HALLIBURTON

Checkshot, Log Calibration & Synthetic Seismogram

Report for

EBN

Well: Oranjeoord-01
Area: West-Brabant Noord
Date: May 24, 2024
Country: Onshore, The Netherlands

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EXECUTIVE SUMMARY

A checkshot survey was recorded for the Oranjeoord-01 well, located in West-Brabant Noord, The Netherlands on the 5th of May 2024. The survey was conducted using a 1 level ASR receiver and explosives as a seismic source.

Deviation corrections have been applied using the listing provided. Data quality was good and yielded an accurate Time/Depth relationship over the survey interval.

Synthetic seismograms were generated from the acoustic and density logs using a Ricker 60 Hz zero phase wavelet and wavelet extracted from the seismic line at the well location.

Seismic correlation was done with the synthetic seismogram trials. No time shift was required to maximize the correlation.

A power point file of the checkshot Processing QC, ASCII tables and SEGY files of the raw data, stack data and Synthetic seismograms have been included in the digital deliverables.

1. ACQUISITION & PROCESSING

1.1. Data Acquisition Specifications

On May 5, 2024, Halliburton conducted a checkshot survey for ***EBN*** in their well ***Oranjeoord-01*** located in West-Brabant Noord, The Netherlands.

The checkshot acquisition survey was run using 1 ASR tool. The tool specifications are:

Geophone Model	GEOCHAIN-ASR–3Component (1Vertical,2 Horizontals)
Geophone Sensor Pack	FIXED_DUAL
Geophone Diameter	9.2075 cm
Geophone Spacing	n/a
Geophone Arm	Standard
Tool System	Geochain - ASR

At the time of the run the well was drilled to 844 m. The well surface location was at RD New Coordinates 88,072.97 m East and 408,789.71 m North. Coordinate System: Amersfoort/RD New (EPSG:28992). All measured depths were referenced to Drilling Floor (DF) at an elevation of 6.53 m above Mean Sea Level (MSL). Seismic datum was at MSL (MSL equal to NAP). Survey geometry is shown in ***Chart 2***.

The source information is shown below:

Source Type	Explosives (Seismophex**)**
Charge size	220 gr
Source Control	BoomBox3
Time break signal (T0)	T0 was directly triggered by boombox to recording truck. No uphole geophone (reference channel) was used. A direct cable from the Boom Box 3 to Halliburton's recording unit.
Source Statics values from	Uphole time
Sample rate	0.25 ms
Recording Time	30 s

The shot coordinates information, uphole times, source static and other source parameters are reported in the following table.

Shot Name	Receiver Measure Depth	Northing RD NEW	Easting RD NEW	local N-S	Local E-W	Ground Elevation	Shot Depth	Charge size	Distance from shot to wellhead	Source Elevation	Time Break from starting shot recording	Travel time from source to receiver	Uphole time	Correction velocity	Travel time from GL to MSL	Time correction from source to seismic datum (Ts)
	(m)	(m)	(m)	(m)	(m)	m amsl	(m)	(gr)	(m)	m amsl	T0 (ms)	Tt (ms)	(ms)	(m/s)	(ms)	(ms)
ORO-01-01	227	87992.04	408704.26	-80.92	-85.45	0.11	17.00	220	117.7	-16.89	3673.8	128.5	15.5	1097	-0.1	15.4
ORO-01-02	175	87995.43	408700.28	-77.54	-89.44	0.29	16.00	220	118.4	-15.71	3073.1	104	18.0	889	-0.3	17.7
ORO-01-03	118	87998.69	408696.31	-74.28	-93.41	0.26	18.00	220	119.3	-17.74	4417.4	83.6	14.0	1286	-0.2	13.8
ORO-01-04	469	87995.20	408692.64	-77.76	-97.07	0.00	16.00	220	124.4	-16.00	4028.9	249.5	16.5	970	0.0	16.5
ORO-01-05	428	87991.71	408697.47	-81.26	-92.24	-0.02	18.00	220	122.9	-18.02	4063.5	230.6	15.0	1200	0.0	15.0
ORO-01-06	348	87988.20	408701.51	-84.77	-88.20	0.43	16.00	220	122.3	-15.57	5211.8	187.7	17.5	914	-0.5	17.0
ORO-01-07	550	87991.89	408689.29	-81.08	-100.43	0.36	18.00	220	129.1	-17.64	4624.8	288.3	16.5	1091	-0.3	16.2
ORO-01-08	582	87988.63	408693.49	-84.34	-96.22	0.41	18.00	220	128.0	-17.59	3510.1	305.4	16.5	1091	-0.4	16.1
ORO-01-09	635	87984.95	408697.71	-88.02	-92.00	0.43	18.00	220	127.3	-17.57	4091.7	331.1	18.0	1000	-0.4	17.6
ORO-01-10	668	87982.34	408701.26	-90.63	-88.45	0.41	18.00	220	126.6	-17.59	2156.7	345.6	17.0	1059	-0.4	16.6
ORO-01-11	270	87986.04	408704.37	-86.93	-85.34	0.43	18.00	220	121.8	-17.57	4383.0	148.7	17.5	1029	-0.4	17.1
ORO-01-12	756	87977.65	408697.24	-95.31	-92.47	0.41	18.00	220	132.8	-17.59	1505.6	384.7	17.5	1029	-0.4	17.1
ORO-01-13	809	87981.17	408693.88	-91.79	-95.83	0.41	18.00	220	132.7	-17.59	7631.4	409.5	17.5	1029	-0.4	17.1
ORO-01-14*	809	87984.86	408690.01	-88.10	-99.71	0.39	18.00	220	133.1	-17.61	3420.6	n/a	17.0	n/a	n/a	n/a
ORO-01-15	841	87988.30	408685.82	-84.66	-103.89	0.39	18.00	220	134.0	-17.61	6867.2	424.3	16.5	1091	-0.4	16.1

*shot not used for checkshot processing.

At each station, the wireline cable was stopped, the geophones firmly clamped to the borehole wall using the remote-control locking arm of the tool, and the shooting sequence was initiated by the crew. One shot per level was acquired. The ORO-01-13 until ORO-01-01 shots were acquired with 2m cable slack.

The survey acquisition time range for upgoing levels.

Run	Survey Type	Date & Time	Date & Time
		First Level Up	Last Level Up
1	Checkshot	05/05/23 17:54 Hr.	05/05/23 19:21 hr.

1.2. Data Processing Specifications

For the survey, the downhole data acquired in the field was reformatted into the Halliburton processing system. The reference channel was not used. The first break T0 was triggered directly and transferred by cable straight to the recording truck. The T0 was subtracted from the downhole geophone data. This shifts the data to correctly measure the source to geophone time. ***Figure 1*** shows the time break traces before and after shifting to zero.

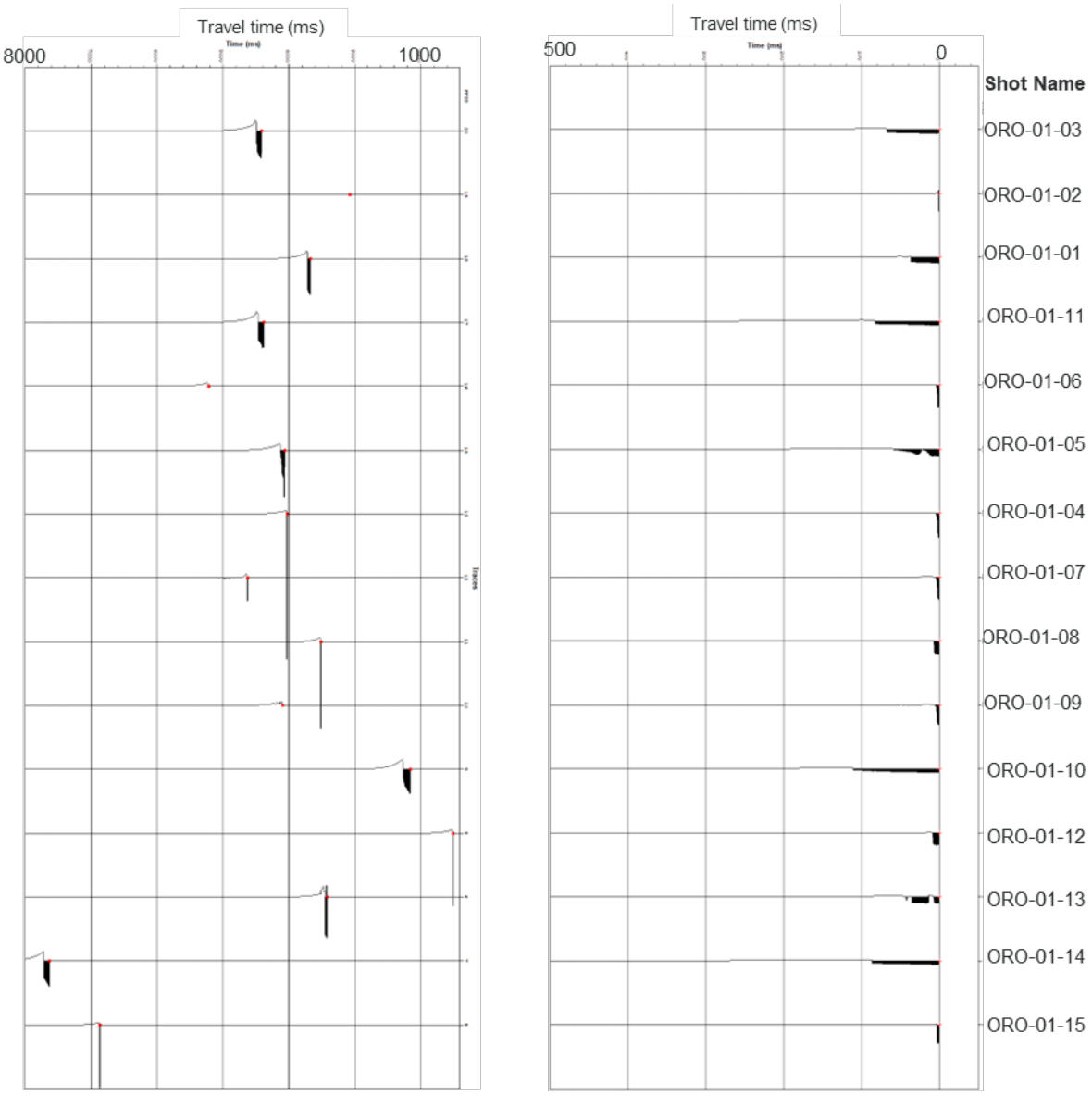


Figure 1 –Left Panel: Time break traces. Right Panel: Time break traces after shifting.

Survey geometry was loaded and checked. Data quality was good, only ORO-1-14 shot was not included in the processing due to low signal to noise ratio.

The P-wave first arrival times (FBP) were picked on the first break of the Vertical component as can be seen in one-way recorded time from the source to the geophone on ***Plot-1***, included in this report. The transit times were corrected to vertical time below datum by a two-step process.

1) The standard straight ray method of correcting observed travel times to vertical assumes a constant velocity between the source and receiver and hence accommodates no refraction or

ray bending. These time-depth pairs were then used as the input data for the final velocity survey computations, which gave the average, RMS, and interval velocities listed in **Table 3** of this report and in digital format. Velocity & time/depth information are also displayed graphically in **Chart 3.3**.

2) The transit time from the previous step is then corrected to vertical time reference to seismic datum by applying a source static correction (Ts). The correction was calculated adding the uphole time to the Ground Elevation to seismic datum (msl) travel times. The individual average velocity from each shot was used to determine the travel time. Corrected vertical times below datum are shown in **Table 3.**

The well is considered to be **deviated** in all data computations.

Table 1 lists the directional survey and **Table 2** lists the source receiver geometry.

Table 5 is the P-wave Depth/ Time interpolation table, interpolated in 10 m intervals.

Table 6 is the P-wave Time/ Depth interpolation table, interpolated in 2 ms intervals.

Tables 5 & 6 are part of the digital deliverables. **Tables 1-4** are part of the **Tables Appendix** in the next section of this report.

Objectives of the survey were to:

- Provide accurate time/depth and velocity information.
- Calibrate acoustic log data using the checkshot time/depth pairs.
- Generate synthetic seismograms.

1.3. Sonic Log Calibration

The input log data consisted of the Sonic, Density, Caliper and Gamma Ray logs recorded and edited from a depth range of 119 m – 829 measured depth below DF.

Prior to performing the sonic log calibration, the CHECKSHOT data was edited to remove levels affected by noise or casing arrivals. The data was then interactively examined, during the calibration routine, to check the first-arrival times and ensure that no spurious levels were used.

The sonic log calibration was performed to firstly remove any errors in the log caused by the borehole conditions and secondly to give vertical times for comparison to the surface seismic data. For the log calibration, the sonic log was integrated first to produce a (depth-indexed) time log.

The discrepancy between the TVD-corrected shot time of the shallowest checkshot level and the corresponding log-derived time was computed; the time-log was then shifted by adding this value to all values of the time-log. Thus, the time-log was tied to the closest checkshot level. As part of this step, a correction velocity was calculated from the seismic datum elevation to the top of the sonic calibration interval using the checkshots. This correction velocity is shown in **Table 4**.

Next, the drift curve was generated, showing the difference between the TVD-corrected checkshot level times and the corresponding times from the shifted time-log. The correction method used was a polynomial fit that provides a good match, in a least squares sense, to the drift curve using a user specified exponent. The correction applied to each sonic log value was the derivative (slope) of the linear curve at that depth. The exponent used was degree 6. No calibration was applied above the shallowest checkshot.

The drift curve was the difference in two-way time between the checkshot time and the sonic time at each checkshot depth. The difference between any two points on the drift curve was the amount of correction applied to the sonic curve over that interval.

Intervals on either side of a checkshot level will generally have different corrections, represented by different slopes of the drift curve. Since different corrections above and below a checkshot level can result in discontinuities in the corrected sonic log, an average drift curve was applied, based on the polynomial fitting correction method.

Using polynomial as a method of correcting a sonic log is designed to control and not introduce impedance contrasts at check shot depths. However, smoothing also implies that the correction for drift is applied over a larger depth interval than the drift originated from. The result is that the time-depth curve obtained from the checkshot corrected sonic may not exactly match the time at check shot depths, although it will usually be close.

Table 4 in the next section shows details of the calibration process.

1.4. Synthetic Seismogram Generation

The logs used in the generation of the synthetic seismograms were the corrected sonic and density. The density log was edited to remove any spikes or spurious values.

The input sonic and density logs were used to generate an acoustic impedance curve. The reflectivity series were derived for primaries without transmission loss from the acoustic impedance curve. Acoustic impedance is calculated from the input sonic but uses calibrated sonic data to calculate the TWT below datum (time/depth curve). Curves used to generate the Synthetic seismogram are included as LAS file. Synthetic seismogram matches EBN polarity convention as shown Figure 2.

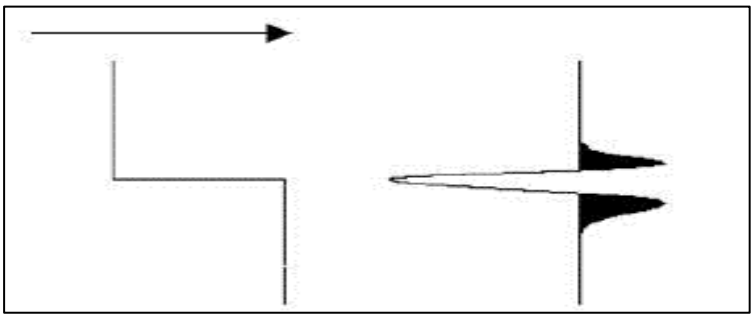
The reflectivity series were then convolved with the following filters.

- Ricker 60 Hz zero phase wavelet
- Wavelet extracted from the surface seismic well location.

The additional wavelet was extracted from the L2EBN2023ASCAN061 at the wellhead location (CDP 981). A time window ranges 130 to 871 ms was used to design a least squares wiener filter. This extracted wavelet was used to generate a synthetic seismogram.

Polarity Convention

For Synthetic seismogram zero phase, a normal polarity shows an increase in Acoustic Impedance (a positive reflection coefficient) as a white trough.



Acoustic Impedance Zero Phase Wavelet

Figure 2: Acoustic Impedance Convention

1.5. Operation Summary

Company Name:	EBN	
Well Name:	Oranjeoord-01	
Area:	West-Brabant Noord	
Country:	The Netherlands	
Survey Type:	Checkshot survey	
Well:		
checkshot Upper Geophone Level (MD):	118	m.
checkshot Lower Geophone Level (MD):	841	m.
TD (MD):	844	m.
Elevations (Above MSL)		
Well Elevation (DF):	6.53	m.
Seismic Reference Datum (SD):	0.0	m.
Correction Velocity:	1055	m/s
Source:		
Type	Explosives	
Source depth below GL:	varying between 16m and 18m	
Source Depth Below MSL:	Various	m.
Source distance from well head	Various	m.
Source Azimuth	Various	deg
Receiver/Recording:		
Downhole Tool:	ASR	
Overall Quality of Breaks:	Excellent	
Surface recording panel (Seismograph):	GSP-1	
Personnel:		
Engineer:	Mateusz Mroczko / Abderrahmane Belkadi/	
Client Representative:	Michael Fluch & & Johannes van den Akker	
Survey date:	4th of May 2024	

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2. APPENDIX TABLES

2.1. Table 1 – Deviation Survey

Table 1 - Directional Survey

Company:	EBN
Well:	Oranjeoord-01
Survey contractor:	Halliburton
Survey date:	Jul 20, 2024
Well reference elevation (Kelly Bushing):	6.53 m (MSL)
Distance reference:	WellHead

Measured Depth (m)	Vertical Depth (m)	Northing (m)	Easting (m)	Inclination (deg)	Azimuth (deg)
0.0	0.0	0.00	0.00	0.00	0.00
65.0	65.0	0.00	0.00	0.00	0.00
82.0	82.0	0.12	0.08	0.95	35.05
97.5	97.5	0.30	0.22	0.75	36.47
115.9	115.9	0.51	0.37	0.89	35.84
143.8	143.8	0.82	0.60	0.69	38.27
161.8	161.8	0.99	0.74	0.66	41.59
180.3	180.3	1.12	0.87	0.53	46.01
198.4	198.4	1.25	0.98	0.50	37.16
216.8	216.8	1.36	1.07	0.45	39.55
236.2	236.2	1.47	1.16	0.38	41.38
255.4	255.4	1.55	1.23	0.25	33.44
275.0	275.0	1.62	1.27	0.22	29.16
294.0	294.0	1.67	1.31	0.19	50.78
313.8	313.8	1.72	1.36	0.19	36.13
331.2	331.2	1.77	1.39	0.19	40.72
338.0	338.0	1.78	1.40	0.14	17.30
357.5	357.5	1.84	1.42	0.20	18.01
376.7	376.7	1.89	1.45	0.17	51.06
396.2	396.2	1.93	1.50	0.20	40.98
415.2	415.2	1.99	1.53	0.19	24.09
433.9	433.9	2.04	1.56	0.17	25.78
453.5	453.5	2.10	1.58	0.20	16.20
472.8	472.8	2.15	1.60	0.14	34.67
492.3	492.3	2.20	1.63	0.22	26.84
511.6	511.6	2.25	1.66	0.12	39.12
530.9	530.9	2.28	1.69	0.14	43.74
550.3	550.3	2.31	1.71	0.06	40.63
566.3	566.3	2.33	1.73	0.09	34.86
587.9	587.9	2.36	1.75	0.12	38.76
608.6	608.6	2.40	1.78	0.18	38.22
628.2	628.2	2.43	1.81	0.06	58.29
633.1	633.1	2.43	1.82	0.09	39.90
652.8	652.8	2.44	1.85	0.12	97.21
672.7	672.7	2.42	1.89	0.19	127.92
692.1	692.1	2.37	1.93	0.19	155.42
711.5	711.5	2.33	1.96	0.12	123.36
730.8	730.8	2.31	1.99	0.09	113.93
750.3	750.3	2.30	2.03	0.12	118.52
760.1	760.1	2.28	2.05	0.19	129.27
769.6	769.6	2.26	2.07	0.19	124.08
788.9	788.9	2.22	2.13	0.25	127.46
808.4	808.4	2.18	2.20	0.20	117.98
832.8	832.8	2.14	2.28	0.25	114.40
844.0	844.0	2.12	2.33	0.25	114.40

2.2. Table 2 – Source Receiver Geometry

Table 2 - Source-Receiver Geometry

Company:	EBN
Well:	Oranjeoord-01
Well reference elevation (Kelly Bushing):	6.53 m (MSL)
Distance reference:	WellHead
Offset:	Horizontal source-geophone distance

<----------GEOPHONE---------->				<----------SOURCE---------->				OFFSET
Measured Depth From KB (m)	Vertical Depth From KB (m)	RX (East+) (m)	RY (North+) (m)	Reference Elevation From MSL Reference (m)	Depth From (m)	SX (East+) (m)	SY (North+) (m)	S-R (m)
118.0	118.0	0.4	0.5	0.3	18.0	-74.3	-93.4	120.0
175.0	175.0	0.8	1.1	0.3	16.0	-77.5	-89.4	119.7
227.0	227.0	1.1	1.4	0.1	17.0	-80.9	-85.4	119.5
270.0	270.0	1.3	1.6	0.4	18.0	-86.9	-85.3	123.8
348.0	348.0	1.4	1.8	0.4	16.0	-84.8	-88.2	124.6
428.0	428.0	1.5	2.0	-0.0	18.0	-81.3	-92.2	125.5
469.0	469.0	1.6	2.1	0.0	16.0	-77.8	-97.1	127.0
550.0	550.0	1.7	2.3	0.4	18.0	-81.1	-100.4	131.9
582.0	582.0	1.7	2.4	0.4	18.0	-84.3	-96.2	130.9
635.0	635.0	1.8	2.4	0.4	18.0	-88.0	-92.0	130.3
668.0	668.0	1.9	2.4	0.4	18.0	-90.6	-88.4	129.7
756.0	756.0	2.0	2.3	0.4	18.0	-95.3	-92.5	135.9
809.0	809.0	2.2	2.2	0.4	18.0	-91.8	-95.8	135.8
841.0	841.0	2.3	2.1	0.4	18.0	-84.7	-103.9	137.1

2.3. Table 3 - P-wave Time and Velocity Computation

Table 3 - P-wave Time and Velocity Computation

Company: EBN
Well: Oranjeoord-01

Seismic reference datum: 0.00 m (MSL)
Source elevation: various
Source offset from wellhead: various
Source azimuth: various
Well reference elevation (KB): 6.53 m (MSL)
Correction velocity: not used
Method of calculation: Straight Ray
Date: 20 Jul 2024

Nomenclature
MD: Measured depth of receiver below well reference
TVD: True vertical depth of receiver below well reference
TVDSD: True vertical depth of receiver below seismic datum
Offset: Horizontal distance between source and receiver
Tt: Time from source to receiver
Tv: Vertical time from source to receiver
Ts: Static time correction from source to seismic datum
Tc: Corrected vertical time from seismic datum to receiver
TWT: Two-way vertical time below seismic datum
Vave: Average velocity
DZ: Vertical depth interval
DT: Vertical time interval
Vint: Interval velocity
Vrms: RMS velocity

MD (m)	TVD (m)	TVDSD (m)	Offset (m)	Tt (ms)	Tv (ms)	Ts (ms)	Tc (ms)	TWT (ms)	Vave (m/s)	DZ (m)	DT (ms)	Vint (m/s)	Vrms (m/s)
		0.0					0.0	0.0					
118.0	118.0	111.5	120.0	83.6	51.4	13.8	65.2	130.4	1710.1	111.5	65.2	1710.1	1710.1
175.0	175.0	168.5	119.7	104.0	81.9	17.7	99.6	199.2	1691.8	57.0	34.4	1657.0	1692.0
227.0	227.0	220.5	119.5	128.5	110.8	15.4	126.2	252.4	1747.2	52.0	26.6	1954.9	1750.7
270.0	270.0	263.5	123.8	148.7	132.8	17.1	149.9	299.8	1757.8	43.0	23.7	1814.3	1760.9
348.0	348.0	341.5	124.6	187.7	175.3	17.0	192.3	384.6	1775.9	78.0	42.4	1839.6	1778.5

MD (m)	TVD (m)	TVDSD (m)	Offset (m)	Tt (ms)	Tv (ms)	Ts (ms)	Tc (ms)	TWT (ms)	Vave (m/s)	DZ (m)	DT (ms)	Vint (m/s)	Vrms (m/s)
428.0	428.0	421.5	125.5	230.6	220.2	15.0	235.2	470.4	1792.1	80.0	42.9	1864.8	1794.6
469.0	469.0	462.5	127.0	249.5	239.9	16.5	256.4	512.8	1803.8	41.0	21.2	1934.0	1806.5
550.0	550.0	543.5	131.9	288.3	279.6	16.2	295.8	591.6	1837.4	81.0	39.4	2055.8	1841.7
582.0	582.0	575.5	130.9	305.4	297.3	16.1	313.4	626.8	1836.3	32.0	17.6	1818.2	1840.4
635.0	635.0	628.5	130.3	331.1	323.8	17.6	341.4	682.8	1840.9	53.0	28.0	1892.9	1844.7
668.0	668.0	661.5	129.7	345.6	338.8	16.6	355.4	710.8	1861.3	33.0	14.0	2357.1	1867.6
756.0	756.0	749.5	135.9	384.7	378.2	17.1	395.3	790.6	1896.0	88.0	39.9	2205.5	1904.4
809.0	809.0	802.5	135.8	409.5	403.5	17.1	420.6	841.2	1908.0	53.0	25.3	2094.9	1916.4
841.0	841.0	834.5	137.1	424.3	418.5	16.1	434.6	869.2	1920.2	32.0	14.0	2285.7	1929.4

2.4. Table 4 - Sonic Calibration Results

Table 4 - Sonic Calibration Results

Company:	EBN
Well:	Oranjeoord-01
Start measured depth:	119.90 m
Stop measured depth:	829.00 m
Well reference elevation:	6.53 m
Seismic datum elevation:	0.00 m
Seismic datum to Top sonic velocity:	1705.99 m/s
Correction method:	Polynomial (6) Fit
Date:	20 Jul 2024

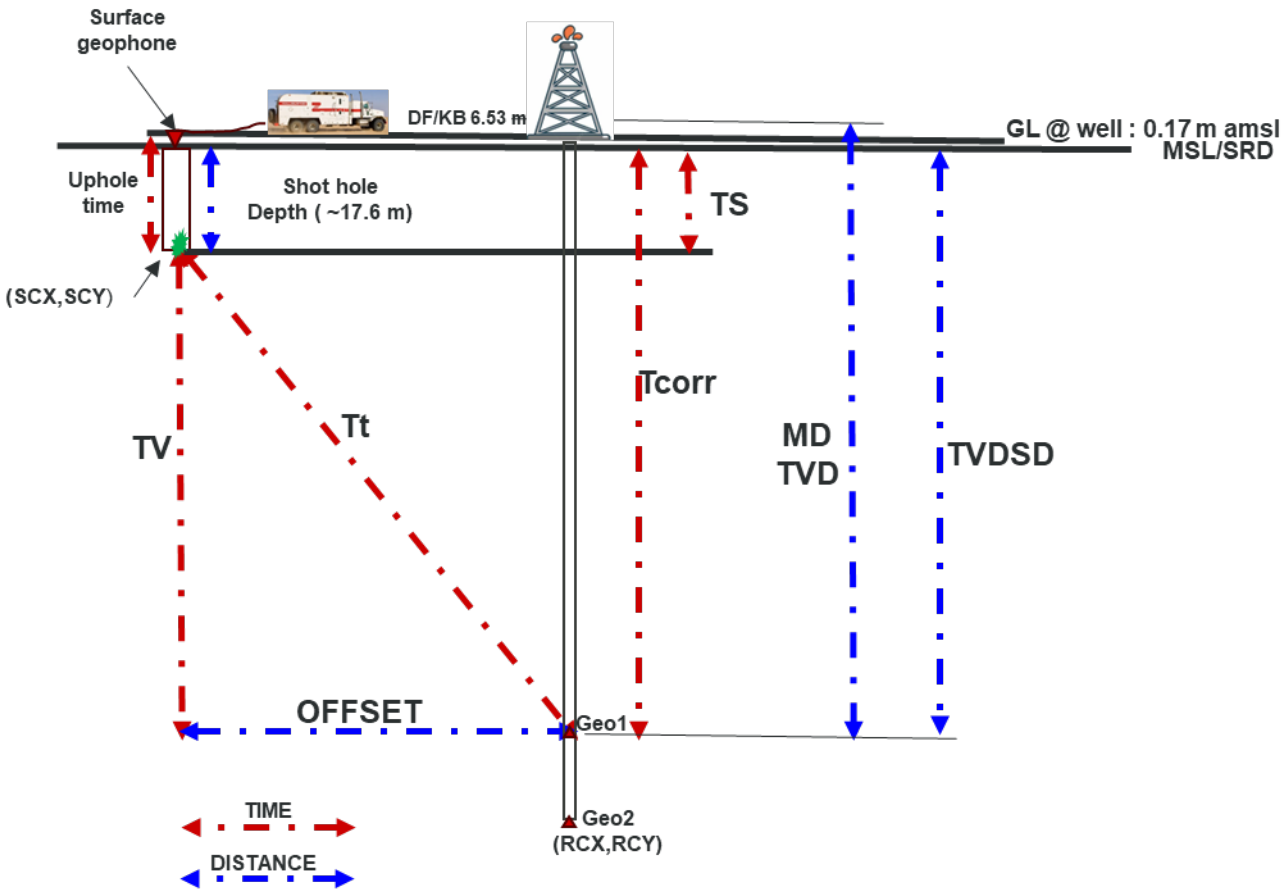
Nomenclature

MD:	Measured depth below well reference
TVD:	True vertical depth below well reference
TVDSD:	True vertical depth below seismic datum
Sonic TWT:	Integrated two-way-time from sonic log
VSP TWT:	Checkshot two-way-time
Corr Drift TWT:	Corrected drift two-way-time
Res Drift TWT:	Residual drift two-way-time

MD (m)	TVD (m)	TVDSD (m)	Sonic TWT (ms)	VSP TWT (ms)	Corr Drift TWT (ms)	Res Drift TWT (ms)
118.147	118.147	111.617	130.490	130.450	0.285	-0.325
174.993	174.993	168.463	191.888	199.200	5.806	1.507
227.037	227.037	220.507	246.366	252.400	7.937	-1.903
270.014	270.014	263.484	290.946	299.800	8.382	0.471
347.967	347.967	341.437	376.163	384.600	7.744	0.693
427.977	427.977	421.447	463.708	470.400	6.796	-0.104
468.972	468.972	462.442	505.875	512.800	6.558	0.367
549.973	549.973	543.443	585.943	591.600	6.768	-1.111
581.977	581.977	575.447	619.636	626.800	7.055	0.109
635.012	635.012	628.482	674.031	682.800	7.653	1.116
668.007	668.007	661.477	702.898	710.800	8.030	-0.128
756.018	756.018	749.488	782.172	790.600	8.722	-0.294
808.977	808.977	802.447	832.192	841.200	8.858	0.150
839.914	839.914	833.384	861.625	870.598	8.908	0.065

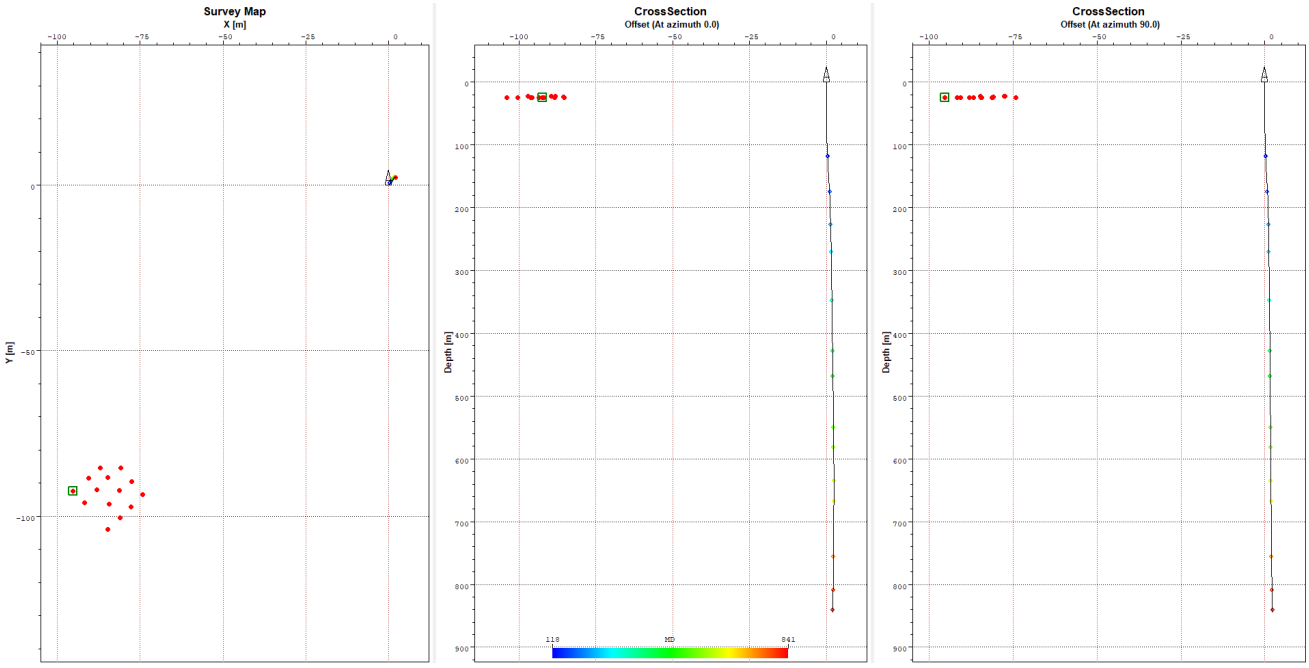
3. APPENDIX CHARTS

3.1. Chart 1: Glossary of Terms (Acquisition Parameters)



MD	Measure Depth from DF	DF/KB	Drilling Floor/Kelly Bushing
TVD	True Vertical Depth from DF	VAVE	Average Velocity from
SRD	Seismic Reference Datum	VINT	Interval Velocity
TVDSD	TVD from Seismic datum	VRMS	Root mean square velocity
Tt	Transit time from source to receiver	TWT	Two way vertical time
OFFSET	Source to geophone lateral offset	OWT	One way vertical time
TV	Vertical time from source to geophone	SCX/SCY	Source coordinates relative to wellhead
TS	Static correction from source to seismic datum	RCX,RCY	receiver coordinates relative to wellhead
Tcorr	Vertical time from seismic datum to geophone	Geo	Geophone or receiver

3.2. Chart 2: Source Receiver Geometry



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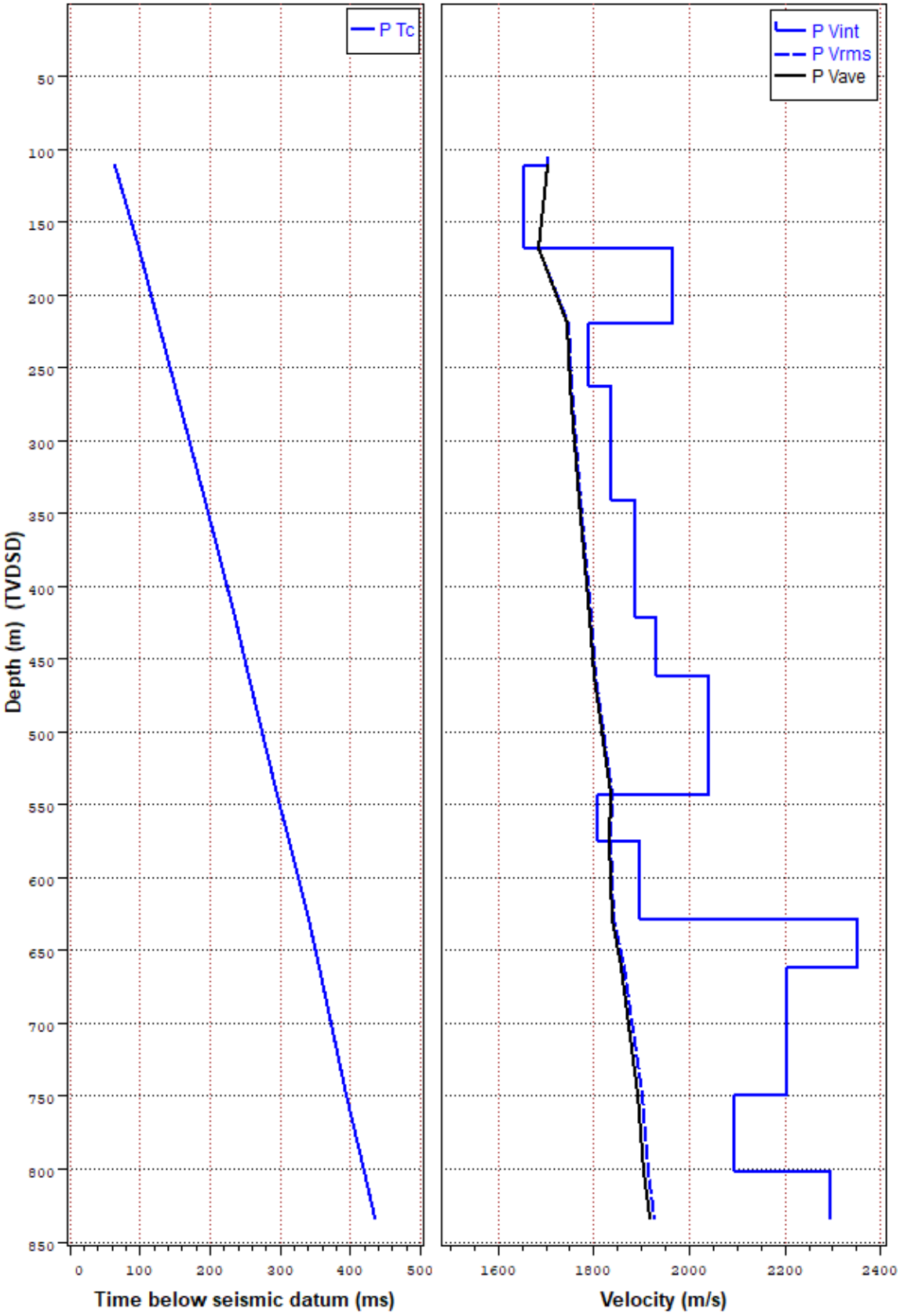
3.3. Chart 3: P-wave Time-Depth and Velocity Curves



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PLOT-1

First Break Picks

ACQUISITION INFORMATION

ACQUISITION DATE	May 5, 2024
GROUND ELEVATION	0.17 M ABOVE MSL
KB ELEVATION	6.53 M ABOVE MSL
SEISMIC REFERENCE DATUM	0 M MSL
VSP FIRST LEVEL	118 M MDKB
VSP LAST LEVEL	841 M MDKB
TD	844 M MDKB
SOURCE INFORMATION	
SOURCE TYPE	Explosives
DYNAMITE CHARGE	220 gr
SOURCE CONTROL	n/a
RECORDING SYSTEM	GSP
SOURCE ELEVATION	various
SOURCE OFFSET	various
SOURCE AZIMUTH	various
INSTRUMENTS	
SAMPLE INTERVAL	0.25 MS
RECORD LENGTH	4000 MS
GEOPHONE TOOL	ASR-1

PROCESSING

FORMAT CONVERSION & DEVIATION APPLIED
EDIT, SUM AND STACK DEPTH LEVEL TRACES
APPLY AUTOPICK AND MANUALLY ADJUST FIRST BREAK PICKS
VELOCITY SURVEY ANALYSIS

COMMENTS

SEISMIC REFERENCE DATUM (SRD) = 0 M MSL
GEOPHONE DEPTHS MEASURED FROM KB
CORRECTION VELOCITY: n/a
MEASURED DEPTH REFERENCED TO KB
TRUE VERTICAL TIME REFERENCED TO DATUM
TIME SCALE = 30.48 CM/SEC
OFFSET SCALE : 1:1674 (1 CM = 17 M)