

North Sea Basalt

Andrey Karpushin and Morgan Brown¹

ABSTRACT

Long-offset streamer data recorded in the Faeroes-Shetland Basin by WesternGeco and discussed previously by Kostov et al. (2000).

DATA BACKGROUND

The data were recorded by WesternGeco in 1999, as part of a multi-client (non-exclusive) survey which acquired a coarse grid of ten 2-D lines. A single 2-D line, consisting of 2943 shots covering roughly 120 km, was donated to SEP. The survey used the following acquisition parameters:

- Shot interval: 25 m
- Group interval: 12.5 m
- Number of channels: 912
- Active array length: 11.4 km
- Near offset: 185 m
- Record length: 9.8 sec at 4 msec

Wave equation migration was applied to the data by (?).

¹**email:** morgan@sep.stanford.edu

DATA FACTS

Raw Shot Gathers Broken into 200-shot increments (roughly 1.8GB apiece) in /net/koko/data/data_2d/north_sea

Common-midpoint gathers /net/koko/data/data_2d/north_sea_basalt/cmps.H

Velocity Model N/A

Stack N/A

Zero-offset Migration N/A

Usage (?Kostov et al., 2000)

Geometry

```

-----
                ***** cmps.H *****
          4 -esize           Unsynced           data_format-xdr_float
-----
n1=2451                o1=0.000000           d1=0.004000           label1=none
n2=182400              o2=1.000000           d2=1.000000           label2=trace number
n3=1                   o3=0?                d3=1?                label3=
n4=1                   o4=0?                d4=1?                label4=
n5=1                   o5=0?                d5=1?                label5=
n6=1                   o6=0?                d6=1?                label6=
n7=1                   o7=0?                d7=1?                label7=
n8=1                   o8=0?                d8=1?                label8=
n9=10                  o9=0?                d9=1?                label9=
Data: in=/net/koko/data/data_2d/north_sea_basalt/Data/2557-2756.shot.H@;/net/koko/data/data_2d/
2956.shot.H@;/net/koko/data/data_2d/north_sea_basalt/Data/2957-3156.shot.H@;/net/koko/data/dat
3356.shot.H@;/net/koko/data/data_2d/north_sea_basalt/Data/3357-3556.shot.H@;/net/koko/data/dat
3756.shot.H@;/net/koko/data/data_2d/north_sea_basalt/Data/3757-3956.shot.H@;/net/koko/data/dat
4156.shot.H@;/net/koko/data/data_2d/north_sea_basalt/Data/4157-4356.shot.H@;/net/koko/data/dat
4556.shot.H@;/net/koko/data/data_2d/north_sea_basalt/Data/4557-4756.shot.H@;/net/koko/data/dat
4956.shot.H@;/net/koko/data/data_2d/north_sea_basalt/Data/4957-5156.shot.H@;/net/koko/data/dat
5356.shot.H@;/net/koko/data/data_2d/north_sea_basalt/Data/5357-5500.shot.H@
147.0% of 17882496000 bytes
-----
keynumber=1           keytype=scalar_float   keyname=s_x
keynumber=2           keytype=scalar_float   keyname=s_y
keynumber=3           keytype=scalar_float   keyname=g_x
keynumber=4           keytype=scalar_float   keyname=g_y
keynumber=5           keytype=scalar_float   keyname=offset_x
keynumber=6           keytype=scalar_float   keyname=offset_y
keynumber=7           keytype=scalar_float   keyname=aoffset
keynumber=8           keytype=scalar_float   keyname=cmp_x
keynumber=9           keytype=scalar_float   keyname=cmp_y
keynumber=10          keytype=scalar_int     keyname=data_record_number
n2=2679306            o2=1.000000           d2=1.000000           label2=trace_number

```

```

Headers in=/net/kana/scr2/morgan/cmps.H@@@
      26793060 elements,   107172240 bytes in data file
-----
grid axis2      n2=4      o2=1.000000      d2=1.000000      label2=trace_in_bin
grid axis3      n3=456      o3=185.000000     d3=25.000000     label3=aoffset
grid axis4      n4=3160      o4=1372000.000000  d4=25.000000     label4=cmp_x
Grid   in=/net/kana/scr2/morgan/cmps.H@@@
      5763840 elements,   23055360 bytes in data file
-----
-----

```

Problem Sub-basalt imaging, multiples, cable feathering.

History of Data See Kostov et al. (2000)

Preprocessing none that we know of

Proprietary Considerations Free to use in SEP publications. Must acknowledge West-ernGeco.

Figure 1: Near-offset section. [north-sea-basalt-coff](#) [ER]

Figure 2: Three common-midpoint gathers. [north-sea-basalt-cmps](#) [ER,M]

REFERENCES

Kostov, C., Hoare, R., Jaasund, S., and Larssen, B., 2000, Advances in sub-basalt P-wave imaging with long offset streamer data:, *in* 62nd Mtg. Eur. Assn. Geosci. Eng.

