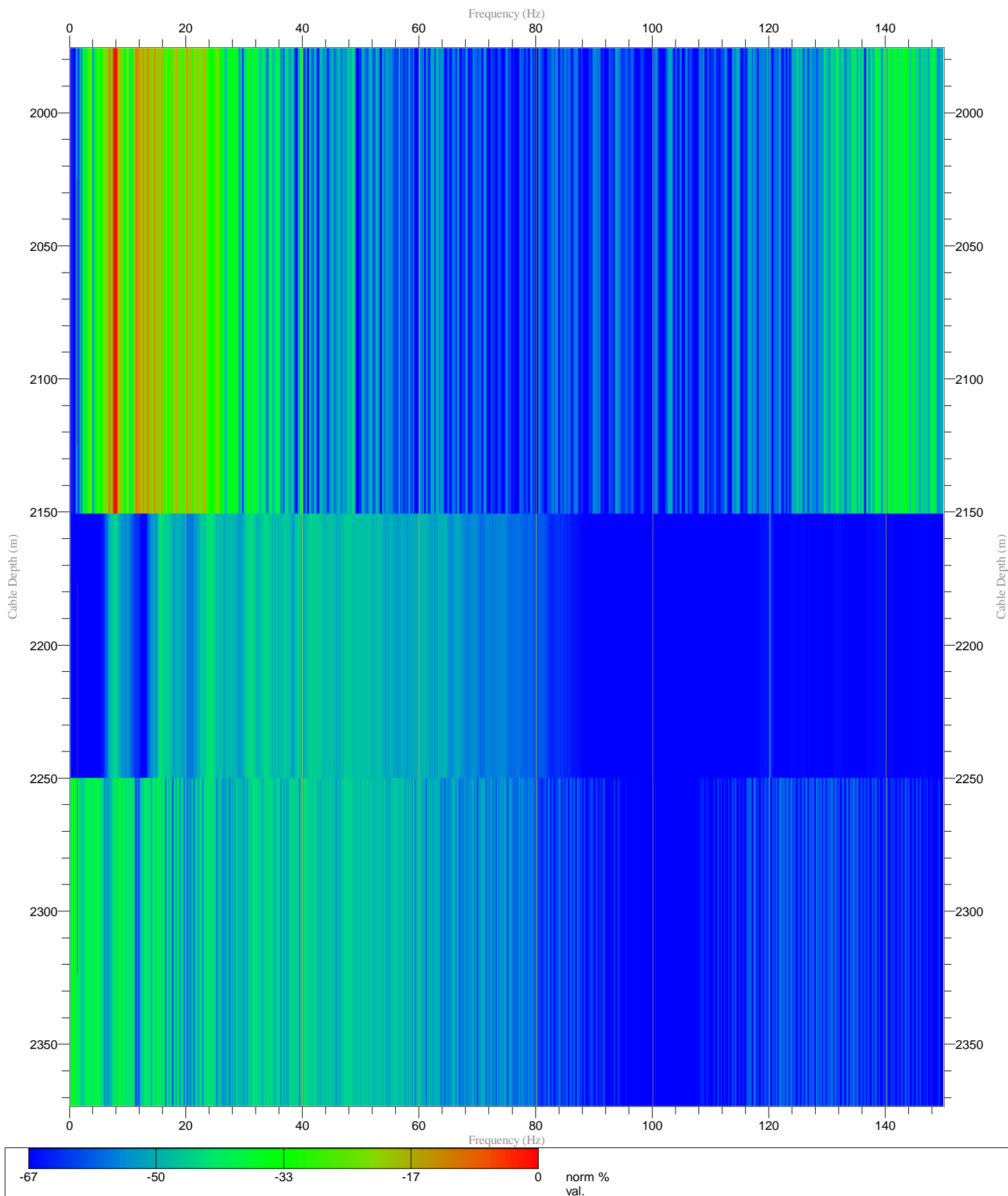
Scaling 28.5 cm/sec, 1/1830



VSP Raw Stack (Z) FK  
Apply FK

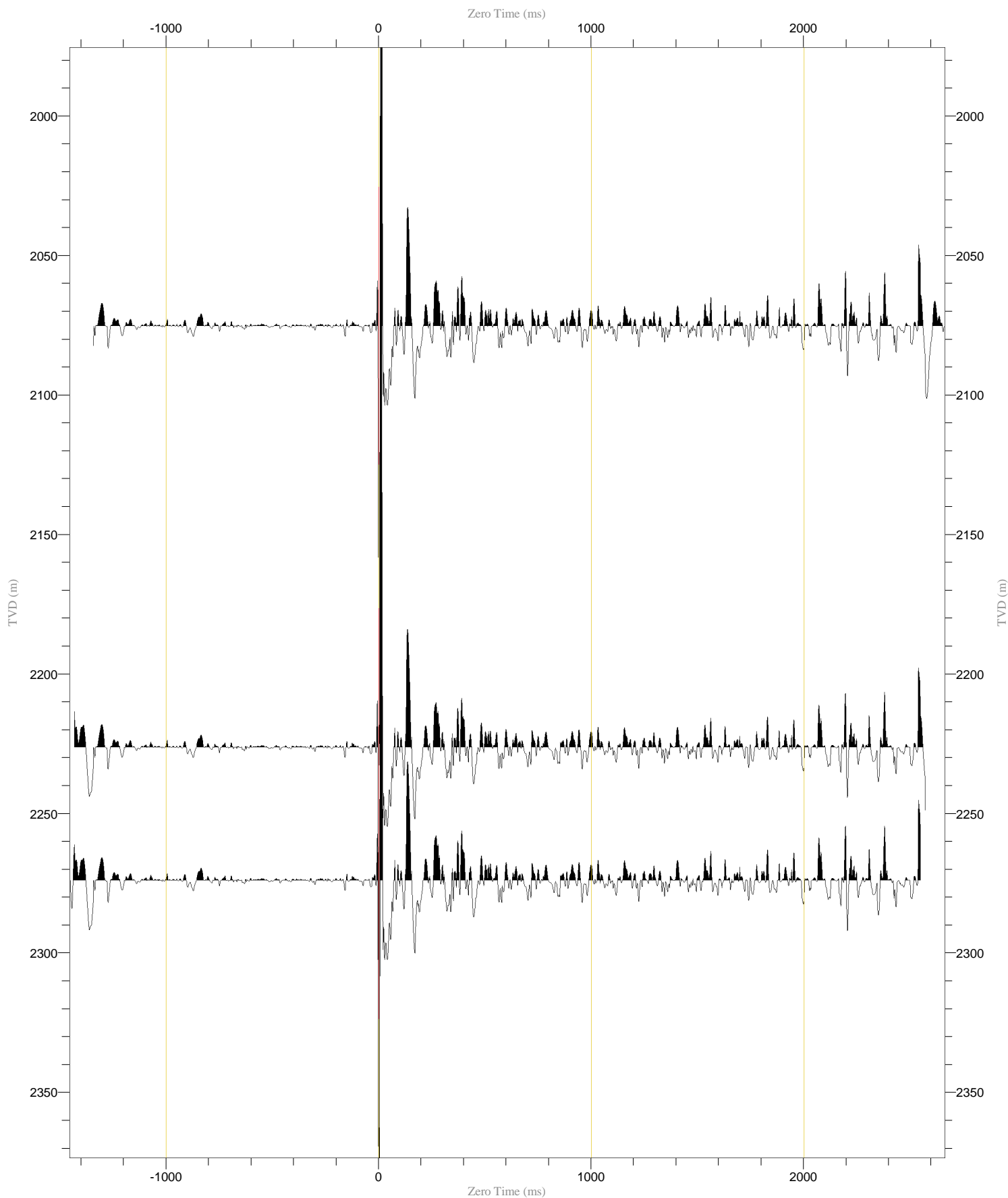
Normalization First Trace in Gather (100%)  
Polarity Normal  
Frequency (Hz)  
Scaling 0.14 cm/Hz, 0.72(1/km)/cm



VSP Raw Stack (Z) FZ  
Apply FZNormalization Trace by Trace (100%)  
Polarity Normal  
Frequency (Hz)  
Scaling 0.1 cm/Hz, 1/1830

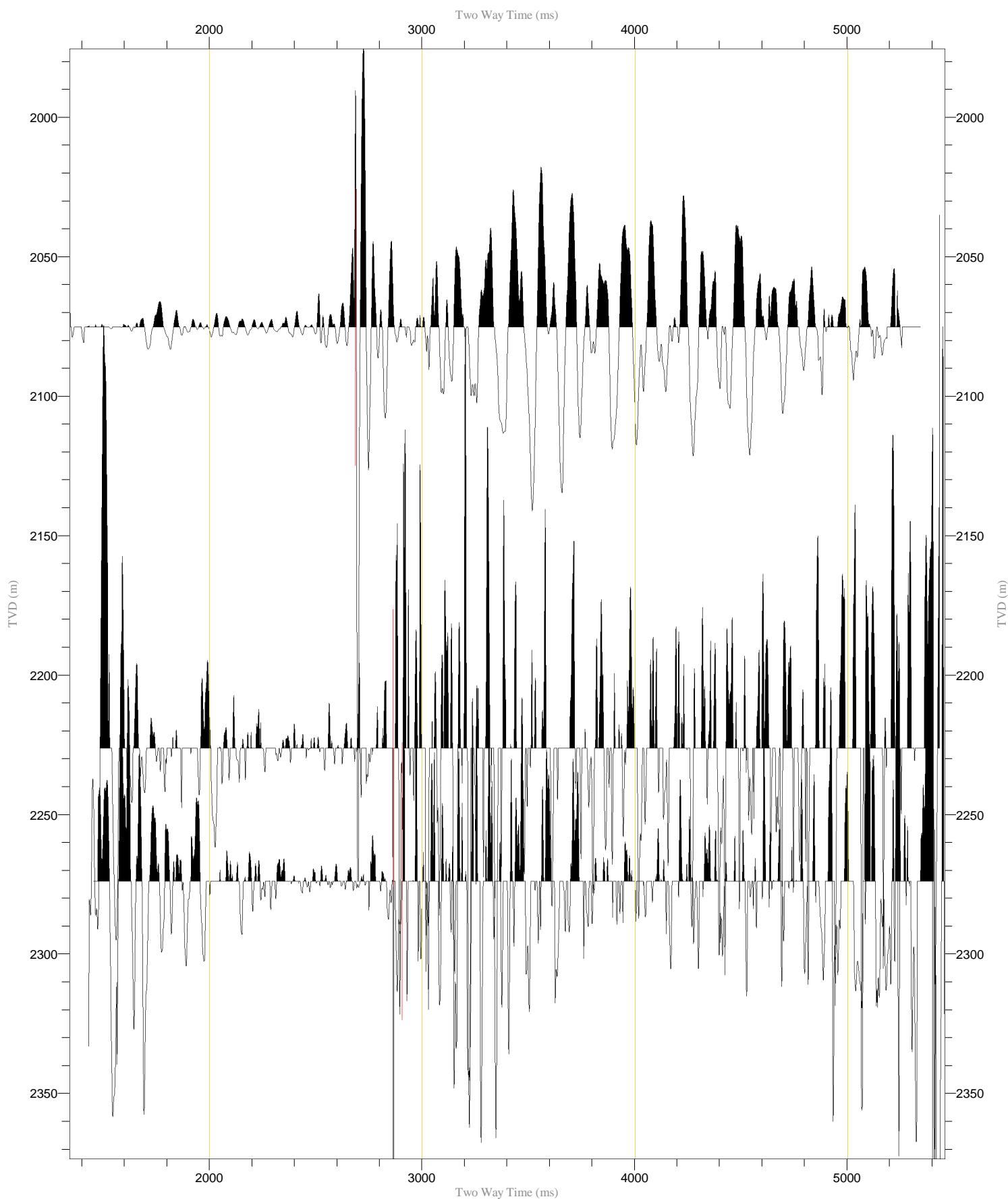
VSP Downgoing  
BPF 5.0 - 90.0Hz  
Median Filter 9 Traces

Normalization Trace by Trace (250%)  
Polarity Normal  
Zero Time (ms)  
Scaling 4.2 cm/sec, 1/1830



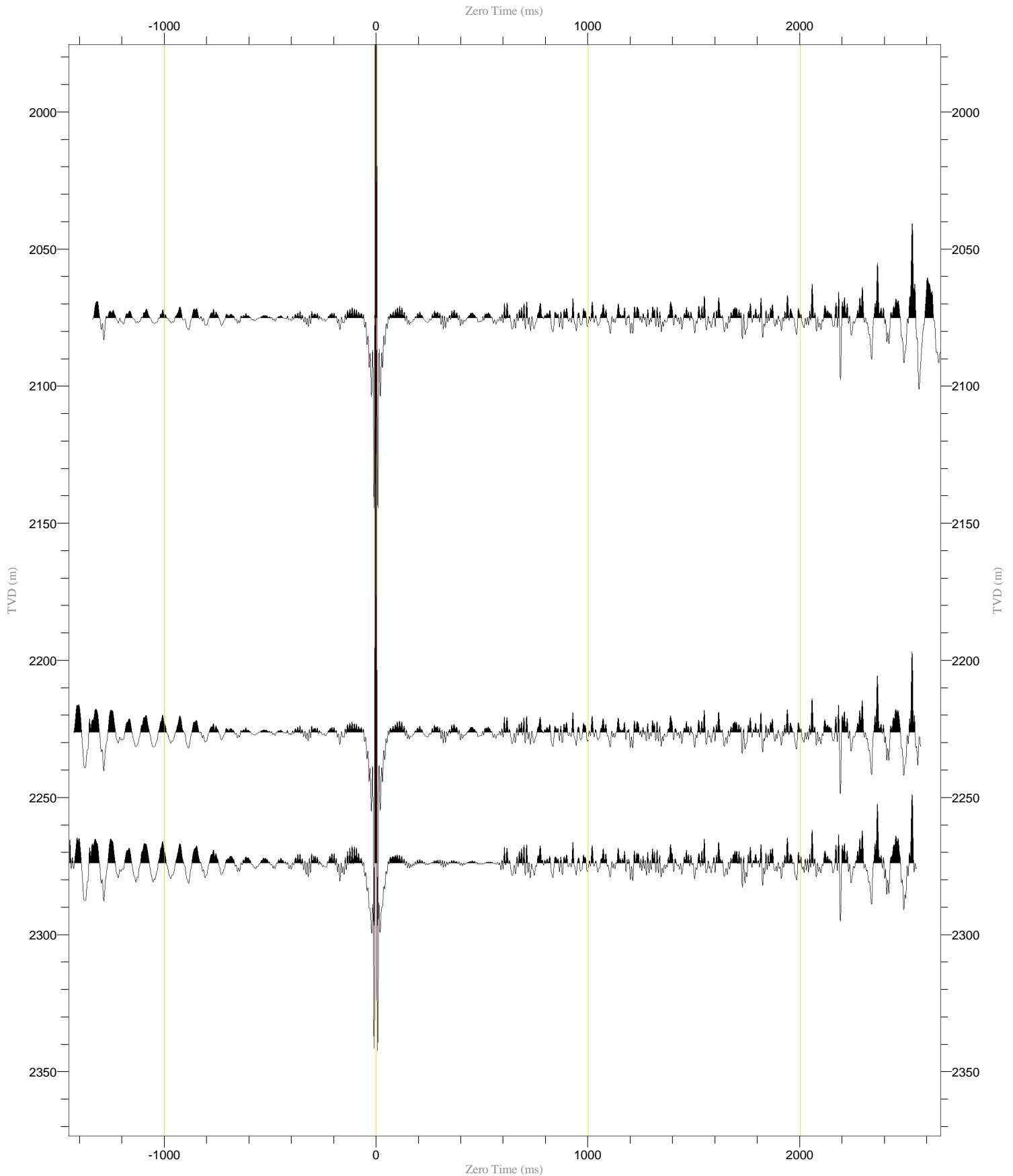
VSP Upgoing  
BPF 5.0 - 90.0Hz  
Median Filter 9 Traces

Normalization Trace by Trace (250%)  
Polarity Normal  
Two Way Time (ms)  
Scaling 4.2 cm/sec, 1/1830



VSP Waveshape decon downgoing  
BPF 5.0 - 90.0Hz  
Median Filter 9 Traces  
Waveshape Decon.(wavelet: 8.0 - 85.0 Hz zero-phase)

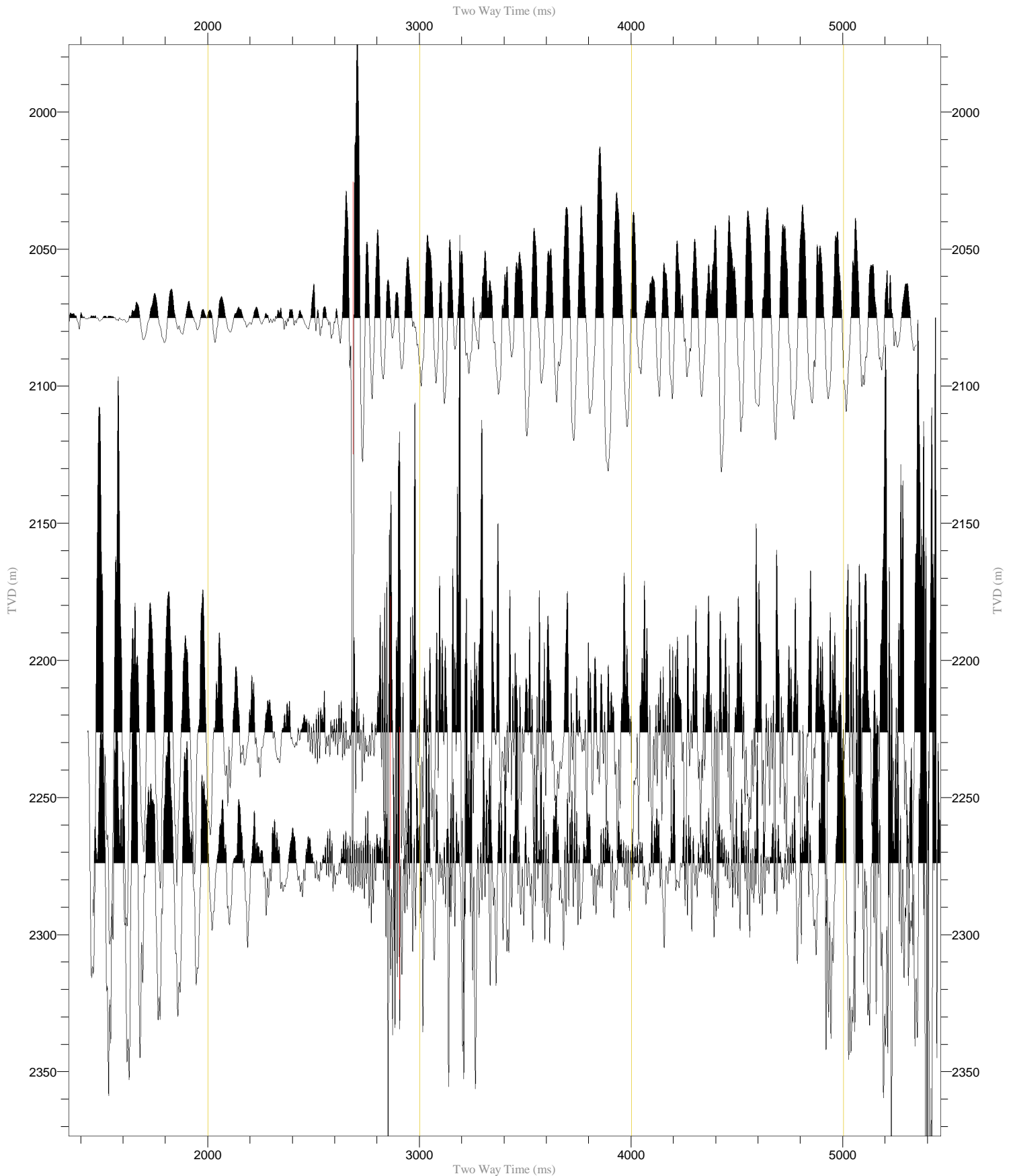
Normalization Trace by Trace (250%)  
Polarity Normal  
Zero Time (ms)  
Scaling 4.2 cm/sec, 1/1850

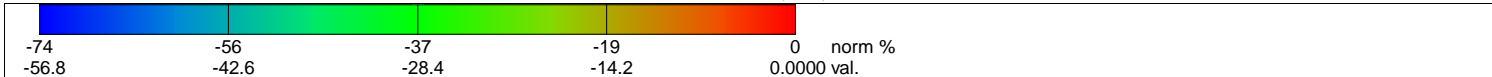




VSP Waveshape decon upgoing  
BPF 5.0 - 90.0Hz  
Median Filter 9 Traces  
Waveshape Decon.(wavelet: 8.0 - 85.0 Hz zero-phase)

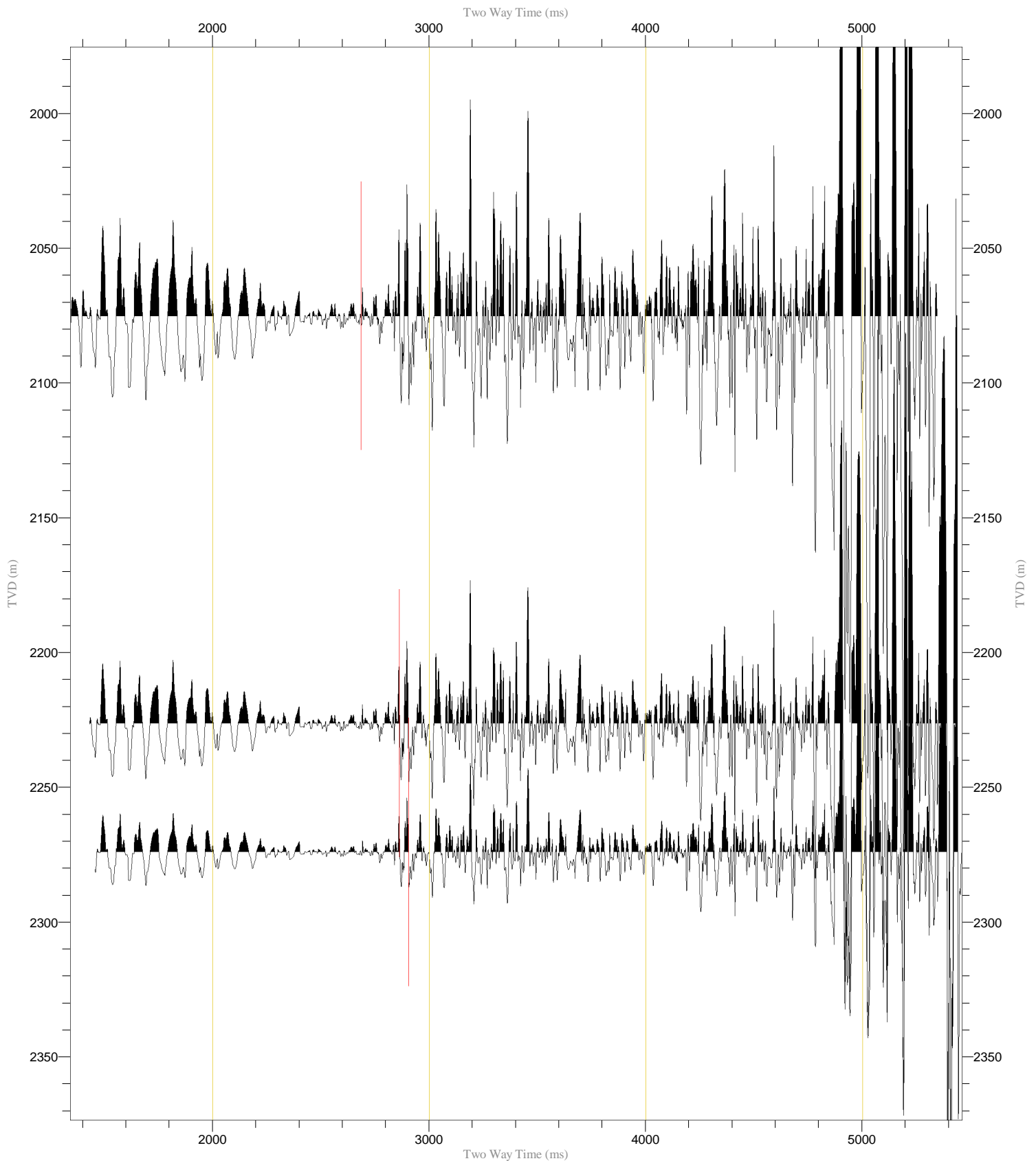
Normalization Trace by Trace (250%)  
Polarity Normal  
Two Way Time (ms)  
Scaling 4.2 cm/sec, 1/1850



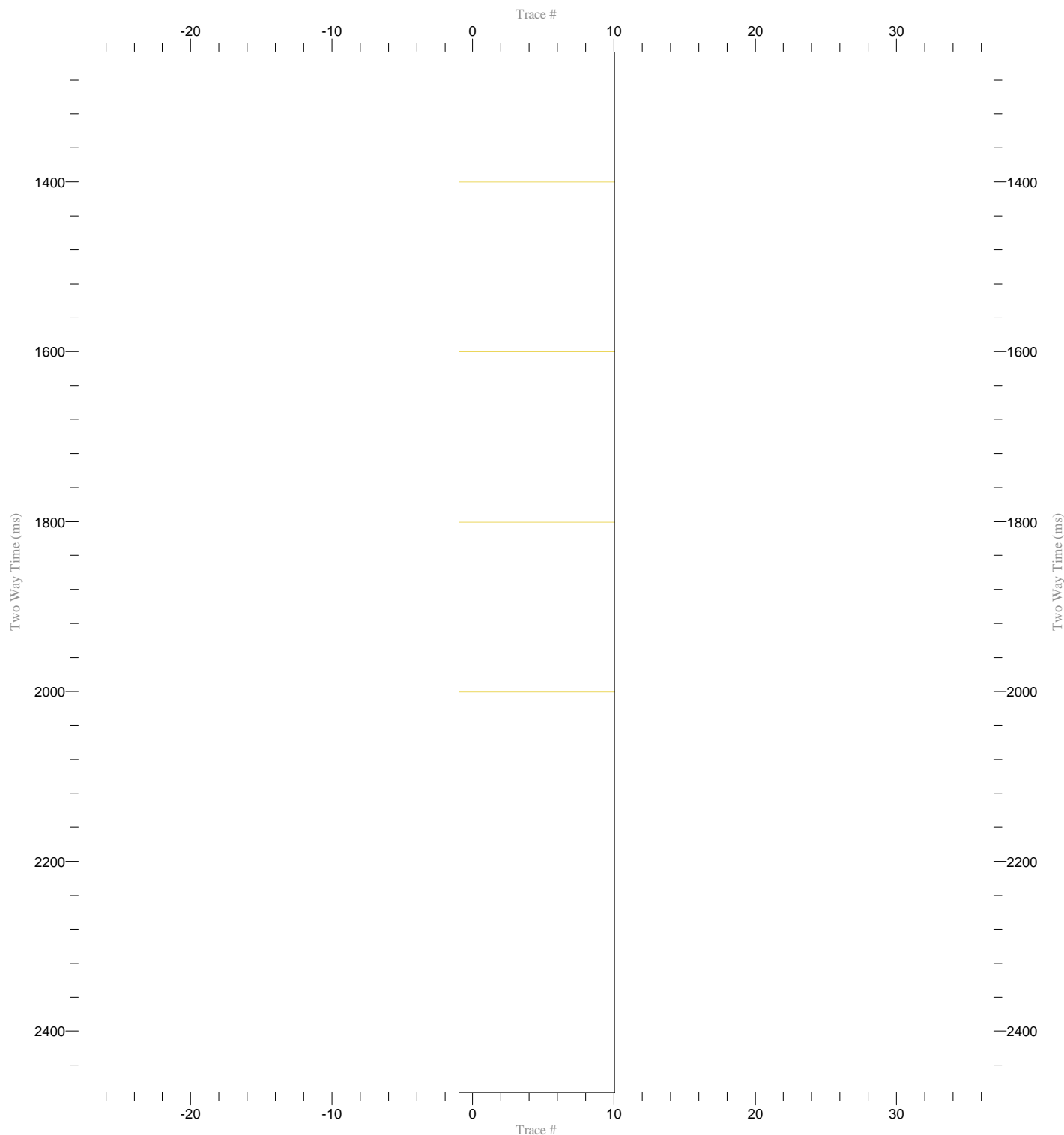


VSP Corridor Stack (Input)  
BPF 5.0 - 90.0Hz  
Median Filter 9 Traces  
Waveshape Decon.(wavelet: 8.0 - 85.0 Hz zero-phase)  
BPF 8.0 - 85.0Hz  
Travel time exponent = 1.50  
Median Filter 7 Traces

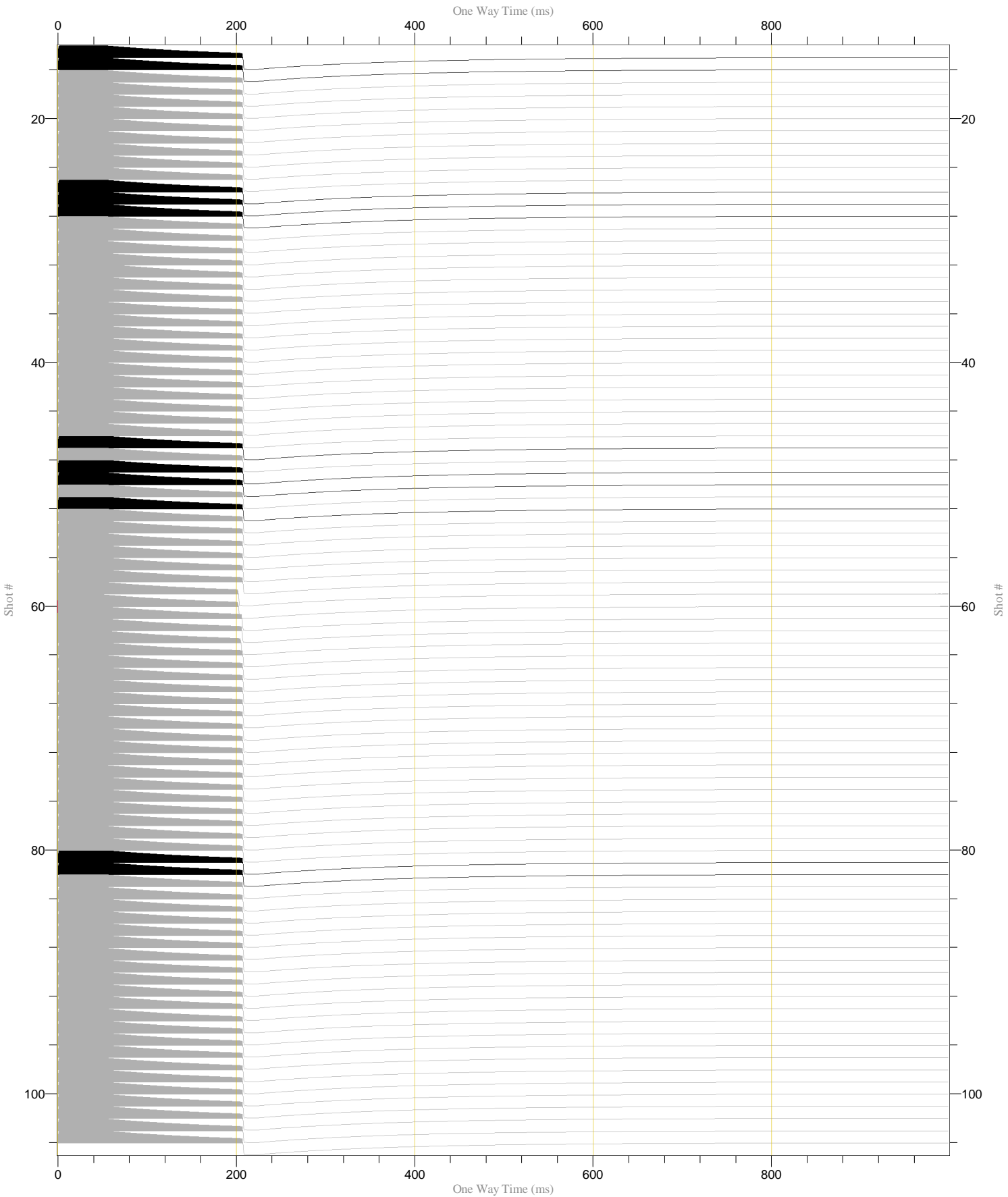
Normalization Trace by Trace (250%)  
Polarity Normal  
Two Way Time (ms)  
Scaling 4.2 cm/sec, 1/1930

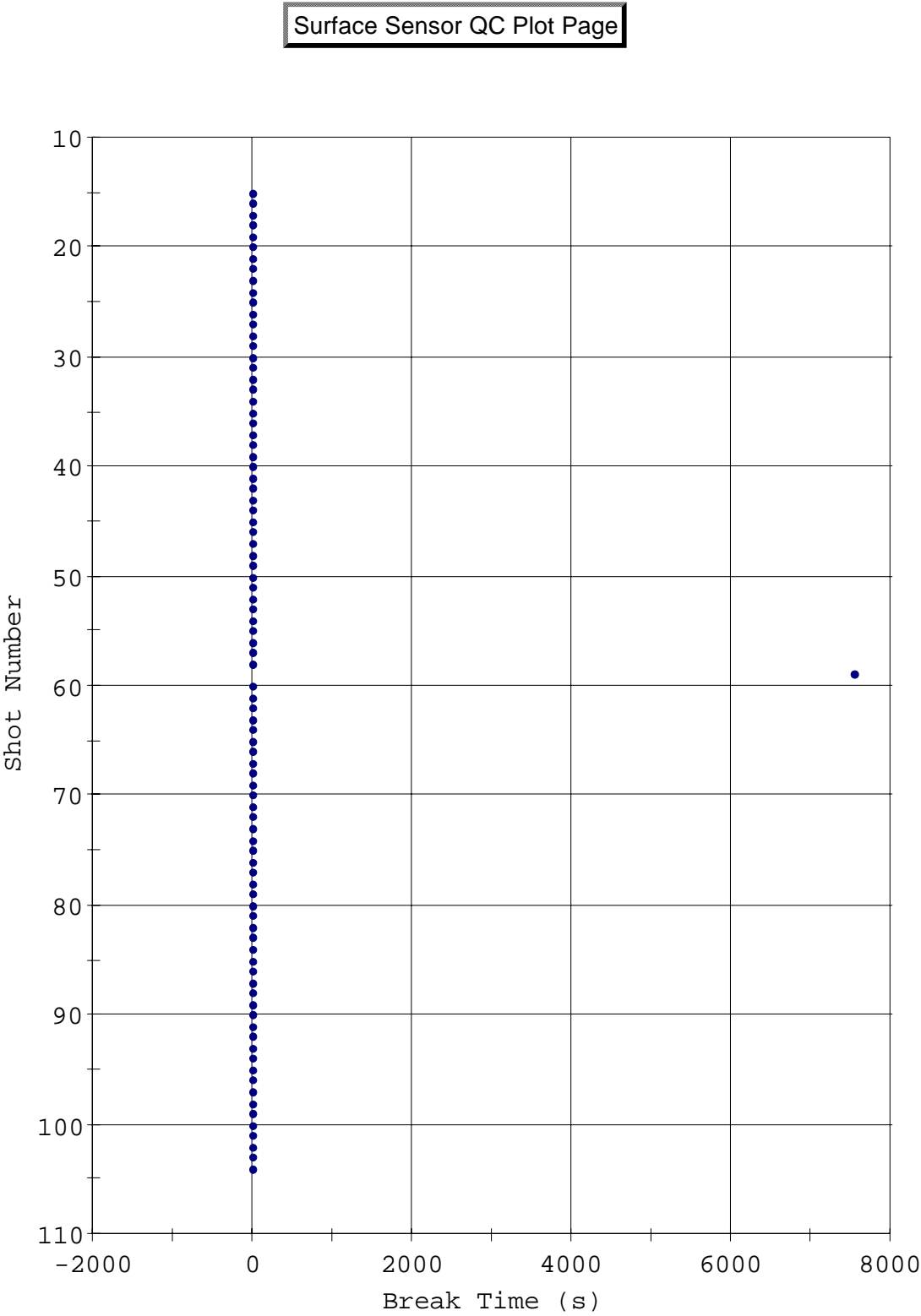


VSP Corridor Stack (output) BPF 5.0 - 90.0Hz Median Filter 9 Traces Waveshape Decon.(wavelet: 8.0 - 85.0 Hz zero-phase) BPF 8.0 - 85.0Hz Travel time exponent = 1.50 Median Filter 7 Traces Corridor Stack (Mean): BPF 5.0 - 90.0Hz	Normalization Trace by Trace (250%) Polarity Normal Two Way Time (ms) Scaling 15.00 cm/sec, 4.01/cm	
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Source Sensor Signature	Normalization Trace by Trace (100%) Polarity Normal One Way Time (ms) Scaling 17.48 cm/sec, 4.19/cm	
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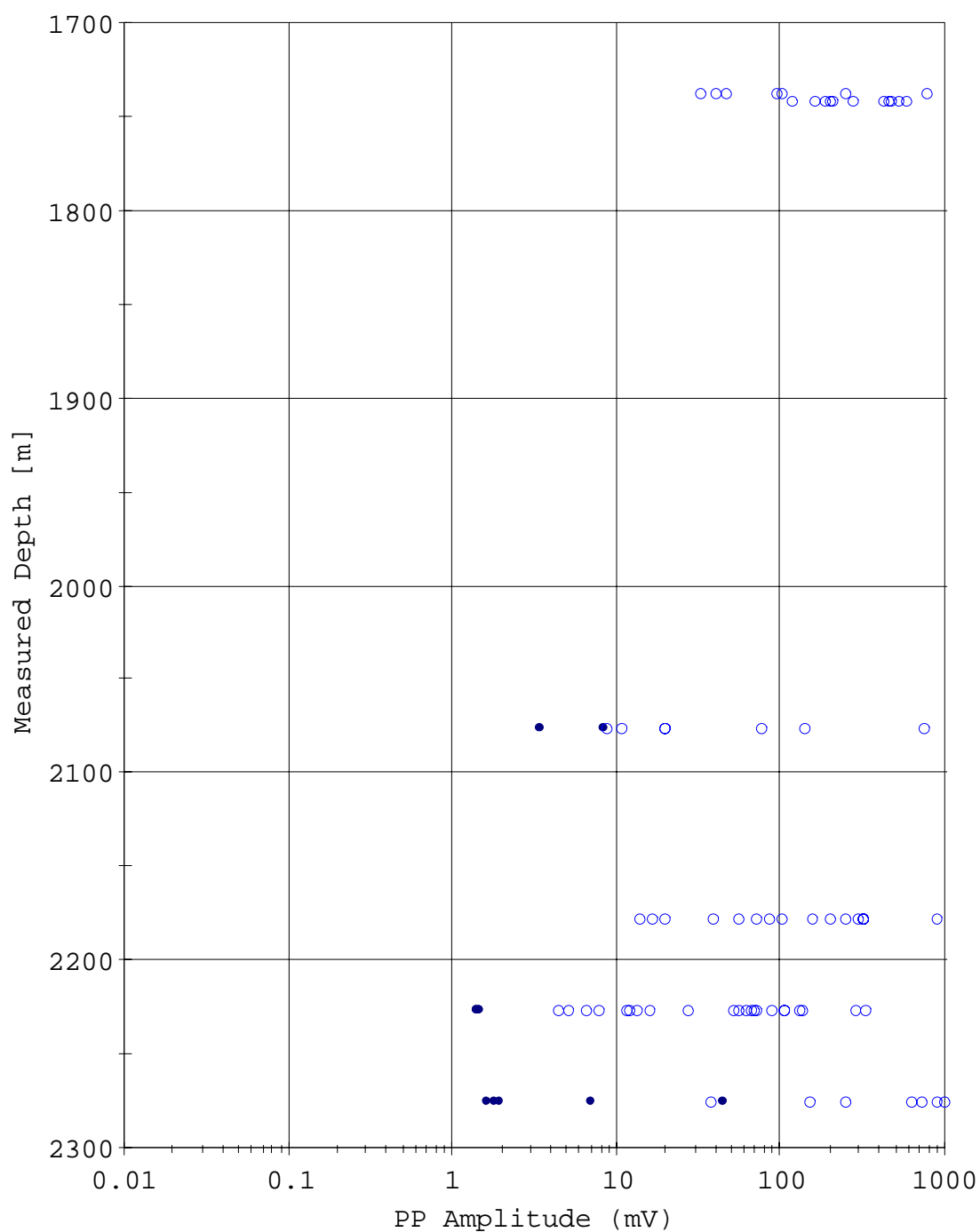




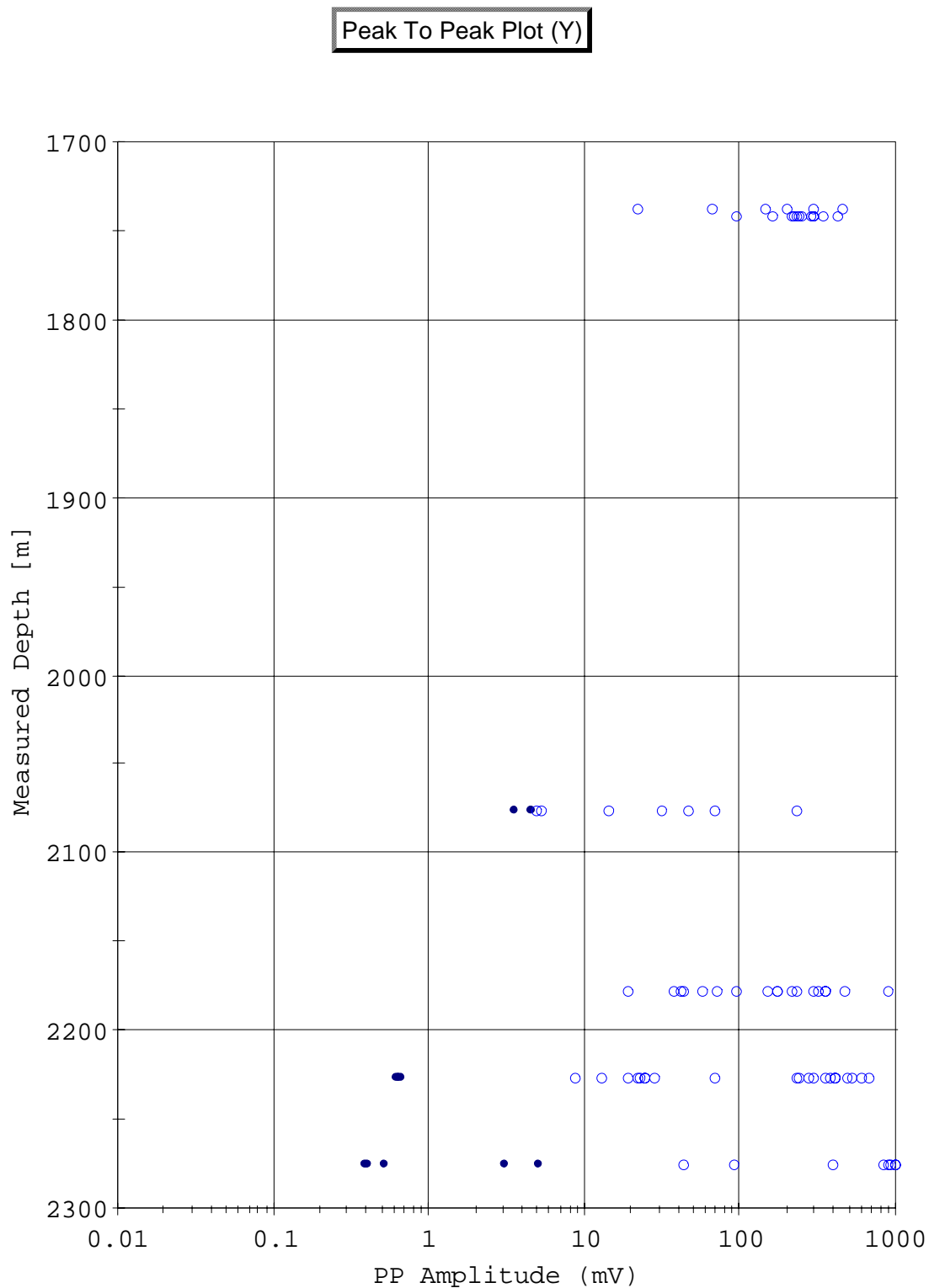
•

 Surface Sensor Break Time

Peak To Peak Plot (X)

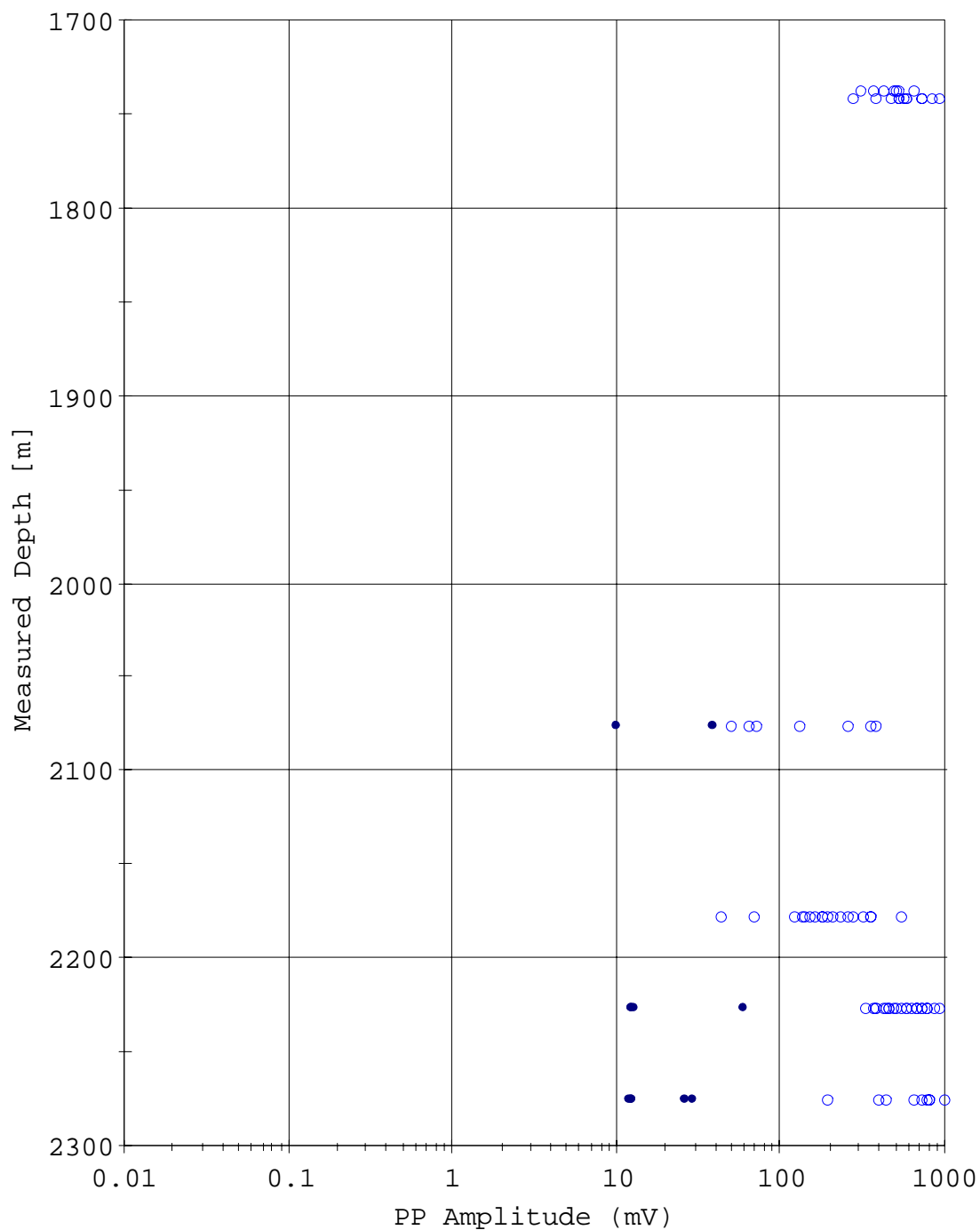


- PP Amplitude (mV) accepted for stack
- PP Amplitude (mV) rejected



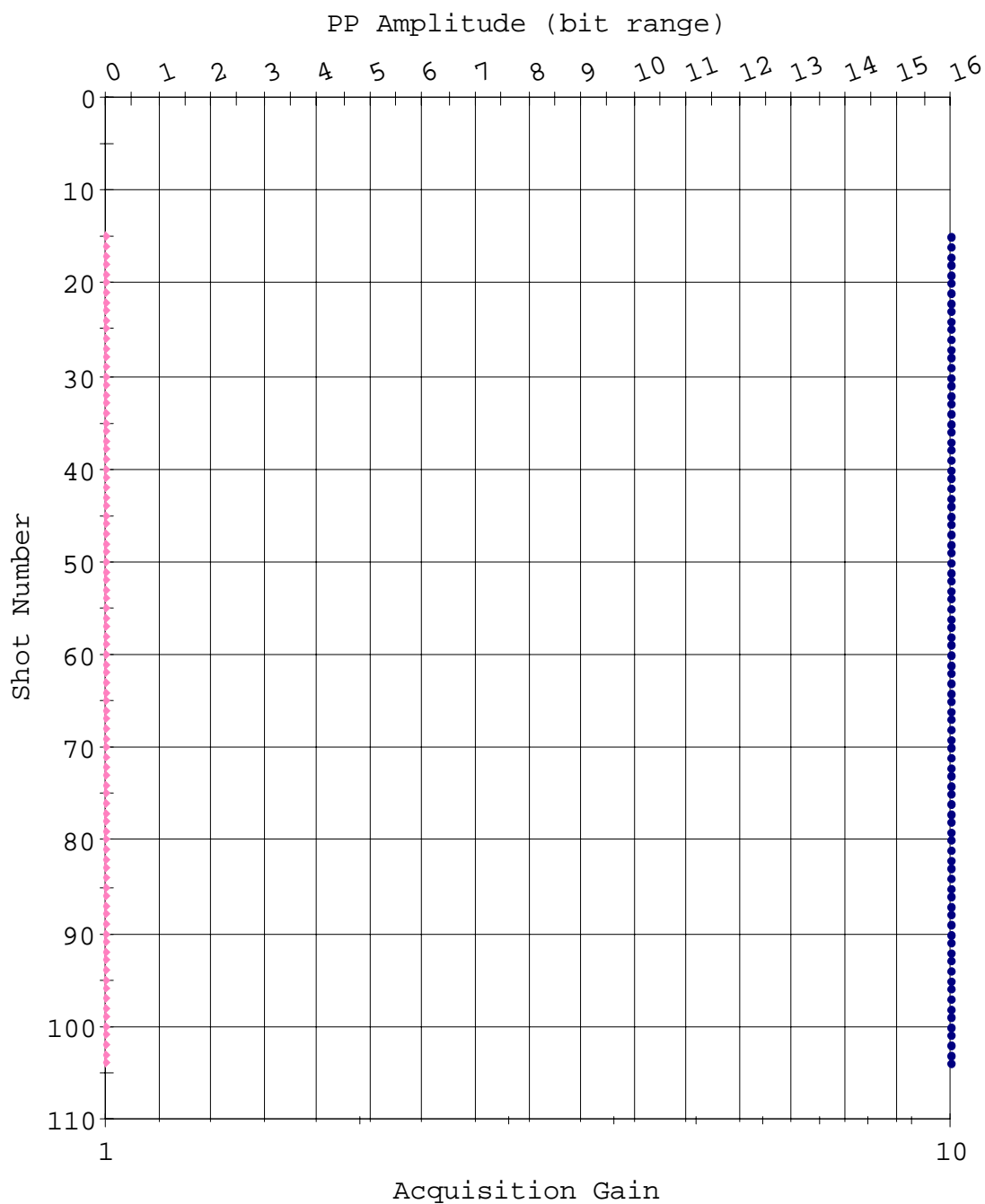


Peak To Peak Plot (Z)



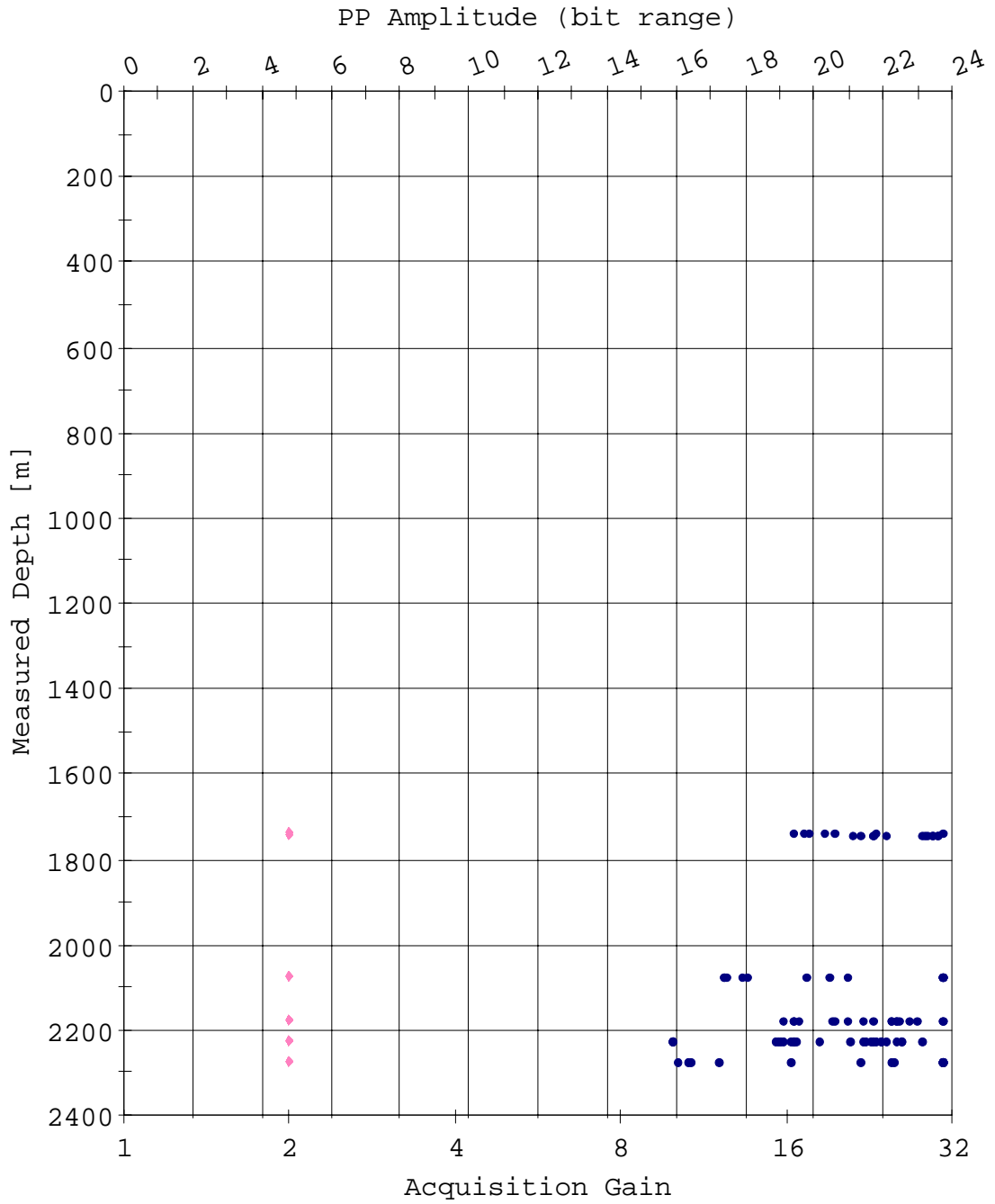
- PP Amplitude (mV) accepted for stack
- PP Amplitude (mV) rejected

## Amplitude QC Plot (Surface)



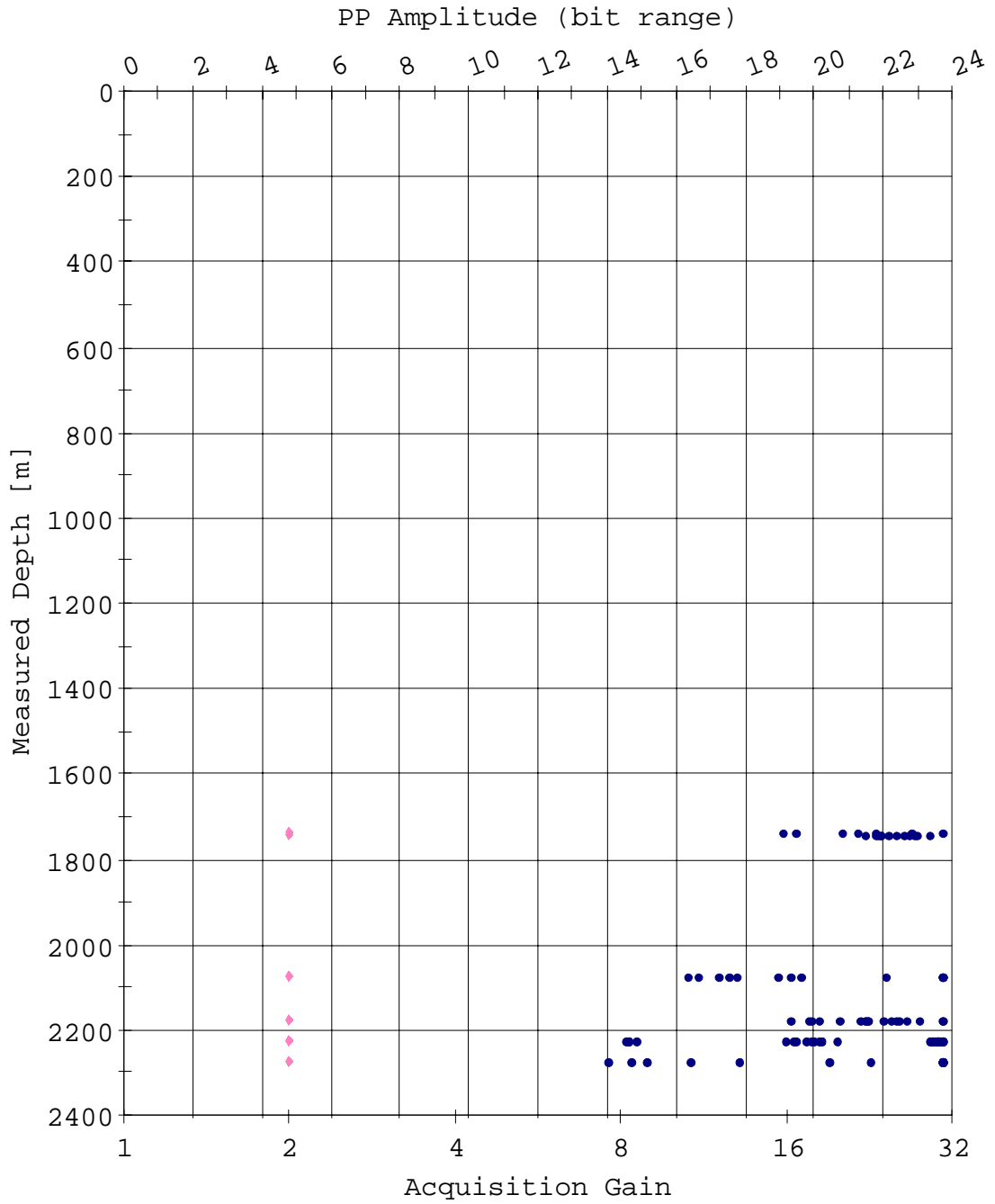
- PP Amplitude (bit range) accepted for stack
- PP Amplitude (bit range) rejected
- ◆ Acquisition Gain

## Amplitude QC Plot (X)



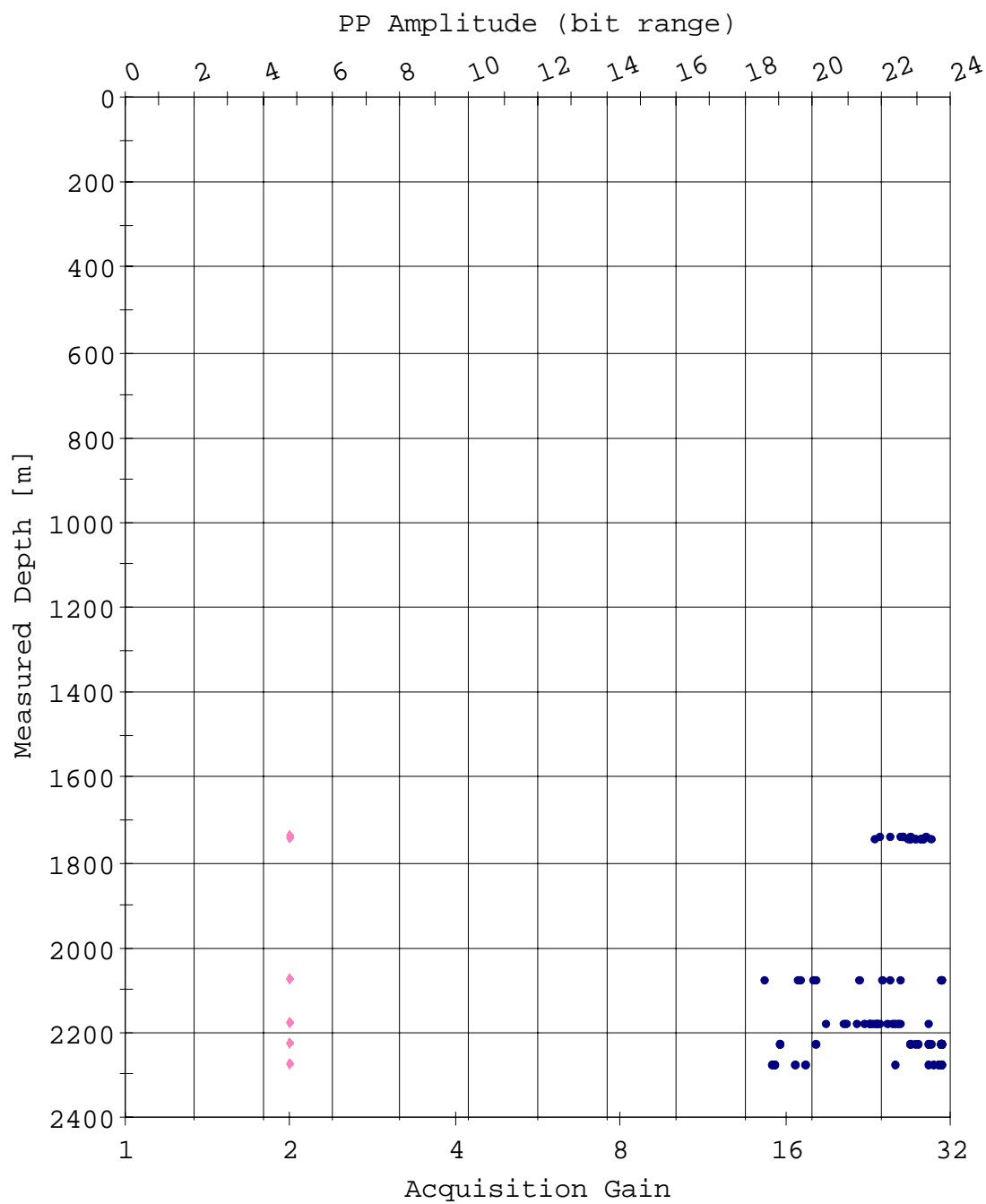
- PP Amplitude (bit range) accepted for stack
- PP Amplitude (bit range) rejected
- ◆ Acquisition Gain

## Amplitude QC Plot (Y)



- PP Amplitude (bit range) accepted for stack
- PP Amplitude (bit range) rejected
- ◆ Acquisition Gain

## Amplitude QC Plot (Z)



- PP Amplitude (bit range) accepted for stack
- PP Amplitude (bit range) rejected
- ◆ Acquisition Gain

**Navigation Message Listing (1/1)**

Stack number	Well depth [m]	TVD from SRD[m]	TT[ms]	TT(TVD Corrected) [ms]	TWT (TVD Corrected) [ms]	Interval Velocity [m/s]	Average Velocity [m/s]	RMS Velocity [m/s]	
	6	1736.10	1723.90	0.000	4.667	9.333	NaN	NaN	NaN
	5	1741.12	1728.92	0.000	4.667	9.333	NaN	NaN	NaN
	4	2075.08	2062.88	1338.705	1343.022	2686.044	1708.26	1536.00	1536.00
	3	2176.15	2163.95	0.000	4.667	9.333	NaN	NaN	NaN
	2	2226.10	2213.90	1427.081	1431.424	2862.848	2245.34	1546.64	1547.20
	1	2273.80	2261.60	1448.316	1452.669	2905.337	0.00	1556.86	1559.66

**Observer's Note (1/2)**

Well depth [m]	Time(UTC)	Shot Type	Shot#	Stack#	Source	Remarks
114.9	10:45:50	ETHD	1			
114.9	10:46:00	GA01	2			
114.9	10:46:10	GA02	3			
114.9	10:46:20	GA04	4			
114.9	10:46:31	GA08	5			
114.9	10:46:41	GA16	6			
114.9	10:46:56	XTLK	7			
114.9	10:47:10	XTLK	8			
114.9	10:47:25	XTLK	9			
114.9	10:47:35	EIMP	10			
114.9	10:47:47	ENHI	11			
114.9	10:47:59	ENLO	12			
114.9	10:48:09	DRNG	13			
114.9	12:03:07	SHAK	14			
2273.8	12:04:20	SHOT	15	1		Good
2273.8	12:05:31	SHOT	16	1		Good
2273.8	12:05:53	SHOT	17	1		
2273.8	12:06:16	SHOT	18	1		
2273.8	12:06:38	SHOT	19	1		
2273.8	12:07:00	SHOT	20	1		
2273.8	12:07:22	SHOT	21	1		
2273.8	12:07:44	SHOT	22	1		
2273.8	12:08:06	SHOT	23	1		
2273.8	12:08:28	SHOT	24	1		
2273.8	12:09:18	SHOT	25	1		
2273.8	12:09:40	SHOT	26	1		maybe
2273.8	12:10:11	SHOT	27	1		repick
2273.8	12:10:33	SHOT	28	1		good
2226.1	12:22:35	SHOT	29	2		
2226.1	12:22:57	SHOT	30	2		
2226.1	12:23:19	SHOT	31	2		
2226.1	12:23:41	SHOT	32	2		
2226.1	12:24:07	SHOT	33	2		
2226.1	12:24:37	SHOT	34	2		
2226.1	12:24:59	SHOT	35	2		
2226.1	12:25:21	SHOT	36	2		
2226.1	12:25:43	SHOT	37	2		
2226.1	12:26:05	SHOT	38	2		
2226.1	12:26:27	SHOT	39	2		
2226.1	12:26:49	SHOT	40	2		
2226.1	12:27:11	SHOT	41	2		
2226.1	12:27:33	SHOT	42	2		
2226.1	12:27:55	SHOT	43	2		
2226.1	12:28:18	SHOT	44	2		
2226.1	12:28:40	SHOT	45	2		
2226.1	12:29:02	SHOT	46	2		
2226.1	12:29:24	SHOT	47	2		good
2226.1	12:29:46	SHOT	48	2		
2226.1	12:30:09	SHOT	49	2		Good
2226.1	12:30:30	SHOT	50	2		Good
2226.1	12:31:39	SHOT	51	2		
2226.1	12:32:01	SHOT	52	2		Good
2226.1	12:32:23	SHOT	53	2		
2226.1	12:32:45	SHOT	54	2		
2176.2	12:40:02	SHOT	55	3		
2176.2	12:40:24	SHOT	56	3		
2176.2	12:40:46	SHOT	57	3		
2176.2	12:42:22	SHOT	58	3		
2176.2	12:43:15	SHOT	59	3		

**Observer's Note (2/2)**

Well depth [m]	Time(UTC)	Shot Type	Shot#	Stack#	Source	Remarks
2176.2	12:43:37	SHOT	60	3		
2176.2	12:44:48	SHOT	61	3		
2176.2	12:45:10	SHOT	62	3		
2176.2	12:45:32	SHOT	63	3		
2176.2	12:46:25	SHOT	64	3		
2176.2	12:46:47	SHOT	65	3		
2176.2	12:47:09	SHOT	66	3		
2176.2	12:47:31	SHOT	67	3		
2176.2	12:47:53	SHOT	68	3		
2176.2	12:48:15	SHOT	69	3		
2176.2	12:48:37	SHOT	70	3		
2176.2	12:48:59	SHOT	71	3		
2176.2	12:49:44	SHOT	72	3		No Good Shot for S3
2075.1	13:06:40	SHOT	73	4		
2075.1	13:07:05	SHOT	74	4		
2075.1	13:07:27	SHOT	75	4		
2075.1	13:07:49	SHOT	76	4		
2075.1	13:08:11	SHOT	77	4		
2075.1	13:08:33	SHOT	78	4		
2075.1	13:08:55	SHOT	79	4		
2075.1	13:09:17	SHOT	80	4		
2075.1	13:09:50	SHOT	81	4		xBest shot here
2075.1	13:10:13	SHOT	82	4		repick
2075.1	13:10:35	SHOT	83	4		
2075.1	13:11:00	SHOT	84	4		
2075.1	13:11:22	SHOT	85	4		
1741.1	14:04:05	SHOT	86	5		
1741.1	14:04:26	SHOT	87	5		
1741.1	14:04:48	SHOT	88	5		
1741.1	14:05:20	SHOT	89	5		
1741.1	14:05:42	SHOT	90	5		
1741.1	14:06:04	SHOT	91	5		
1741.1	14:06:26	SHOT	92	5		
1741.1	14:06:48	SHOT	93	5		
1741.1	14:07:10	SHOT	94	5		
1741.1	14:07:32	SHOT	95	5		
1741.1	14:07:54	SHOT	96	5		
1741.1	14:08:16	SHOT	97	5		
1736.1	14:11:46	SHOT	98	6		
1736.1	14:12:08	SHOT	99	6		
1736.1	14:12:30	SHOT	100	6		
1736.1	14:12:52	SHOT	101	6		
1736.1	14:13:14	SHOT	102	6		
1736.1	14:13:38	SHOT	103	6		
1736.1	14:14:17	SHOT	104	6		