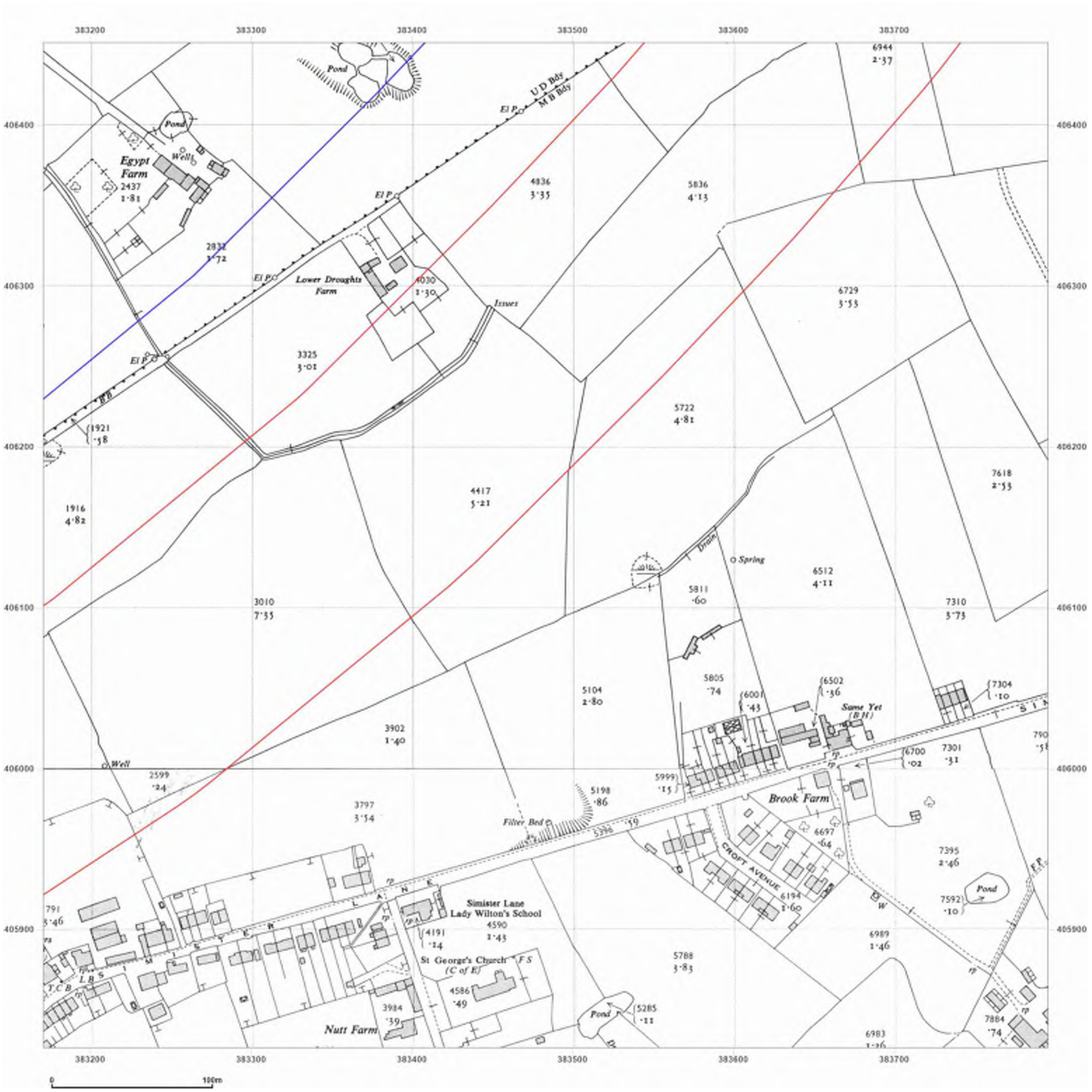



Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_1
**Grid Ref:** 383483, 406139

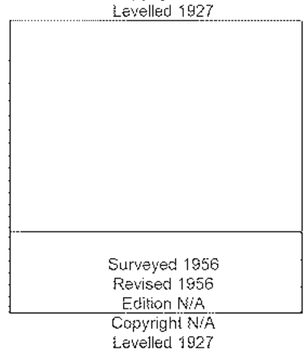
**Map Name:** National Grid

**Map date:** **1956**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S



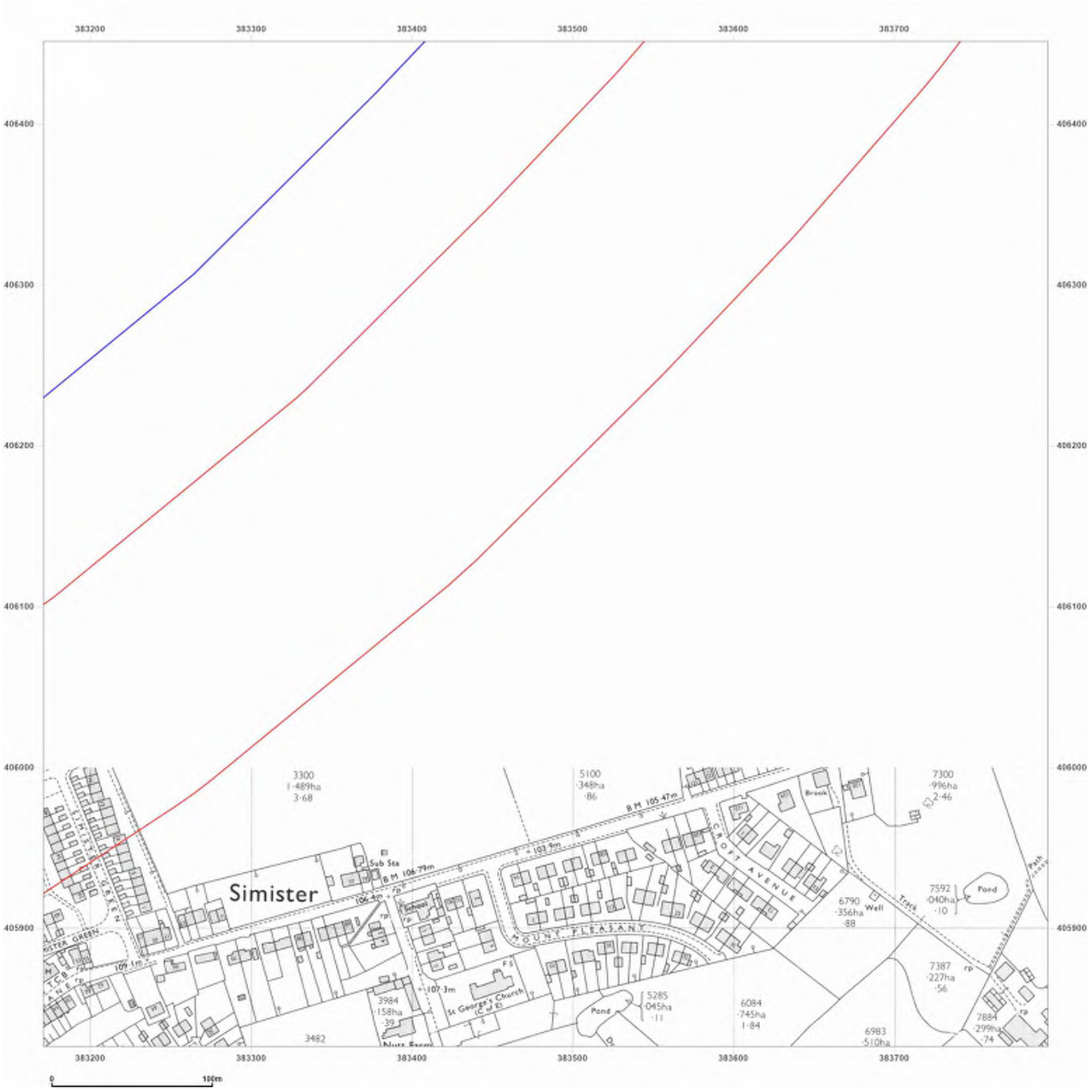

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_1
**Grid Ref:** 383483, 406139

**Map Name:** National Grid

**Map date:** **1969**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1956
Revised 1969
Edition N/A
Copyright 1971
Levelled 1963

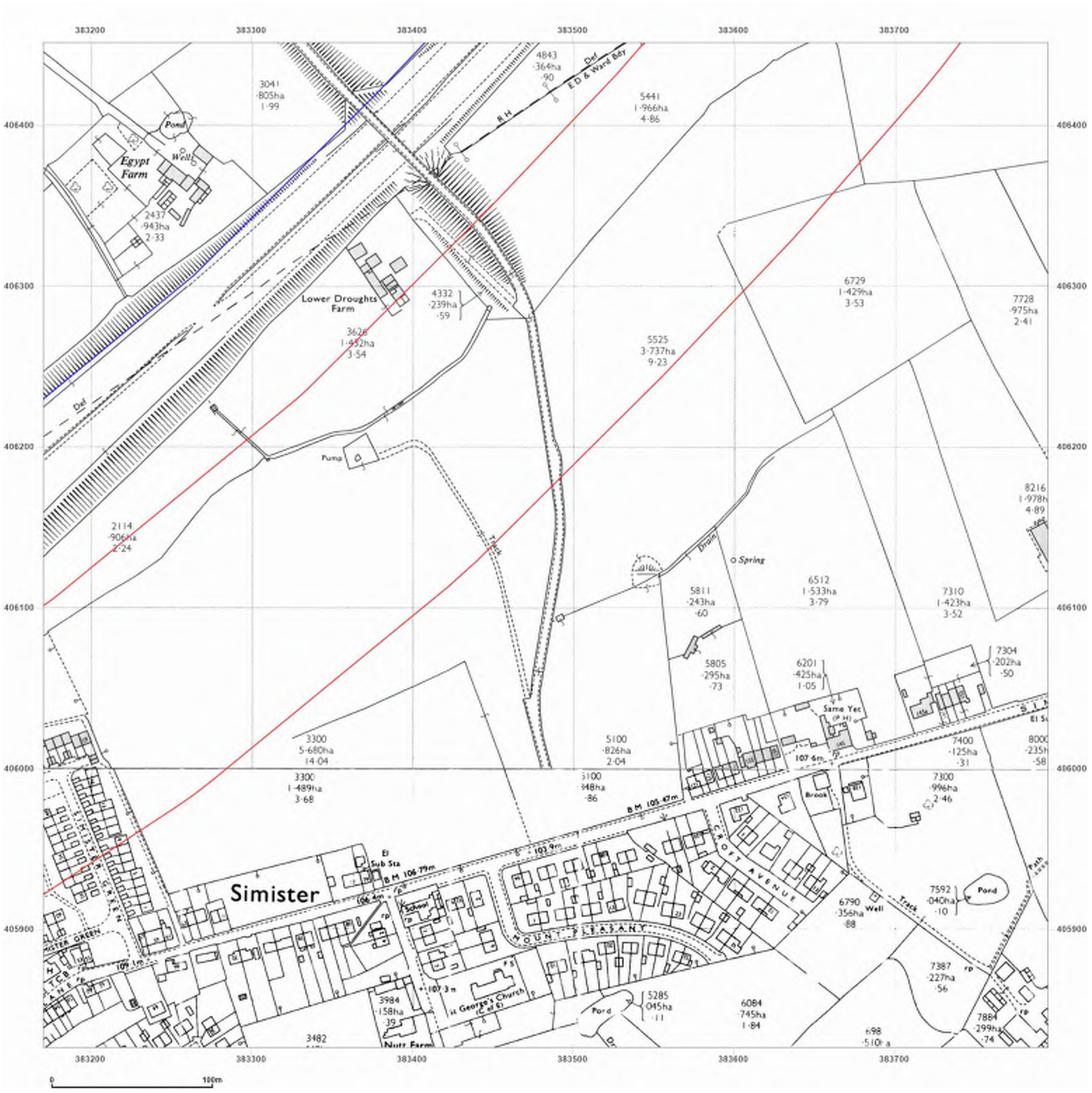
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_1
**Grid Ref:** 383483, 406139

**Map Name:** National Grid

**Map date:** **1971-1975**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1956
Revised 1975
Edition N/A
Copyright 1977
Levelled 1956

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

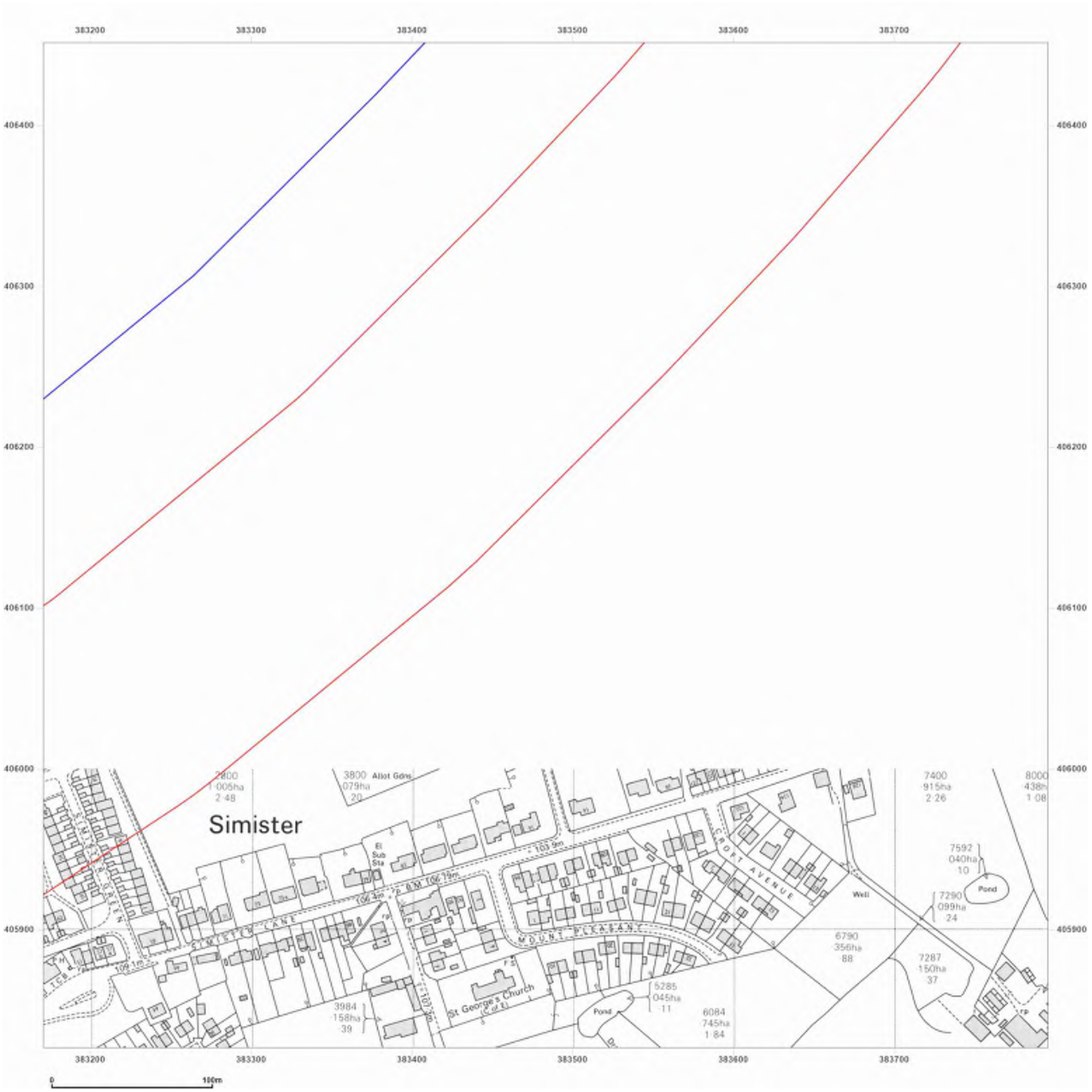
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_1
**Grid Ref:** 383483, 406139

**Map Name:** National Grid

**Map date:** **1984**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1956
Revised 1984
Edition N/A
Copyright 1986
Levelled 1962

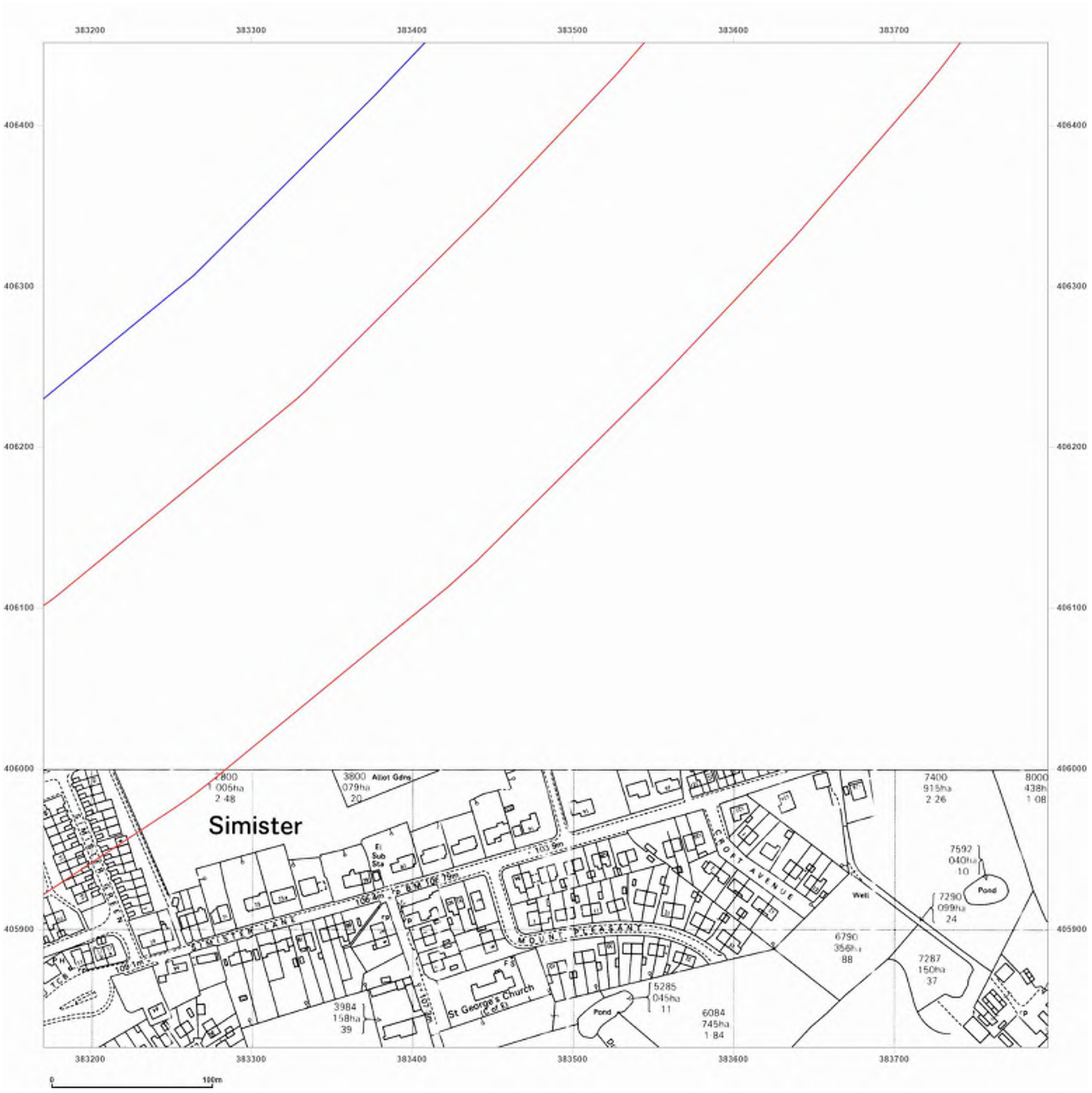
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_1
**Grid Ref:** 383483, 406139

**Map Name:** National Grid

**Map date:** **1986**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

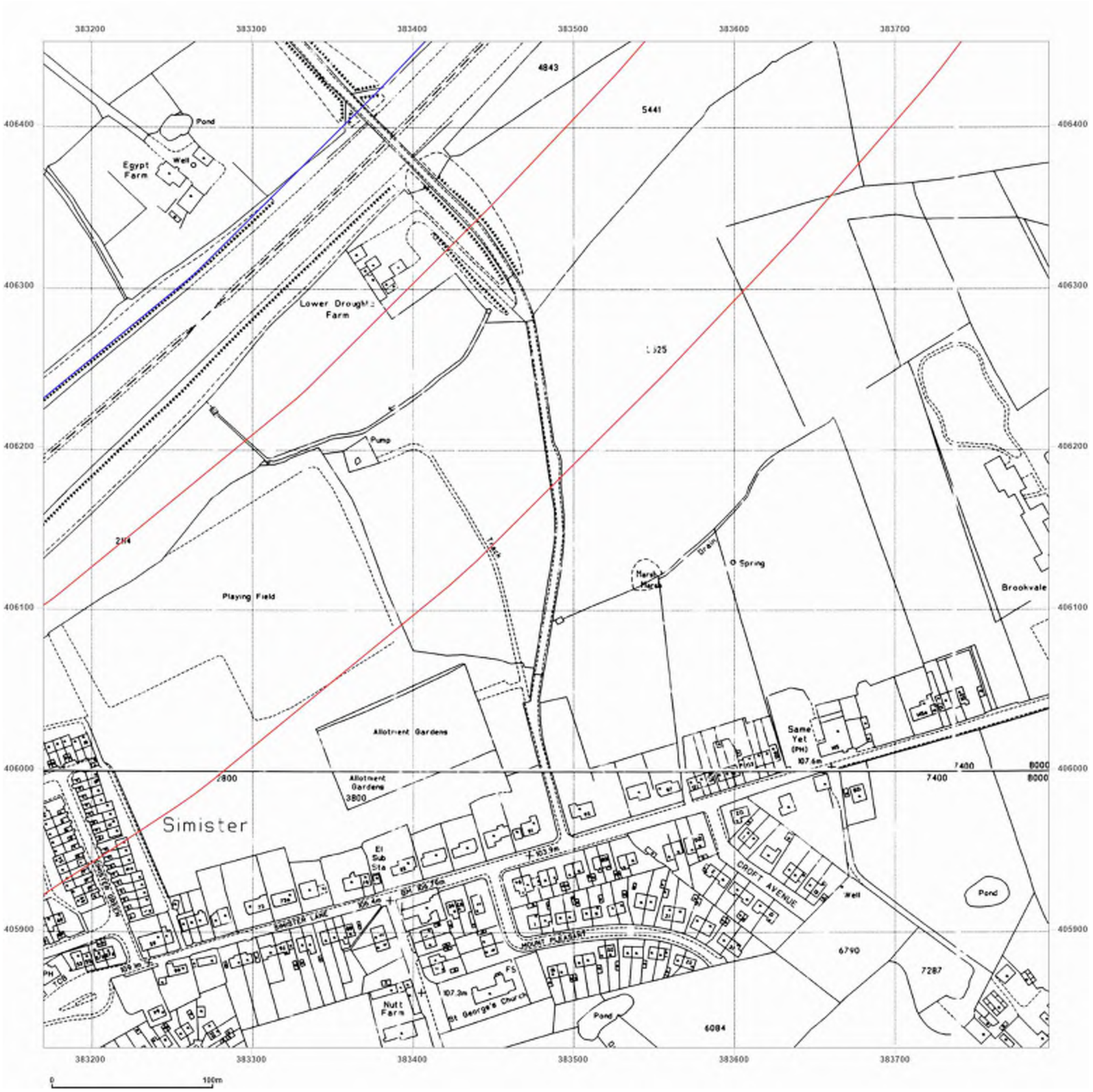
Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_1
**Grid Ref:** 383483, 406139

**Map Name:** National Grid

**Map date:** **1992**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1992
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

Surveyed 1992
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

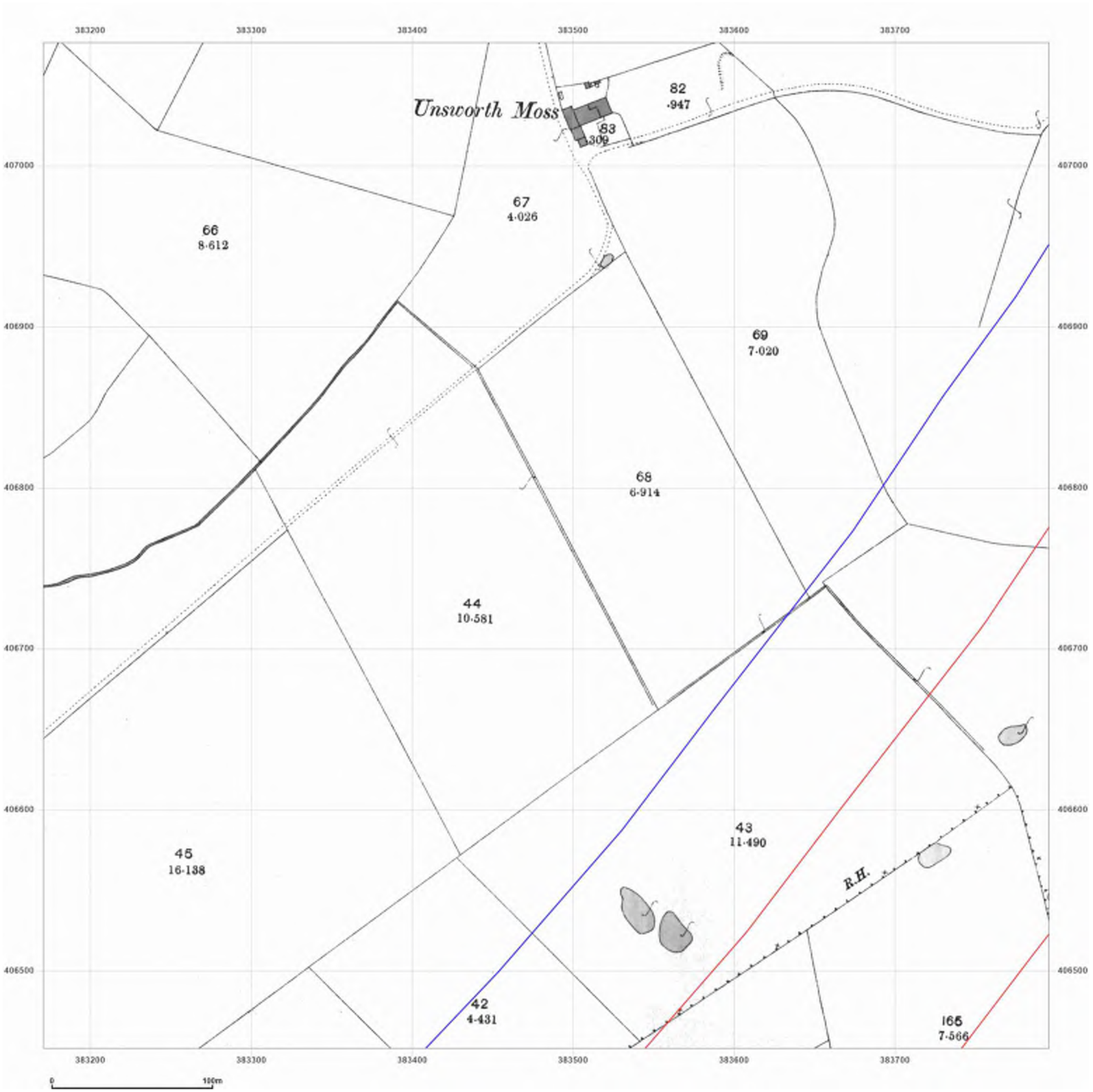
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_2
**Grid Ref:** 383483, 406764

**Map Name:** County Series

**Map date:** **1893**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

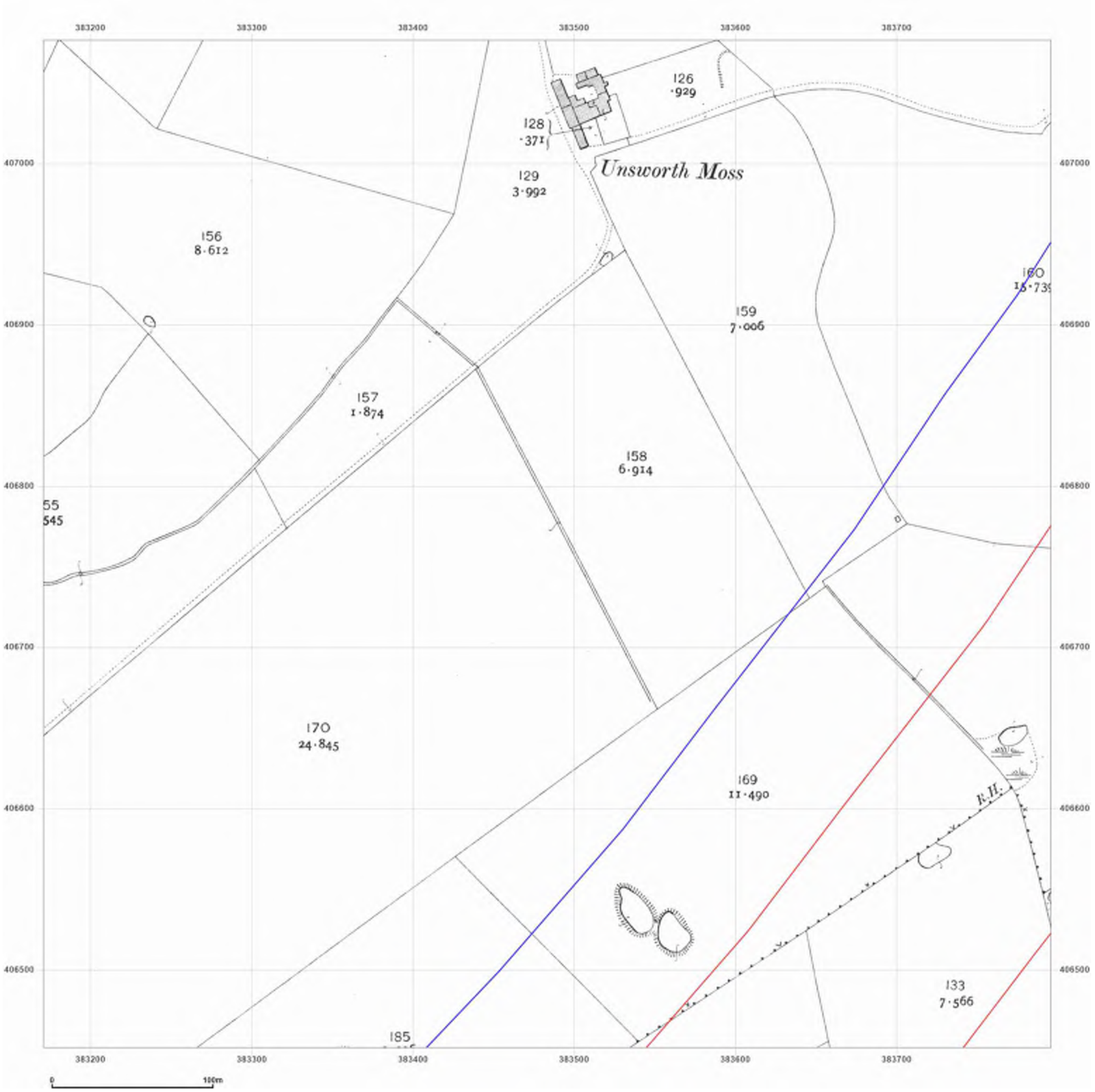
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_2
**Grid Ref:** 383483, 406764

**Map Name:** County Series

**Map date:** **1909**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1909
Revised 1909
Edition N/A
Copyright N/A
Levelled N/A

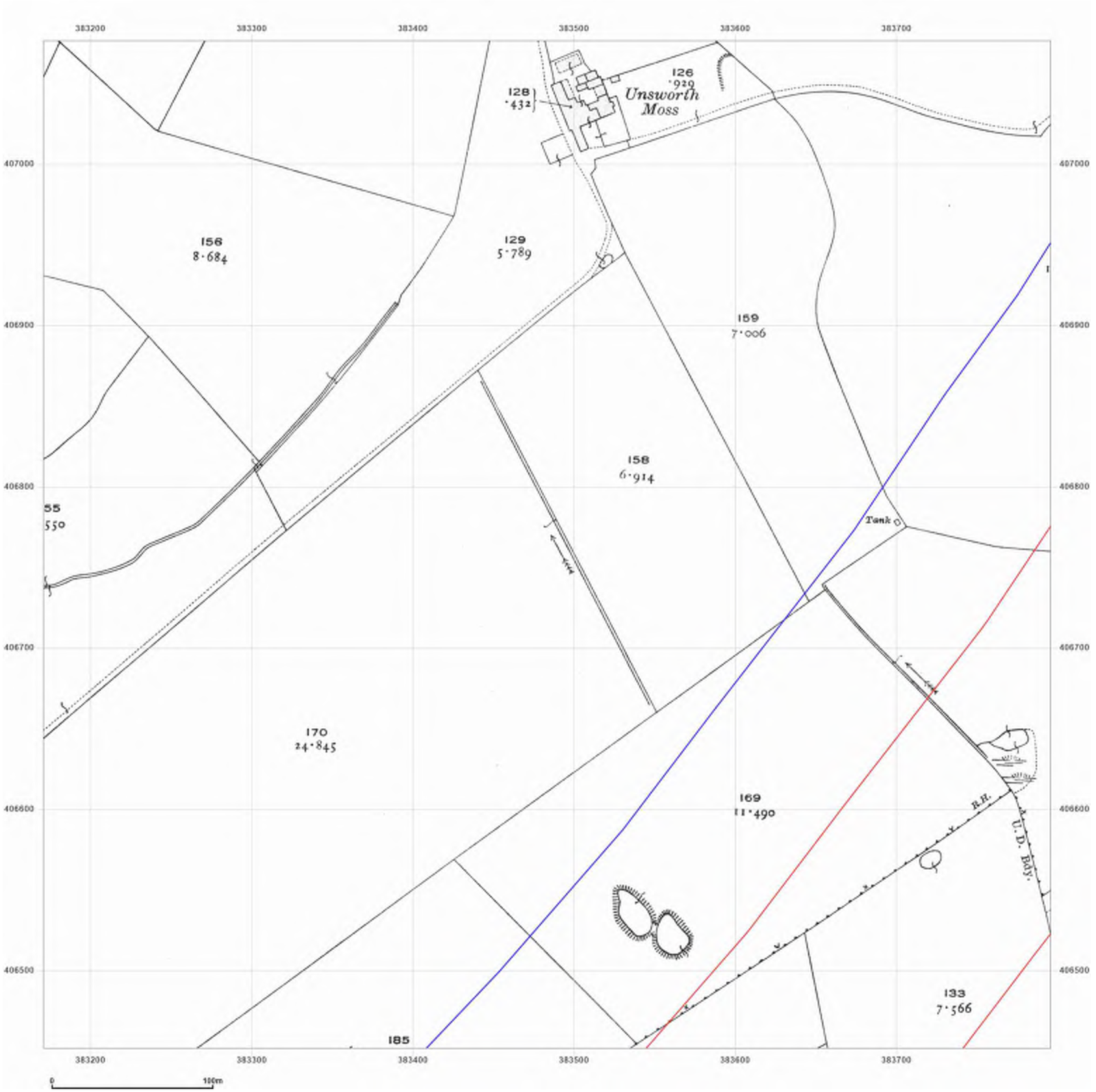
Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_2
**Grid Ref:** 383483, 406764

**Map Name:** County Series

**Map date:** **1922**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1922
Revised 1922
Edition N/A
Copyright N/A
Levelled N/A

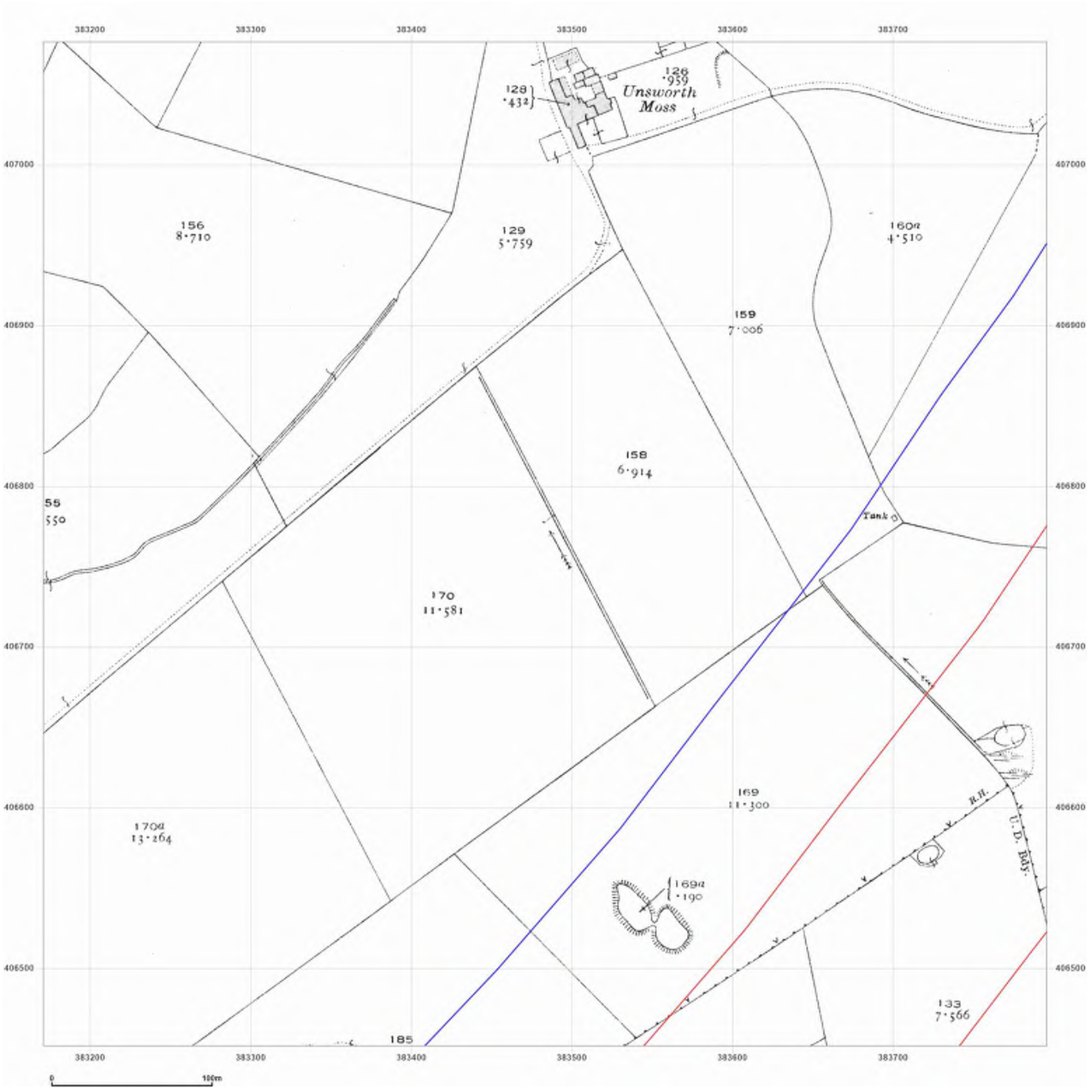
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_2
**Grid Ref:** 383483, 406764

**Map Name:** County Series

**Map date:** **1932**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

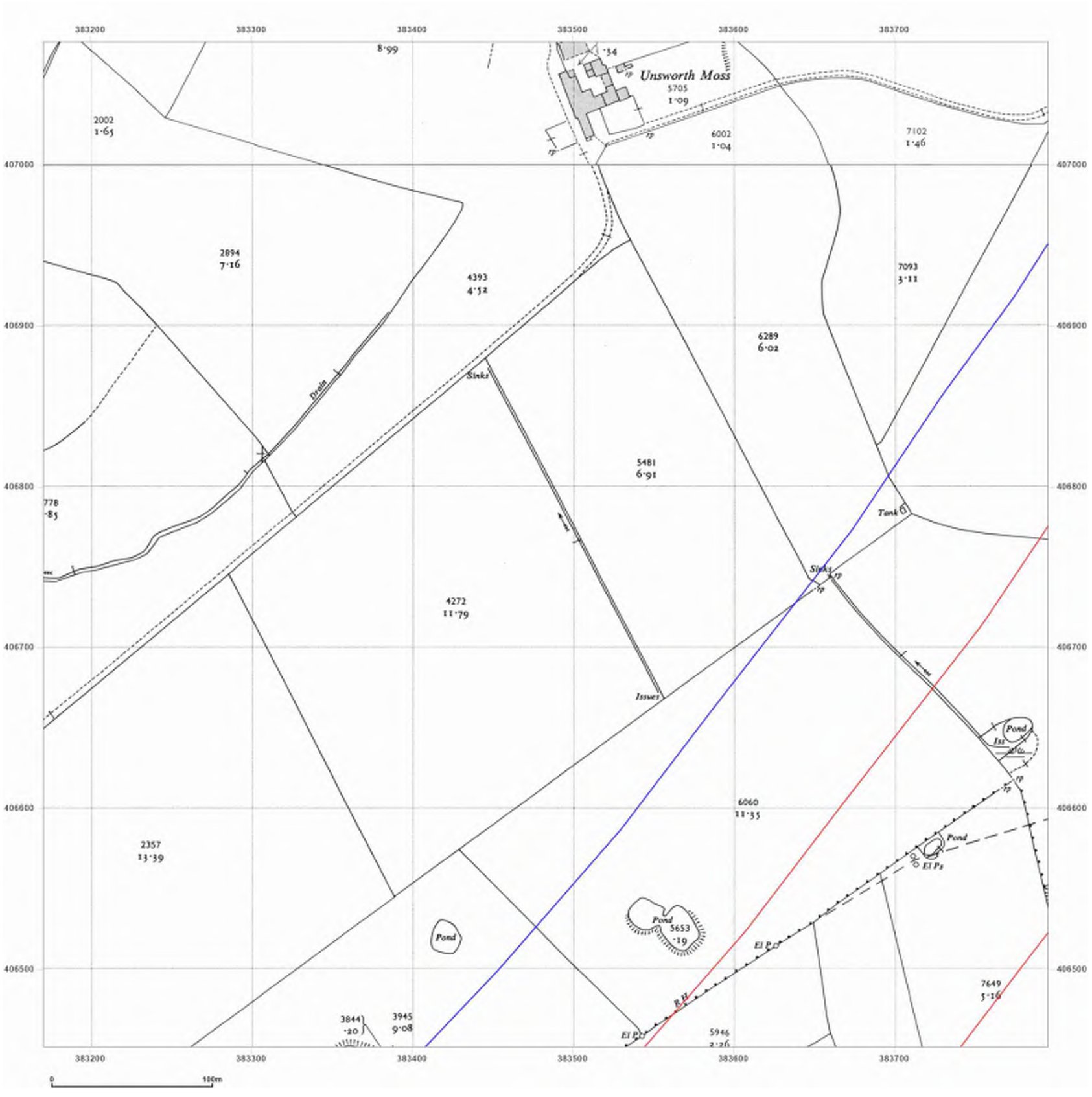
Surveyed 1932
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_2
**Grid Ref:** 383483, 406764

**Map Name:** National Grid

**Map date:** **1956**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1956
Revised 1956
Edition N/A
Copyright N/A
Levelled 1927

Surveyed 1956
Revised 1956
Edition N/A
Copyright N/A
Levelled 1927

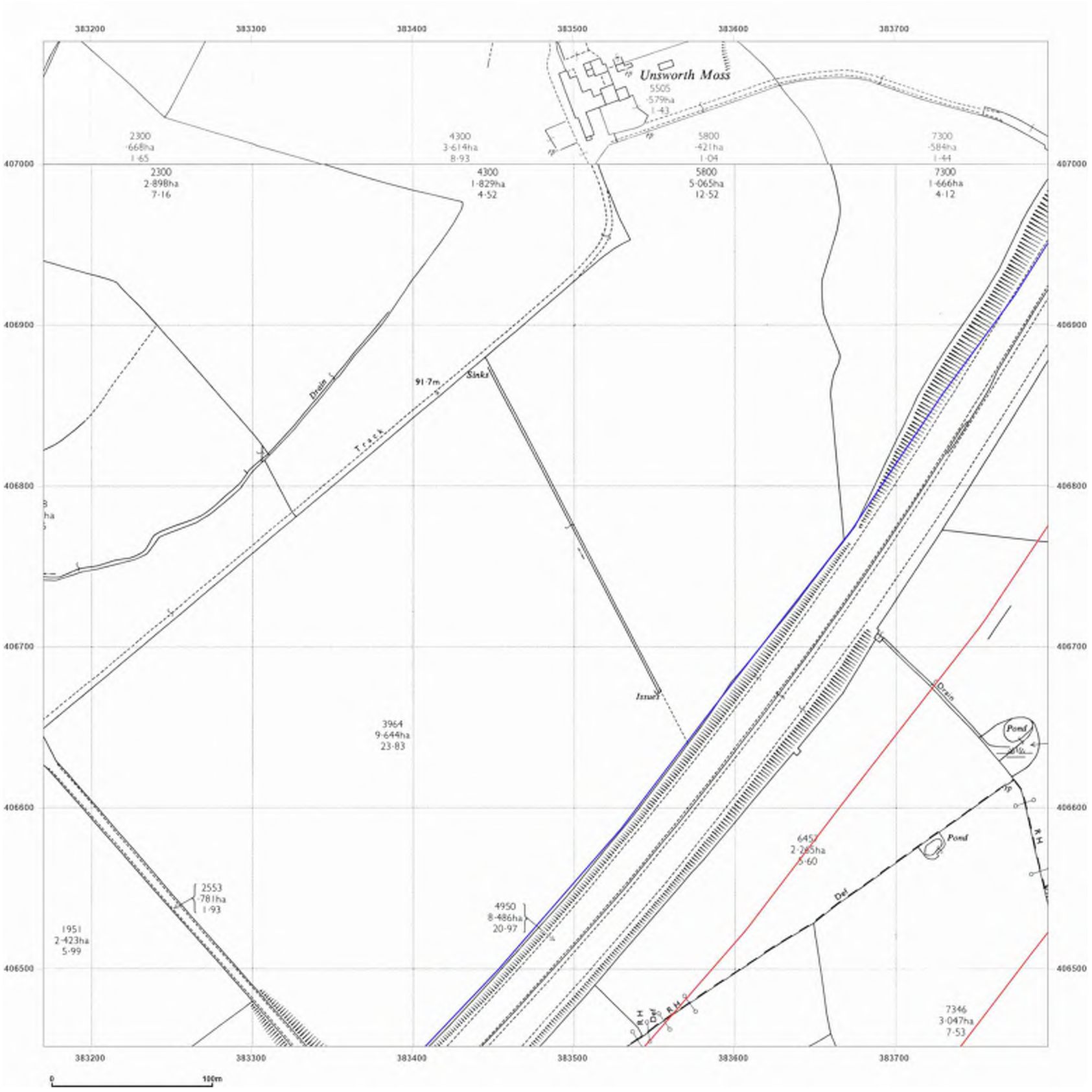
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_2
**Grid Ref:** 383483, 406764

**Map Name:** National Grid

**Map date:** **1975**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1956
Revised 1975
Edition N/A
Copyright 1976
Levelled 1927

Surveyed 1956
Revised 1975
Edition N/A
Copyright 1977
Levelled 1956

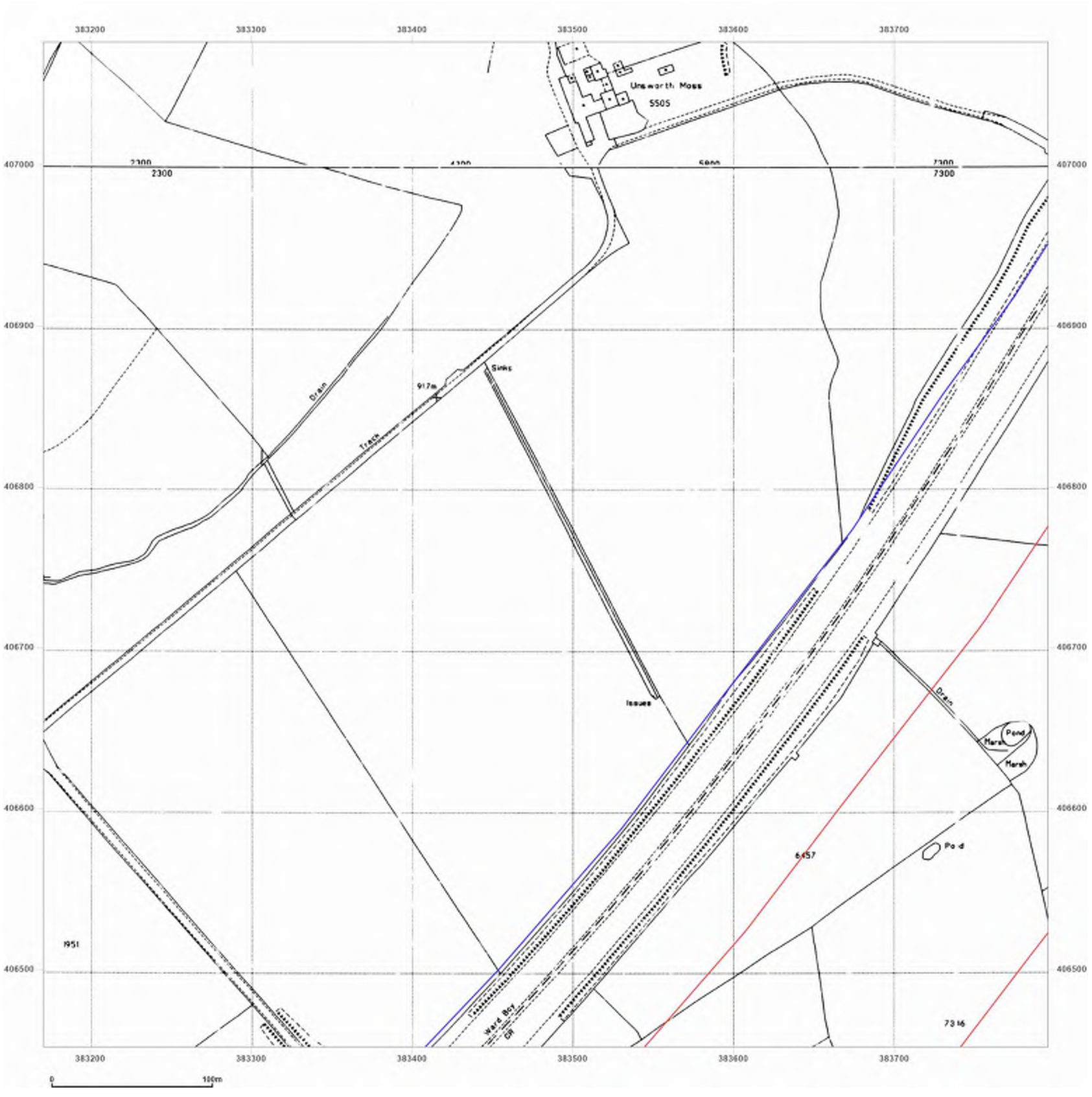
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_2
**Grid Ref:** 383483, 406764

**Map Name:** National Grid

**Map date:** **1992**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1992
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

Surveyed 1992
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

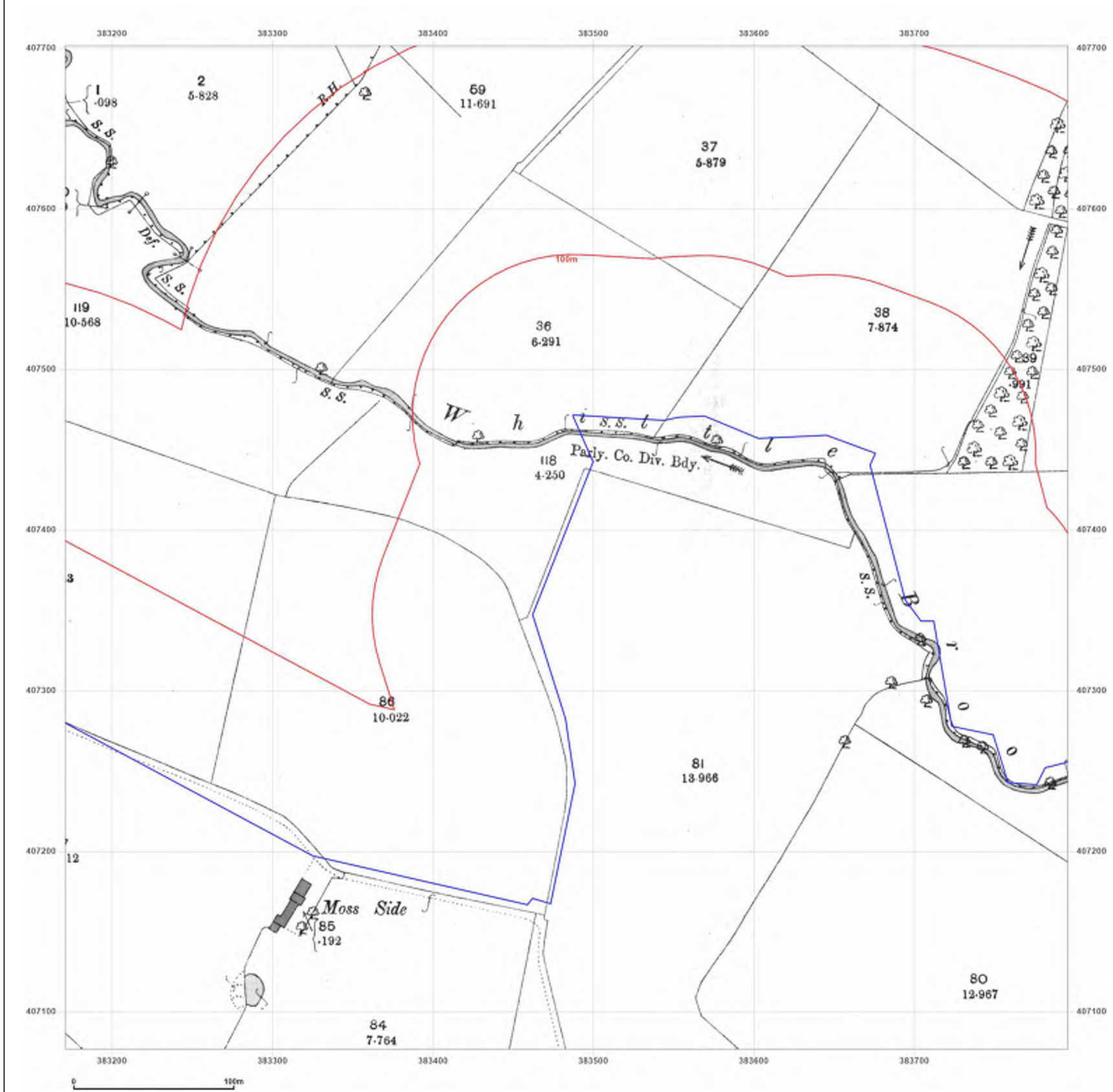
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_3
**Grid Ref:** 383483, 407389

**Map Name:** County Series

**Map date:** **1893**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

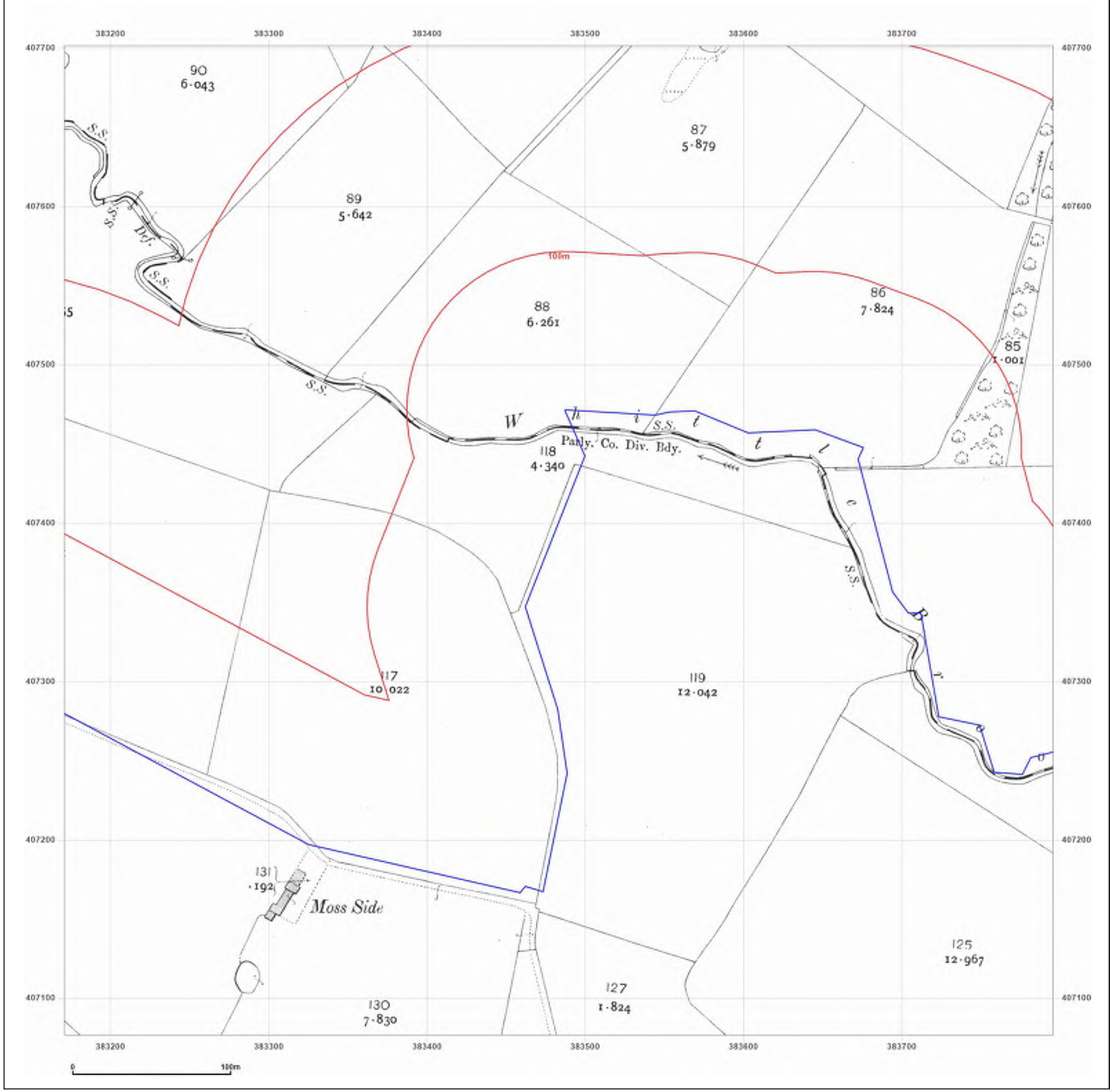
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_3
**Grid Ref:** 383483, 407389

**Map Name:** County Series

**Map date:** **1909**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1909
Revised 1909
Edition N/A
Copyright N/A
Levelled N/A

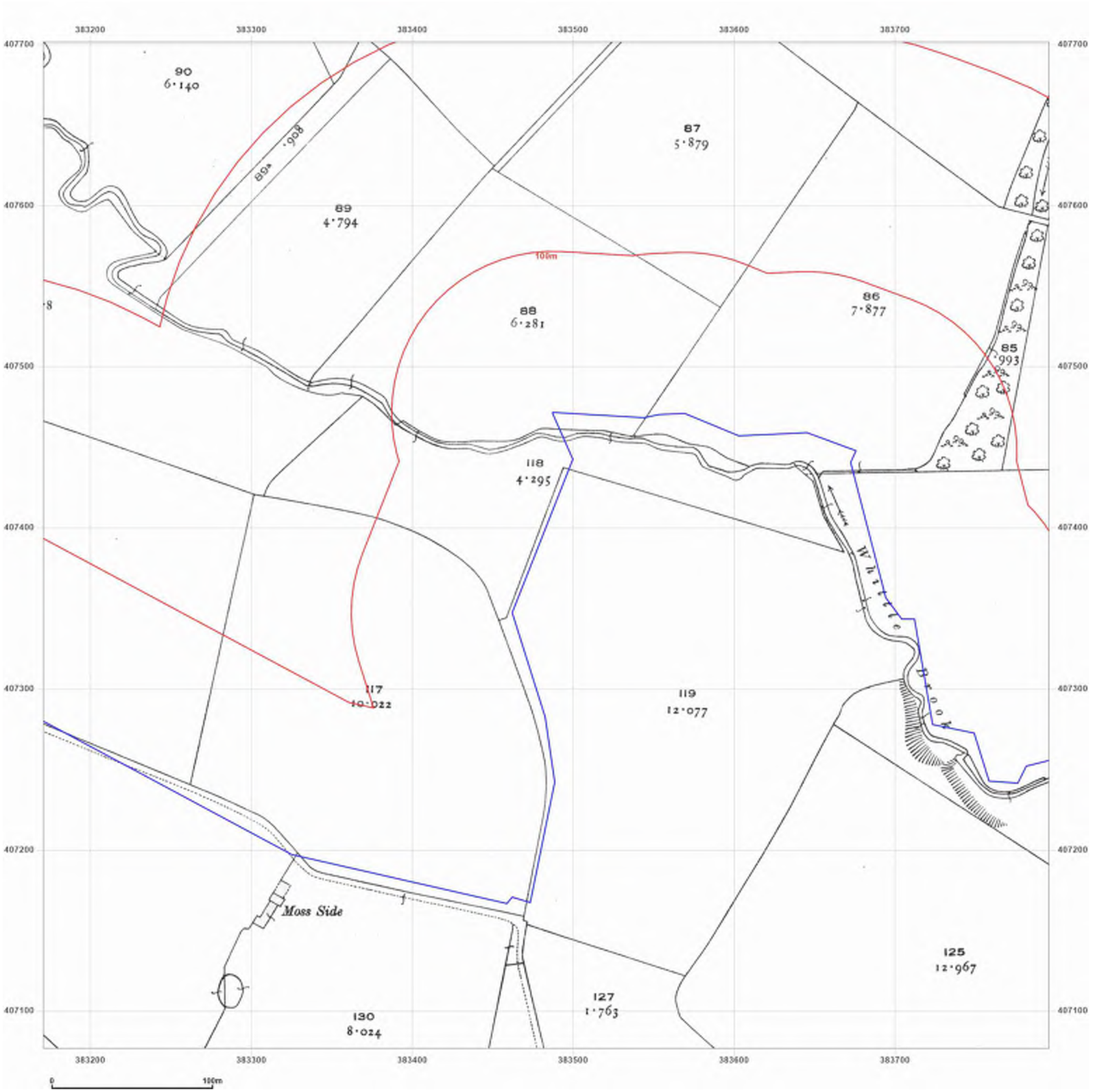
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_3
**Grid Ref:** 383483, 407389

**Map Name:** County Series

**Map date:** **1922**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1922
Revised 1922
Edition N/A
Copyright N/A
Levelled N/A

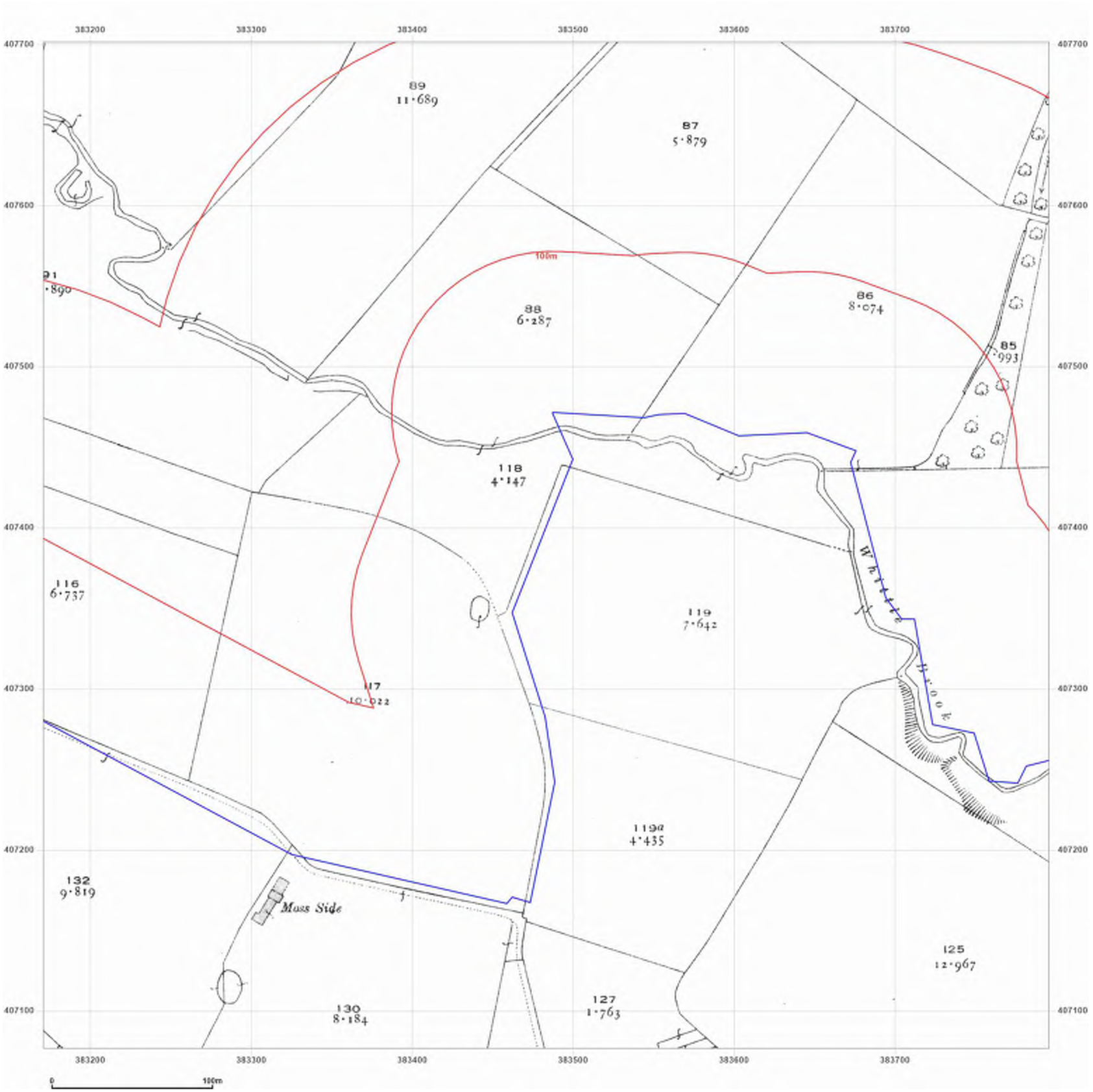
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_3
**Grid Ref:** 383483, 407389

**Map Name:** County Series

**Map date:** **1932**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1932
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

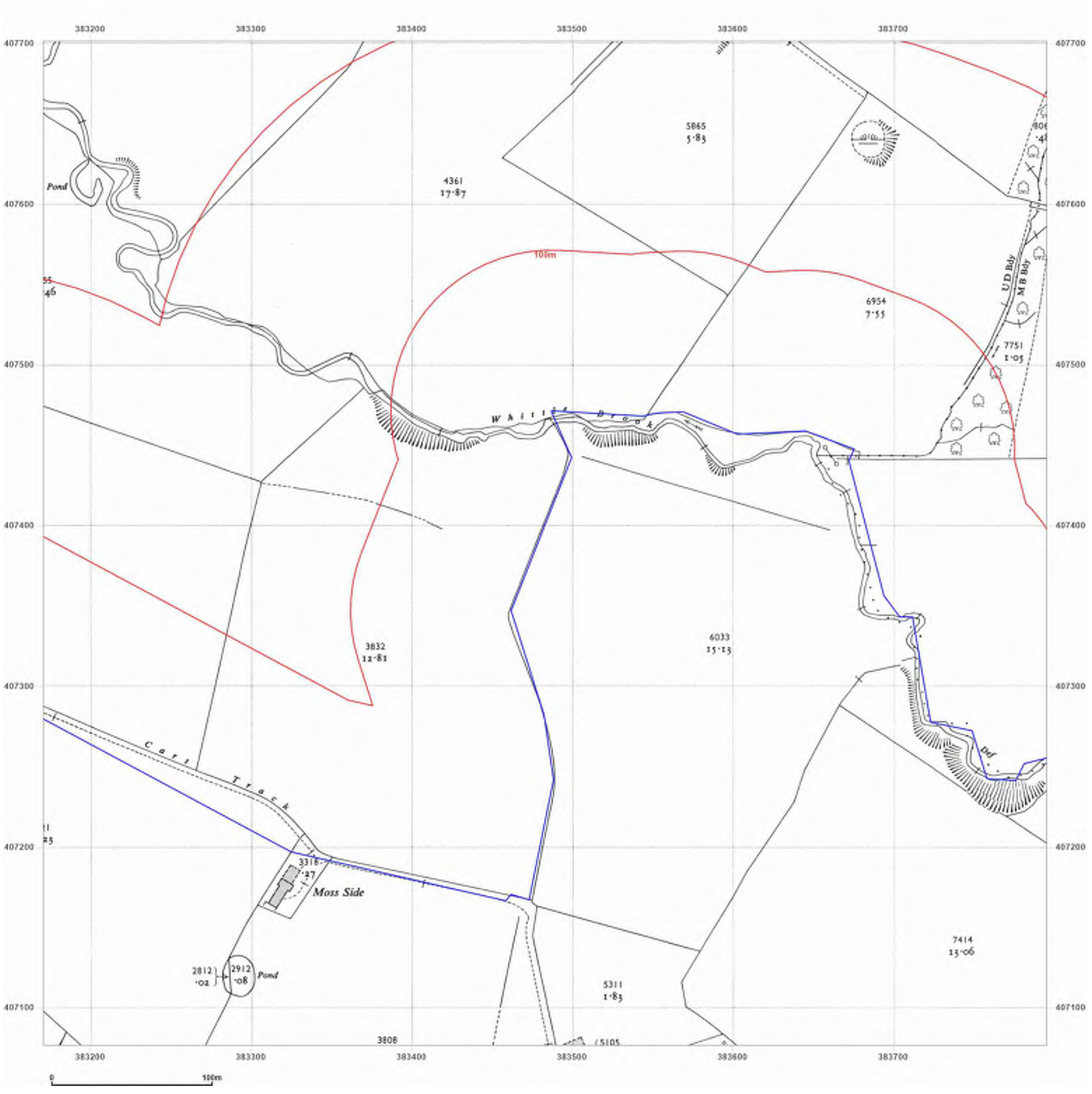
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_3
**Grid Ref:** 383483, 407389

**Map Name:** National Grid

**Map date:** **1956**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1956
Revised 1956
Edition N/A
Copyright N/A
Levelled 1927

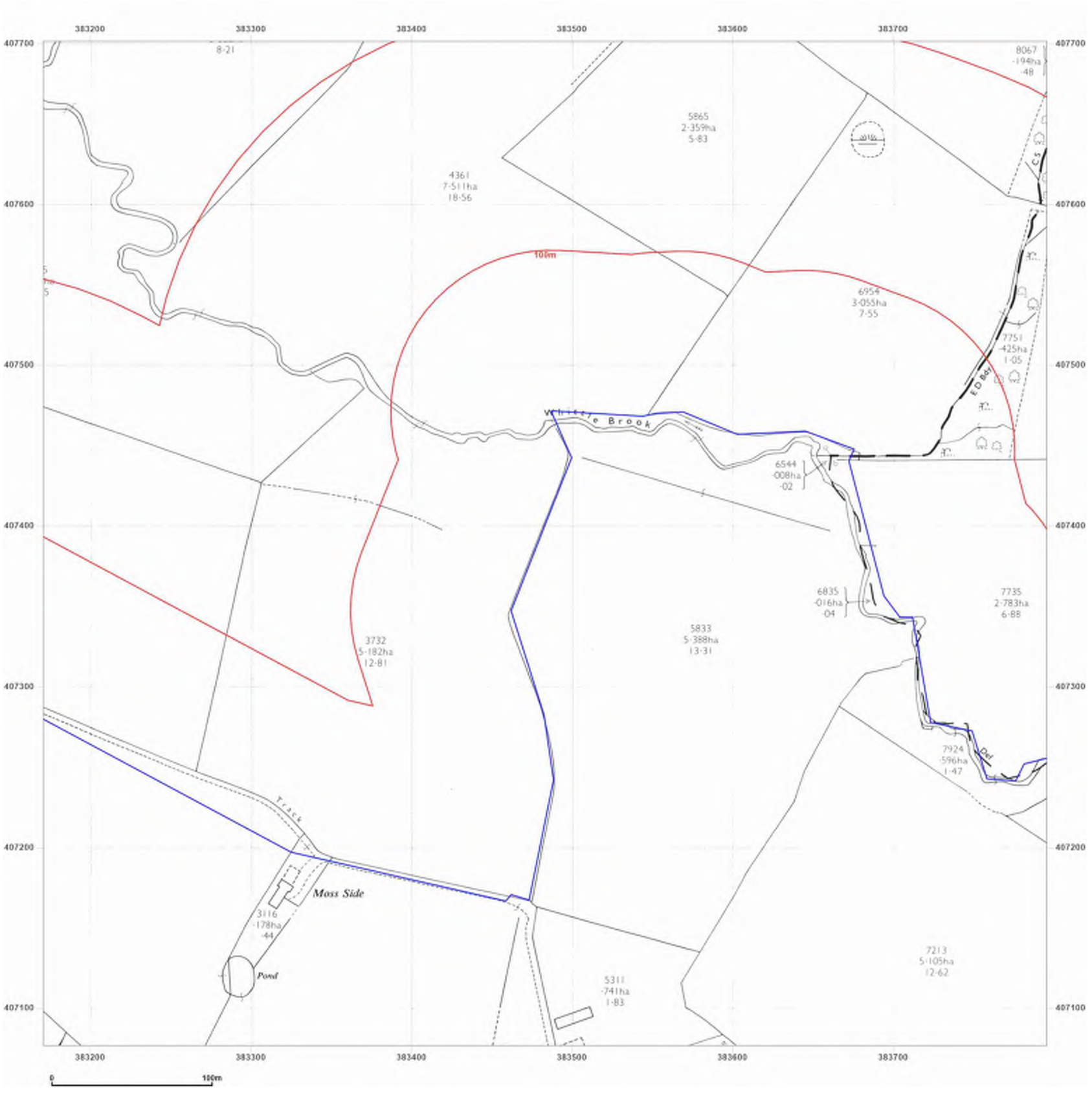
Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_3
**Grid Ref:** 383483, 407389

**Map Name:** National Grid

**Map date:** **1975**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1956
Revised 1975
Edition N/A
Copyright 1976
Levelled 1927

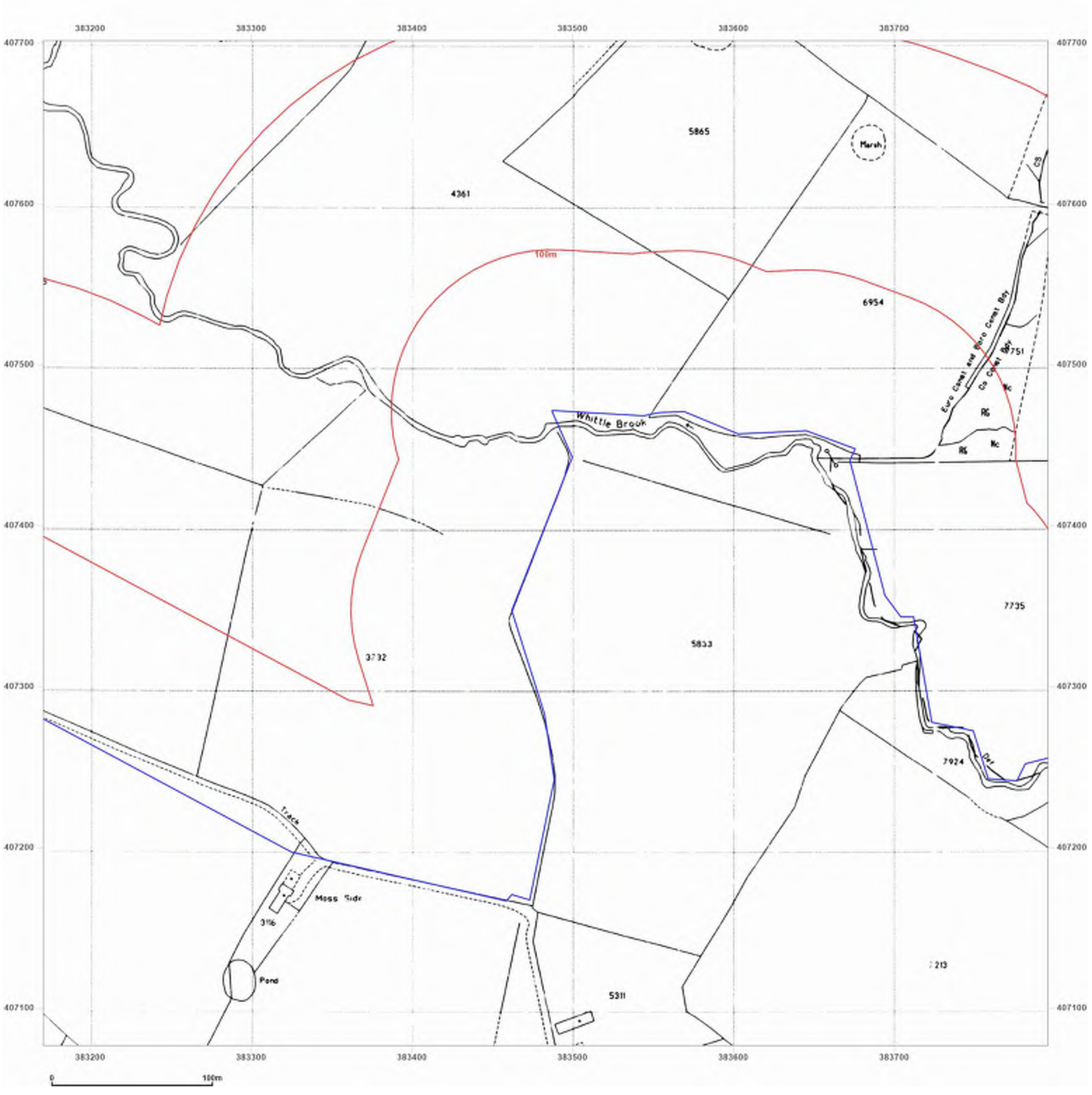
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_3
**Grid Ref:** 383483, 407389

**Map Name:** National Grid

**Map date:** **1992**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1992
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

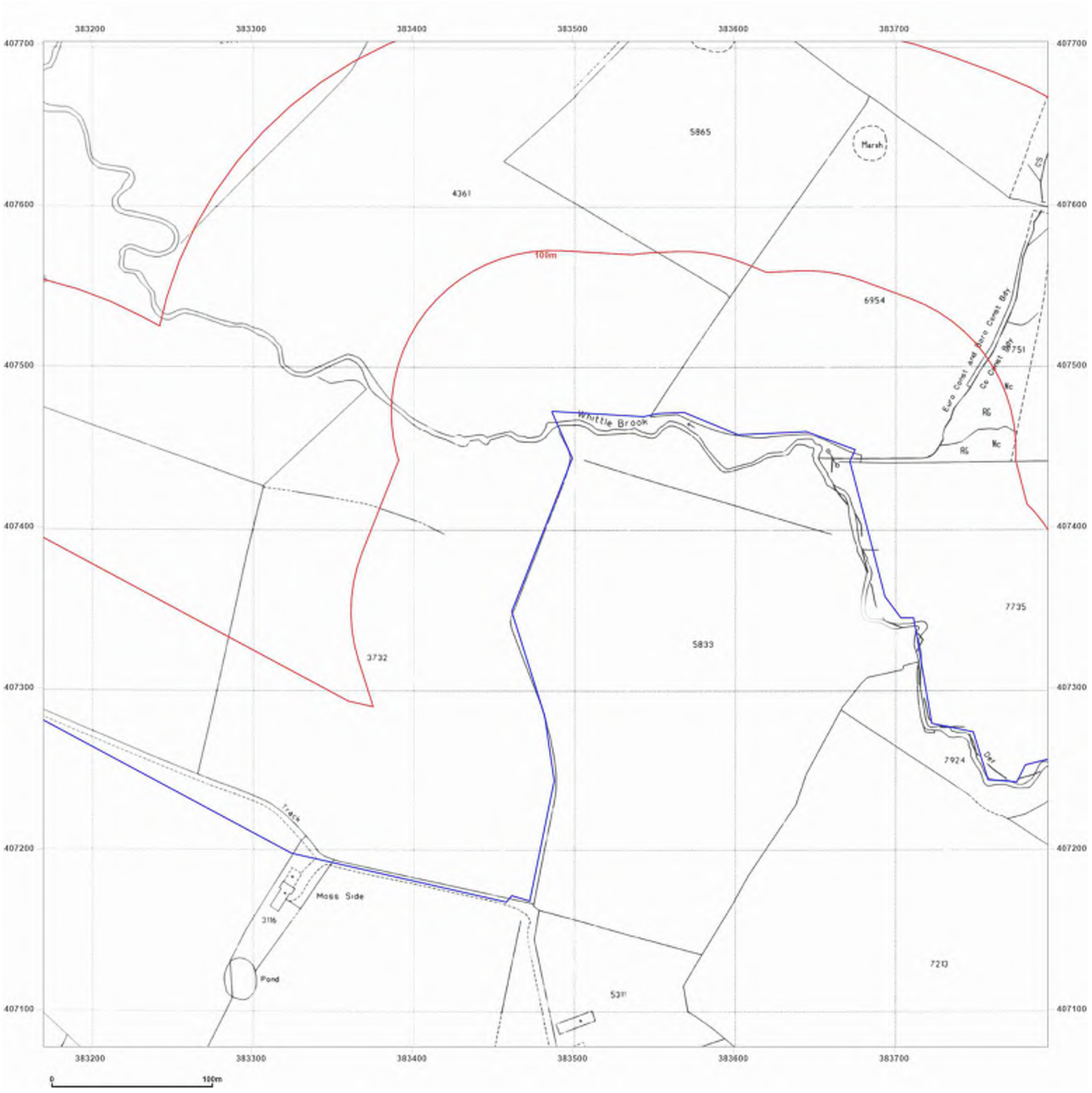
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_3_3
**Grid Ref:** 383483, 407389

**Map Name:** National Grid

**Map date:** **1992**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

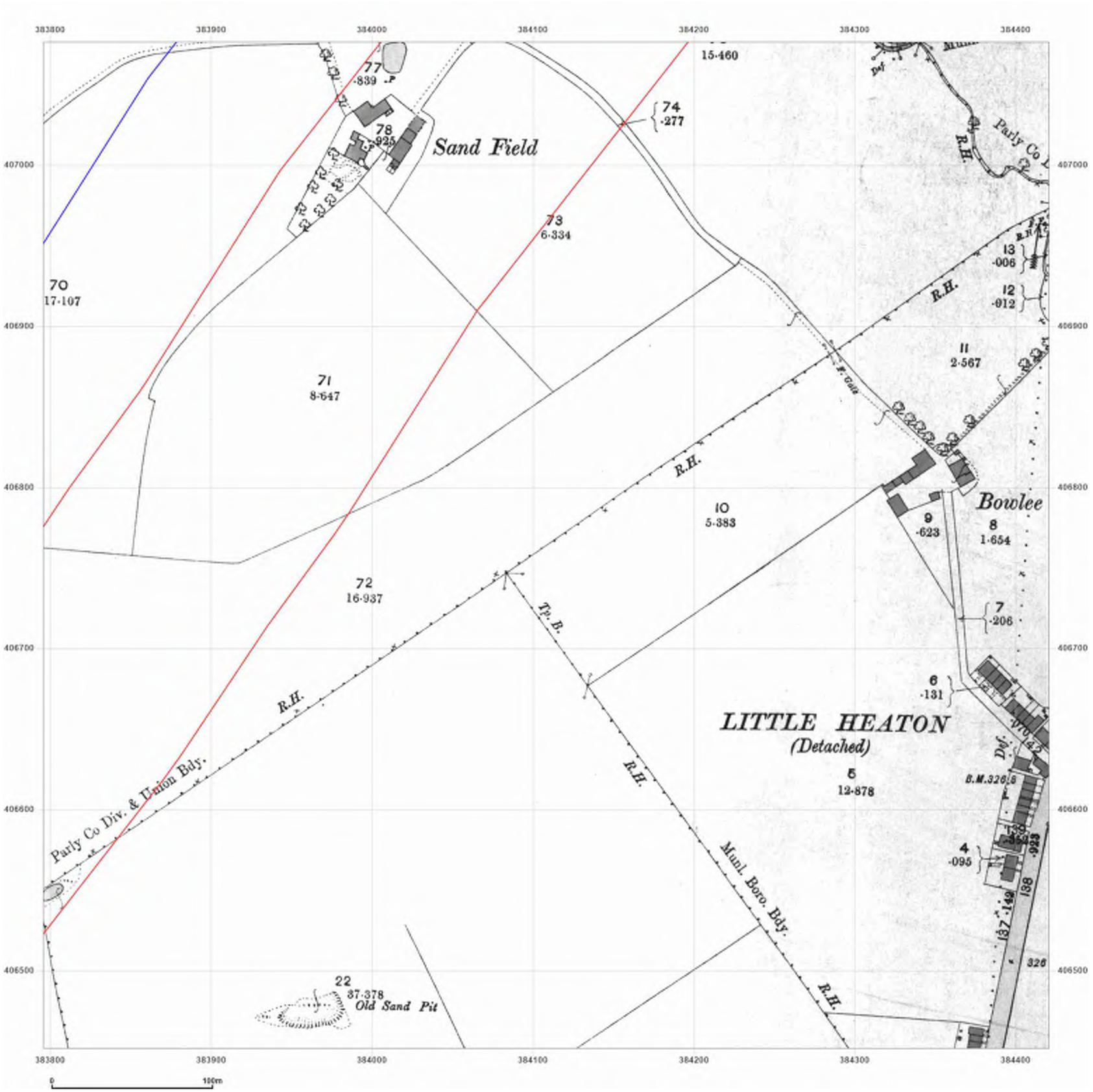
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_4_2
**Grid Ref:** 384108, 406764

**Map Name:** County Series

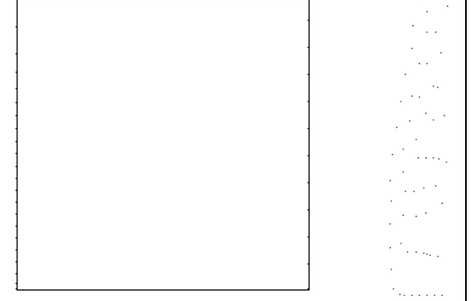
**Map date:** **1893**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A



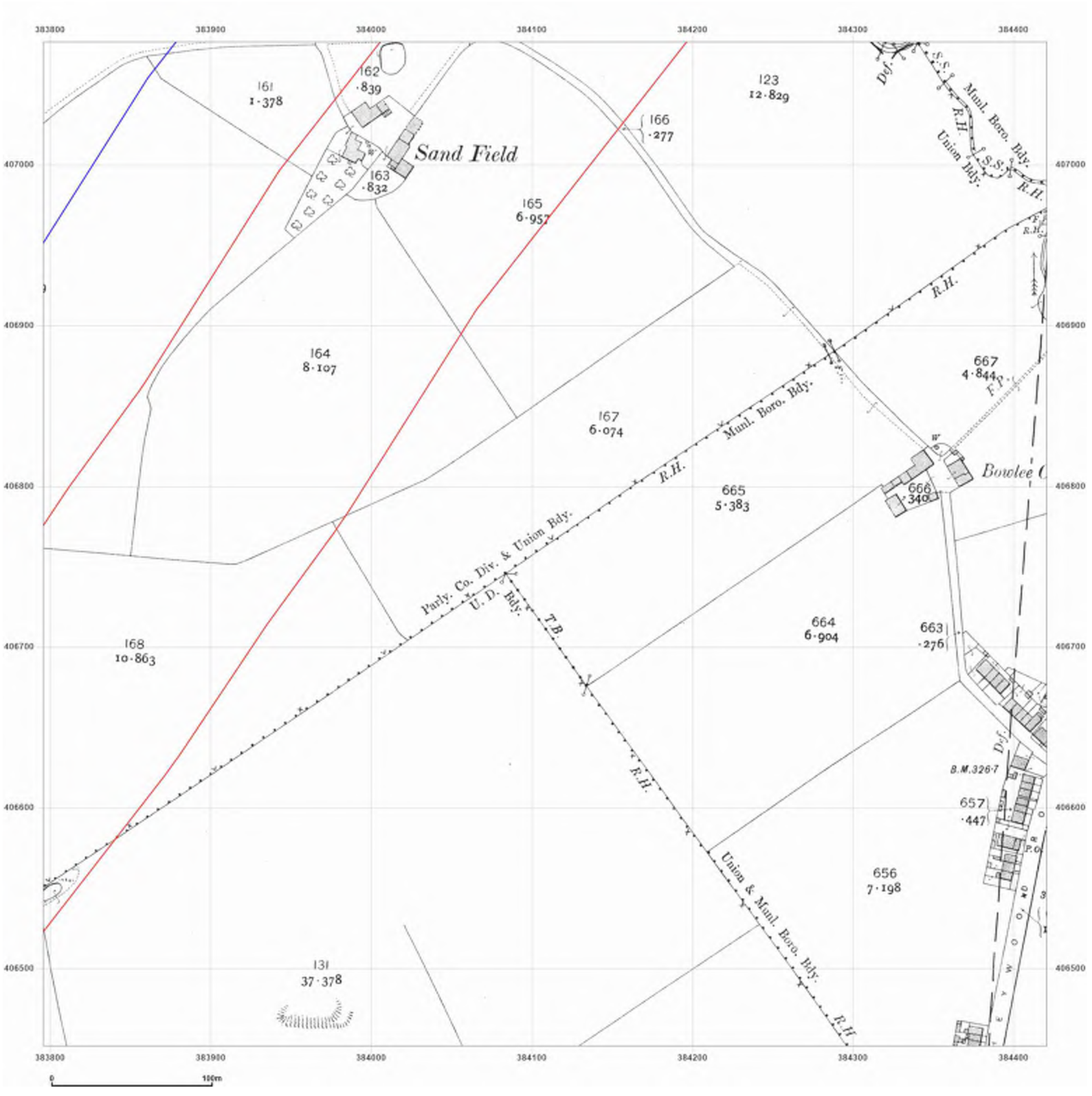
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_4_2
**Grid Ref:** 384108, 406764

**Map Name:** County Series

**Map date:** **1909**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1909
Revised 1909
Edition N/A
Copyright N/A
Levelled N/A

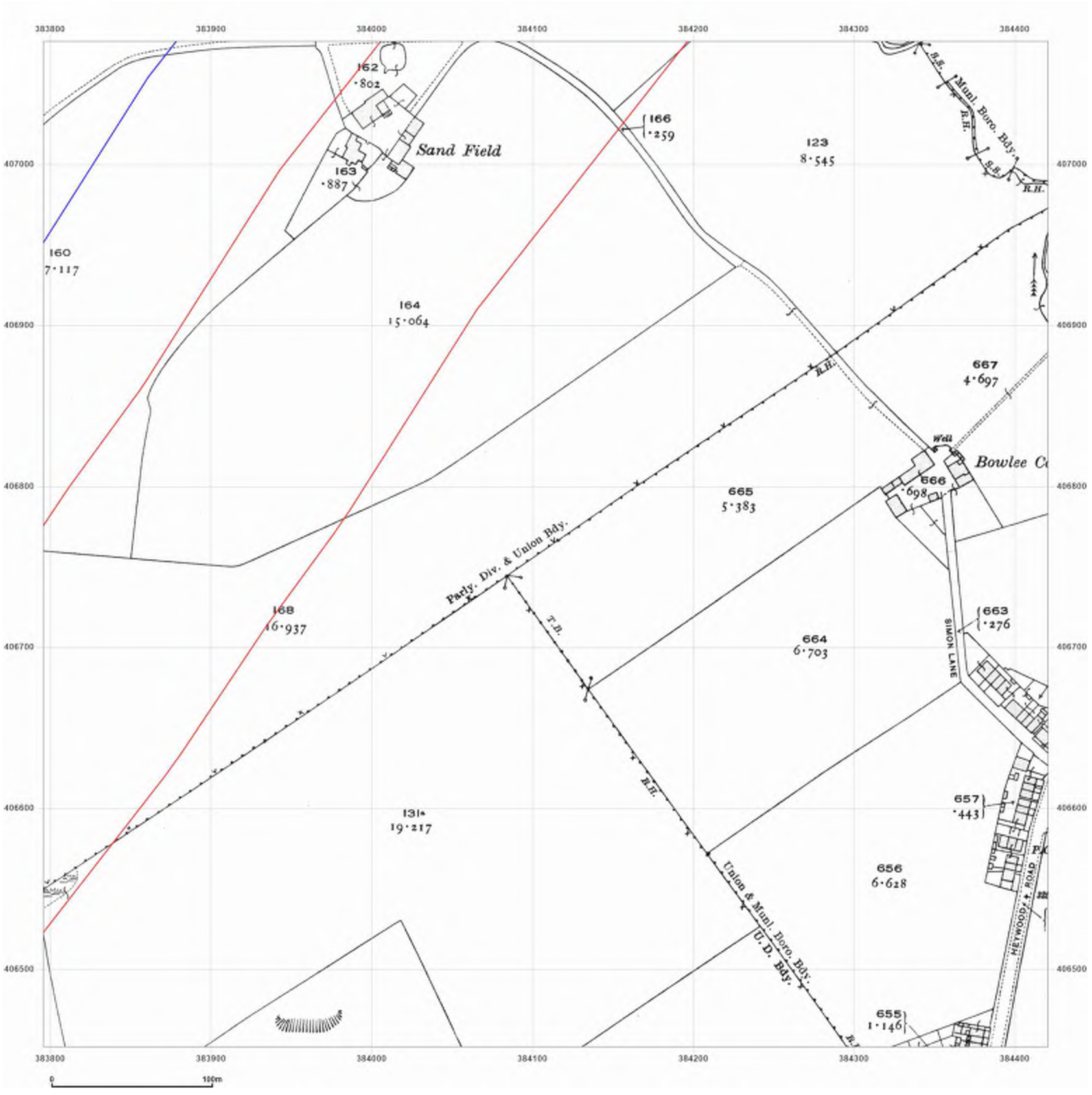
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

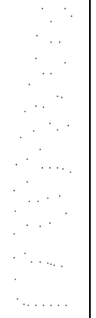
Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_4_2
**Grid Ref:** 384108, 406764

**Map Name:** County Series
**Map date:** 1922
**Scale:** 1:2,500
**Printed at:** 1:2,500

N
W E
S

Surveyed 1922
Revised 1922
Edition N/A
Copyright N/A
Levelled N/A



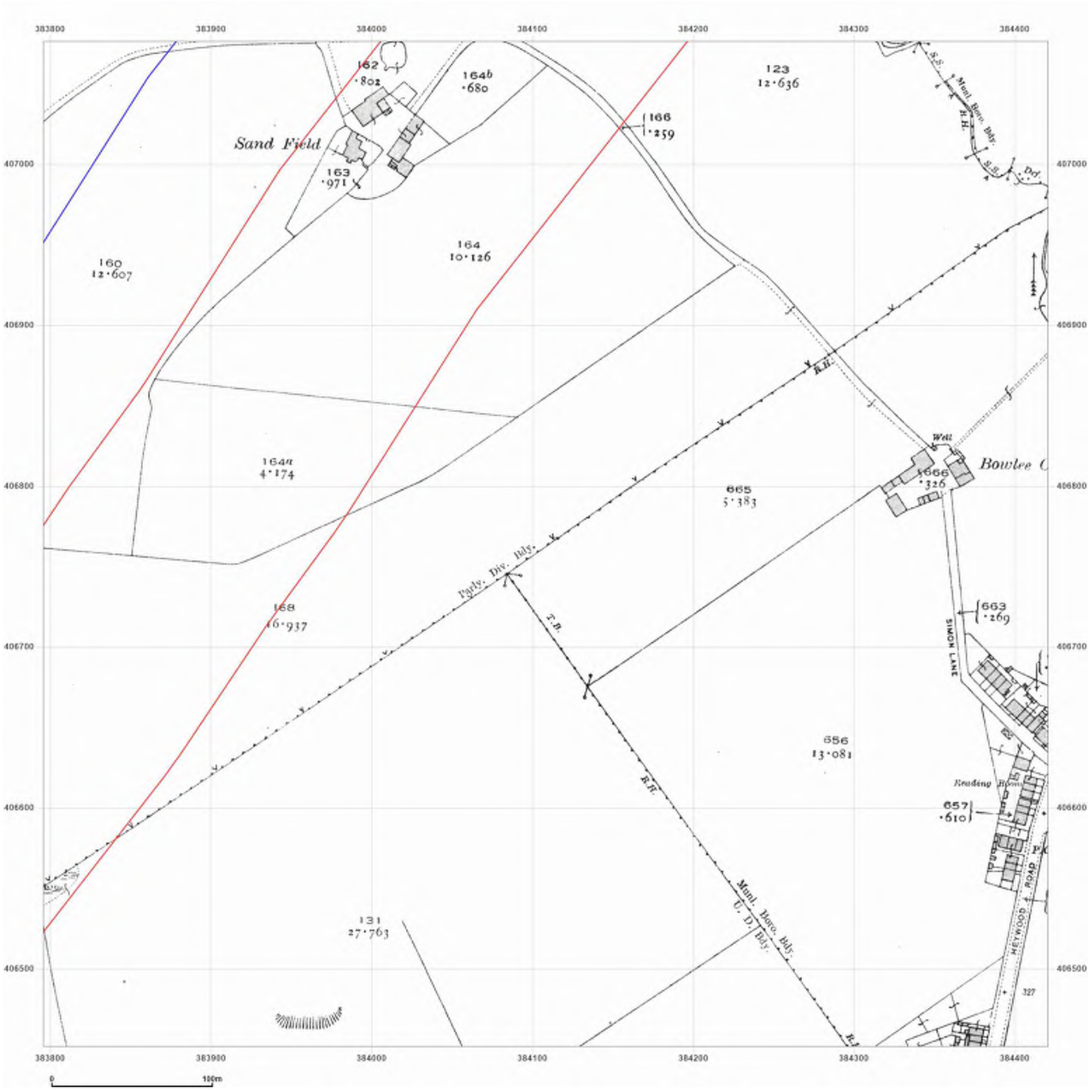
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_4_2
**Grid Ref:** 384108, 406764

**Map Name:** County Series

**Map date:** **1932**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1932
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

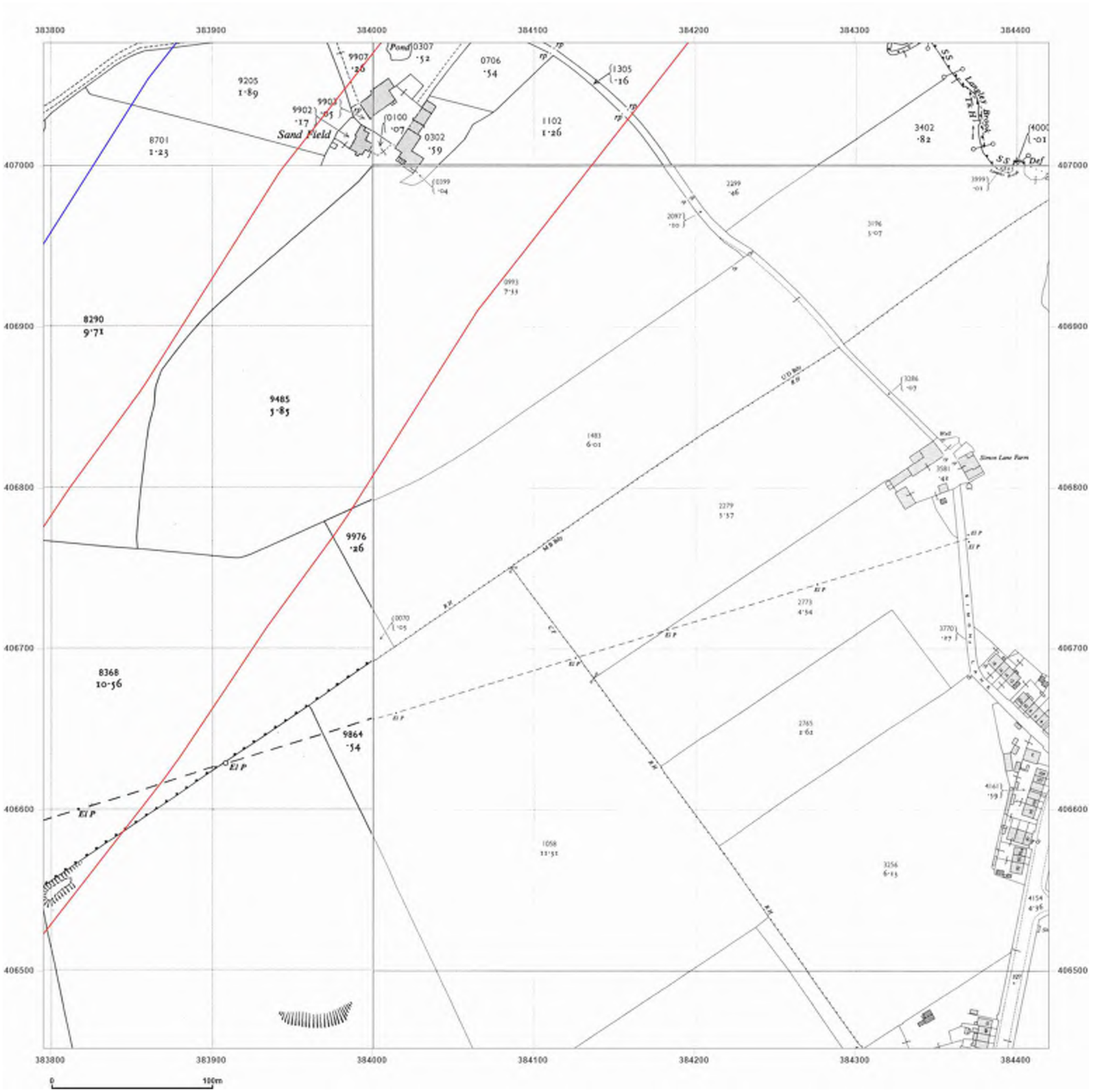
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_4_2
**Grid Ref:** 384108, 406764

**Map Name:** National Grid

**Map date:** **1954-1956**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1956
Revised 1956
Edition N/A
Copyright N/A
Levelled 1927

Surveyed 1956
Revised 1956
Edition N/A
Copyright N/A
Levelled 1927

Surveyed 1956
Revised 1956
Edition N/A
Copyright N/A
Levelled 1927

Surveyed 1954
Revised 1954
Edition 1955
Copyright N/A
Levelled 1927

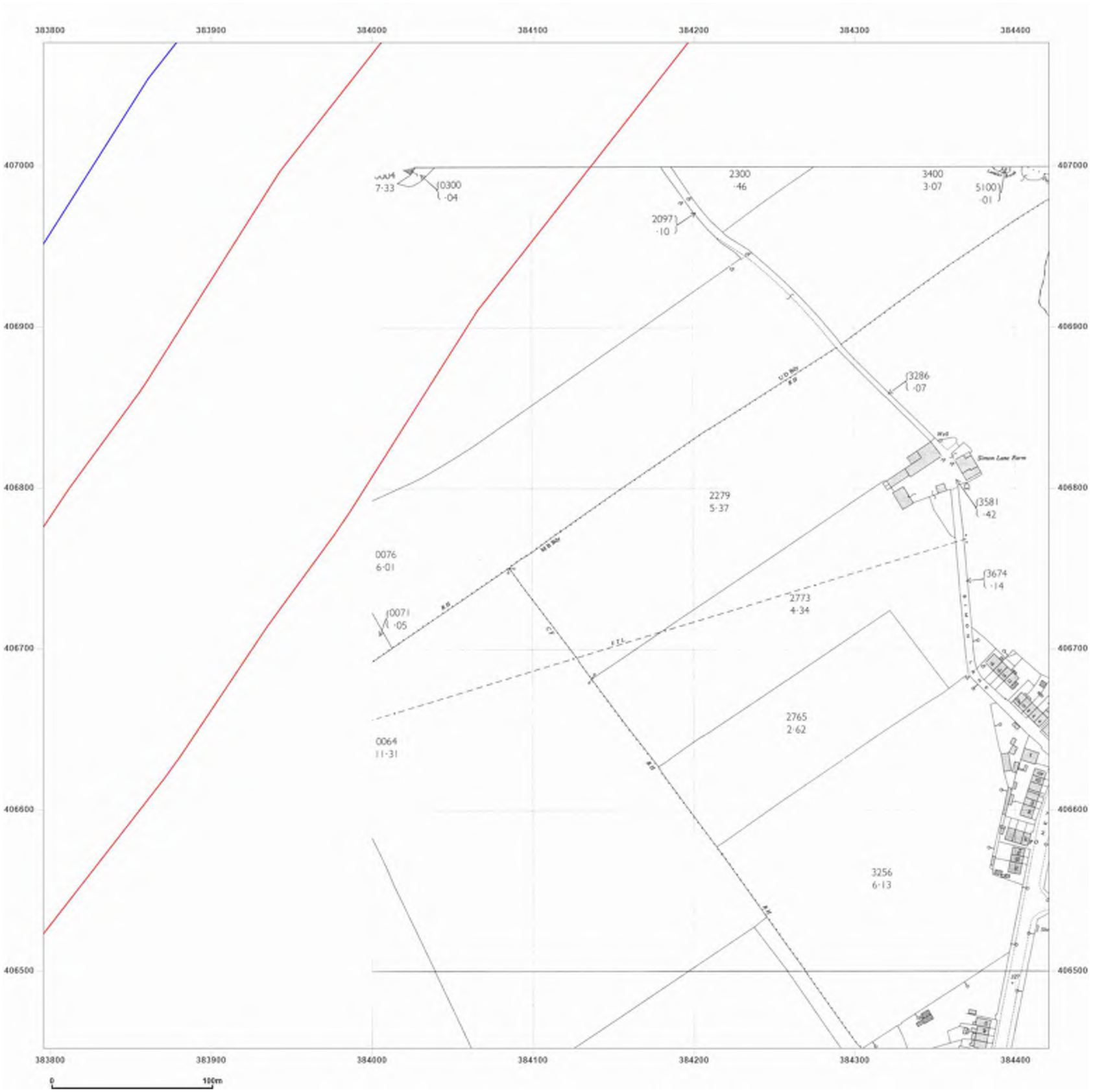
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_4_2
**Grid Ref:** 384108, 406764

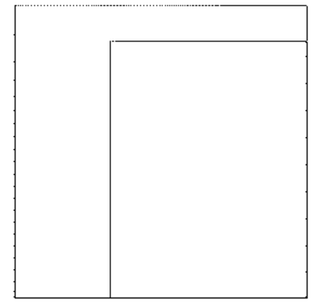
**Map Name:** National Grid

**Map date:** **1965**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S



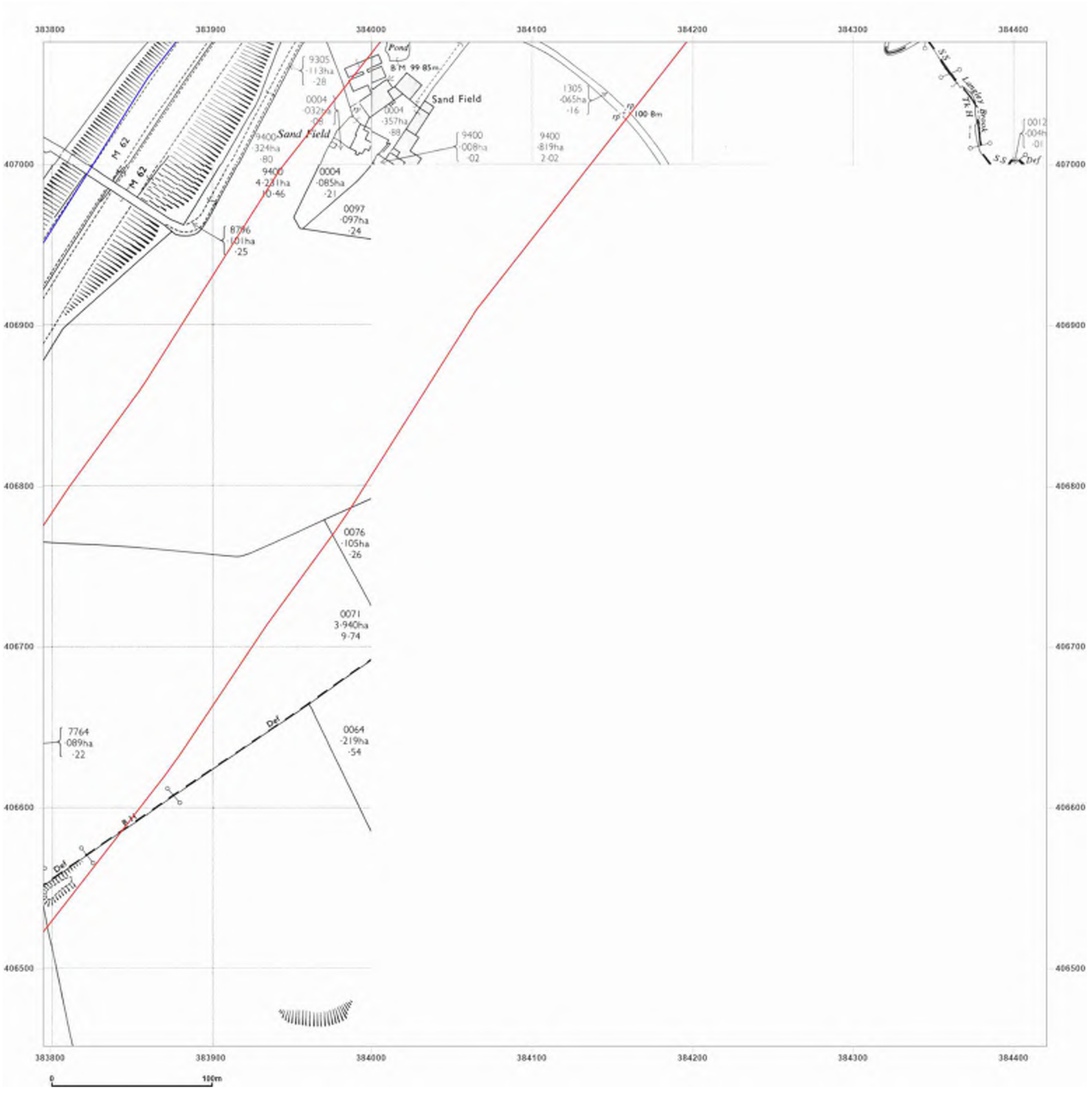

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_4_2
**Grid Ref:** 384108, 406764

**Map Name:** National Grid

**Map date:** **1975**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1956
Revised 1975
Edition N/A
Copyright 1976
Levelled 1927

Surveyed 1956
Revised 1975
Edition N/A
Copyright 1978
Levelled 1962

Surveyed 1956
Revised 1975
Edition N/A
Copyright 1977
Levelled 1956

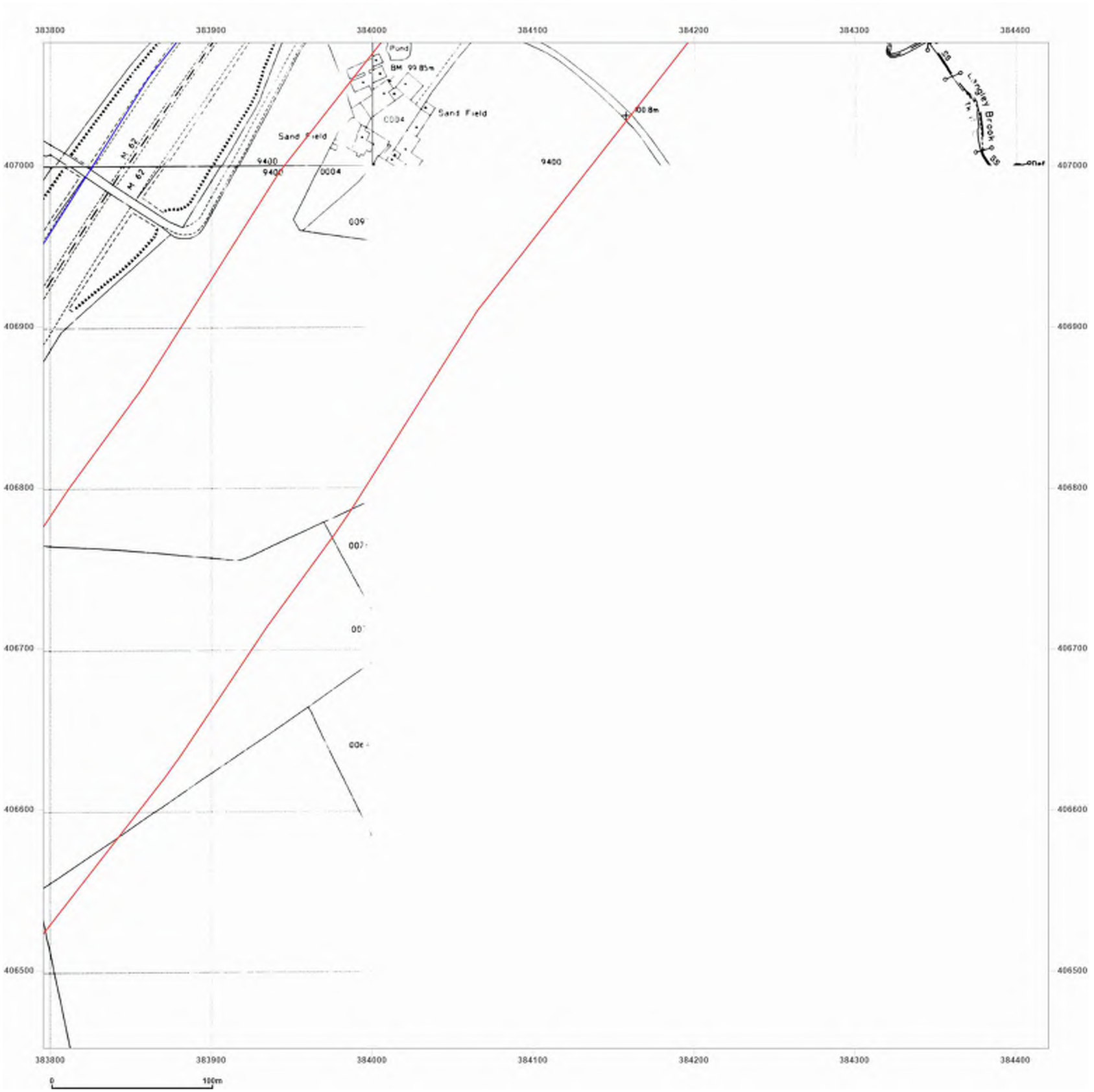
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_4_2
**Grid Ref:** 384108, 406764

**Map Name:** National Grid

**Map date:** **1992**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1992
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

Surveyed 1992
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

Surveyed 1992
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

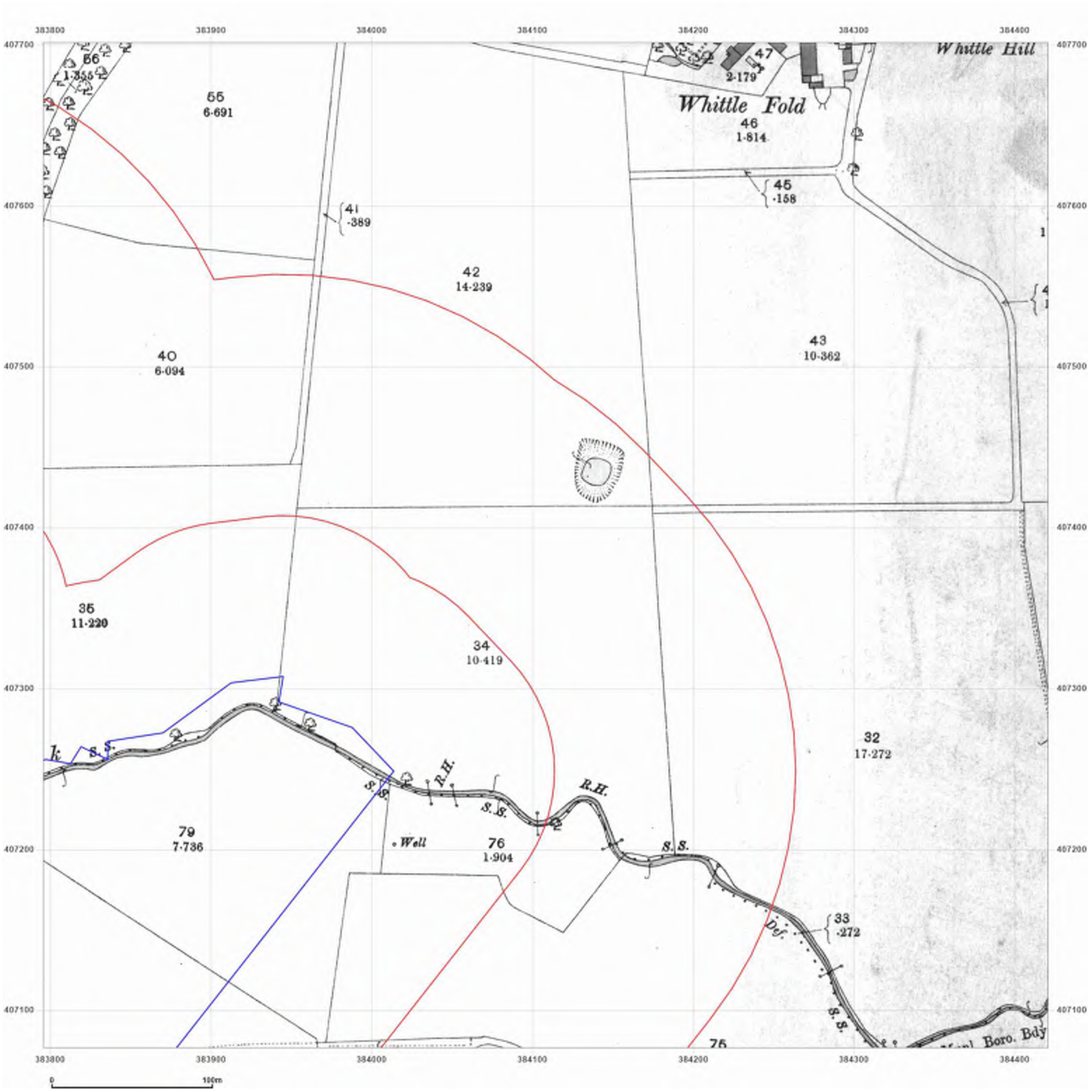
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_4_3
**Grid Ref:** 384108, 407389

**Map Name:** County Series

**Map date:** **1893**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

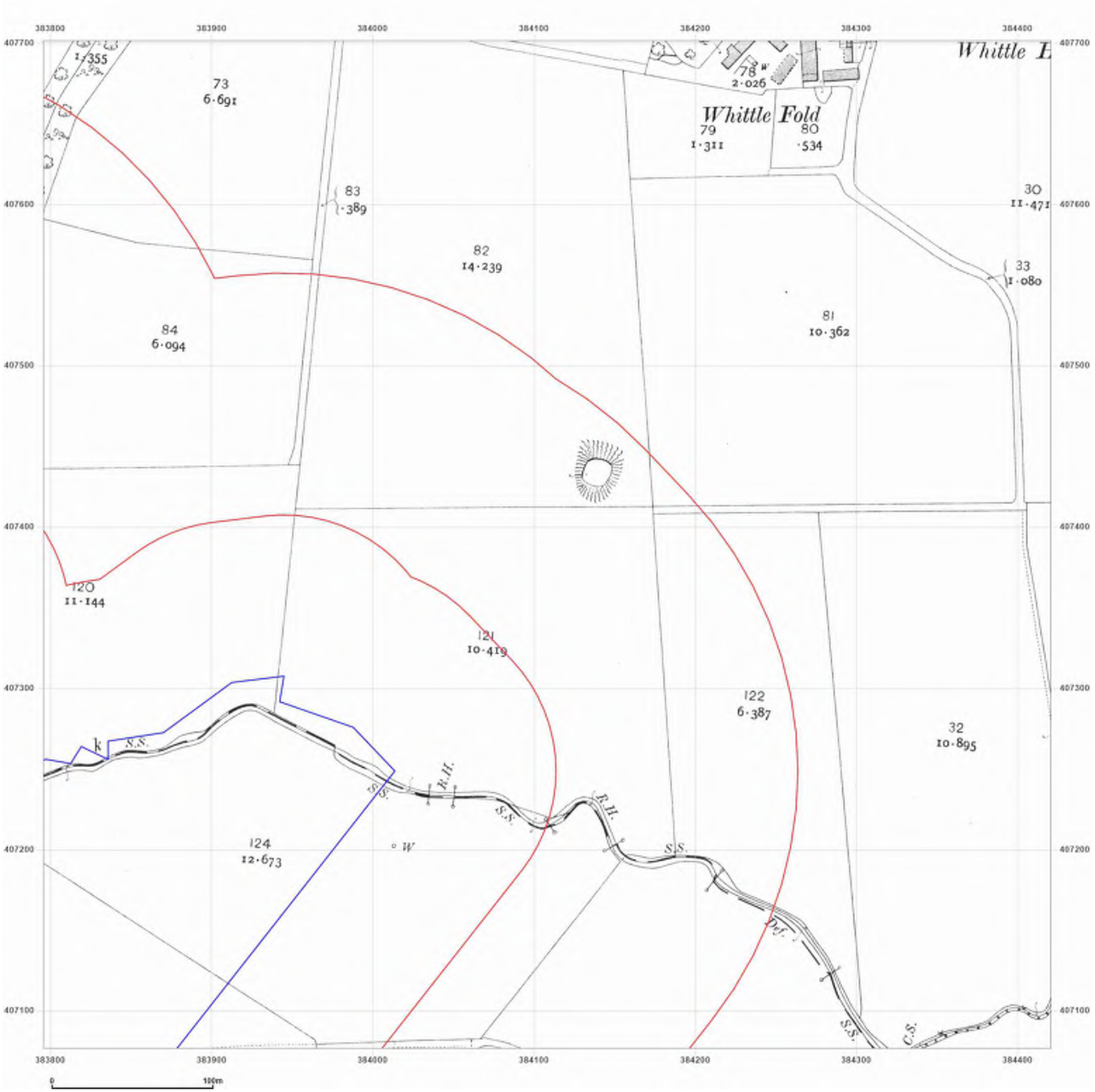
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_4_3
**Grid Ref:** 384108, 407389

**Map Name:** County Series

**Map date:** **1909**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1909
Revised 1909
Edition N/A
Copyright N/A
Levelled N/A

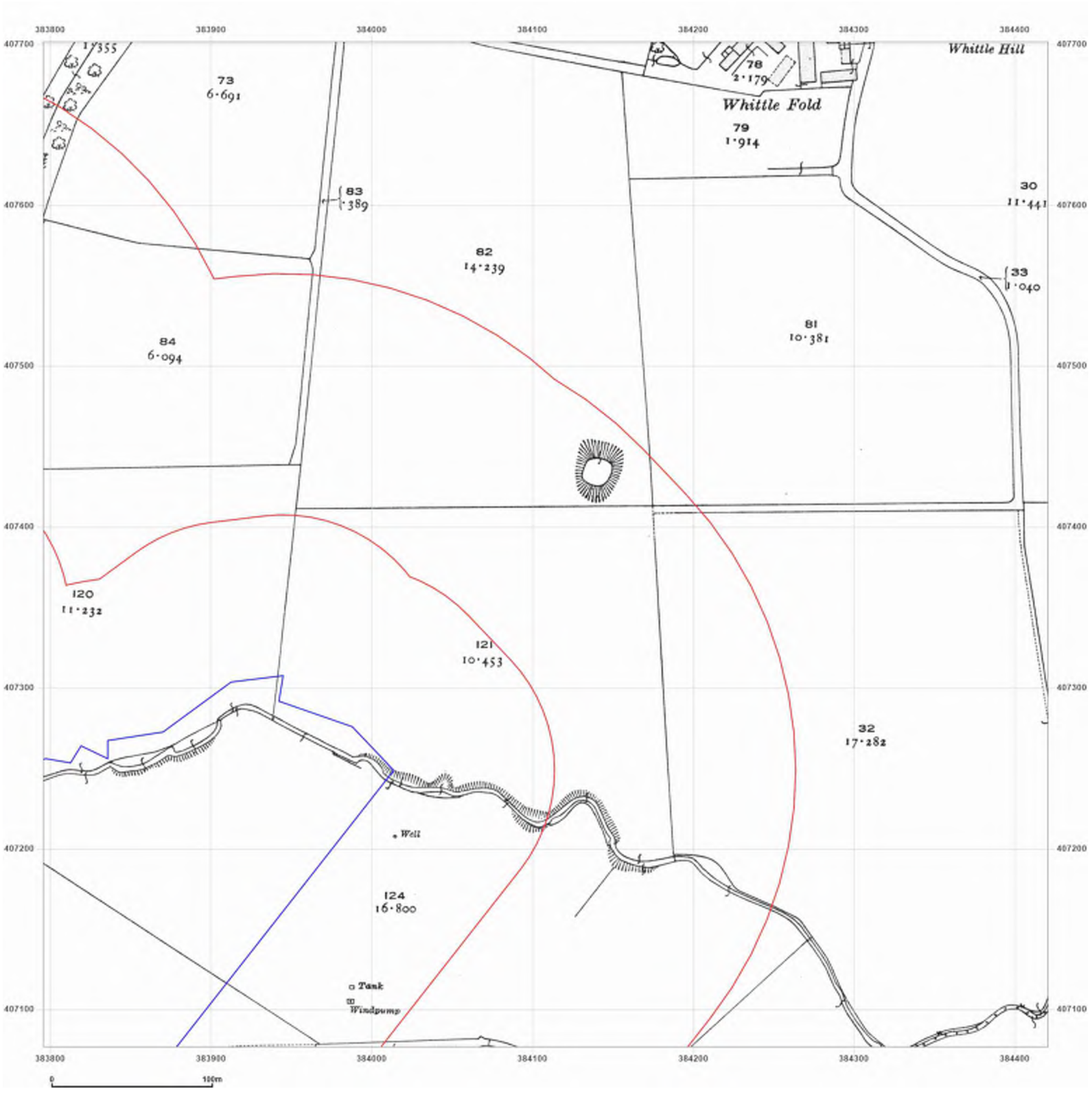
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_4_3
**Grid Ref:** 384108, 407389

**Map Name:** County Series

**Map date:** 1922

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1922
Revised 1922
Edition N/A
Copyright N/A
Levelled N/A

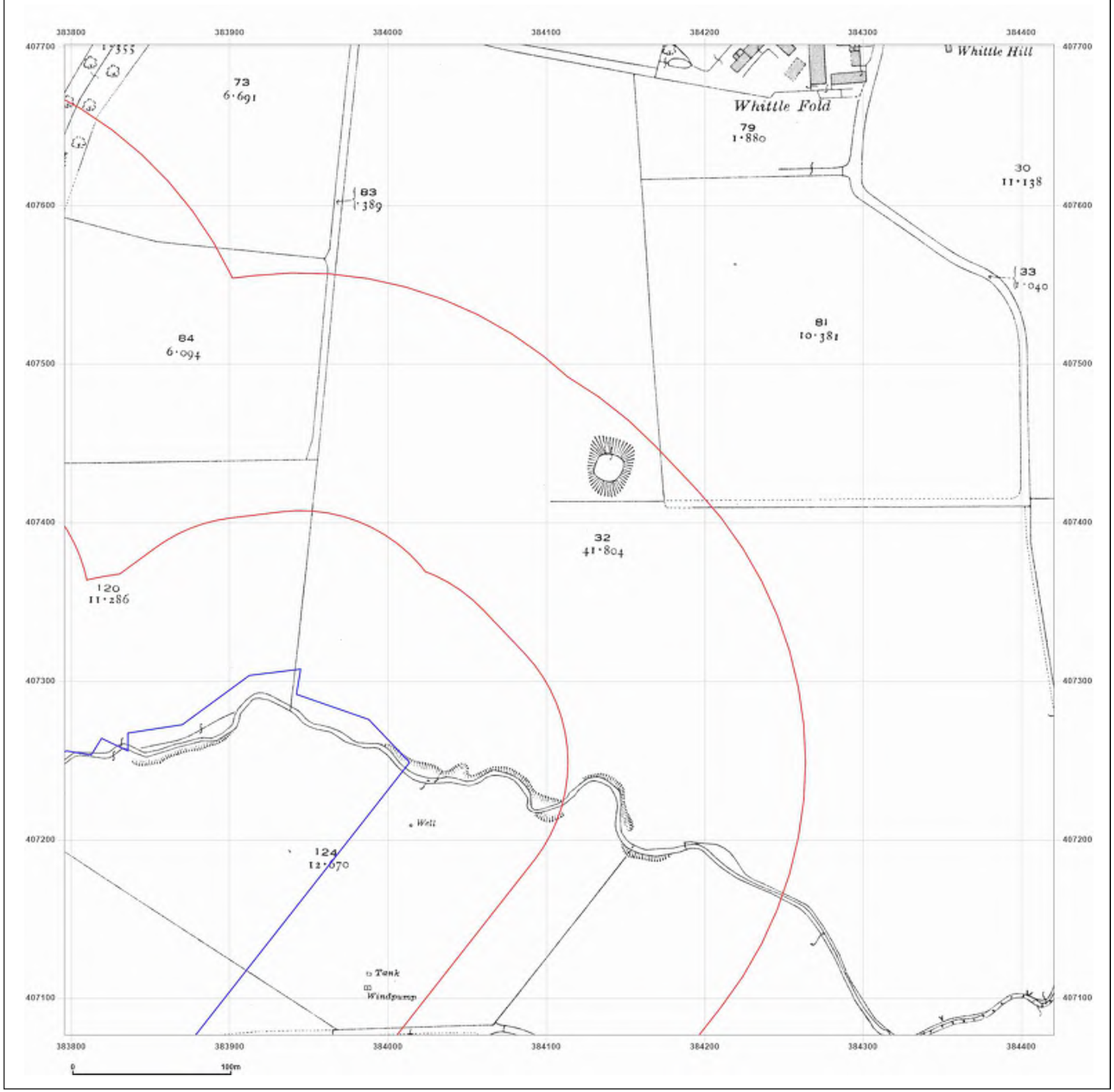
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_4_3
**Grid Ref:** 384108, 407389

**Map Name:** County Series

**Map date:** **1932**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1932
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

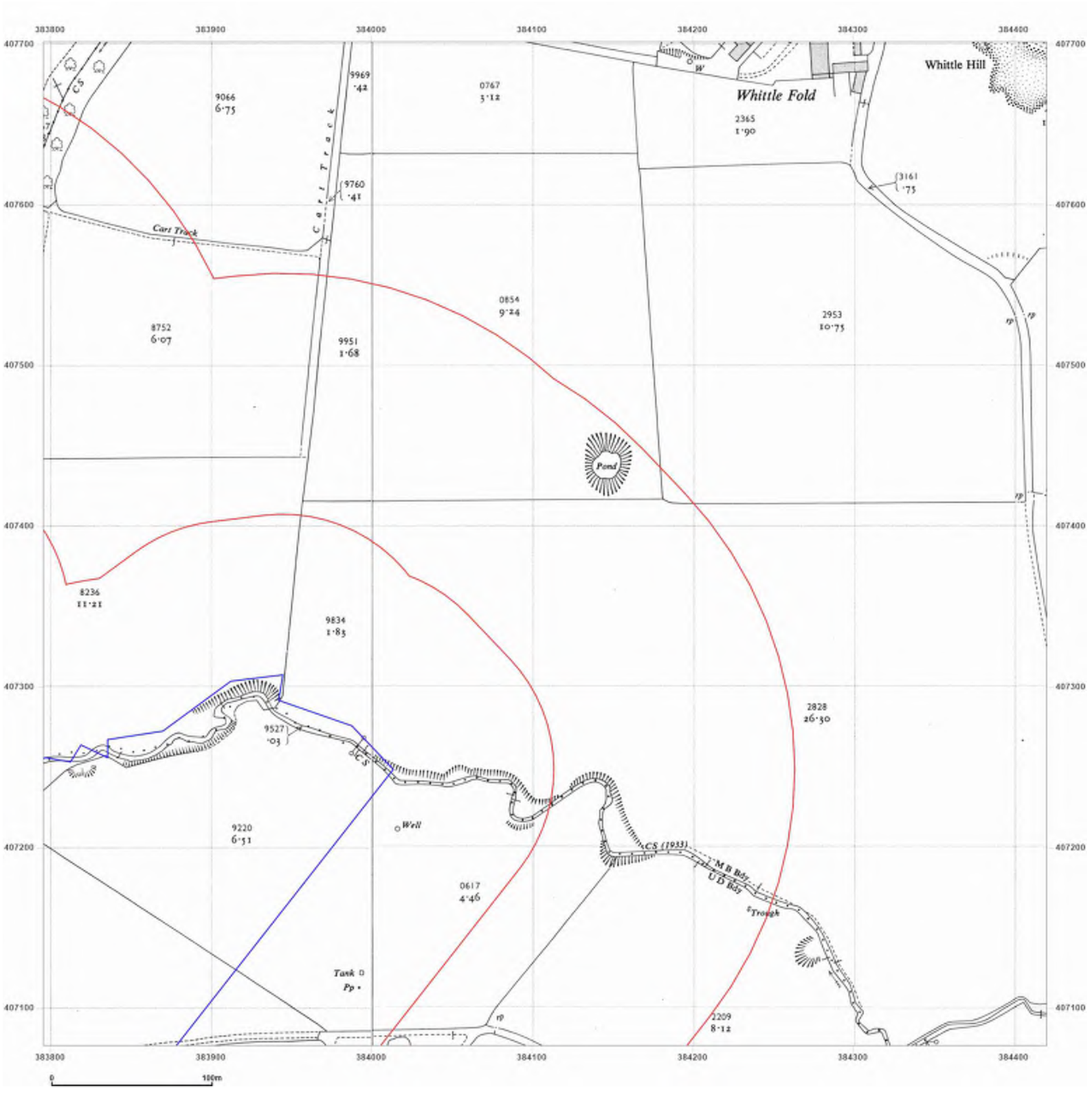
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_4_3
**Grid Ref:** 384108, 407389

**Map Name:** National Grid

**Map date:** **1956**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1956
Revised 1956
Edition N/A
Copyright N/A
Levelled 1927

Surveyed 1956
Revised 1956
Edition N/A
Copyright N/A
Levelled 1927

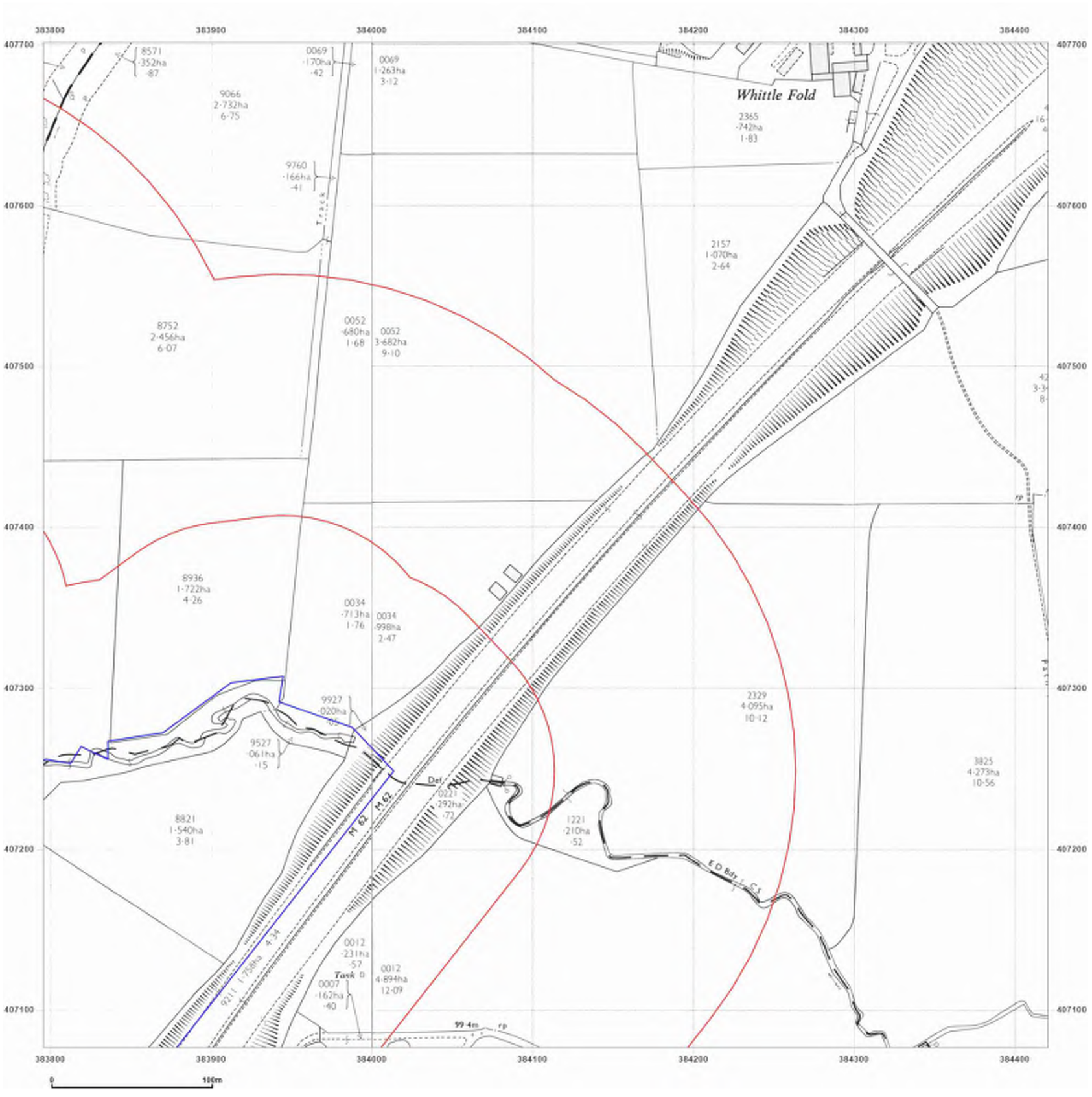
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_4_3
**Grid Ref:** 384108, 407389

**Map Name:** National Grid

**Map date:** **1975**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1956
Revised 1975
Edition N/A
Copyright 1976
Levelled 1927

Surveyed 1956
Revised 1975
Edition N/A
Copyright 1978
Levelled 1962

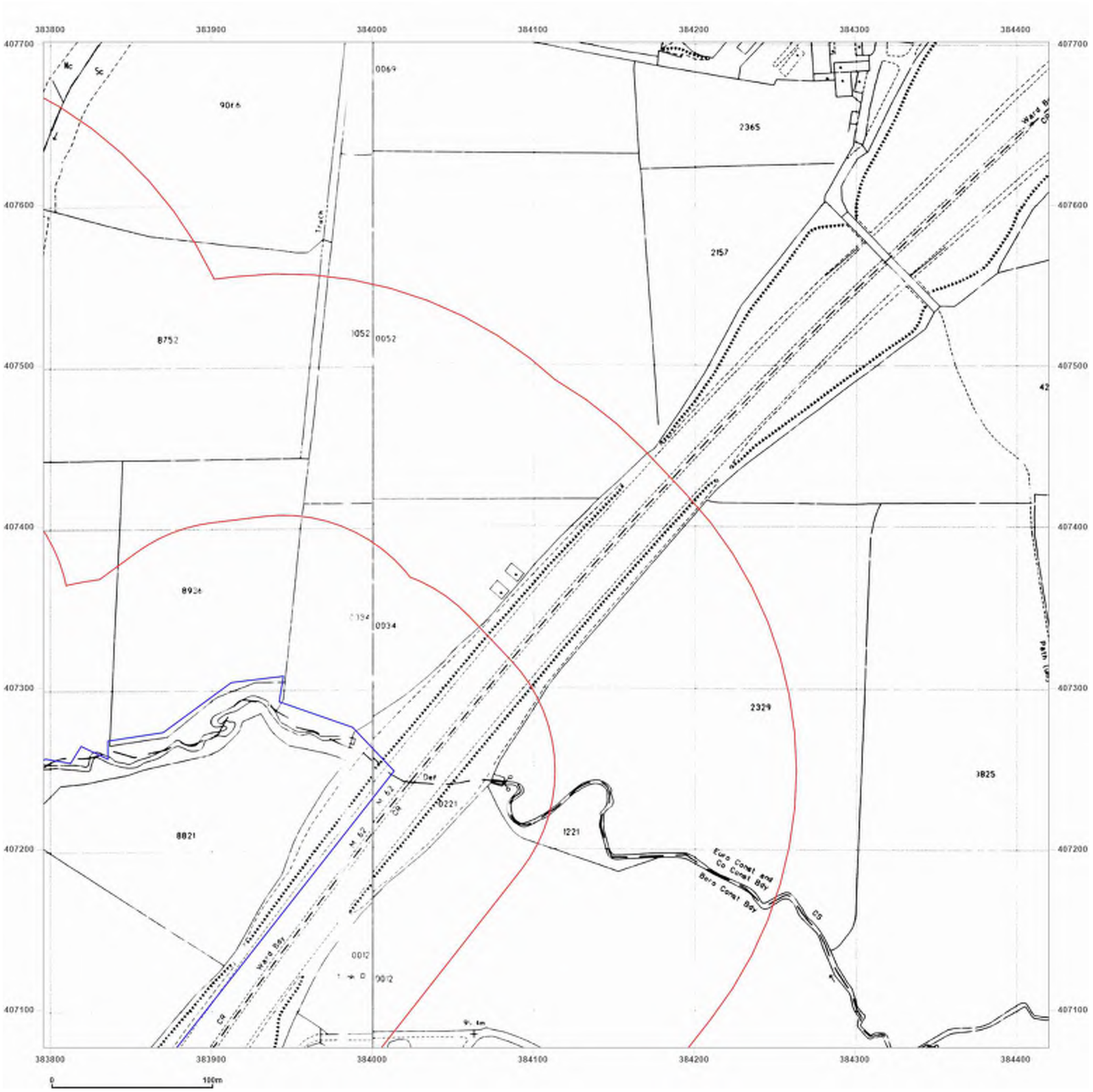
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_4_3
**Grid Ref:** 384108, 407389

**Map Name:** National Grid

**Map date:** **1992**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed 1992
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

Surveyed 1992
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

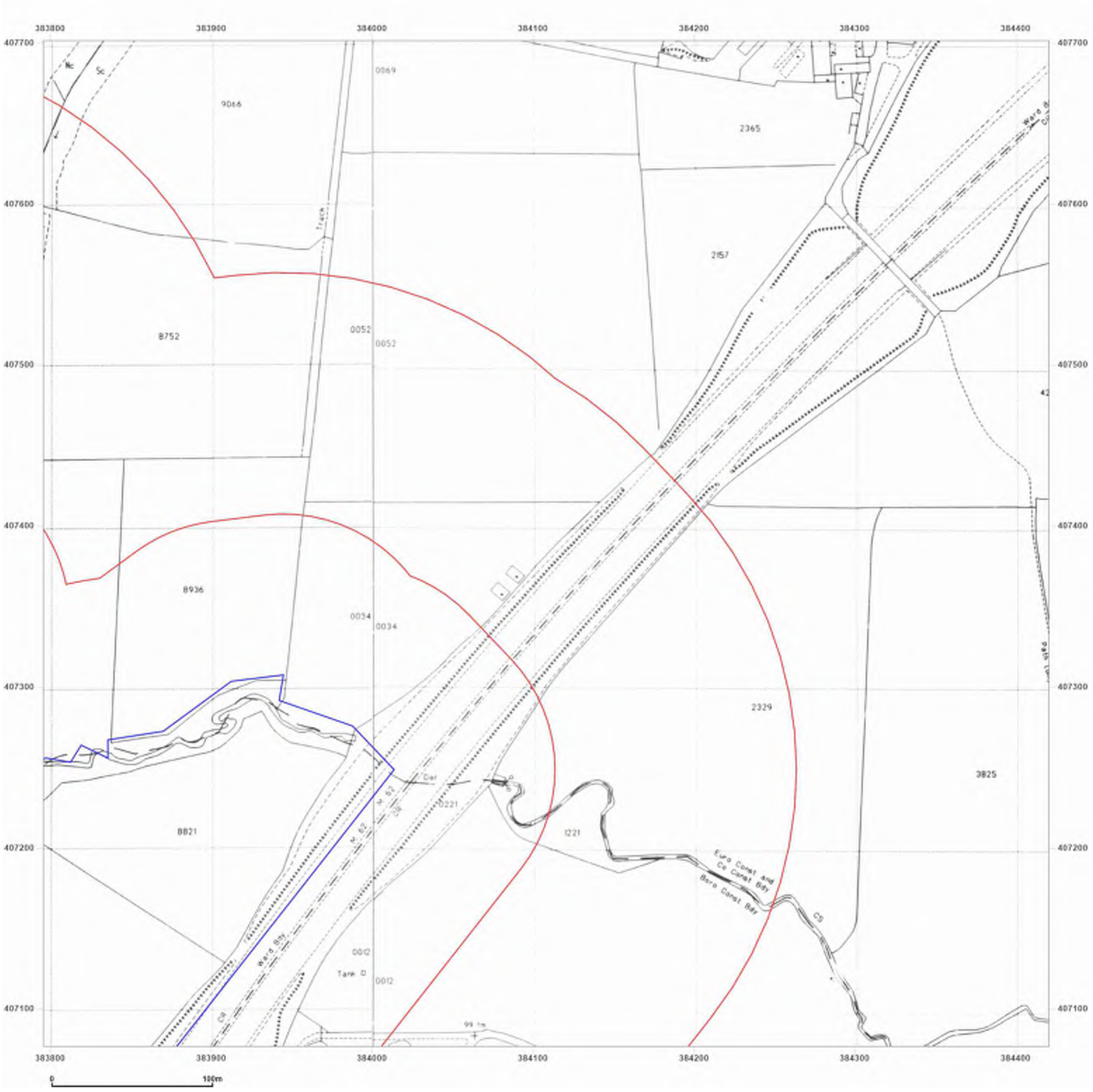
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

Northern Gateway

**Client Ref:** Northern Gateway
**Report Ref:** GSIP-2023-14200-16017_F_LS_4_3
**Grid Ref:** 384108, 407389

**Map Name:** National Grid

**Map date:** **1992**

**Scale:** 1:2,500

**Printed at:** 1:2,500

N
W E
S

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 08 December 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf

# APPENDIX D – CONSULTANTS MINING REPORT

# APPENDIX E – BGS RECORDS

The Coal Authority

Resolving the impacts of mining

# CON29M Non-Residential Mining Report








## NORTHERN GATEWAY, AREA 2
## GREATER MANCHESTER
## M252RU

| | |
|---|---|
| Date of enquiry: | 11 July 2017 |
| Date enquiry received: | 11 July 2017 |
| Issue date: | 11 July 2017 |
| | |
| Our reference: | 51001498280001 |
| Your reference: | A104444 |

# CON29M Non-Residential Mining Report

This report is based on, and limited to, the records held by the Coal Authority and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

**Client name**

WYG ENVIRONMENT PLANNING TRANSPORT LTD

**Enquiry address**

NORTHERN GATEWAY, AREA 2, GREATER MANCHESTER, M252RU




Approximate position of property

Map data

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved.

Ordnance Survey Licence number: 100020315

## How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

/company/the-coal-authority
/thecoalauthority
/coalauthority

# Summary

| Has the search report highlighted evidence or potential of | | |
|---|---|---|
| 1 | Past underground coal mining | Yes |
| 2 | Present underground coal mining | No |
| 3 | Future underground coal mining | Yes |
| 4 | Mine entries | Yes |
| 5 | Coal mining geology | No |
| 6 | Past opencast coal mining | No |
| 7 | Present opencast coal mining | No |
| 8 | Future opencast coal mining | No |
| 9 | Coal mining subsidence | No |
| 10 | Mine gas | No |
| 11 | Hazards related to coal mining | No |
| 12 | Withdrawal of support | No |
| 13 | Working facilities order | No |
| 14 | Payments to owners of former copyhold land | No |
| 15 | Information from the Cheshire Brine Subsidence Compensation Board | No |

| Further recommended reports |
|---|
| Mine entry interpretive report |
| Mine entry plan and data sheets |

**For detailed findings, please go to page 4.**

# Detailed findings

### 1. Past underground coal mining

The property is not within a surface area that could be affected by past underground mining.

However the property is in an area where the Coal Authority believe there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered prior to any site works or future development activity. Your attention is drawn to the Comments on the Coal Authority information section of the report.

### 2. Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

### 3. Future underground coal mining

The property is not in an area where the Coal Authority has plans to grant a licence to remove coal using underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

### 4. Mine entries

Within, or within 20 metres of, the boundary of the property there are 5 mine entries, the approximate positions of which are shown on the enquiry boundary plot.

There is no record of what steps, if any, have been taken to treat the mine entries.

There may however be mine entries/additional mine entries in the local area which the Coal Authority has no knowledge of.

For an additional fee, the Coal Authority can provide a Mine Entry Interpretive Report. The report will provide a separate assessment for the mine entry/entries referred to in this report. It gives an opinion on the likelihood of mining subsidence damage caused from ground movement as a consequence of the mine entry/entries. It also gives details of the remedies available for subsidence damage where the mine entry was sunk in connection with coal mining.

Please note that it may not be possible to produce a report if the main building to the property cannot be identified from Coal Authority plans (ie for development sites and new build).

For further advice on how to order this additional information please visit www.groundstability.com.

## 5. Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

## 6. Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

## 7. Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

## 8. Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

## 9. Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

## 10. Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

## 11. Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

## 12. Withdrawal of support

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

## 13. Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

## 14. Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

## 15. Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

# Comments on the Coal Authority information

## The Coal Authority own the copyright in this report and the information used is protected by our database right.

The boundary plot shows the approximate location of the disused mine entry/entries referred to in this report.  For reasons of clarity, mine entry symbols may not be drawn to the same scale as the plan.

Property owners have the benefit of statutory protection (under the Coal Mining Subsidence Act 1991*). This contains provision for the making good, to the reasonable satisfaction of the owner, of physical damage from disused coal mine workings including disused coal mine entries. A leaflet setting out the rights and obligations of either the Coal Authority or other responsible persons under the 1991 Act can be obtained by visiting www.groundstability.com.

If you wish to discuss the relevance of any of the information contained in this report, you should seek the advice of a qualified mining engineer or surveyor. If you or your advisor wish to examine the source plans from which the information has been taken, these are available to view, free of charge, at our Head Office in Mansfield. To book an appointment please ring 01623 637225. Should you or your advisor wish to carry out a physical investigation that may enter, disturb or interfere with any disused mine entry, prior permission of the owner must be sought. For coal mine entries, the owner will normally be the Coal Authority.

The Coal Authority, regardless of responsibility and in conjunction with other public bodies, provide an emergency call out facility in coalfield areas to assess the public safety implications of mining features (including disused mine entries). Our emergency telephone number is 01623 646333.

*Note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

In view of the mining circumstances a prudent developer would seek appropriate technical advice before any works are undertaken.

Therefore if  development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before

beginning work on site. All proposals should apply good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. Developers should be aware that the investigation of coal seams/former mines of coal may have the potential to generate and/or displace underground gases and these risks both under and adjacent to the development should be fully considered in developing any proposals. The need for effective measures to prevent gases entering into public properties either during investigation or after development also needs to be assessed and properly addressed. This is necessary due to the public safety implications of any development in these circumstances.

## Additional remarks

Information provided by the Coal Authority in this report is compiled in response to the Law Society's Con29M Coal Mining and Brine Subsidence Claim enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL. Please note that Brine Subsidence Claim enquiries are only relevant for England and Wales. This report is prepared in accordance with the Law Society's Guidance Notes 2006, the User Guide 2006 and the Coal Authority and Cheshire Brine Board's Terms and Conditions applicable at the time the report was produced.

## Disclaimer

The Coal Authority owns the copyright in this report and the information used to produce this report is protected by our database rights. All rights are reserved and unauthorised use is prohibited. If we provide a report for you, this does not mean that copyright and any other rights will pass to you. However, you can use the report for your own purposes.

## Alternative formats

If you would like this report in an alternative format, please contact our communications team.

# Enquiry boundary

**The map image is too large for this page and will be sent in a separate document**

## How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

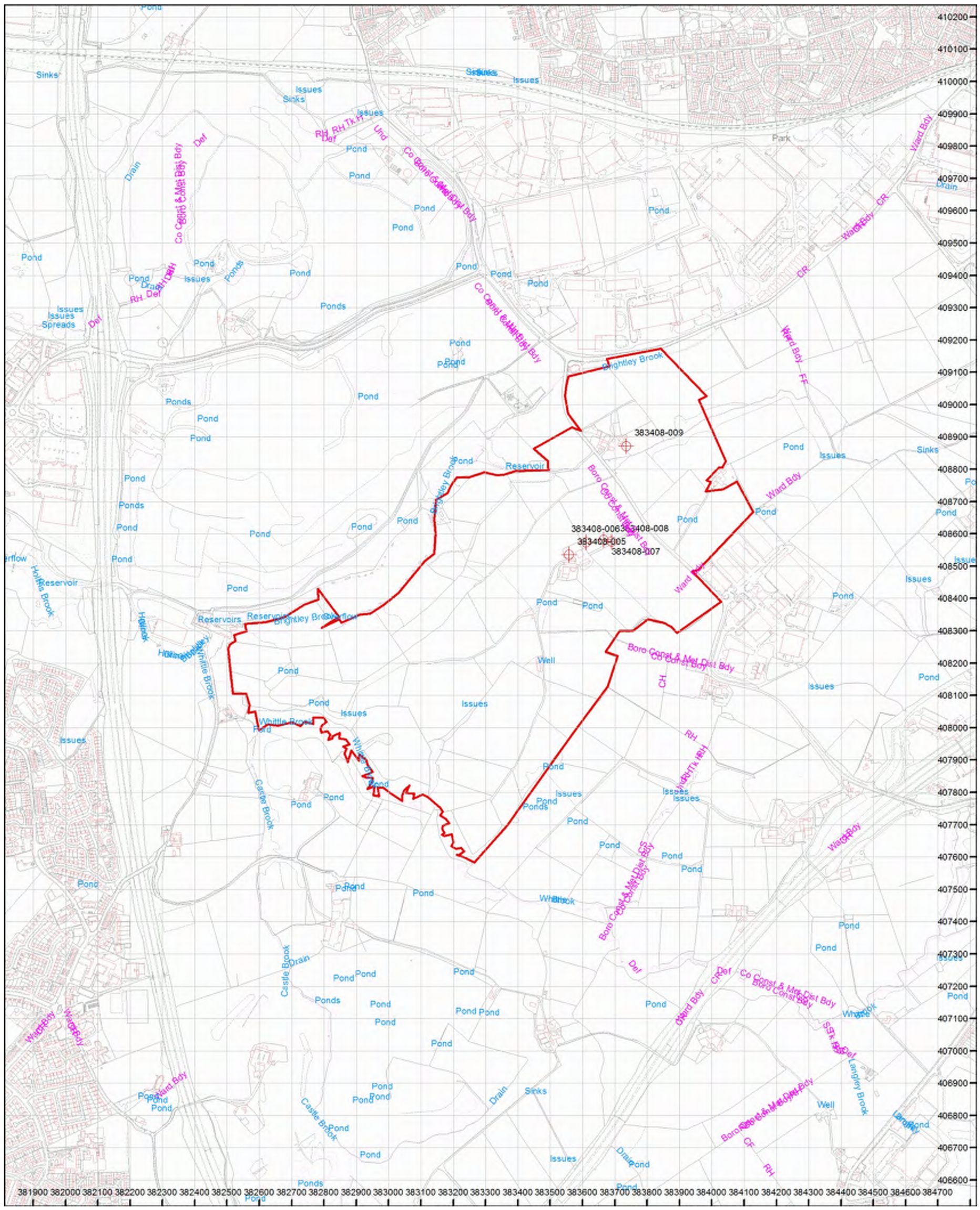
/company/the-coal-authority
/thecoalauthority
/coalauthority

# Enquiry boundary

**Key**

Approximate position of enquiry boundary shown

Disused mineshaft




## How to contact us


0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

/company/the-coal-authority
/thecoalauthority
/coalauthority



Map data

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved.

Ordnance Survey Licence number: 100020315

The Coal Authority

Resolving the impacts of mining

# CON29M Non-Residential Mining Report








NORTHERN GATEWAY
SIMISTER
GREATER MANCHESTER
M25 2RU

| | |
|---|---|
| Date of enquiry: | 11 July 2017 |
| Date enquiry received: | 11 July 2017 |
| Issue date: | 11 July 2017 |
| Our reference: | 51001498068001 |
| Your reference: | A104444 |

# CON29M Non-Residential Mining Report

This report is based on, and limited to, the records held by the Coal Authority and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

**Client name**

WYG ENVIRONMENT PLANNING TRANSPORT LTD

**Enquiry address**

NORTHERN GATEWAY, SIMISTER, GREATER MANCHESTER, M25 2RU




Approximate position of property

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved.

Ordnance Survey Licence number: 100020315

## How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

/company/the-coal-authority
/thecoalauthority
/coalauthority

# Summary

| Has the search report highlighted evidence or potential of | | |
|---|---|---|
| 1 | Past underground coal mining | No |
| 2 | Present underground coal mining | No |
| 3 | Future underground coal mining | Yes |
| 4 | Mine entries | No |
| 5 | Coal mining geology | No |
| 6 | Past opencast coal mining | No |
| 7 | Present opencast coal mining | No |
| 8 | Future opencast coal mining | No |
| 9 | Coal mining subsidence | Yes |
| 10 | Mine gas | No |
| 11 | Hazards related to coal mining | No |
| 12 | Withdrawal of support | No |
| 13 | Working facilities order | No |
| 14 | Payments to owners of former copyhold land | No |
| 15 | Information from the Cheshire Brine Subsidence Compensation Board | No |

| Further recommended reports |
|---|
| Coal mining subsidence claims history |

**For detailed findings, please go to page 4.**

# Detailed findings

### 1. Past underground coal mining

The property is not within a surface area that could be affected by past underground mining.

### 2. Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

### 3. Future underground coal mining

The property is not in an area where the Coal Authority has plans to grant a licence to remove coal using underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

### 4. Mine entries

There are no known coal mine entries within, or within 20 metres of, the boundary of the property.

### 5. Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

### 6. Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

## 7. Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

## 8. Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

## 9. Coal mining subsidence

A damage notice or claim for alleged subsidence damage was made in June 2000 for FIELD OS 1721 LAND AT BRICK HOUSE FARM, UNSWORTH, BURY, GREATER MANCHESTER. However, the claim was rejected.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

If further subsidence damage claims information is required, please visit www.groundstability.com.

## 10. Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

## 11. Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

## 12. Withdrawal of support

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

## 13. Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

## 14. Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

### 15. Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

## Additional remarks

Information provided by the Coal Authority in this report is compiled in response to the Law Society's Con29M Coal Mining and Brine Subsidence Claim enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL. Please note that Brine Subsidence Claim enquiries are only relevant for England and Wales. This report is prepared in accordance with the Law Society's Guidance Notes 2006, the User Guide 2006 and the Coal Authority and Cheshire Brine Board's Terms and Conditions applicable at the time the report was produced.

## Disclaimer

The Coal Authority owns the copyright in this report and the information used to produce this report is protected by our database rights. All rights are reserved and unauthorised use is prohibited. If we provide a report for you, this does not mean that copyright and any other rights will pass to you. However, you can use the report for your own purposes.

## Alternative formats

If you would like this report in an alternative format, please contact our communications team.

# Enquiry boundary

**The map image is too large for this page and will be sent in a separate document**

## How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

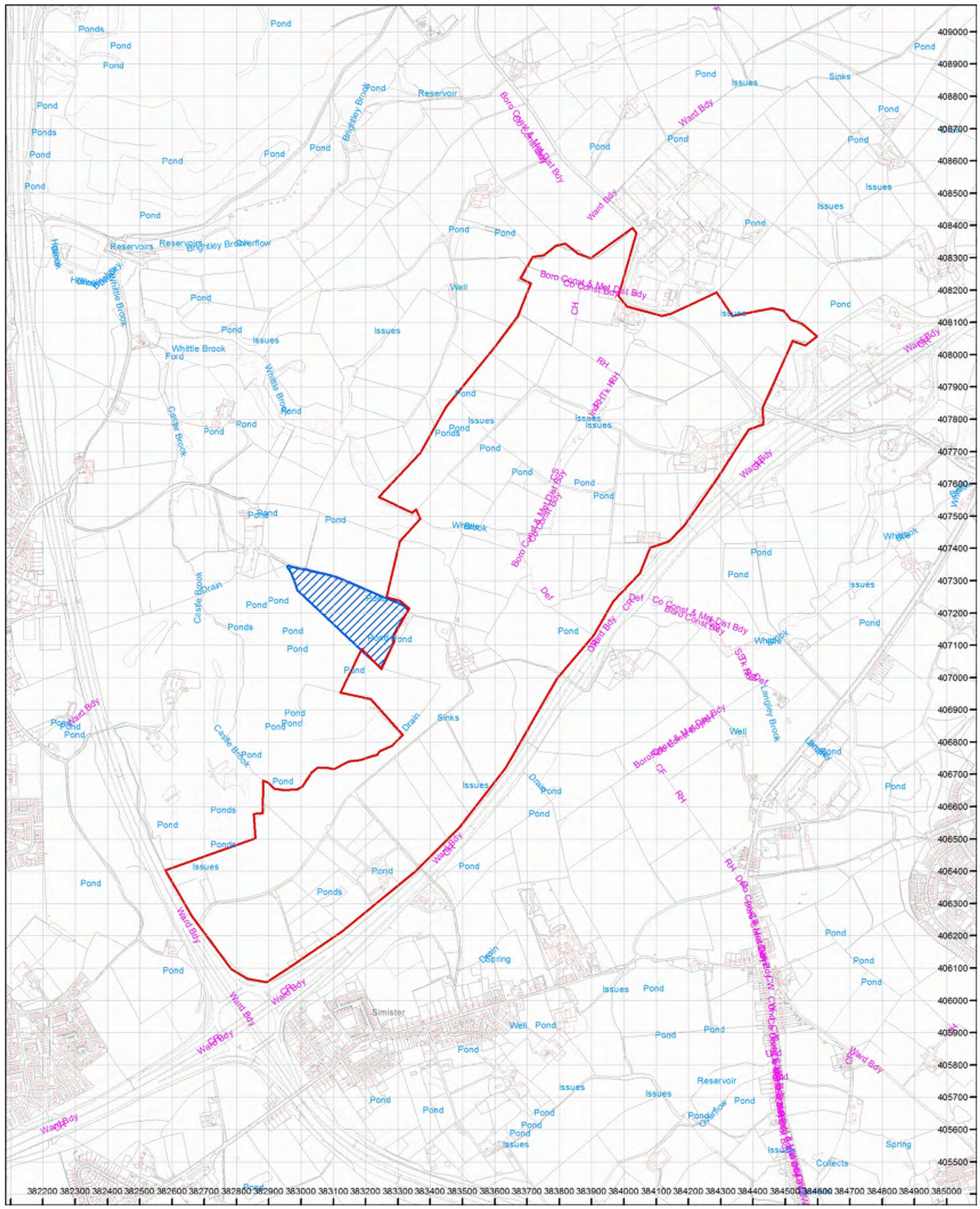
/company/the-coal-authority
/thecoalauthority
/coalauthority

# Enquiry boundary

**Key**

Approximate position of enquiry boundary shown

Coal claims




## How to contact us


0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

/company/the-coal-authority
/thecoalauthority
/coalauthority



Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved.

Ordnance Survey Licence number: 100020315

The Coal Authority

# Consultants

## Coal Mining Report

Azure Quarter
Greater Manchester

| | |
|---|---|
| Date of enquiry: | **26 November 2024** |
| Date enquiry received: | **26 November 2024** |
| Issue date: | **26 November 2024** |
| Our reference: | **51003465519001** |
| Your reference: | **GS-UK8-NHF-5JQ-AU8** |



# Consultants
# Coal Mining Report

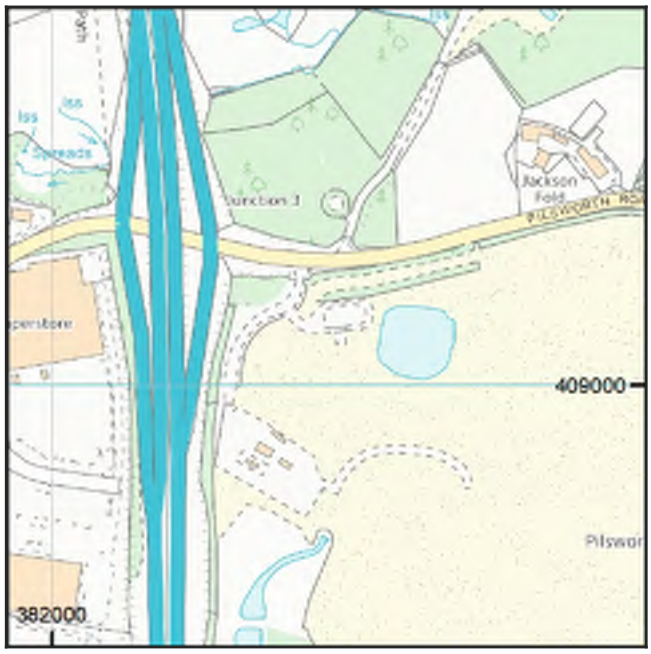
This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

**Client name**

GROUNDSURE LIMITED

**Enquiry address**

Azure Quarter
Greater Manchester




Approximate position of property

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2018. All rights reserved.

Ordnance Survey Licence number: 100020315

**How to contact us**

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

@coalauthority
/company/the-coal-authority
/thecoalauthority
/thecoalauthority

# Section 1 – Mining activity and geology

### Past underground mining
No past mining recorded.

### Probable unrecorded shallow workings
Yes.

### Spine roadways at shallow depth
No spine roadway recorded at shallow depth.

### Mine entries
None recorded within 100 metres of the enquiry boundary.

### Abandoned mine plan catalogue numbers
The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

| | | |
|---|---|---|
| 16820 | | |

**Please contact us on 0345 762 6848** to determine the exact abandoned mine plans you require based on your needs.

### Outcrops

| Seam name | Mineral | Seam workable | Distance to outcrop (m) | Direction to outcrop | Bearing of outcrop |
|---|---|---|---|---|---|
| ARLEY | Coal | Yes | Within | N/A | 121 |
| ARLEY | Coal | Yes | Within | N/A | 297 |
| ARLEY | Coal | Yes | Within | N/A | 301 |
| BASSEY | Coal | Yes | Within | N/A | 341 |
| BASSEY | Coal | Yes | Within | N/A | 346 |
| LOWER FOOT | Coal | Yes | Within | N/A | 167 |
| LOWER MOUNTAIN | Coal | Yes | Within | N/A | 166 |
| UPPER FOOT | Coal | Yes | Within | N/A | 174 |

Copyright © 2024 The Coal Authority

### Geological faults, fissures and breaklines

Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Faults under or close to the property recorded.

### Opencast mines

None recorded within 500 metres of the enquiry boundary.

### Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

# Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

### Site investigations

| Distance to site investigation (m) | Direction |
|---|---|
| Within | N/A |

See Section 4 for further information.

### Remediated sites

None recorded within 50 metres of the enquiry boundary.

### Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

### Mine gas

None recorded within 500 metres of the enquiry boundary.

### Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Copyright © 2024 The Coal Authority

# Section 3 – Licensing and future mining activity

### Future underground mining
None recorded.

### Coal mining licensing
None recorded within 200 metres of the enquiry boundary.

### Court orders
None recorded.

### Section 46 notices
No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

### Withdrawal of support notices
The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

### Payments to owners of former copyhold land
The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Copyright © 2024 The Coal Authority

# Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

### Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority.

**MINE GAS:** Please note, if there are no recorded instances of mine gas within 500m of the enquiry boundary, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed. In these instances, the Coal Authority recommends that a more detailed Gas Risk Assessment is undertaken by a competent assessor.

### Site investigations

The site is within an area of previous interest. It is close to where the Coal Authority has received information relating to past site investigations.

The site requires further investigation and may influence how you approach your risk assessment.

**For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.**

Copyright © 2024 The Coal Authority

# Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk.**

### Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

### Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

### Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

### Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

### Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

### Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

### Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Copyright © 2024 The Coal Authority

### Opencast mines
Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

### Coal Authority managed tips
Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

### Site investigations
Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

### Remediated sites
Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

### Coal mining subsidence
Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

### Mine gas
Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission. Please note, if there are no recorded instances of mine gas reported, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded.

Copyright © 2024 The Coal Authority

### Mine water treatment schemes
Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

### Future underground mining
Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

### Coal mining licensing
Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

### Court orders
Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

### Section 46 notices
Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

### Withdrawal of support notices
Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

### Payment to owners of former copyhold land
Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

Copyright © 2024 The Coal Authority

The Coal Authority

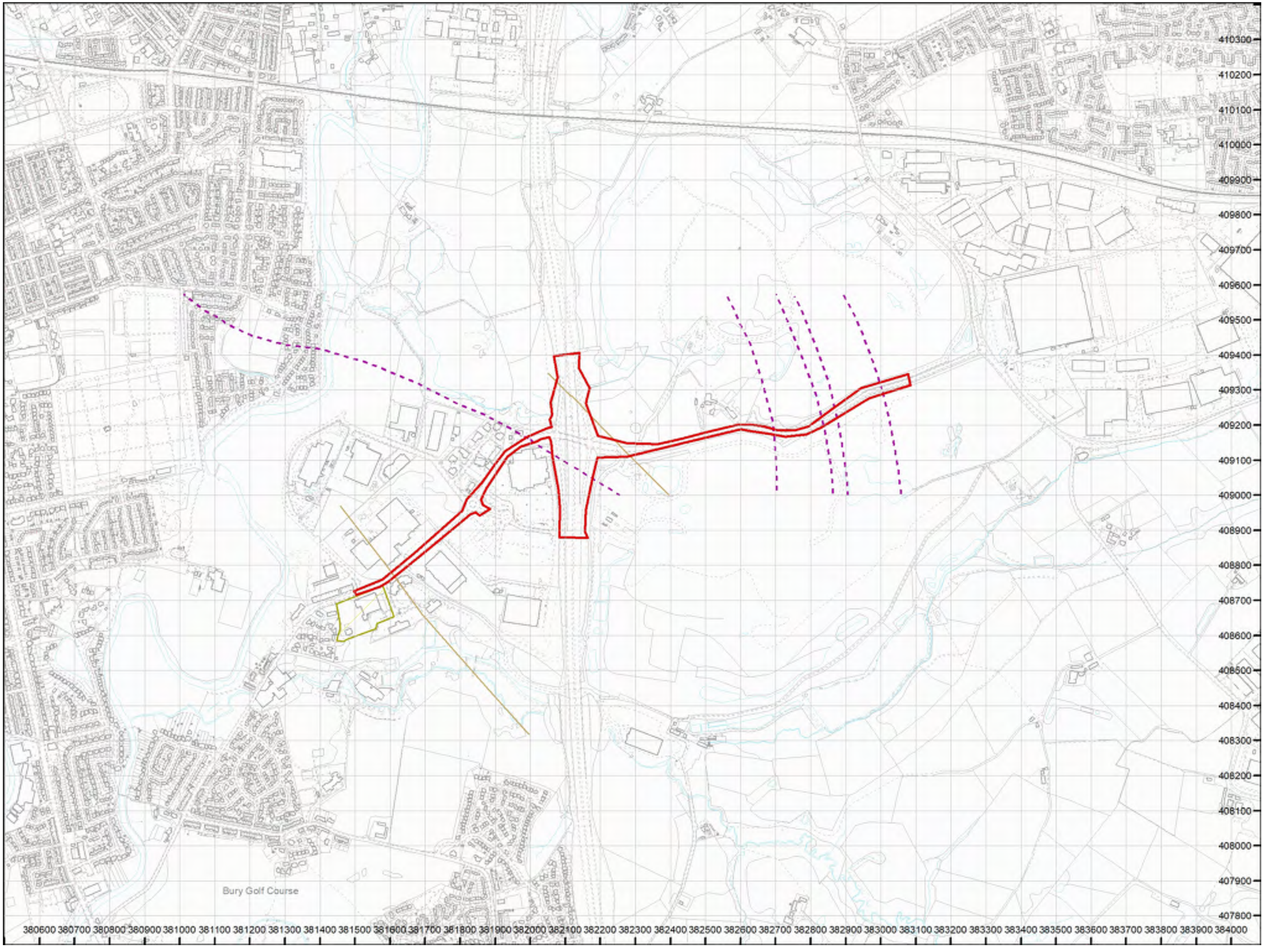
# Summary of findings

Reproduced by permission of Ordnance Survey on behalf of HMSO.
© Crown copyright and database right 2018. All rights reserved.
Ordnance Survey Licence number: 100020315

The map highlights any specific surface or subsurface features within or near to the boundary of the site.

## Key

- Approximate position of the enquiry boundary shown
- Outcrop (Conjectured)
- Geological faults
- Site investigations




**How to contact us**
0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com

The Coal Authority

# Consultants

## Coal Mining Report

Teal Quarter
Greater Manchester
OL10 2TB

| | |
|---|---|
| Date of enquiry: | **27 November 2024** |
| Date enquiry received: | **27 November 2024** |
| Issue date: | **27 November 2024** |
| Our reference: | **51003465700001** |
| Your reference: | **GS-QPK-PNG-52L-4CG** |



# Consultants

# Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

**Client name**

GROUNDSURE LIMITED

**Enquiry address**

Teal Quarter
Greater Manchester
OL10 2TB




Approximate position of property

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2018. All rights reserved.

Ordnance Survey Licence number: 100020315

**How to contact us**

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

@coalauthority
/company/the-coal-authority
/thecoalauthority
/thecoalauthority

# Section 1 – Mining activity and geology

### Past underground mining
No past mining recorded.

### Probable unrecorded shallow workings
Yes.

### Spine roadways at shallow depth
No spine roadway recorded at shallow depth.

### Mine entries
None recorded within 100 metres of the enquiry boundary.

### Abandoned mine plan catalogue numbers
The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

| | | |
|---|---|---|
| 16820 | 0 | |

**Please contact us on 0345 762 6848** to determine the exact abandoned mine plans you require based on your needs.

### Outcrops

| Seam name | Mineral | Seam workable | Distance to outcrop (m) | Direction to outcrop | Bearing of outcrop |
|---|---|---|---|---|---|
| LOWER FOOT | Coal | Yes | 24.4 | West | 41 |
| LOWER MOUNTAIN | Coal | Yes | Within | N/A | 42 |

### Geological faults, fissures and breaklines
Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Faults under or close to the property recorded.

### Opencast mines
None recorded within 500 metres of the enquiry boundary.

### Coal Authority managed tips
None recorded within 500 metres of the enquiry boundary.

Copyright © 2024 The Coal Authority

# Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

### Site investigations

| Distance to site investigation (m) | Direction |
|---|---|
| Within | N/A |
| Within | N/A |
| 6.8 | South |

See Section 4 for further information.

### Remediated sites

None recorded within 50 metres of the enquiry boundary.

### Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

### Mine gas

None recorded within 500 metres of the enquiry boundary.

### Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Copyright © 2024 The Coal Authority

# Section 3 – Licensing and future mining activity

### Future underground mining
None recorded.

### Coal mining licensing
None recorded within 200 metres of the enquiry boundary.

### Court orders
None recorded.

### Section 46 notices
No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

### Withdrawal of support notices
The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

### Payments to owners of former copyhold land
The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Copyright © 2024 The Coal Authority

# Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

### Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority.

**MINE GAS:** Please note, if there are no recorded instances of mine gas within 500m of the enquiry boundary, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed. In these instances, the Coal Authority recommends that a more detailed Gas Risk Assessment is undertaken by a competent assessor.

### Site investigations

The site is within an area of previous interest. It is close to where the Coal Authority has received information relating to past site investigations.

The site requires further investigation and may influence how you approach your risk assessment.

**For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.**

Copyright © 2024 The Coal Authority

# Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk.**

### Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

### Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

### Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

### Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

### Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

### Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

### Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Copyright © 2024 The Coal Authority

### Opencast mines
Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

### Coal Authority managed tips
Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

### Site investigations
Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

### Remediated sites
Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

### Coal mining subsidence
Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

### Mine gas
Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission. Please note, if there are no recorded instances of mine gas reported, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded.

Copyright © 2024 The Coal Authority

### Mine water treatment schemes
Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

### Future underground mining
Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

### Coal mining licensing
Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

### Court orders
Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

### Section 46 notices
Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

### Withdrawal of support notices
Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

### Payment to owners of former copyhold land
Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

Copyright © 2024 The Coal Authority

The Coal Authority

# Summary of findings

Reproduced by permission of Ordnance Survey on behalf of HMSO.
© Crown copyright and database right 2018. All rights reserved.
Ordnance Survey Licence number: 100020315

The map highlights any specific surface or subsurface features within or near to the boundary of the site.

## Key

- Approximate position of the enquiry boundary shown
- Outcrop (Conjectured)
- Geological faults
- Site investigations




**How to contact us**
0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com

# PILSWORTH - PRIMARY CONTROL

| Stn. | Eastings | Northings | Level | |
|---|---|---|---|---|
| 1 | 383996.004 | 408510.597 | 229.203 | Primary Control |
| 2 | 383384.493 | 408316.147 | 213.635 | " " |
| 3 | 382752.849 | 408824.089 | 217.411 | " " |
| 4 | 382175.864 | 408757.447 | 200.987 | " " |
| 5 | 382140.421 | 409426.642 | 202.187 | " " |
| 6 | 382124.376 | 409718.555 | 207.196 | " " |
| 7 | 382830.904 | 409938.723 | Destroyed | " " |
| 8 | 383076.560 | 409576.023 | 226.005 | " " |
| 9 | 383541.943 | 409137.538 | 209.441 | " " |
| 10 | 384052.604 | 408813.919 | 225.366 | " " |
| 11 | 384568.388 | 409011.256 | 225.058 | " " |
| 12 | 384618.488 | 408466.342 | 217.672 | " " |
| 13 | 384251.547 | 408566.778 | 223.914 | " " |
| 14 | 384078.821 | 408606.814 | 227.500 | " " |

All Levels Relate to Datum 100.00 m. Below Ordnance Datum.

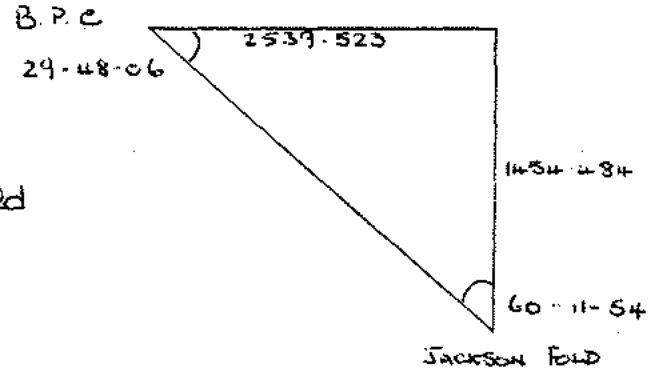
Survey Dept.
12/7/82.
PB.

PILSWORTH – PRIMARY CONTROL

| STN | OBS. ANGLE | CORR$^{N}$ | CORR. ANGLE |
|---|---|---|---|
| 1 | 211 38 30 | -01" | 211 38 29 |
| 2 | 236 26 44 | -02" | 236 26 42 |
| 3 | 134 36 24 | -01" | 134 36 23 |
| 4 | 273 33 25 | -02" | 273 33 23 |
| 5 | 179 53 10 | -01" | 179 53 09 |
| 6 | 255 50 13 | -02" | 266 50 11 |
| 7 | 253 11 54 | -01" | 253 11 53 |
| 8 | 167 24 20 | -02" | 167 24 18 |
| 9 | 169 04 06 | -01" | 169 04 05 |
| 10 | 126 42 03 | -02" | 126 42 01 |
| 11 | 285 41 02 | -01" | 285 41 01 |
| 12 | 290 33 48 | -02" | 290 33 46 |
| 13 | 177 44 34 | -01" | 177 44 33 |
| 14 | 117 40 08 | -02" | 117 40 06 |
| | 2880 00 21 | -21" | 2880 00 00 |

# Pilsworth — Primary Control

| | | |
|---|---|---|
| Bury Parish Church. | 380408·960 | 410854·870 |
| Jackson Fold Pillar. | 382948·483 | 409400·386 |
| | 2539·523 | 1454·484 |

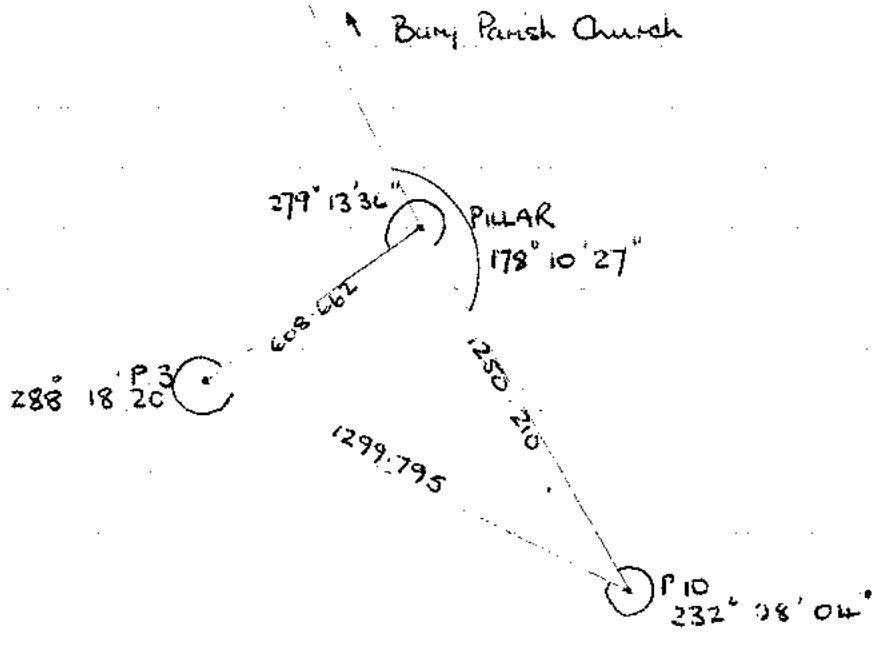



Brg Bury Parish Church → Jackson Fold
= 119° 48' 05"

## - Triangulation -

The coordinates of Stas. P.3 & P.10 were computed by Triangulation and Trilateration thus.

| Observed Angles | Corr^ | Corr. Angles. |
|---|---|---|
| 279 13 37 | -1" | 279 13 36 |
| 332 28 06 | -2" | 332 28 04 |
| 288 18 22 | -2" | 288 18 20 |
| 900 00 05 | 900 | |



# Pilsworth — Primary Control

Br. Bury Parish Church — Jackson Fold

| | |
|---|---|
| | 119 · 48 · 05 |
| Ang. @ OS Pillar | 178 · 10 · 27 |
| | 297 · 58 · 32 |
| | 180 |
| Br. Pillar — P.10 | 117 · 58 · 32 |
| Ang. @ P.10 | 332 · 28 · 04 |
| | 450 · 26 · 36 |
| | 180 |
| Br. P.10 — P.3 | 270 · 26 · 36 |
| | 288 · 18 · 20 |
| | 558 · 44 · 56 |
| | 540 |
| Br. P.3 - Pillar | 18 · 44 · 56 |
| Check Ang to | 279 · 13 · 36 |
| Br Pillar - P.10 | 297 · 58 · 32 |
| | 180 |
| Br. Pillar - P.10 | 117 · 58 · 32 |

| Bearing | Distance | ΔE | Δ N | Corr ΔE | Corr ΔN |
|---|---|---|---|---|---|
| 117·58·32 | 1250·210 | 1104·120 | -586·467 | 1104·120 | -586·449 |
| 270·26·36 | 1299·795 | -1299·756 | 10·057 | -1299·756 | 10·076 |
| 18 - 44·56 | 608·662 | 195·637 | 576·364 | 195·637 | 576·373 |

Diff -0·001 +0·046

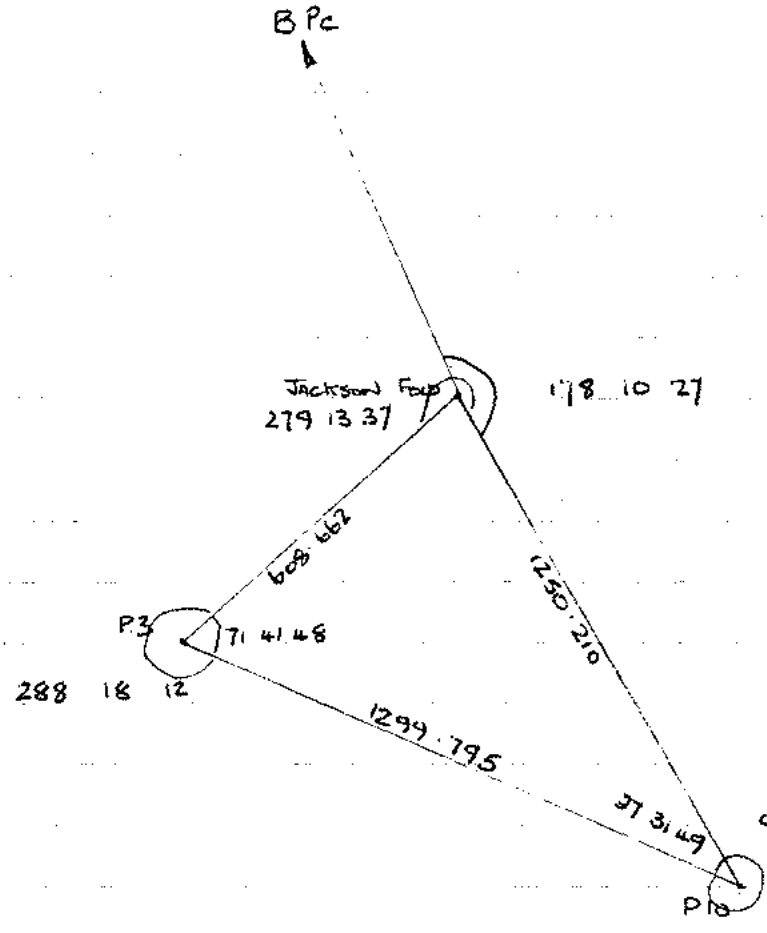
Misclosure Fraction - 1 in 68,666

Coordinates of Jackson Fold Pillar

| | | | E | N |
|---|---|---|---|---|
| | | | 382948.483 | 409400.386 |
| STN | ΔE | ΔN | | |
| P.10 | 1104.120 | -586.449 | 384052.603 | 408813.937 |
| P.3 | -1299.756 | 10.076 | 382752.847 | 408824.013 |
| PILLAR | 195.637 | 576.373 | 382948.484 | 409400.386 |

# PILSWORTH – PRIMARY CONTROL

## – TRILATERATION –




Computed Angs.
(Cosine Rule)

| | |
|---|---|
| Br. Bury Pc → Jackson Fold | 119 48 06 |
| Ang @ Pillar | 178 10 27 |
| | 297 58 32 |
| | 180 |
| Br. Pillar – P.10 | 117 58 32 |
| Ang. @ P.10 | 332 28 11 |
| | 450 26 43 |
| | 180 |
| Br. P.10 – P.3 | 270 26 43 |
| | 288 18 12 |
| | 558 44 55 |
| | 540 |
| Br. P.3 – Pillar | 18 44 55 |
| Check ang. | 279 13 37 |
| | 297 58 32 |
| | 180 |

Br. Pillar – P.10 117 58 32 ✓

PILSWORTH – PRIMARY CONTROL

| Bearing | Distance | ΔE | ΔN | Corr. ΔE | Corr. ΔN |
|---|---|---|---|---|---|
| 117 58 32 | 1250·20 | 1104·120 | -586·467 | 1104·121 | -586·467 |
| 270 26 43 | 1299·795 | -1299·756 | 10·101 | -1299·755 | 10·102 |
| 18 44 55 | 608·662 | 195·634 | 576·365 | 195·634 | 576·365 |
| Diff | | -0·002 | -0·001 | | |

Misclosure fraction – 1 in 1,414,427.

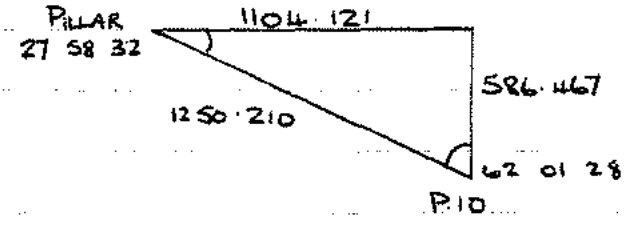
Coordinates of Jackson Fold Pillar 382948·483 409 400·386

| STN | ΔE | ΔN | E | N |
|---|---|---|---|---|
| P.10 | 1104·120 | -586·467 | 384052·604 | 408813·919 |
| P.3 | -1299·756 | 10·101 | 382752·849 | 409824·021 |
| Pillar | 195 634 | 576·365 | 382 948·483 | 409 400·386 |

Coordinate values obtained from this trilateration are to be accepted in preference to the the values obtained from the triangulation between P.3 – P.10 – Jackson Fold Pillar.

# Pilsworth — Primary Control

| | | |
|---|---|---|
| Jackson Fold Pillar | 382948.483 | 409400.386 |
| P.10 | 384052.604 | 408813.919 |
| | 1104.121 | 586.467 |




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Br. Pillar — P.10 | 117 | 58 | 32 | | | | |
| Ang. @ 10 | 131 | 05 | 13 | | | | |
| | 249 | 03 | 45 | | | | |
| | 180 | | | | | | |
| Br. 10 - 11 | 69 | 03 | 45 | | 488 | 48 | 22 |
| Ang. @ 11 | 285 | 41 | 01 | | 180 | | |
| | 354 | 44 | 46 | Br. 2-3 | 308 | 48 | 22 |
| | 180 | | | Ang @ 3 | 134 | 36 | 23 |
| Br. 11 - 12 | 174 | 44 | 46 | | 443 | 24 | 45 |
| Ang. @ 12 | 290 | 33 | 46 | | 180 | | |
| | 465 | 18 | 32 | Br. 3-4 | 263 | 24 | 45 |
| | 180 | | | Ang @ 4 | 273 | 33 | 23 |
| Br. 12 - 13 | 285 | 18 | 32 | | 536 | 58 | 08 |
| Ang. @ 13 | 177 | 44 | 33 | | 180 | | |
| | 463 | 03 | 05 | Br. 4-5 | 356 | 58 | 08 |
| | 180 | | | Ang. @ 5 | 179 | 53 | 09 |
| Br. 13-14 | 283 | 03 | 05 | | 536 | 51 | 17 |
| Ang. @ 14 | 117 | 40 | 06 | | 180 | | |
| | 400 | 43 | 11 | Br 5-6 | 356 | 51 | 17 |
| | 180 | | | Ang @ 6 | 255 | 50 | 11 |
| Br. 14 - 1 | 220 | 43 | 11 | | 612 | 41 | 28 |
| Ang. @ 1 | 211 | 38 | 29 | | 540 | | |
| | 432 | 21 | 40 | Br. 6-7 | 72 | 41 | 28 |
| | 180 | | | Ang. | 253 | 11 | 53 |
| Br. 1 - 2 | 252 | 21 | 40 | | 325 | 53 | 21 |
| Ang. @ 2 | 236 | 26 | 42 | | 180 | | |

# Pilsworth - Primary Control

| | | | |
|---|---|---|---|
| Br. 7-8 | 145 | 53 | 21 |
| Arg. @ 8 | 167 | 24 | 18 |
| | 313 | 17 | 39 |
| | 180 | | |
| Br. 8-9 | 133 | 17 | 39 |
| Arg. @ 9 | 169 | 04 | 05 |
| | 302 | 21 | 44 |
| | 180 | | |
| Br. 9-10 | 122 | 21 | 44 |
| [redacted] @ 10 | 126 | 42 | 01 |
| | 249 | 03 | 45 |
| | 180 | | |
| Br. 10-11 | 69 | 03 | 45 |
| Arg. 11-10-Beq | 228 | 54 | 47 |
| | 297 | 58 | 32 |
| | 180 | | |
| Br. P-10 to Pillar | 117 | 58 | 32 |

# PILSWORTH - PRIMARY CONTROL

| | OBS DIST | V. ANGLE | HOR$^{L}$ DIST | MEAN | M.S.L. | L.S.F. |
|---|---|---|---|---|---|---|
| 10 – O.S. PILLAR | 1250·733 | 00 04 00 | 1250·732 | 1250·727 | 1250·704 | 1250·210 |
| O.S PILLAR – 10 | 1250·723 | 00 04 19 | 1250·722 | | | |
| 3 - O.S. PILLAR | 608·992 | 00 53 37 | 608·918 | 608·914 | 608·903 | 608·662 |
| O.S PILLAR - 3 | 608·990 | 00 55 31 | 608·911 | | | |
| 3 - 10 | 1300·346 | 00 20 57 | 1300·322 | 1300·333 | 1300·309 | 1299·795 |
| 10 - 3 | 1300·369 | 00 21 09 | 1300·344 | | | |
| 1 - 2 | 642·119 | 01 23 58 | 641·928 | 641·938 | 641·926 | 641·672 |
| 2 - 1 | 642·134 | 01 22 48 | 641·948 | | | |
| 2 - 3 | 810·881 | 00 15 45 | 810·883 | 810·881 | 810·866 | 810·545 |
| 3 - 2 | 810·889 | 00 16 40 | 810·880 | | | |
| 3 - 4 | 581·291 | 01 38 14 | 581·054 | 581·054 | 581·043 | 580·813 |
| 4 - 3 | 581·286 | 01 37 01 | 581·055 | | | |
| 4 - 5 | 670·424 | 00 06 26 | 670·423 | 670·423 | 670·411 | 670·146 |
| 5 - 4 | 670·425 | 00 07 06 | 670·424 | | | |
| 5 - 6 | 292·503 | 00 58 41 | 292·460 | 292·480 | 292·475 | 292·359 |
| 6 - 5 | 292·545 | 01 00 00 | 292·500 | | | |
| 6 - 7 | 740·422 | 00 46 04 | 740·356 | 740·356 | 740·343 | 740·050 |
| 7 - 6 | 740·425 | 00 46 56 | 740·356 | | | |
| 7 - 8 | 438·325 | 01 07 50 | 438·240 | 438·238 | 438·230 | 438·057 |
| 8 - 7 | 438·323 | 01 08 34 | 438·236 | | | |
| 8 - 9 | 639·885 | 01 28 35 | 639·673 | 639·676 | 639·664 | 639·411 |
| 9 - 8 | 639·886 | 01 27 22 | 639·679 | | | |
| 9 - 10 | 605·028 | 01 30 30 | 604·818 | 604·819 | 604·808 | 604·569 |
| 10 - 9 | 605·025 | 01 29 47 | 604·819 | | | |
| 10 - 11 | 552·475 | 00 02 29 | 552·475 | 552·483 | 552·473 | 552·255 |
| 11 - 10 | 552·492 | 00 01 09 | 552·492 | | | |
| 11 - 12 | 547·482 | 00 47 16 | 547·430 | 547·429 | 547·419 | 547·203 |
| 12 - 11 | 547·479 | 00 47 00 | 547·428 | | | |
| 12 - 13 | 380·645 | 00 57 36 | 380·592 | 380·593 | 380·586 | 380·436 |
| 13 - 12 | 380·647 | 00 57 43 | 380·593 | | | |
| | | | | | | |

PILSWORTH - PRIMARY CONTROL

| | OBS. DIST. | V. ANGLE | HOR$^{L}$ DIST | MEAN | M.S.L | L.S.F |
|---|---|---|---|---|---|---|
| 13 - 14 | 177.415 | 01 08 05 | 177.380 | 177.377 | 177.374 | 177.304 |
| 14 - 13 | 177.409 | 01 07 56 | 177.374 | | | |
| 14 - 1 | 127.012 | 00 47 00 | 127.000 | 127.000 | 126.998 | 126.948 |
| 1 - 14 | 127.012 | 00 47 00 | 127.000 | | | |

$$L.S.F = 0.99960127\ (1 + 1.228E^2 \times 10^{-8})$$
$$= 0.99960127\ [1 + (1.228 \times 16.5^2) \times 10^{-8}]$$
$$= 0.99960127 \times 1.000003343$$
$$= 0.999604644$$

$$M.S.L = \frac{L.h}{R+h} = \frac{L \times 0.11542}{6368 + 0.11542}$$

$$= L\,0.000018124$$

Met corns were applied in the field.

S. L. Stanley. 7th May 1982.

# Pilsworth - Primary Control

| Stn. | For. Bearing | For. Dist. | ΔE | ΔN | Eastings | Northings |
|---|---|---|---|---|---|---|
| 10 | | | | | 384052·604 | 408813·919 |
| 11 | 69 03 45 | 552·255 | + 515·790<br>- 0·006 | + 197·348<br>- 0·011 | 384568·388<br>+ 515·784 | 409011·256<br>+ 197·337 |
| 12 | 174 44 46 | 547·203 | + 50·107<br>- 0·007 | - 544·904<br>- 0·011 | 384618·488<br>+ 50·100 | 408466·341<br>- 544·915 |
| 13 | 285 18 32 | 380·436 | - 366·937<br>- 0·004 | + 100·444<br>- 0·007 | 384251·547<br>- 366·941 | 408566·778<br>+ 100·437 |
| 14 | 283 03 05 | 177·304 | - 172·724<br>- 0·002 | + 40 040<br>- 0·003 | 384078·821<br>-172·726 | 408606·815<br>+ 40·037 |
| 1 | 220 43 11 | 126·948 | - 82·816<br>- 0·001 | - 96·215<br>- 0·002 | 383996·004<br>- 82·817 | 408510·598<br>- 96·217 |
| 2 | 252 21 40 | 641·672 | - 611·504<br>- 0·007 | - 194·437<br>- 0·013 | 383384·493<br>- 611·511 | 408316·148<br>- 194·450 |
| 3 | 308 48 22 | 810·545 | - 631·634<br>- 0·010 | + 507·958<br>- 0·016 | 382752·849<br>- 631·644 | 408824·090<br>+ 507·942 |
| 4 | 263 24 45 | 580·813 | - 576·978<br>- 0·007 | - 66·631<br>- 0·011 | 382175·864<br>- 576·985 | 408757·448<br>- 66·642 |
| 5 | 356 58 08 | 670·146 | - 35·436<br>- 0·008 | + 669·208<br>- 0·013 | 382140·420<br>- 35·444 | 409426·643<br>+ 669·195 |
| 6 | 356 51 17 | 292·359 | - 16·041<br>- 0·003 | + 291·919<br>- 0·006 | 382124·376<br>- 16·044 | 409718·556<br>+ 291·913 |
| 7 | 72 41 28 | 740·050 | + 706·537<br>- 0·009 | + 220·182<br>- 0·014 | 382830·904<br>+ 706·528 | 409938·724<br>+ 220·168 |
| 8 | 145 53 21 | 438·057 | + 245·660<br>- 0·005 | - 362·691<br>- 0·009 | 383076·559<br>+ 245·655 | 409576·024<br>- 362·700 |
| 9 | 133 17 39 | 639·411 | + 465·391<br>- 0·007 | - 438·472<br>- 0·013 | 383541·943<br>+ 465·384 | 409137·539<br>- 438·485 |
| 10 | 122 21 44 | 604·569 | + 510·668<br>- 0·007 | - 323·608<br>- 0·012 | 384052·604<br>+ 510·661 | 408813·919<br>- 323·620 |
| | | | Diff - 2494·070<br>+ 2494·153<br>+ 0·083 | - 2026·958<br>+ 2027·099<br>+ 0·141 | | |

S. L. Bramley 7th May 1982.

Misclosure fraction 1 in 44,000

P11... P24 18/3/22

100 [illegible] 40°11'0.51"
23 [illegible] 40°11'16.01"

∴ Dry 100 - 23 = 216 41 01
Less 100 = 351 55 45
Dry 100 P24 = 256 36 46

Hor Dist = 62.50 x Sin 51.015
= 35.50 742

∴ P24 = [illegible] 40°12'77.51"

100 = 226.50 P24 = 206.51
HI = 1.01 HI = 1.55
Ang Left = 22.5 57 Ang Left = 20.134
HI Diff = -19.44 HI Diff = +18.77
Prism Hgt = 2.05 Prism Hgt = 2.25 11
Prism Hgt = 1.12 Prism Hgt = 0.55
P24 = 206.51 100 = 226.26

∴ P24 = 206.53

[illegible] 18/3/22

NCB

# STATION DESCRIPTION

**Site** PILSWORTH **Station** P1

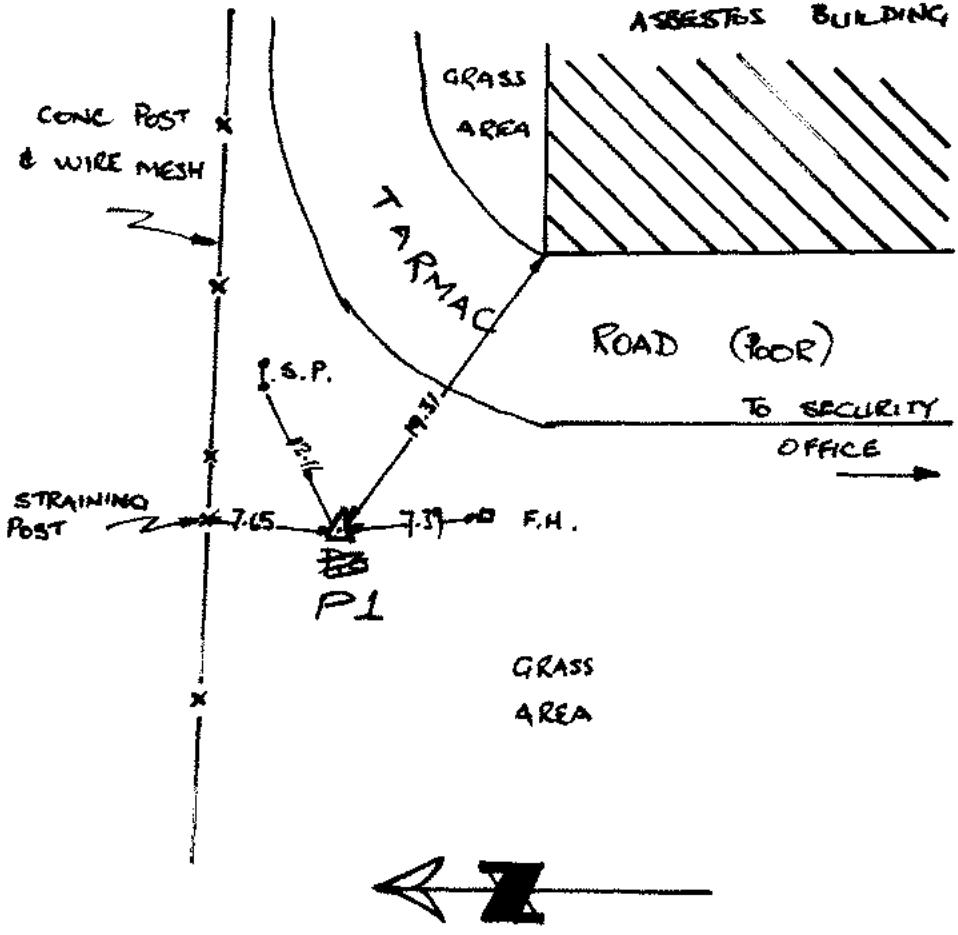
**Survey** PRIMARY CONTROL **Date** 22.3.82

**Description of Station** FRENCH BEACON (INSIDE LONDON CARRIERS COMPOUND ALONG FENCE LINE)

**Co-ordinates** E: 383996 N: 408511

**Height** **Survey Method** TRAVERSE

## Location Sketch



# STATION DESCRIPTION

**Site** Pilsworth **Station** P2 ✱

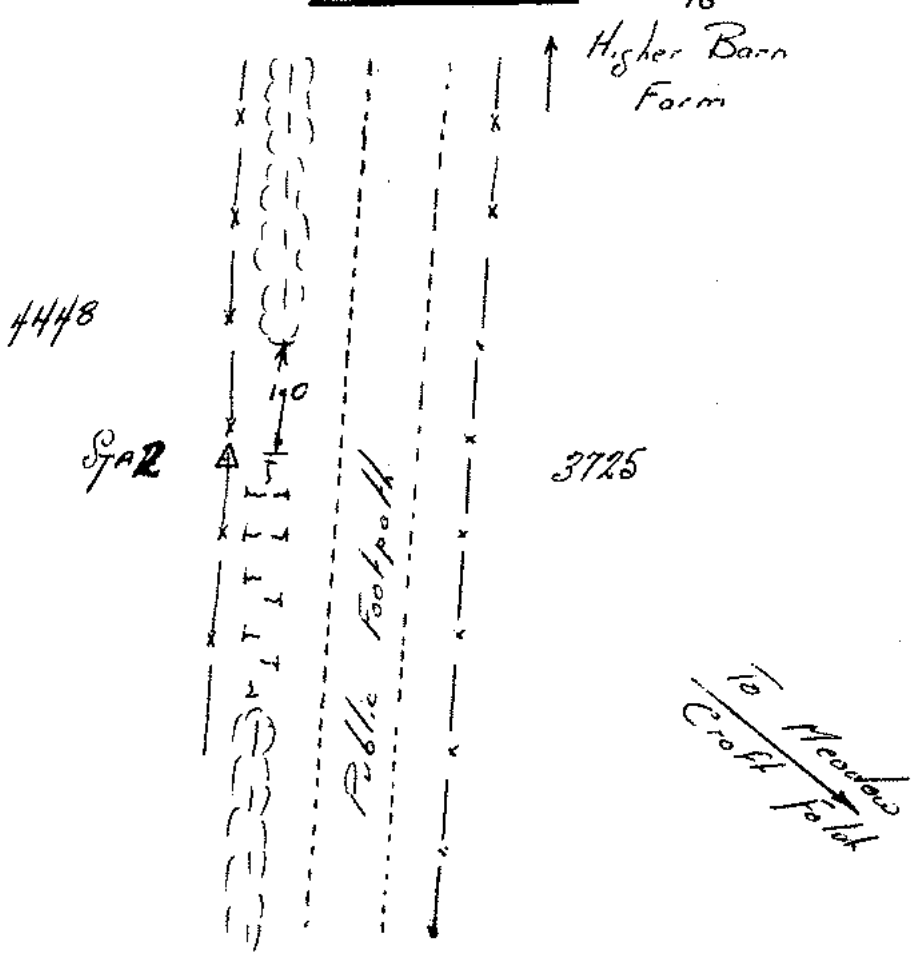
**Survey** T. A. Green **Date** 19/4/82

**Description of Station** French Beacon

**Co-ordinates** E: 383384 N: 408316

**Height** **Survey Method** TRAVERSE

**Location Sketch**



# STATION DESCRIPTION

**Site** PILSWORTH **Station** P3

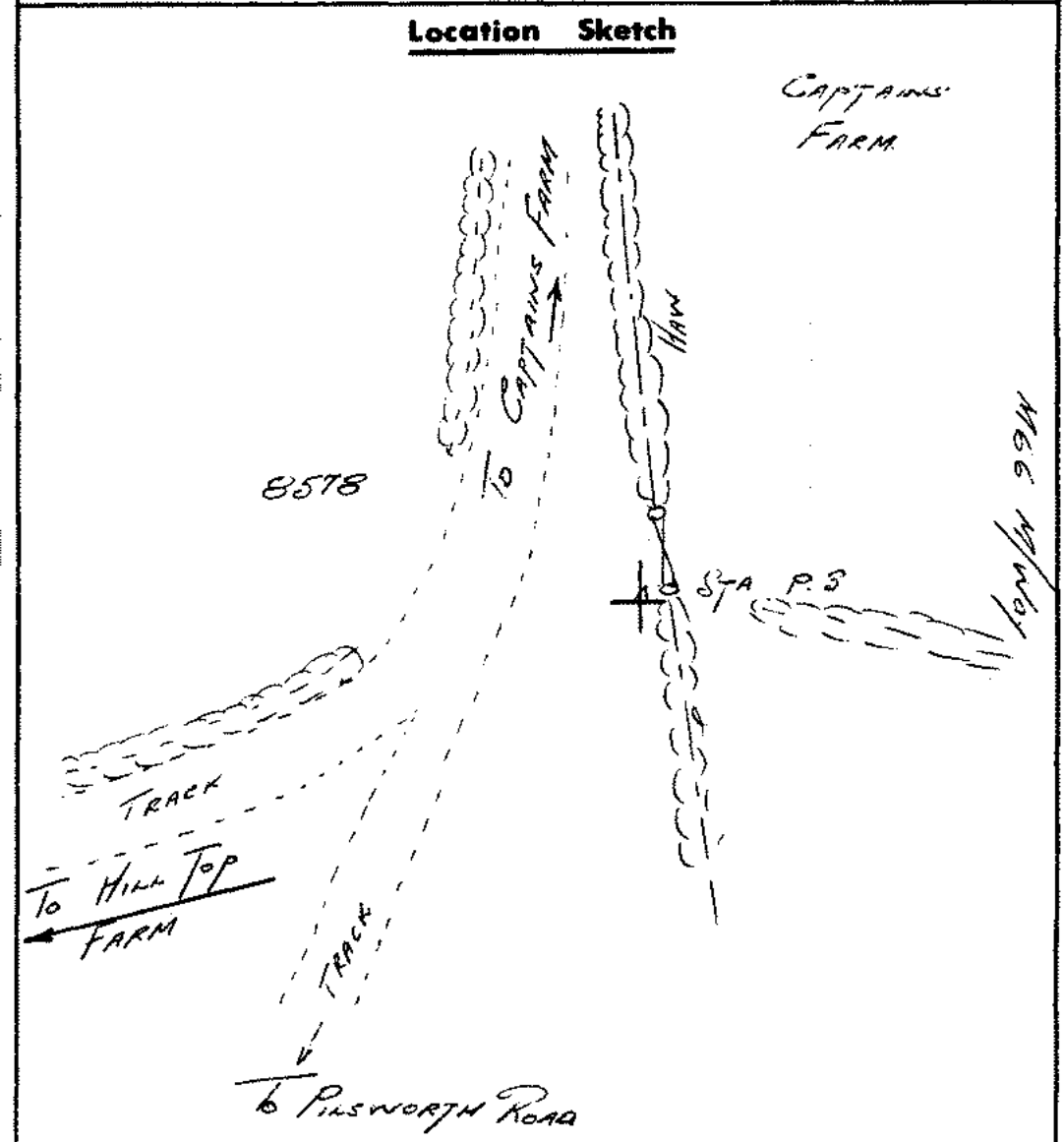
**Survey** PRIMARY CONTROL **Date** 19/4/82

**Description of Station** FRENCH BEACON

**Co-ordinates** E: 382753 N: 408824

**Height** **Survey Method**

**Location Sketch**



# STATION DESCRIPTION

**Site** Pulsworth **Station** P4

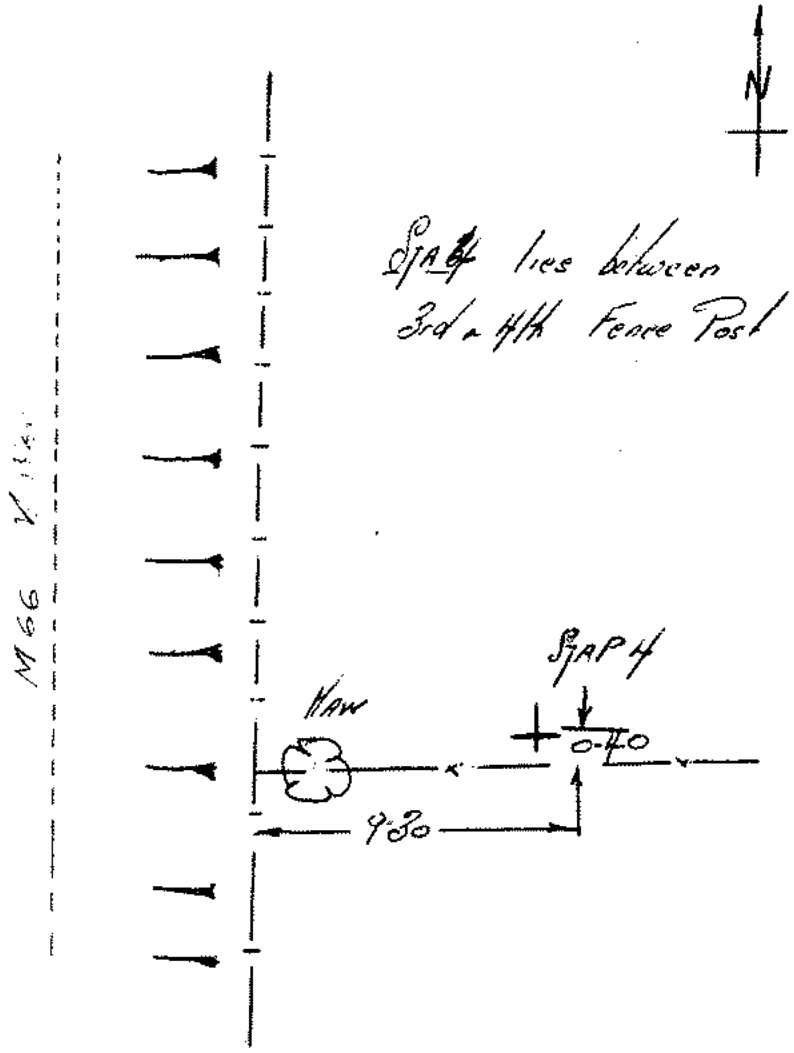
**Survey** Primary Control **Date** 19/4/82

**Description of Station**

**Co-ordinates** E: 382176 N: 408757

**Height** **Survey Method**

## Location Sketch



# STATION DESCRIPTION

**Site** Pilsworth **Station** P5

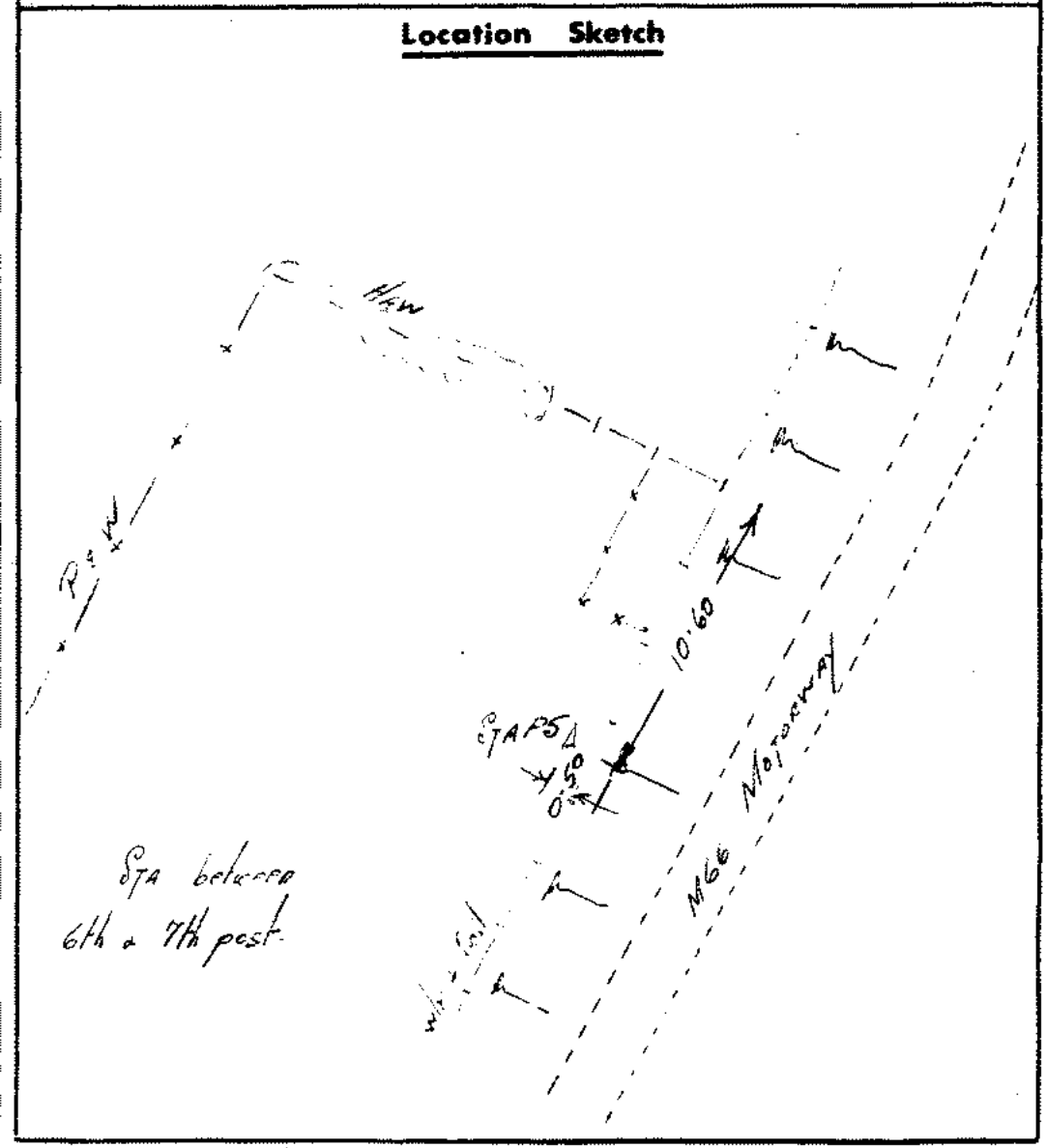
**Survey** Primary Control **Date** 19/4/82

**Description of Station** French Beacon

**Co-ordinates** E: 382140 N: 409427

**Height** **Survey Method**

## Location Sketch



# STATION DESCRIPTION

Site PILSWORTH. Station P.6

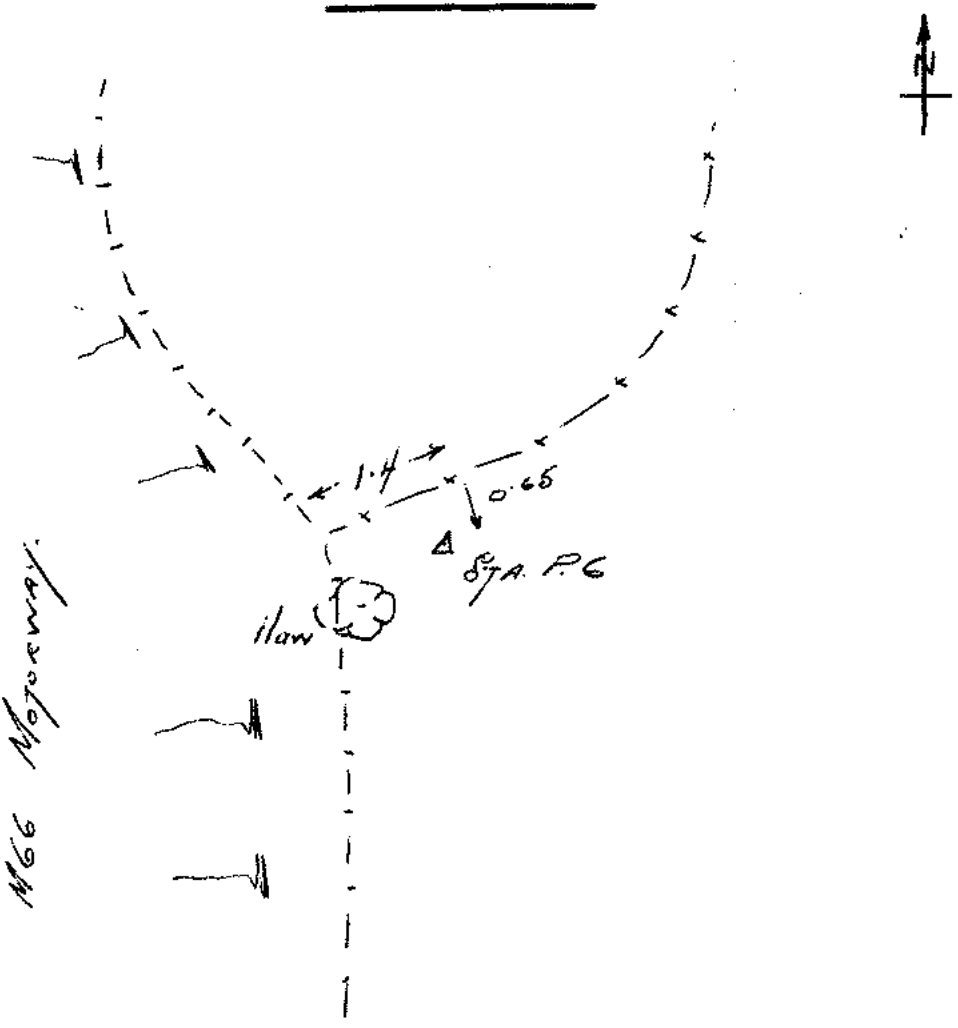
Survey PRIMARY CONTROL Date 19/7/82

Description of Station

Co-ordinates E: 382124 N: 409719

Height Survey Method

## Location Sketch



# STATION DESCRIPTION

**Site** Pilsworth **Station** PT.

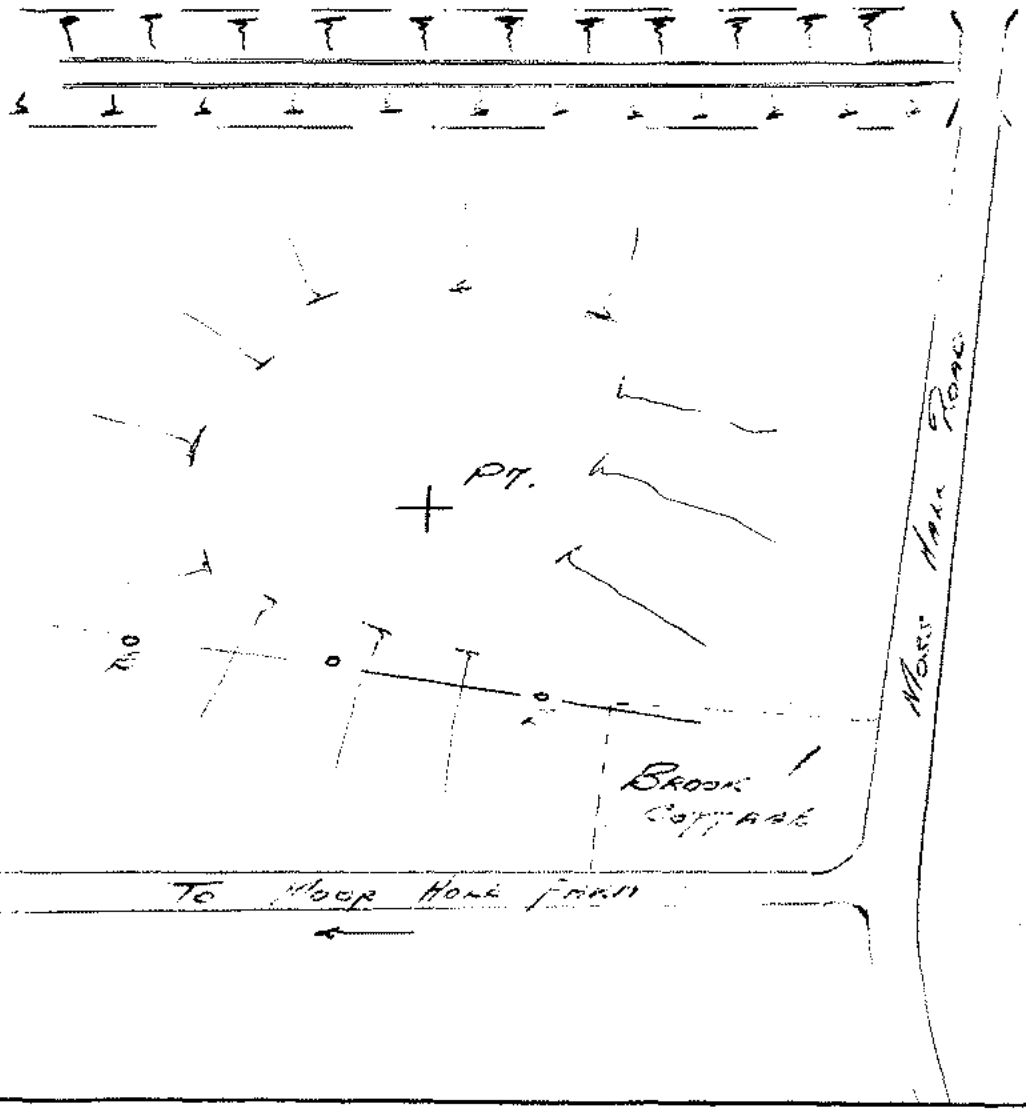
**Survey** Primary Control **Date**

**Description of Station** Fallen Beacon

**Co-ordinates** E: 382831 N: 409939

**Height** **Survey Method**

**Location Sketch**



# STATION DESCRIPTION

**Site** PILSWORTH **Station** P 9

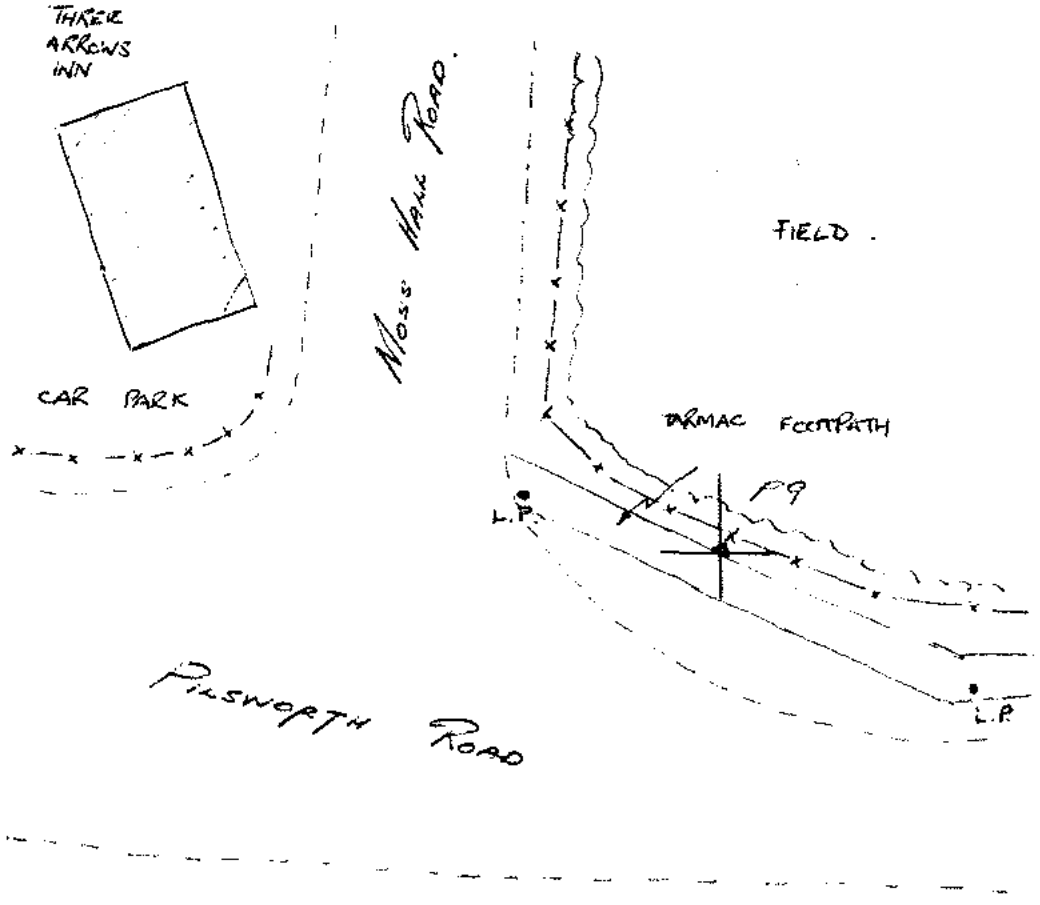
**Survey** PRIMARY CONTROL **Date** 20-4-81

**Description of Station** FRENCH BEACON IN GRASS VERGE BETWEEN FENCE/HEDGE AND FOOTPATH

**Co-ordinates** **E:** 383542 **N:** 409133

**Height** **Survey Method**

## Location Sketch



# STATION DESCRIPTION

**Site** PRIMARY CONTROL **Station** P10

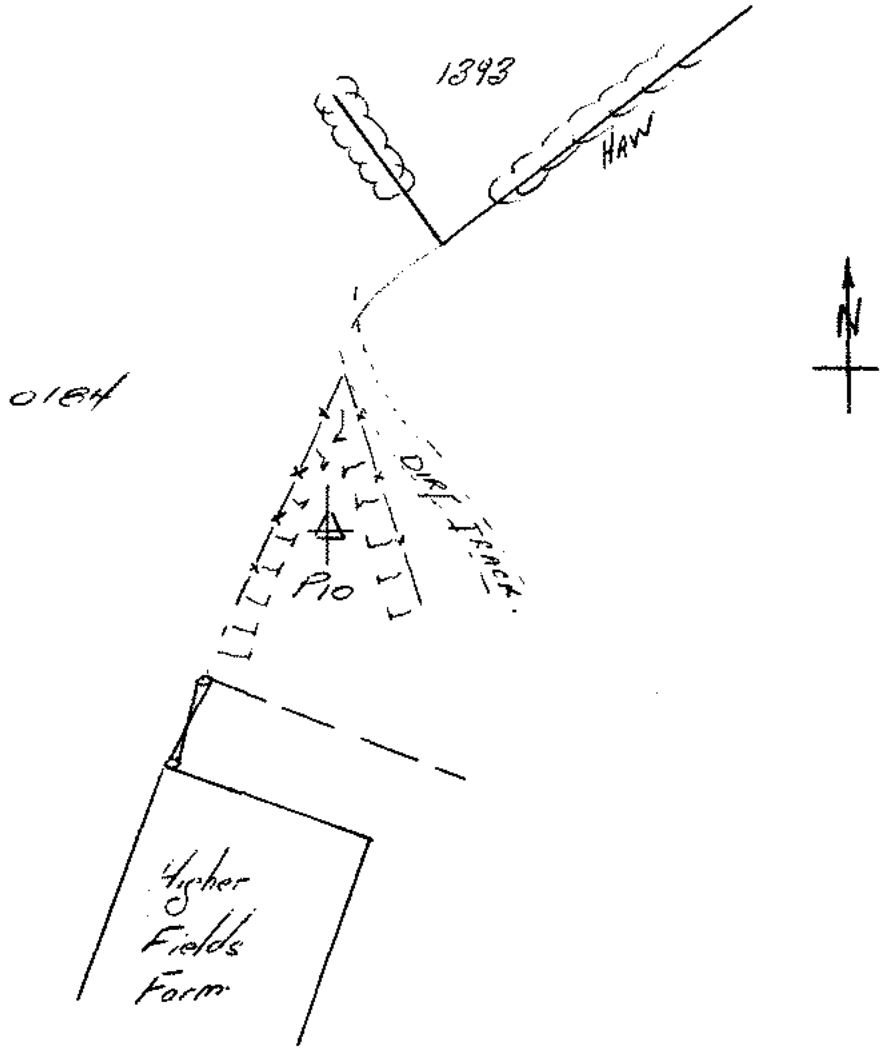
**Survey** **Date**

**Description of Station** FRENCH BEACON

**Co-ordinates** **E:** 384053 **N:** 408814

**Height** **Survey Method**

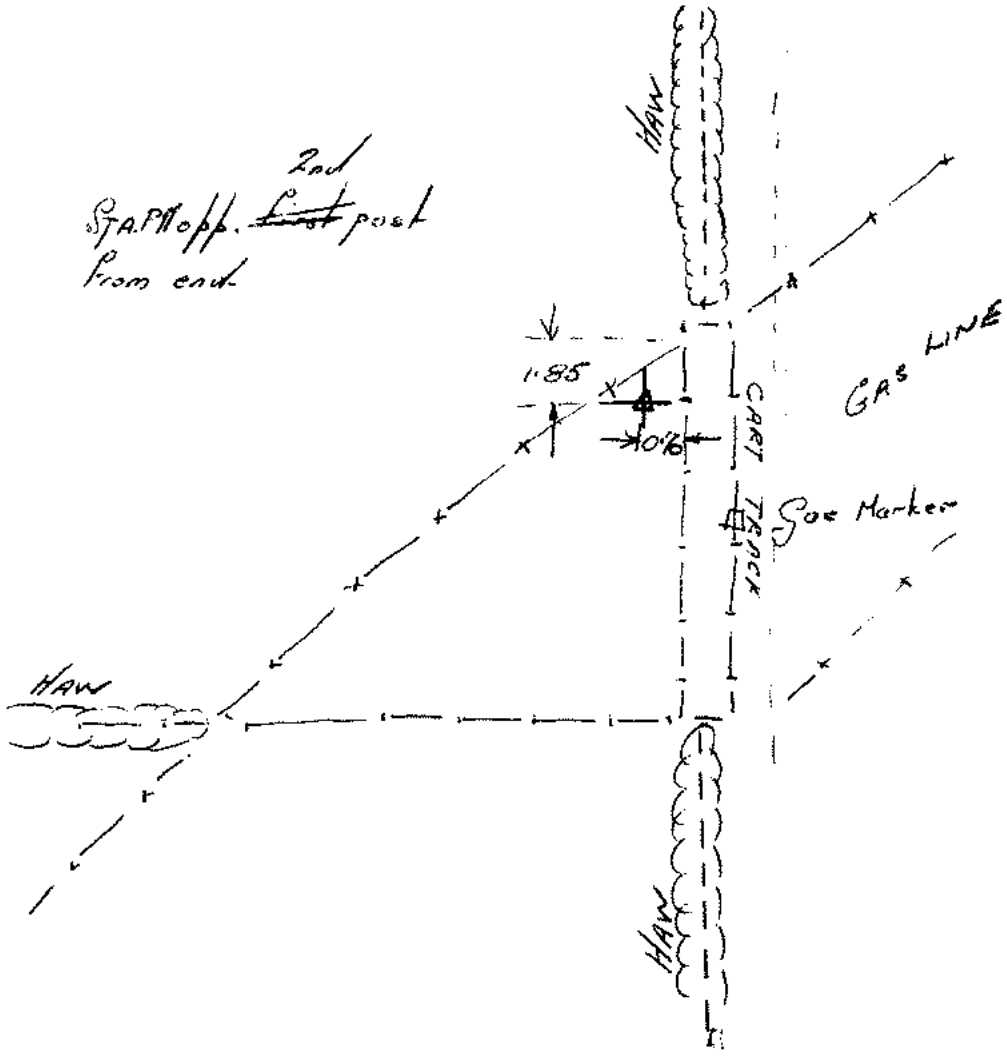
## Location Sketch



# STATION DESCRIPTION

| | |
|---|---|
| **Site** PILSWORTH | **Station** T 11 |
| **Survey** PRIMARY CONTROL | **Date** |
| **Description of Station** FRENCH BEACON | |
| **Co-ordinates** E: 384568 | **N:** 409011 |
| **Height** | **Survey Method** |

**Location Sketch**



# STATION DESCRIPTION

**Site** FINSWORTH **Station**

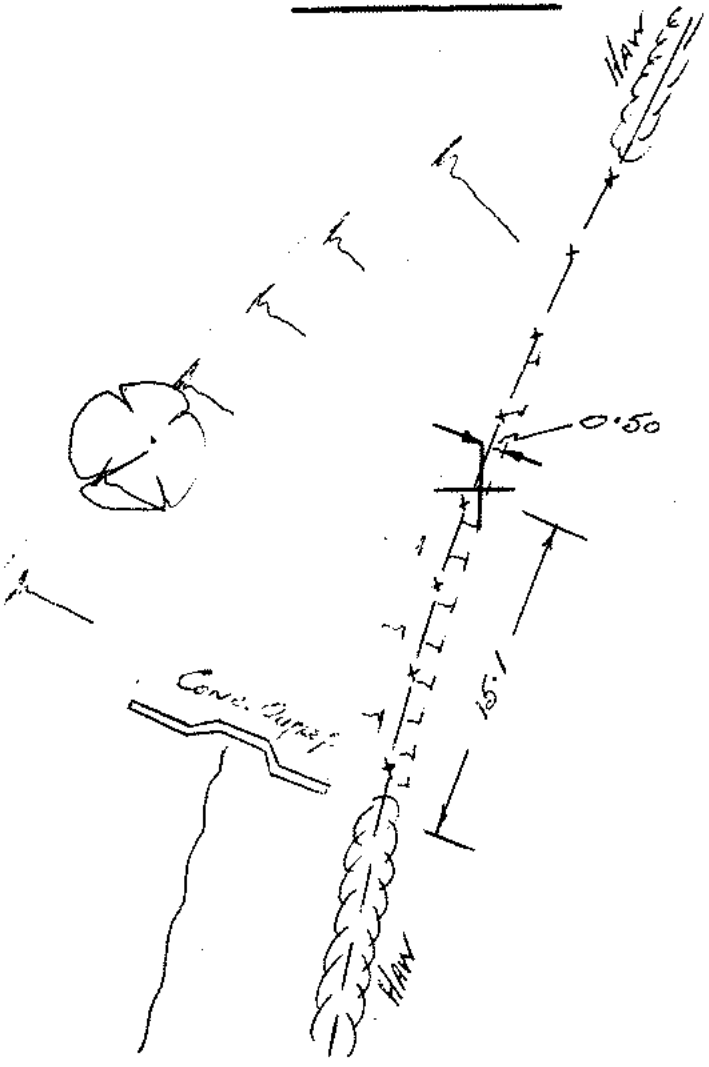
**Survey** PRIMARY CONTROL **Date** P12

**Description of Station**

**Co-ordinates** E: 384618 N: 4084666

**Height** **Survey Method**

**Location Sketch**



# STATION DESCRIPTION

**Site** PILESWORTH **Station** P13

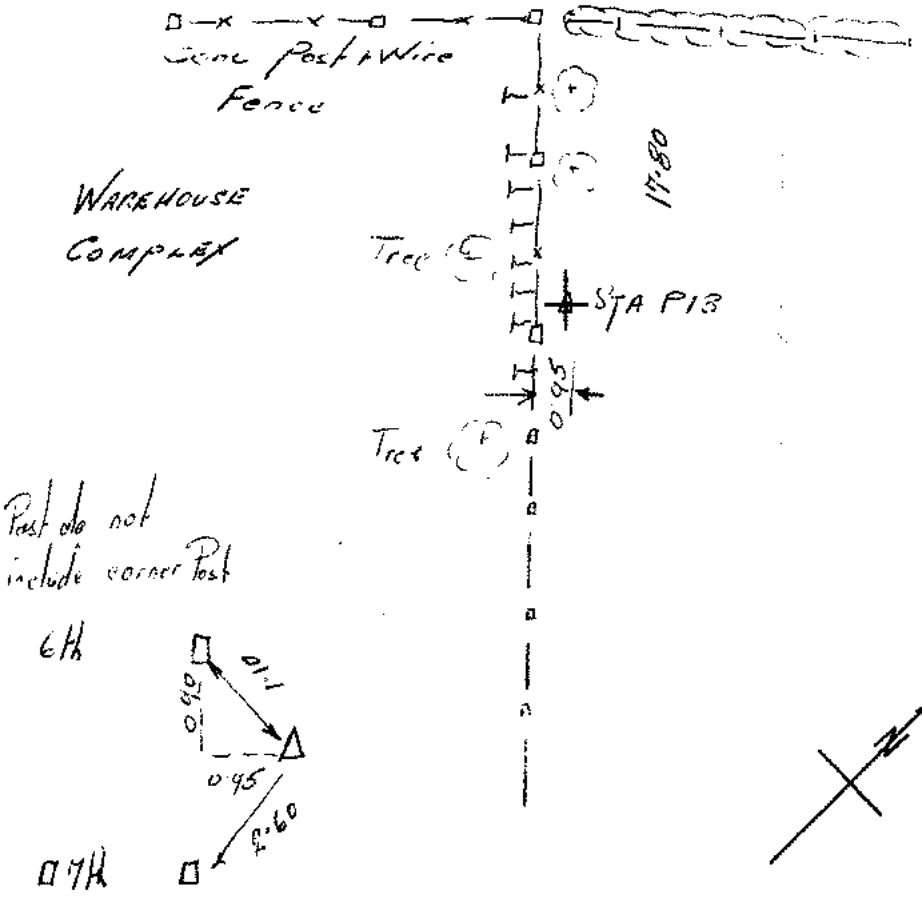
**Survey** PRIMARY CONTROL **Date**

**Description of Station** FRENCH BEACON

**Co-ordinates** E: 394252 N: 408667

**Height** **Survey Method**

## Location Sketch



# STATION DESCRIPTION

**Site** Pilsworth **Station** P14

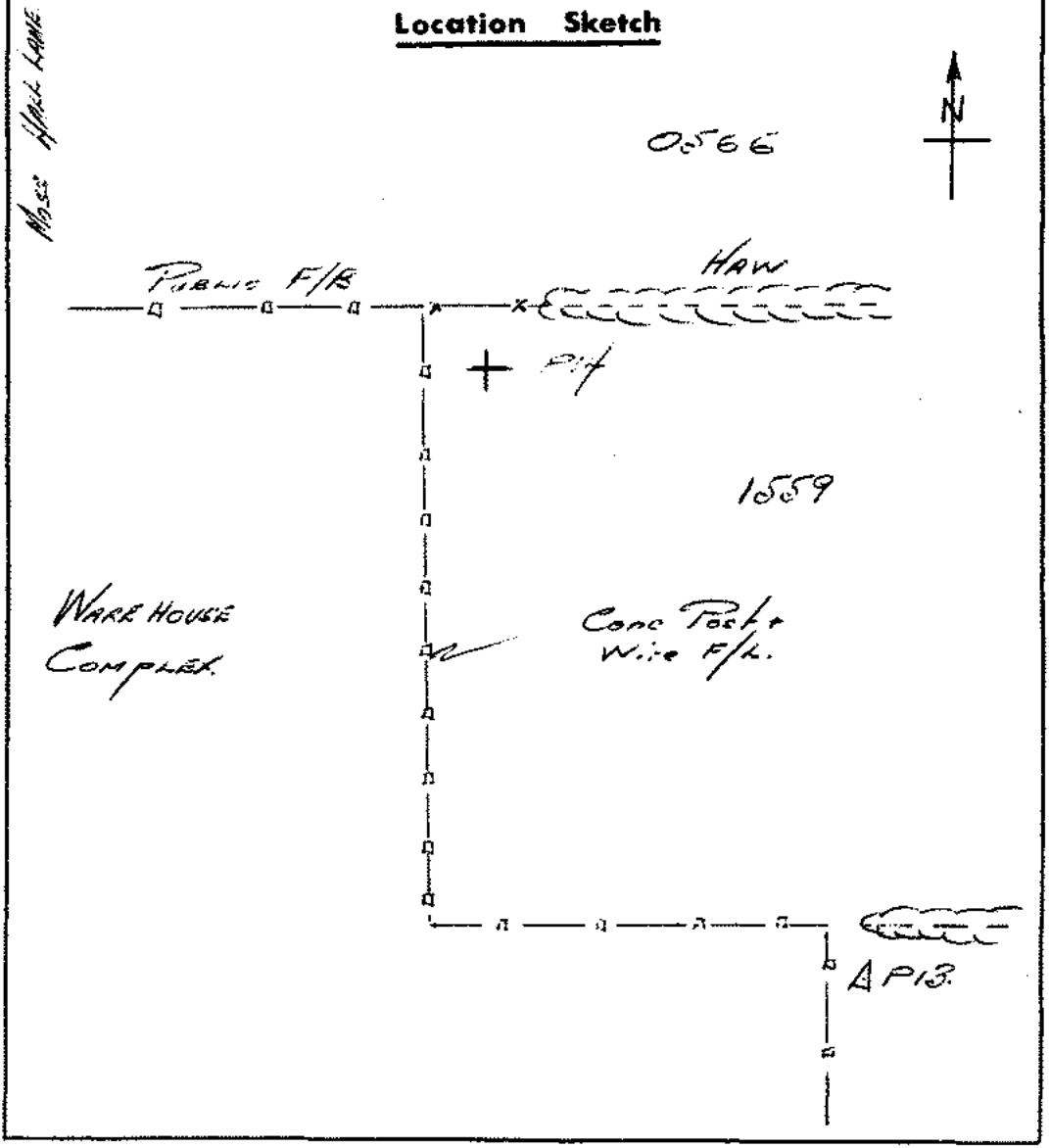
**Survey** Primary Control **Date**

**Description of Station** Trinical Station

**Co-ordinates** E: 384079 N: 408607

**Height** **Survey Method**

## Location Sketch



# STATION DESCRIPTION

**Site** PILSWORTH **Station** P17

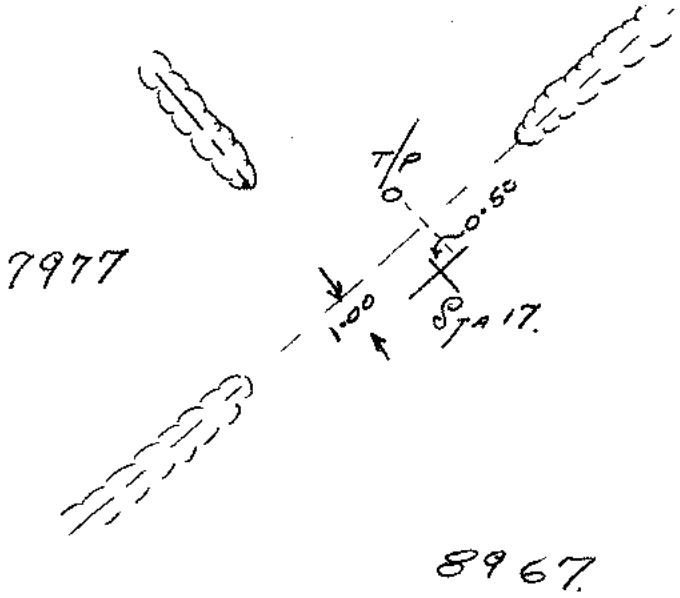
**Survey** B.H. STATION **Date**

**Description of Station** WOOD PEG.

**Co-ordinates** E: 383 902·58 N: 408 772·69

**Height** 220·97 **Survey Method** Bearing / Distance.

**Location Sketch**



# STATION DESCRIPTION

Site PILSWORTH Station P 20

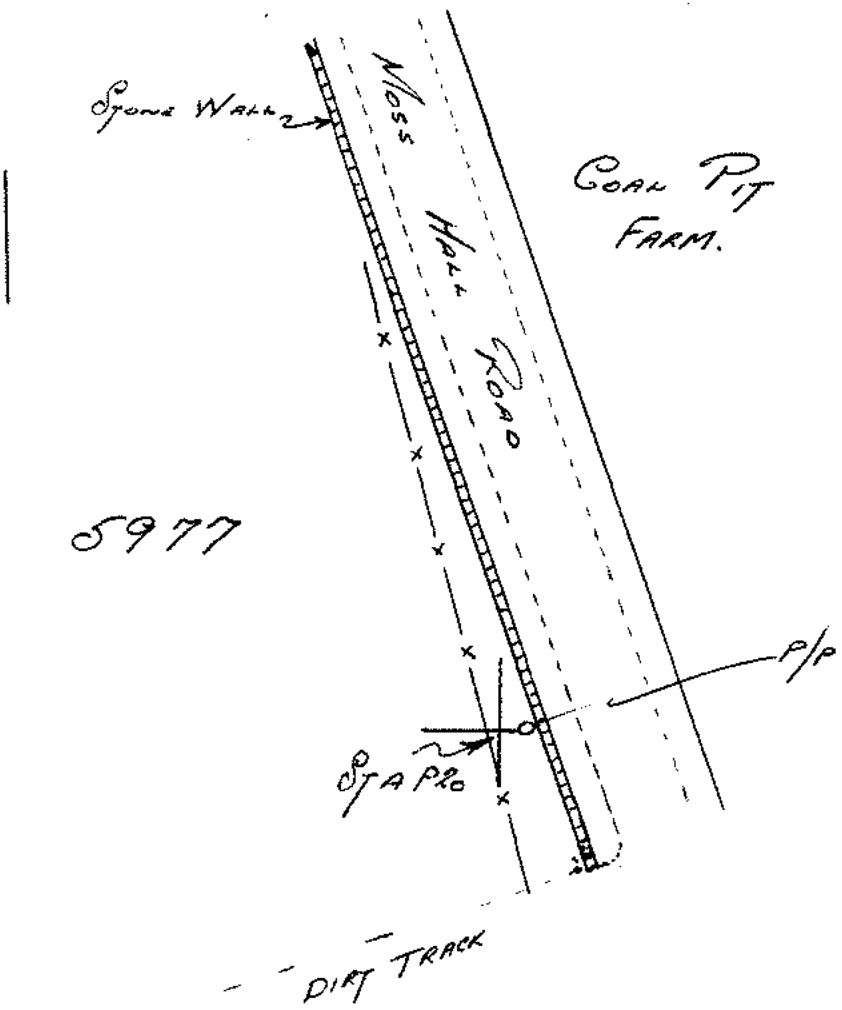
Survey Date 8/7/82

Description of Station WOOD PEG

Co-ordinates E: 383 689·49 N: 408, 781·65

Height Survey Method CLOSED TRAVERSE

## Location Sketch



# STATION DESCRIPTION

Site PILSWORTH Station P 21

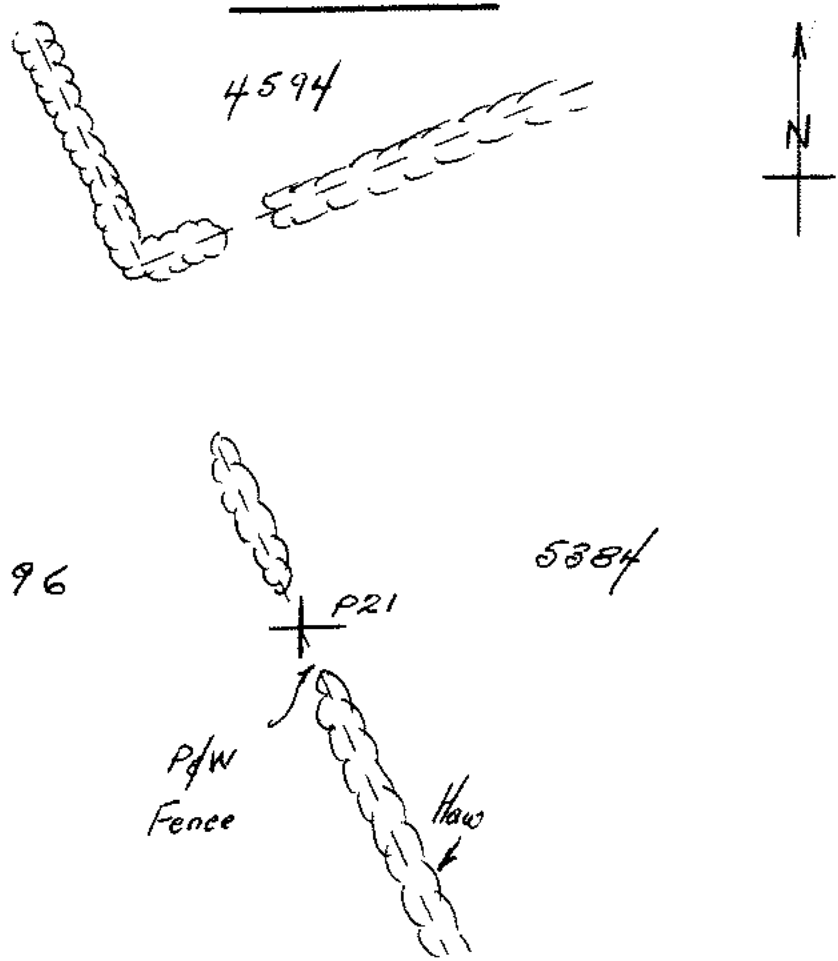
Survey Date 7/7/82

Description of Station WOOD PEG

Co-ordinates E: 383,451.02 N: 408,855.64

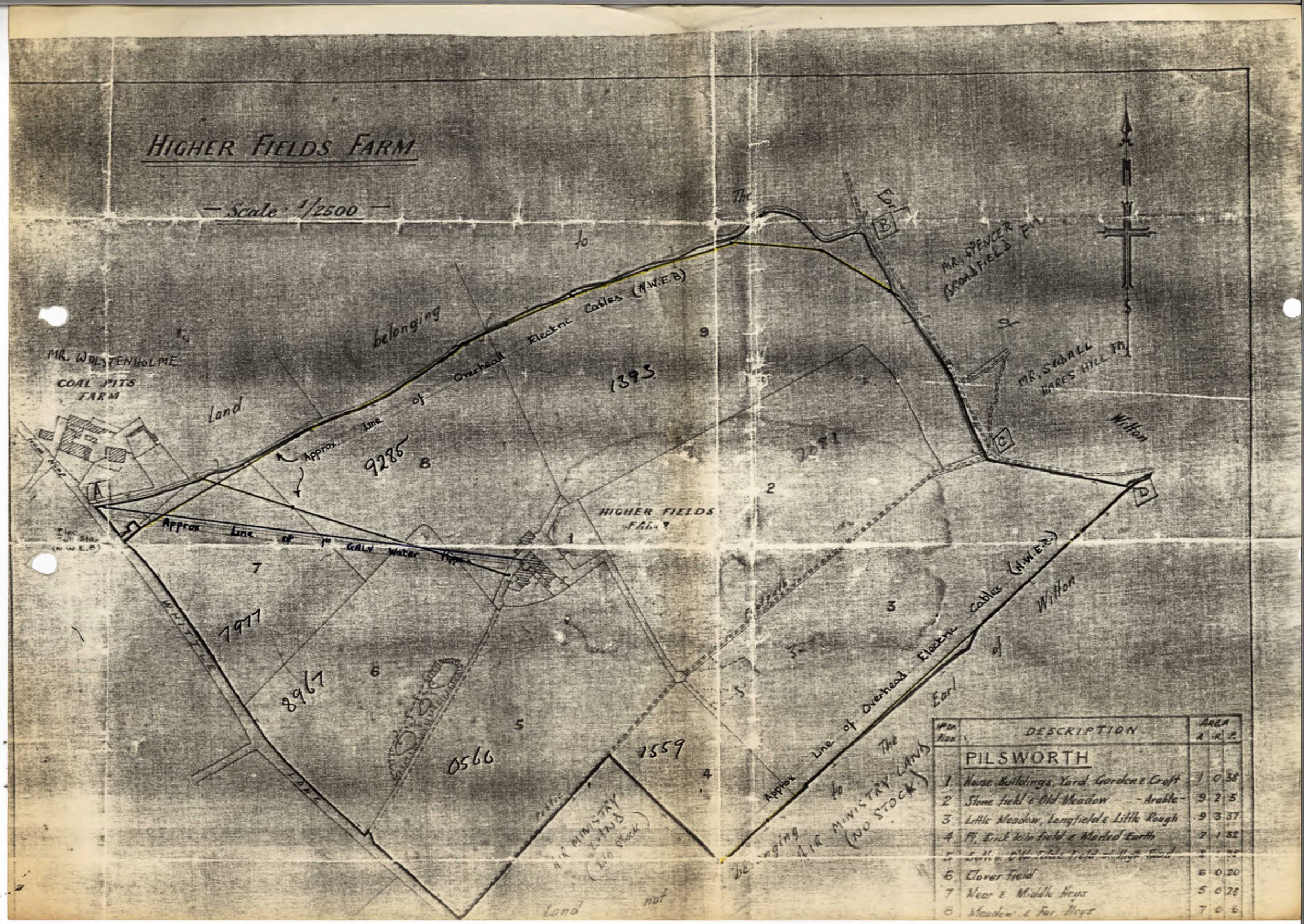
Height 208.27 Survey Method CLOSED TRAVERSE

## Location Sketch



# HIGHER FIELDS FARM

— Scale · 1/2500 —




| Plan No. | DESCRIPTION | AREA A | R | P |
|---|---|---|---|---|
| | **PILSWORTH** | | | |
| 1 | House Buildings, Yard Garden & Croft | 1 | 0 | 38 |
| 2 | Stone field & Old Meadow - Arable - | 9 | 2 | 5 |
| 3 | Little Meadow, Longfield & Little Rough | 9 | 3 | 37 |
| 4 | Pt. Brick kiln field & Marled Earth | 2 | 1 | 32 |
| 5 | Smith's Old Field, Pt. of High Field | 2 | 1 | 30 |
| 6 | Clover field | 6 | 0 | 20 |
| 7 | Near & Middle Heys | 5 | 0 | 25 |
| 8 | Meadow & Far Heys | 7 | 0 | 6 |

## LEGEND

PROSPECTING BOUNDARY
(Inside edge of symbol to be taken as boundary)

Overhead Electricity Line
Voltage as indicated

Underground Electricity Cable
Voltage as indicated

Overhead Telephone Line

Underground Telephone Cable

Water Pipeline
Diameter as indicated

Public Footpath
Footpath No. 105

Disused Shaft

Adopted Highway by Bury M.B.C. (A) (B)

NATIONAL COAL BOARD OPENCAST EXECUTIVE
No 3 NORTH WEST REGION
Anderton House, Lowton

# Site No. 031703
# PILSWORTH

## Composite Prospecting Information

| | | | | |
|---|---|---|---|---|
| Location | 2 Kilometres South East of *Bury | | | |
| N.G. Ref. | SD.835.090 | Drawn by M.E.A. | Checked by P.M.C. | Date 9.3.1982 |

Based upon Ordinance Survey Maps with the sanction of the Controller of H.M. Stationery Office.
Crown Copyright Reserved.

Scale 1/2500

Drwg. No. 03/1703/03

## LEGEND

PROSPECTING BOUNDARY
(inside edge of symbol to be taken as boundary)

NATIONAL COAL BOARD OPENCAST EXECUTIVE
No.3 NORTH WEST REGION
Anderton House, Lowton

**Site No. 031703**
**PILSWORTH**

**Prospecting Boundary Plan**

| | | | | | |
|---|---|---|---|---|---|
| Location | 2 Kilometres South East of Bury | | | | |
| N.G. Ref. | SD.835.090 | Drawn by | JRH | Checked by | Date 22.9.1981 |




## LEGEND

PROSPECTING BOUNDARY
(inside edge of symbol to be taken as boundary)

## LEGEND

PROSPECTING BOUNDARY
(inside edge of symbol to be taken as boundary)

NATIONAL COAL BOARD OPENCAST EXECUTIVE
No 3 NORTH WEST REGION
Anderton House, Lowton

# Site No. 031703
# PILSWORTH

## Prospecting Boundary Plan

| | | | |
|---|---|---|---|
| Location | 2 Kilometres South East of Bury | | |
| N.G. Ref. | SD 835 090 | Drawn by JRH | Checked by DJD Date 22.9.1981 |

Based upon Ordnance Survey Maps with the sanction of the Controller of H.M. Stationery Office. Crown Copyright Reserved.

Scale 1/2500

Drwg. No. 03/1703/02

## LEGEND

PROSPECTING BOUNDARY
(inside edge of symbol to be taken as boundary)

PUBLIC RIGHTS OF WAY

NATIONAL COAL BOARD OPENCAST EXECUTIVE
No 3 NORTH WEST REGION
Anderton House, Lowton

# Site No. 031703
# PILSWORTH

## Prospecting Boundary Plan

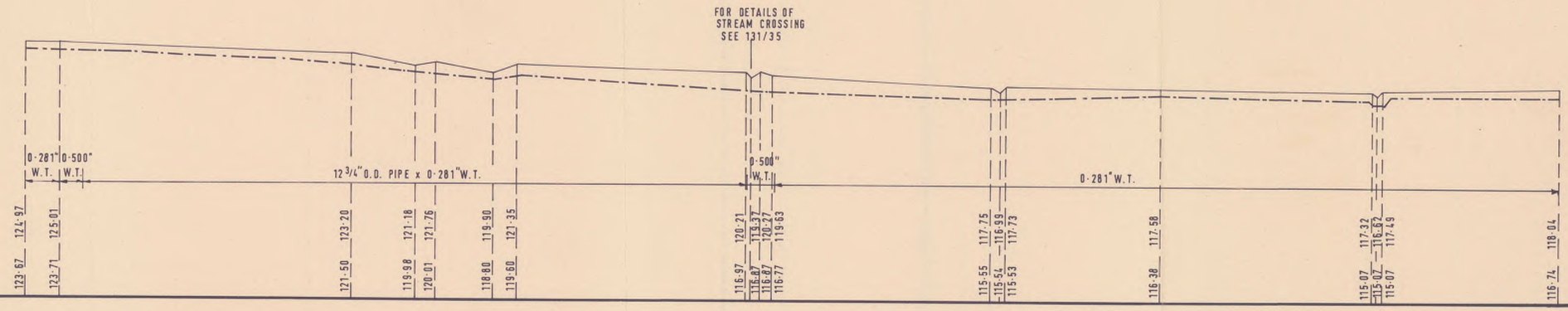
| | | | | | |
|---|---|---|---|---|---|
| Location | 2 Kilometres South East of "Bury" | | | | |
| N.G. Ref. | SD 835 090 | Drawn by | IRH | Checked by | Date 22.9.1981 |

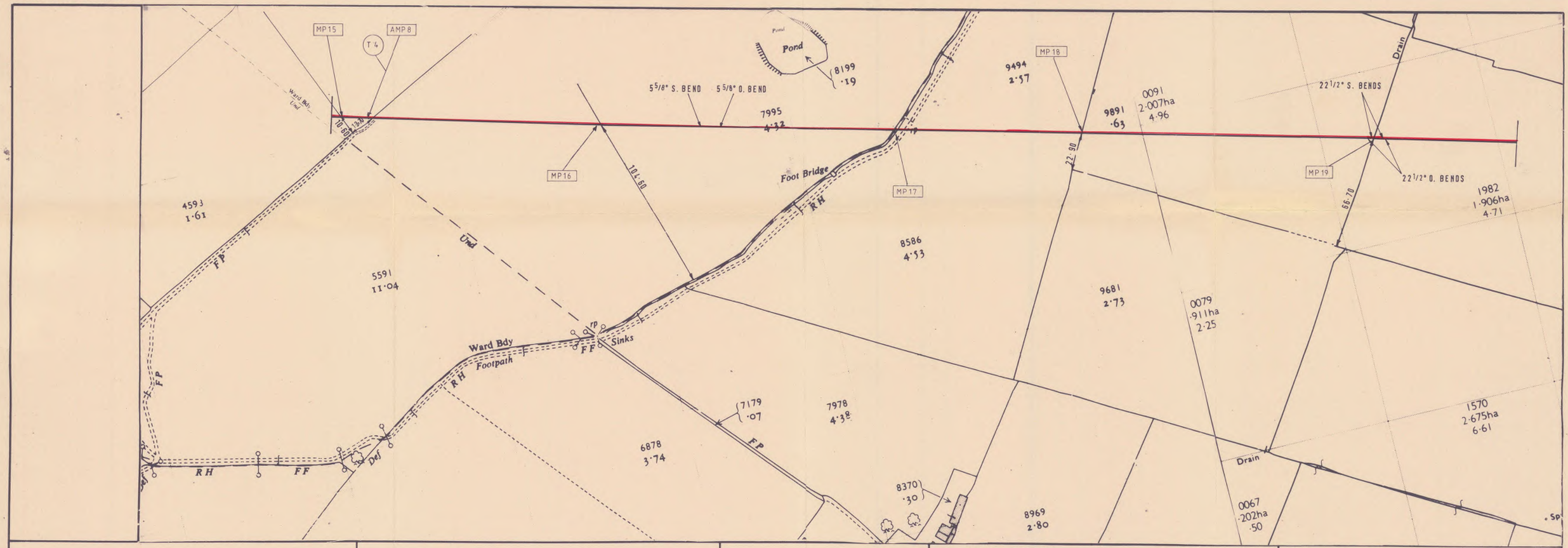
Based upon Ordnance Survey Maps with the sanction of the Controller of H.M. Stationery Office. © Crown Copyright Reserved.

Scale 1/2500

Drwg. No. 03/1703/02

| | | | |
|---|---|---|---|
| OWNERSHIP | | EARL OF WILTON'S SETTLED ESTATE | MRS. F.M. FLITCROFT |
| OCCUPIER | | J. GREENWOOD | " |
| EASEMENT | | 131/7 | 131/8 |




BRITISH GAS CORPORATION
NORTH WESTERN REGION

# 12 3/4" O.D. STEEL PIPELINE
# WHITEFIELD CASTLE RD. TO CASTLETON
## RECORD MAP

MATERIAL X46 X52 WALL THICKNESS 0·281 0·500

KEY:
CENTRE OF PIPELINE ——

AMENDMENTS

| DATE | DETAILS | INTLS | CHKD. BY |
|---|---|---|---|
| FEB. 1982 | A.M.P. & M.P. & T. NUMBERS | L.W. | |
| | | | |
| | | | |

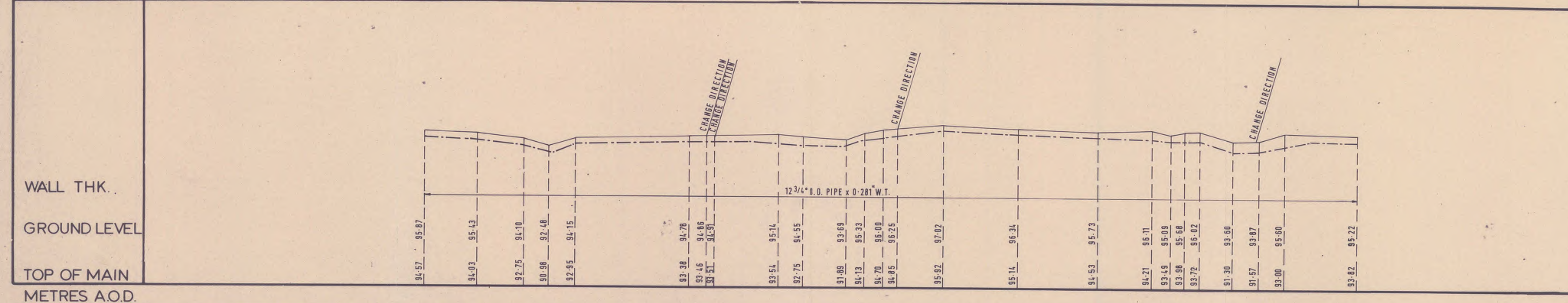
SCALES:
HORIZONTAL 1: 1250
VERTICAL 1: 500

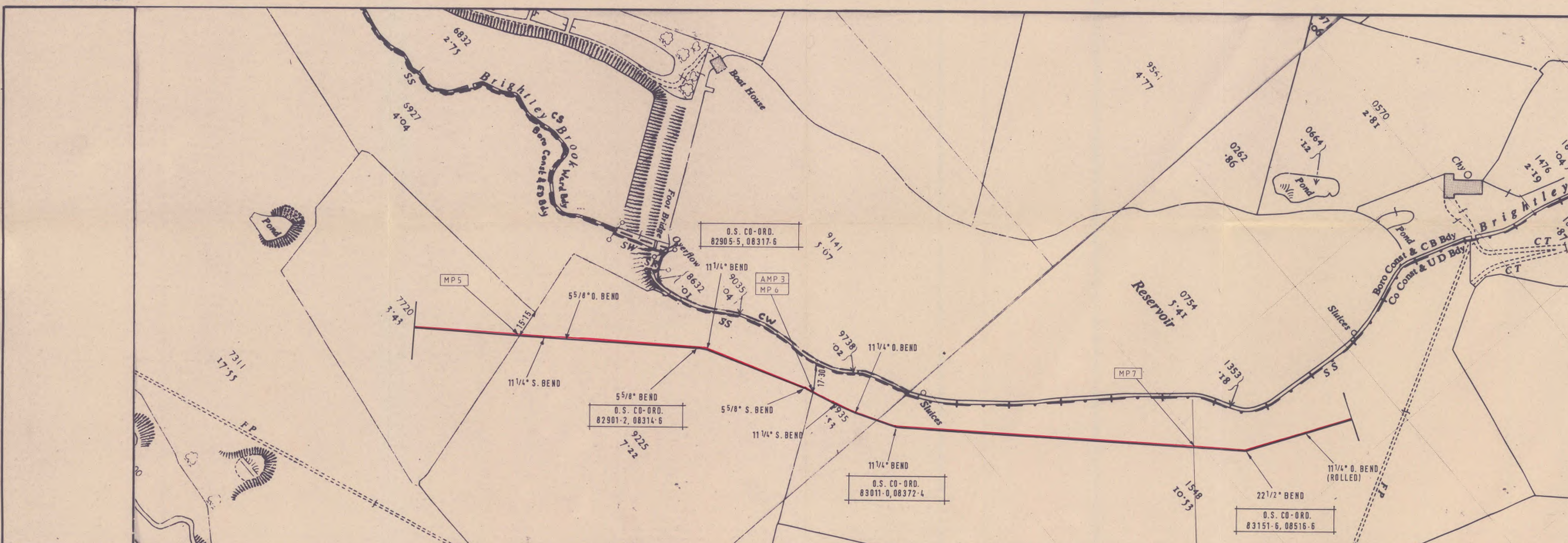
DATE: OCTOBER 1981

DRAWING No. 131/44


NCB OE NORTH WEST REGION
PLAN ENCLOSED WITH
LETTER/MEMO DATED 5.4.82.
REFERENCED JVM/GJ/Mining General.
RECEIVED FROM/~~SENT TO~~ N.W GAS.
FILED IN 1703/003/3/3

| | | | | |
|---|---|---|---|---|
| OWNERSHIP | | EARL OF WILTON'S SETTLED ESTATE | | |
| OCCUPIER | | W.&T.BUTTERFIELD | T. WOLSTENHOLME | |
| EASEMENT | | 131/4 | | |




BRITISH GAS CORPORATION
NORTH WESTERN REGION

12 3/4" O.D. STEEL PIPELINE

# WHITEFIELD CASTLE RD. TO CASTLETON

RECORD MAP

MATERIAL X46 X52 WALL THICKNESS 0·281" 0·500"

KEY:
CENTRE OF PIPELINE ———

AMENDMENTS

| DATE | DETAILS | INTLS. | CHKD. BY |
|---|---|---|---|
| FEB.1982 | A.M.P. & M.P. NUMBERS | L.W. | |
| | | | |
| | | | |

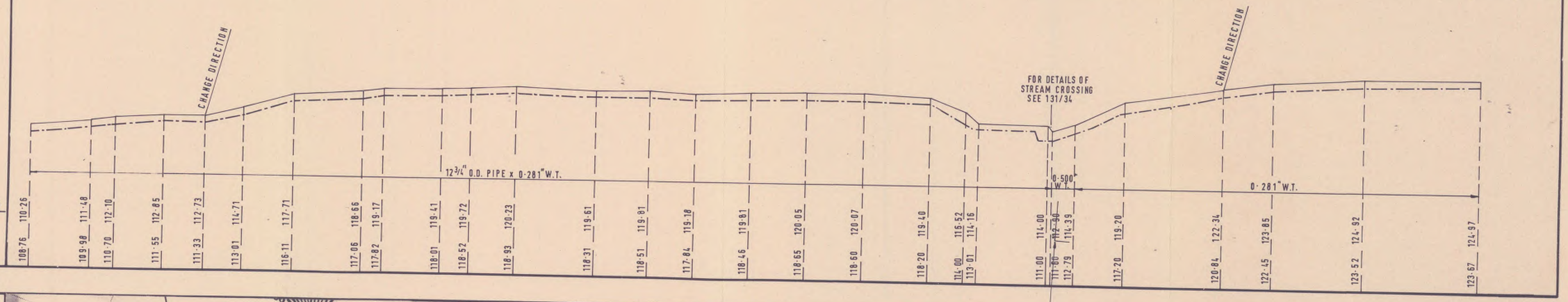
SCALES:
HORIZONTAL 1:1250
VERTICAL 1:500

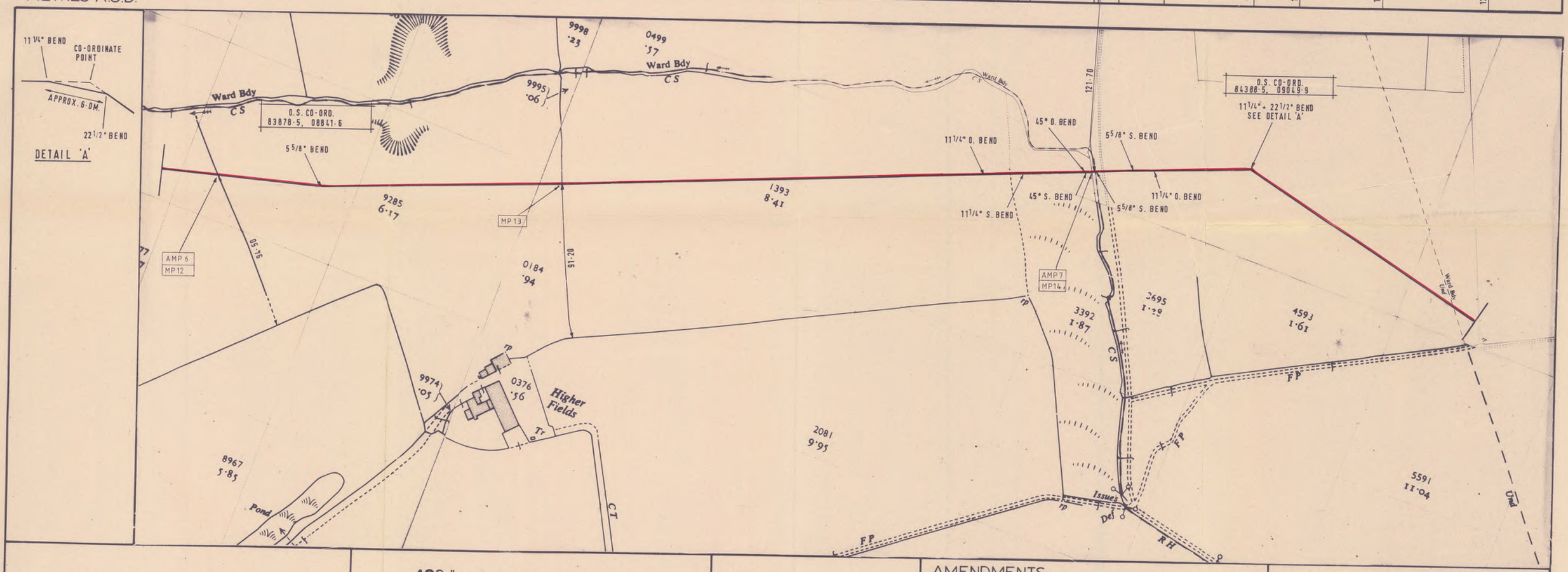
DATE: OCTOBER 1981

DRAWING No. 131/41


NCB OE NORTH WEST REGION
FLAN ENCLOSED WITH
| | |
|---|---|
| LETTER MEMO D | 5.4.82. |
| REFERENCED | JVM/GJ/Mining General. |
| RECEIVED FROM | N.W. Gas |
| FILED IN | 703/003/3/3. |

| | |
|---|---|
| OWNERSHIP | EARL OF WILTON'S SETTLED ESTATE |
| OCCUPIER | W. WRIGHT / F. SPENCER |
| EASEMENT | 131/4 |




BRITISH GAS CORPORATION
NORTH WESTERN REGION

# 12¾" O.D. STEEL PIPELINE
# WHITEFIELD CASTLE RD. TO CASTLETON
## RECORD MAP

MATERIAL X46 X52
WALL THICKNESS 0·281" 0·500"

KEY:
CENTRE OF PIPELINE ——

AMENDMENTS

| DATE | DETAILS | INTLS | CHKD. BY |
|---|---|---|---|
| FEB.1982 | A.M.P. & M.P. NUMBERS | L.W. | |

SCALES:
HORIZONTAL 1:1250
VERTICAL 1:500

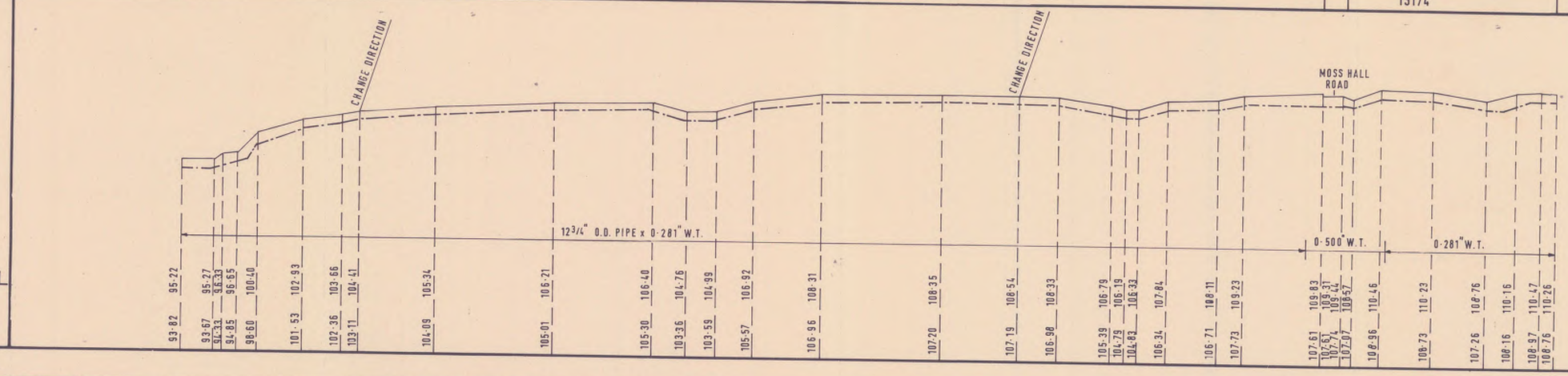
DATE: OCTOBER 1981

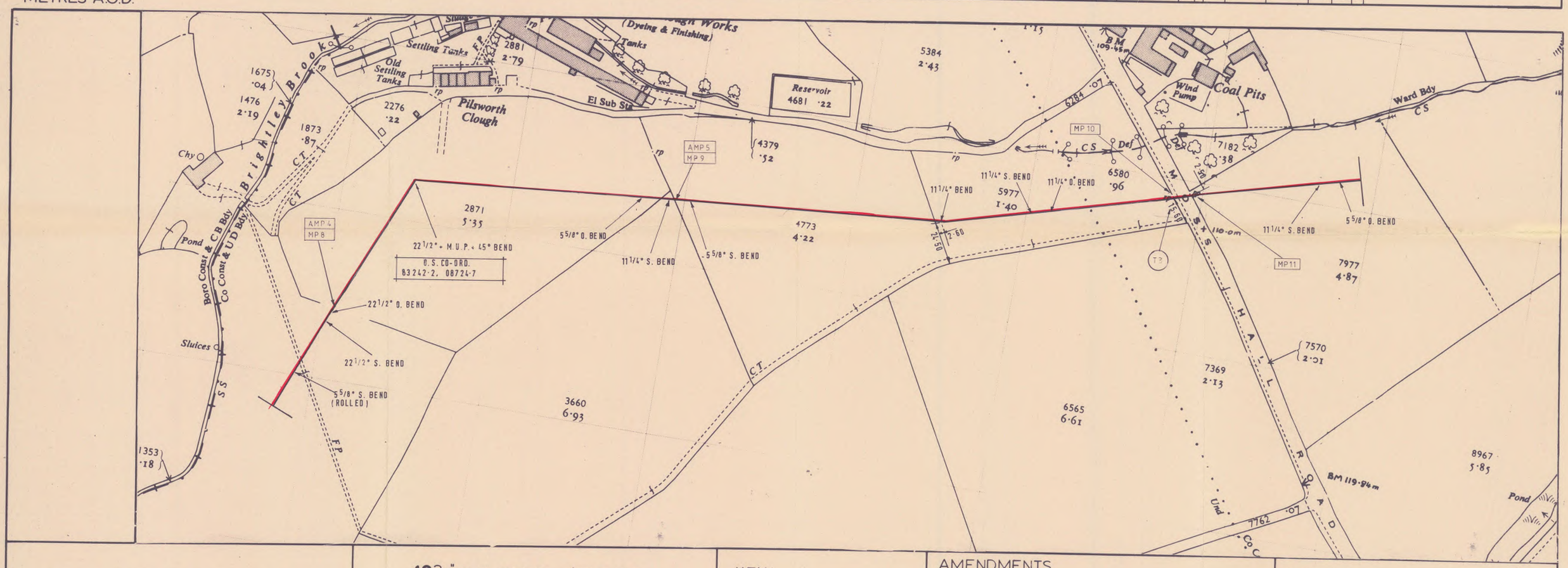
DRAWING No. 131/43


NCB OE NORTH WEST REGION
PLAN ENCLOSED WITH

| | |
|---|---|
| LETTER/MEMO DATED | 5.4.82. |
| REFERENCED | JVM/GJ Mining General. |
| RECEIVED FROM/SENT TO | N.W. Gas |
| FILED IN | 1703/003/3/3. |

| | | | | | |
|---|---|---|---|---|---|
| OWNERSHIP | | EARL OF WILTON'S SETTLED ESTATE | G.M.C | EARL OF WILTON'S SETTLED ESTATE | |
| OCCUPIER | | T. WOLSTENHOLME | | W. WRIGHT | |
| EASEMENT | | 131/4 | | 131/4 | |




BRITISH GAS CORPORATION
NORTH WESTERN REGION

# 12 3/4" O.D. STEEL PIPELINE
# WHITEFIELD CASTLE RD. TO CASTLETON
## RECORD MAP

MATERIAL X46 X52
WALL THICKNESS 0·281" 0·500"

KEY:
CENTRE OF PIPELINE ——

AMENDMENTS

| DATE | DETAILS | INTLS | CHKD. BY |
|---|---|---|---|
| FEB. 1982 | A.M.P. & M.P. & T. NUMBERS | L.W. | |

SCALES:
HORIZONTAL 1: 1250
VERTICAL 1: 500

DATE: OCTOBER 1981

DRAWING No. 131/42


NCB OE NORTH WEST REGION
PLAN ENCLOSED WITH
LETTER/M.NO. DATED 5.4.82.
REFERENCED JVM/GJ/Mining General.
RECEIVED FROM/SENT TO N.W. Gas
FILED IN 1703/002/3/3


DARN HILL
BROADFIELD
Depot
Reservoir
Sewage Works
Coal Pits
Higher Fields
Lower Wheels
Higher Barn
Capstan's
Ashtons Field
Ashtons Pond
Silver Hole Farm
Pond
Spring
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11
P12
P13
382,000
383,000
384,000
385,000
410,200
410,000
409,000
408,000
9,500
8,500

Elsie. File ✓ 18/5
Circulate to ALS/ALO/AOG

# Memorandum

**From** R.P.M.

**To** A.O.M., Lancs. & N.Wales.

**Subject** PILSWORTH PROSPECTING SITE 031703

**Our Ref** 1703/003/2/1

**Your Ref**

**Date** 14th May, 1982.

I enclose 1/2500 scale plan showing registered footpaths across the site. Information as provided by G.M.C.

Comment from the County Engineer was as follows:

".... the M66 motorway forms the western boundary of the site and prospecting should not encroach on the motorway emabnkments or cutting edge".

There were no other comments from G.M.C.

AOG ✓ note. RBC 19/5.

D.J. Owen

W. OWEN

Encls:
DJO/SA

Telephone ext.

RPM.
13 APR 1982

NORTH WEST GAS

Welman House
Altrincham, Cheshire WA15 8AE

Telephone 061-928 6311
Telegrams Norwesgas Altrincham
Telex 667522

National Coal Board
Opencast Executive
North West Region
Anderton House
Lowton
Warrington, Cheshire
WA3 2AG

N.C.B. O.E. No. 1 REGION
YOUR REFERENCE
ORIGINAL | COPY
AJRPm | DGO
MCR | MCR.

5 April 1982

For urgent report to AOM.

Dear Sir

Prospecting for Opencast Coal
Site Name: Pilsworth
Site No: 031703
Location: 2 Kilometres south east of Bury

Thank you for your letter dated 12 March 1982. I am returning your plan with our 12" O.D. Whitefield (Castle Road)/Castleton pipeline marked up in green. As you can see your proposed prospecting will directly affect our pipeline.

An excuse to cover their own inefficient record system

I was under the impression that N.C.B. would have known about this pipeline since negotiations were carried out between N W Gas and N.C.B. about the positioning of this pipeline and an agreement was reached about the final siting. I am enclosing copies of correspondence between N.C.B. and N W Gas regarding this.

You state that at the moment only prospecting for coal is involved and I appreciate should there be any likelihood of working the coal that you will inform me and invite further comments. If this prospecting involves any excavation I would like to draw to your attention that machine excavation is not allowed within 2 metres of the pipeline, and it is imperative that we know in advance.

I am enclosing a copy of our Code of Practice BGC/PS/SSW2 for your perusal and any work should be carried out in accordance with these recommendations.

The address and telephone number is as indicated on the letterhead, and the person to contact is Mr J V Mitchell, Transmission Engineer.

I am enclosing our record maps No's 131/41, 131/42, 131/43 & 131/44 with additional information. This additional information (location of the pipeline and cover on the pipeline) is approximate only. The actual position and cover would have to be determined by hand dug trial holes.

Yours faithfully

J. V. Mitchell

J V Mitchell
Transmission Engineer

Your Ref: 1703/003/3/3
Our Ref: JVM/GJ/General Mining

NCB 4056
**ENCLOSURE SLIP**

Date 14.4.82.

FROM Jan Hornsby
Drawing Office.

TO Rob. Goodhunter
Area Geologist.

| | | | |
|---|---|---|---|
| | For approval and return | | Insufficient information |
| | For your attention | | Please note and return to sender |
| ✓ | For your information | | Returned as requested |
| | Please note and pass to | | |
| | For comments and return | | |

REMARKS :

Will you please let survey have a copy of this plan.

Jan.

KPU 2078

BRITISH GAS

BGC/PS/SSW2

BRITISH GAS ENGINEERING STANDARD BGC/PS/SSW2

# CODE OF PRACTICE FOR SAFE WORKING IN THE VICINITY OF BRITISH GAS TRANSMISSION PIPELINES AND ASSOCIATED INSTALLATIONS OPERATING AT PRESSURES IN EXCESS OF 7 bar

JANUARY 1980

CONTENTS


| | | Page |
|---|---|---|
| | FOREWORD | ii |
| 1. | SCOPE | 1 |
| 2. | FIELD OF APPLICATION | 1 |
| 3. | REFERENCES | 1 |
| 4. | DEFINITIONS | 1 |
| 5. | ESSENTIAL PRELIMINARIES | 2 |
| 5.1 | Formal consent | 2 |
| 5.2 | Formal notice | 2 |
| 5.3 | Locating the pipeline | 2 |
| 5.4 | Other considerations | 2 |
| 6. | DESIGN CONSIDERATIONS FOR NEW SERVICE | 3 |
| 6.1 | Orientation and location | 3 |
| 6.2 | Cathodic protection | 3 |
| 6.3 | Pressure testing | 3 |
| 7. | NOTIFIABLE CONSTRUCTION ACTIVITIES | 3 |
| 7.1 | Notification | 3 |
| 7.2 | Use of naked flame | 3 |
| 7.3 | Use of explosives | 3 |
| 7.4 | Piling | 3 |
| 8. | RULES FOR CONSTRUCTION TRAFFIC | 4 |
| 9. | EXCAVATION | 4 |
| 10. | BACKFILLING | 4 |
| 11. | SAFETY PROCEDURE IN CASE OF DAMAGE TO THE PIPELINE | 4 |

APPENDICES

| | | |
|---|---|---|
| APPENDIX A | — Specimen Form P.98A | 6 |
| APPENDIX B | — Specimen Form P.98B | 7 |

## FOREWORD

This British Gas engineering standard having been approved by the Production and Supply Policy Committee as document 79/444 is published under the authority of the Corporation for use throughout the British Gas Corporation.

This British Gas code of practice is based on an earlier Pipelines Department document (Form P.98 – General conditions affecting the design and construction of services and/or structures in the vicinity of the national natural gas transmission system and associated structures), which has been re-arranged to suit the agreed standard format for British Gas engineering standards.

The sections dealing with purely administrative matters are now presented as standard forms (see Appendices A and B) which are produced separately for use by the appropriate British Gas personnel.

General enquiries or applications for further copies of this document should be addressed to:

Standards Department
Production and Supply Division
British Gas Corporation
National Westminster House
326 High Holborn
London WC1V 7PT.

Comments regarding the technical content of this engineering standard should be directed to the Manager, Standards Department at the above address.

# BRITISH GAS ENGINEERING STANDARD BGC/PS/SSW2

# CODE OF PRACTICE FOR SAFE WORKING IN THE VICINITY OF BRITISH GAS TRANSMISSION PIPELINES AND ASSOCIATED INSTALLATIONS OPERATING AT PRESSURES IN EXCESS OF 7 bar

## 1. SCOPE

This British Gas code of practice sets out the safety precautions and other conditions affecting the design, construction and maintenance of services and/or structures and other works, excluding mineral extraction, in the vicinity of existing British Gas transmission pipelines and associated installations operating at pressures in excess of 7 bar.

## 2. FIELD OF APPLICATION

The requirements in this code of practice shall apply to all works carried out in the vicinity of existing British Gas transmission pipelines and associated installations and the document is intended for the guidance of those responsible for planning and carrying out such work and of the British Gas personnel appointed to give approval or to supervise the work on site.

This code of practice does not cover emergency work or normal agricultural work, but it is recommended that in such cases the requirements of the code should be observed as far as possible.

## 3. REFERENCES

This British Gas engineering standard makes reference to the documents listed below. Unless otherwise specified the latest editions of these documents, including all addenda and revisions, shall apply.

**Statutes and Regulations**

Public Utilities Street Work Act 1950

**British Gas Engineering Standard**

BGC/PS/ECP1 — Code of practice for cathodic protection of buried steel pipework.

## 4. DEFINITIONS

For the purposes of this British Gas code of practice the following definitions shall apply:

4.1 **British Gas**: the British Gas Corporation.

4.2 **Engineer**: the Engineer appointed from time to time by British Gas and notified in writing to the Contractor to act as Engineer for the purposes of the contract.

4.3 **British Gas representative**: the representative appointed from time to time by British Gas and notified to the Contractor to act as the British Gas representative for the purposes of the contract.

**4.4 promoter of the new works:** the person or persons, firm, company or authority for whom new services or other works in the vicinity of existing British Gas transmission pipelines and associated installations are being provided.

**4.5 easement strip:** a strip of land in, upon and over which British Gas have acquired the rights to lay, construct, inspect, maintain, protect, use, replace, remove or render unusable a main or pipe for the transmission or storage of gas or other materials connected with the exercise and performance of the functions of British Gas and all necessary apparatus ancillary thereto.

## 5. ESSENTIAL PRELIMINARIES

### 5.1 Formal consent

5.1.1 Work shall not be undertaken within the easement strip without the prior formal consent of British Gas.

5.1.2 It is an essential part of the granting of formal consent in the terms of this document that the promoter of the new works, his servants, agents and contractors shall agree to indemnify British Gas, its servants, agents and contractors against any loss, damage, expenses, claims and actions incurred by or brought against British Gas, its servants, agents and contractors in consequence of the provision of the new service and any works and activities associated therewith, or ancillary thereto, (see Appendix A).

5.1.3 Formal consent will be given by the Engineer or the British Gas representative. This will be accompanied by a copy of each of the following documents:

- Form P.98A (see Appendix A) with details of return address and relevant site location added.
- Form P.98B (see Appendix B) completed with the relevant site location, British Gas contact and telephone details.
- BGC/PS/SSW2.

The recipient shall complete the Form P.98A and return it to British Gas before any work is carried out.

### 5.2 Formal notice

Where formal consent has been given, a minimum of seven days notice is required before carrying out work in British Gas easement strips. The appropriate notice under the Public Utilities Street Works Act 1950 shall be given where the existing British Gas pipeline or plant is situated in highways.

### 5.3 Locating the pipeline

Before any work is carried out in the vicinity of existing British Gas pipelines, the Engineer or the British Gas representative shall locate and peg out the line of the pipeline and shall then supervise the hand digging of any trial holes necessary to confirm the position of the pipe.

### 5.4 Other considerations

The following should be taken into account:

a) Storage of materials or lighting of fires within the easement strip or in the vicinity of above ground installations associated with pipelines shall not be permitted.

b) The new works shall not reduce or increase the cover above the existing pipeline unless agreed by the Engineer.

c) Facilities for inspecting all works carried out shall be given to the Engineer or to the British Gas representative.

## 6. DESIGN CONSIDERATIONS FOR NEW SERVICE

### 6.1 Orientation and location

6.1.1 Where a new service is to cross an existing British Gas pipeline, whether above or below it, the normal minimum distance between the outside of the pipeline and the service to be installed should be 600 mm.

In special circumstances this distance may be reduced at the discretion of the Engineer. At such crossings both the pipeline and the new service shall be suitably supported to prevent any future settlement and the backfill shall be packed and consolidated to the satisfaction of the Engineer, (see clause 10).

6.1.2 As a general rule, within an easement strip no new service shall be laid parallel to an existing British Gas pipeline. However, in special circumstances (e.g. highways) a new service may be laid parallel to an existing pipeline provided that there is adequate clearance, normally 600 mm, between them and provided that the service is not laid either directly above or directly below the existing British Gas pipeline.

### 6.2 Cathodic protection

6.2.1 British Gas plant is cathodically protected, normally in accordance with BGC/PS/ECP1. Where a new service is to be laid and is to be similarly protected, British Gas will require to carry out interaction tests to determine whether its own system is adversely affected. The cost of any mutually agreed remedial action shall be recharged to the promoter of the new works.

6.2.2 Should any cathodic protection posts or associated apparatus need moving to facilitate construction operations, reasonable notice shall be given to British Gas and associated costs shall be borne by the promoter of the new service.

### 6.3 Pressure testing

Hydraulic testing shall not be permitted within 8 m of an existing British Gas pipeline unless precautions have been taken against the effects of a possible burst. These precautions may include the use of pre-installation tested pipe, sleeving, barriers, etc., as directed by the Engineer.

## 7. NOTIFIABLE CONSTRUCTION ACTIVITIES

### 7.1 Notification

The promoter of the new works shall notify British Gas before any of the activities covered in 7.2 to 7.4 inclusive are carried out in the vicinity of an existing British Gas pipeline, (see also 10.1).

### 7.2 Use of naked flame

Welding or other hot works involving naked flame shall not take place within the easement strip without the written consent of British Gas.

### 7.3 Use of explosives

Before a decision is made to use explosives for blasting within 400 m of any part of the British Gas transmission system advice shall be sought from British Gas Pipelines Department.

### 7.4 Piling

British Gas shall be consulted before any piling is carried out within 15 m of an existing British Gas pipeline.

## 8. RULES FOR CONSTRUCTION TRAFFIC

8.1 Construction traffic shall cross a British Gas pipeline only at previously agreed and clearly marked crossing lanes and when all the requirements in 8.2 to 8.4 inclusive have been met.

8.2 All crossing lanes shall be fenced on both sides over a width to be specified by the Engineer. These fences shall be returned along the easement strip on both sides for a distance of 6 m away from the crossing.

8.3 When required by the Engineer, the crossing lane shall be protected by laying approved sleeper rafts or by protection made from other approved materials.

8.4 Suitable warning notices, drawing attention to the danger of not using the crossing, shall be erected and maintained in a clearly legible condition.

## 9. EXCAVATION

9.1 Where it is necessary to excavate below a British Gas pipeline, the pipeline shall, during all stages of the operation, be supported to the satisfaction of the Engineer. On completion, permanent supports shall, if necessary, be constructed to avoid future settlement.

9.2 Mechanical excavation by powered tools shall not be permitted within 3 m, and the use of hand held power assisted tools shall not be permitted within 1.5 m of a British Gas pipeline or associated equipment.

Consideration may be given to a relaxation of these limits provided that prior notice is given to British Gas of the excavating methods and the safeguards to be employed. In certain circumstances, the Engineer may agree to such a relaxation if, after inspection on site at the time of the excavation, he is satisfied that the pipeline can be adequately protected. Details of the conditions of any such relaxation must be stated in writing.

Excavation machinery operating within the easement strip may do so only in accordance with the above conditions and only when the British Gas representative is present.

9.3 To avoid damage during construction work, exposed British Gas pipelines shall be protected by cladding (e.g. timber), as directed by the Engineer.

9.4 Where excavation machinery is operating outside the easement strip, but in close proximity to it, a fence shall be erected to demarcate the easement strip and exclude access.

## 10. BACKFILLING

10.1 Those responsible for the new works shall give British Gas at least 48 hours notice of intention to backfill under, over, or adjacent to an existing British Gas pipeline.

10.2 The British Gas representative shall be in attendance during the whole of the backfilling operations and shall advise as to the suitability and degree of consolidation of backfill material round the pipeline.

10.3 Any damage to the coating of the British Gas pipeline, even if minor in extent, shall be brought to the notice of the British Gas representative so that he can arrange for repairs to be made before backfilling is completed. Minor damage to pipe coating and test leads notified to British Gas in this way will be repaired by British Gas free of charge.

## 11. SAFETY PROCEDURE IN CASE OF DAMAGE TO THE PIPELINE

If a British Gas pipeline is damaged – even slightly – the following precautionary measures shall be taken immediately:

a) Evacuate all personnel from the vicinity of the pipeline damage.

b) Notify British Gas, using the contact and telephone number given in Form P.98B, (see Appendix B), for this purpose.

c) Shut down all working plant and machinery in the vicinity of the pipeline damage and ensure that there are no other potential sources of ignition in the vicinity.

d) Ensure that no one approaches the pipeline without the authority of the Engineer.

e) Ensure that assistance is given as necessary, or as requested by British Gas or the Police, to safeguard persons and property.

**IMPORTANT NOTE**

**IN THE EVENT OF A GAS LEAK OCCURRING OBSERVE THE ABOVE PRECAUTIONS BUT DO NOT ATTEMPT TO STOP THE LEAK.**

APPENDIX A

SPECIMEN FORM P.98A

FORM P.98A

BRITISH GAS

**GENERAL CONDITIONS AFFECTING THE DESIGN, CONSTRUCTION OR MAINTENANCE OF SERVICES AND/OR STRUCTURES OR OTHER WORKS IN THE VICINITY OF THE BRITISH GAS CORPORATION SYSTEM AND ASSOCIATED INSTALLATIONS**

This form is to be completed by the person(s) or organisation responsible for the new works to be installed at the location designated below and returned to the following address prior to any work being started:

SPECIMEN

We acknowledge receipt of formal consent from the British Gas Corporation for the installation of new service and/or other new works in the vicinity of the British Gas transmission system at the following location:

We also acknowledge receipt of FORM P.98B — 'Safety procedure in case of damage to the pipeline' and British Gas Engineering Standard BGC/PS/SSW2 — 'Code of practice for safe working in the vicinity of British Gas transmission pipelines and associated installations operating at pressures in excess of 7 bar'. We agree to abide by the requirements of the code of practice and, in particular, to indemnify the loss, damage, expenses, claims and actions incurred by or brought against the British Gas Corporation, its servants, agents and contractors in consequence of the provision of the new service and/or other new works and any works and activities associated therewith or ancillary thereto.

Signed..... Date.....

Position.....

On behalf of.....

APPENDIX B

SPECIMEN FORM P.98B

FORM P.98B

BRITISH GAS

**WORKS IN THE VICINITY OF THE BRITISH GAS TRANSMISSION SYSTEM AND ASSOCIATED INSTALLATIONS**

**SAFETY PROCEDURE IN CASE OF DAMAGE TO THE PIPELINE**

The British Gas contact and the telephone numbers given below are applicable to the new works at the following location:

SPECIMEN

**IF A BRITISH GAS PIPELINE IS DAMAGED – EVEN SLIGHTLY – TAKE THE FOLLOWING PRECAUTIONARY MEASURES IMMEDIATELY :**

a) Evacuate all personnel from the vicinity of the pipeline damage.

b) Notify.....

Telephone No.....*(Regional Control)*

c) Shut down all working plant and machinery in the vicinity of the pipeline damage and ensure that there are no other potential sources of ignition in the vicinity.

d) Ensure that no one approaches the pipeline without the authority of the British Gas Engineer.

e) Ensure that assistance is given as necessary, or as requested by British Gas or the Police, to safeguard persons and property.

**IMPORTANT NOTE**
**IN THE EVENT OF A GAS LEAK OCCURRING OBSERVE THE ABOVE PRECAUTIONS BUT DO NOT ATTEMPT TO STOP THE LEAK**

A COPY OF THIS NOTICE MUST BE AVAILABLE ON THE SITE AT ALL TIMES

# ADDENDUM A

## TREE PLANTING RESTRICTIONS ON PIPELINES

Set out below are recommendations for tree planting in close proximity to H.P. Gas Pipelines.

1. Both Popular and Willow trees have extensive root systems and should not be planted within 10 metres of the pipeline.

2. The following trees and those of similar size, be they deciduous or evergreen, should not be planted within 6 metres of the pipeline, e.g. Ash, Beech, Birch, most Conifers, Elm, Horse Chestnut, Lime, Oak, Sycamore, etc. Apple and Pear trees also come into this category.

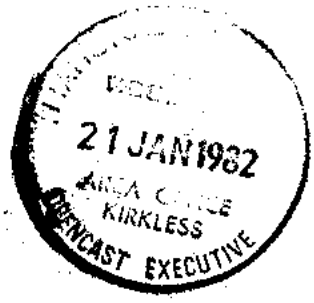
3. Bearing in mind that personnel must have a clear path to conduct Pearson Surveys, we recommend that no shrubs or bushes should be planted within 1 metre of the centre line of the pipeline.

4. There are bound to be cases where both the Corporation and landowners wish to plant shrubs/bushes in close proximity to the pipeline for screening purposes. We would suggest that the following which are shallow-rooting, are suitable for this purpose:-

   Blackthorn, Broom, Cotoneaster, Elder, Hazel, Laurel, Privet, Quickthorn, Snowberry and most ornamental flowering shrubs.

5. In areas where soft fruit is grown, we see no reason why Blackcurrants, Raspberries, Gooseberries, should not be planted on the easement, providing that a path is left clear for the Pearson Surveys.

6. In the past we have received requests for planting Christmas Trees (Picen Abies) on the easement. The Corporation has in most cases acceded to these requests on the clear understanding that these trees are clear-felled at intervals not exceeding seven years.




Our Ref: 1703/003/2/3/WO/SA

19th January, 1982.

Councillor H. Izaks,
25 Margaret Avenue,
ROCHDALE,
OL16 5BG.

Dear Mr. Izaks,

Prospecting for Opencast Coal - Pilsworth Site No. 031703

Mr. Alderson has passed me your letter of 10th January 1982 about Opencast proposals in the Pilsworth area.

The Board's interest in this area was prompted by a consultation from Bury Metropolitan Borough Council on the Pilsworth District Plan proposals which suggest the possibility of some industrial development in the area east of the M.66 Motorway. Reserves of coal workable by opencast methods are thought to exist in that area and in order to ensure that valuable national assets are not sterilised by surface development the Board propose to carry out a drilling programme to prove, or otherwise, the existence of these reserves. Opencast prospecting is permitted development under the Town and Country Planning Act and having notified Greater Manchester Council, Bury M.B.C. and Rochdale M.B.C., and other statutory bodies, we hope to start drilling on the land in April 1982.

In the event that reserves are proved at Pilsworth, and if it is decided that they should be worked, it would still be necessary for the Board to make application to the Secretary of State for Energy for an authorisation under Section 1 of the Opencast Coal Act 1958 to carry out the work. Needless to say, the Board would hope to reach agreement with the County and District Councils, and other interests and bodies concerned, on all matters, including the protection of the environment, before such an application was made.

I would be quite happy to meet you at any mutually convenient time to discuss the Board's current proposals. A telephone call would suffice to make the necessary arrangements.

Yours sincerely,

W.OWEN
Regional Planning Manager

c.c. A.O.M. Lancs./N.Wales - with copy of Councillor Izaks letter.

1703/1

15 January, 1982.

Councillor H. Izaks,
25 Margaret Avenue,
Rochdale,
OL16 5BG.

Dear Sir,

I acknowledge receipt of your letter of 10 January regarding proposals for Opencast mining in the Pilsworth area and would inform you that I have passed on your letter to the appropriate department for attention.

Yours faithfully,

A. N. ALDERSON.

Metropolitan Borough of Rochdale

MEMBER OF THE COUNCIL

Councillor H Ibbs

Address 25 Marchbrae Ave
Rochdale
Lancs OL12 6BL

Telephone —

Date 10/1/82

Your Ref

My Ref HI

Mr AH Alderson
Marketing Director
National Coal Board

Dear Sir

I am writing on behalf of many of my Constituents who are concerned about the proposals of the Coal Board for Open Cast Mining in the Pilsworth Area which covers both Heywood and Bury. Most of the area is included in the G.M.C. Green Belt Proposals whilst all the land is Greenfield land. Most of the Many people are concerned that the proposals are on hand that is

a) Beutyful [redacted] Countryside
B) Farmland
C) The only open land that provides a buffer between Heywood and Bury industrial areas.
D) The proposals will be unsightly
E) The land will be an eyesore for 20 or 30 years.

I would be obliged if you could bring the [redacted] above Points to the attention of the appropriate persons in the coal Board

Yours faithfully

H Ibbs
Cllr Heywood South Ward.

6721

NCB 4056
**ENCLOSURE SLIP**

Date 8/12/81

FR [redacted]

RPM

TO

Aom L & NWales

| | | | |
|---|---|---|---|
| | For approval and return | | Insufficient information |
| | For your attention | | Please note and return to sender |
| ✓ | For your information | | Returned as requested |
| | Please note and pass to | | |
| | For comments and return | | |

REMARKS :

Circulate.

KPU 2078



Our Ref: 1703/008/2/3 WO/SS

8th December 1961

J.F.D. Pierce Esq.,
Borough Planning & Estates Officer,
Metropolitan Borough of Rochdale,
P.O. Box 32,
Telegraph House,
Baillie Street,
Rochdale, OL16 1JH.

Dear Sir,

Prospecting for Opencast Coal
Proposed Site : Pilsworth No. 031703

I refer to your letter of 1st December 1961 from which I note that your Council have resolved to raise strong objection to any formal proposals to extract coal by opencast methods in the Pilsworth Area.

You will be aware from my discussion with Mr. Woodhouse that the Board's interest in this area was prompted by a consultation from Bury M.B.C. on the Pilsworth District Plan in which industrial development is proposed for some of the land concerned. The Board therefore require to prove the existence, or otherwise, of any opencastable coal reserves in order to ensure that no coal is sterilised by surface development.

I will write to you again when a firm date for the commencement of drilling operations is known and will thereafter keep you informed of progress.

Yours faithfully,

W. OWEN,
Regional Planning Manager.

c.c. A.O.M. Lancs/N. Wales.

OCT 1981

Pilsworth file



Our Ref: P.031/21 WO/SS

9th October, 1981

J.F.D. Pierce Esq.,
Borough Planning & Estates Officer,
Rochdale Metropolitan Borough Council,
P.O. Box 32,
Telegraph House,
Baillie Street,
Rochdale, OL16 1JH.

Dear Sir,

Re: Heywood District Plan

Thank you for your undated letter, with enclosures, received here today following my telephone conversation with your Mr. Davison.

I will let you have the Opencast Executive's comments on the general plan area as quickly as possible. More immediately I must inform you that we have proposals to carry out exploratory drilling in the Pilsworth area, in respect of which I have been in discussion with Bury M.B.C., but now realise that part of the Heywood District Plan area is also included in the proposed area of search.

As you will be aware, drilling to prove opencastable reserves of coal is development permitted under Class XX (iv) of the General Development Order 1977. I would, however, as suggested to Mr. Davison, welcome the opportunity of discussing our proposals with you in advance of the service of the relevant Notice under the Order and would appreciate if such a meeting could be set up at your earliest convenience. A telephone call will suffice to make the necessary arrangements.

Yours faithfully,

W. OWEN,
Regional Planning Manager.

c.c. 1703/003/2.
A.O.M. (Lancs & N. Wales).
Head of Secretariat, Western Area, Staffordshire House.

Our Ref: 1703/003/1 WO/SS

6th October, 1982

Mr. O. Gregory,
Area Surveyor & Minerals Manager,
National Coal Board,
Staffordshire House,
Berry Hill Road,
Stoke-on-Trent.

Dear Mr. Gregory,

Pilsworth Prospecting Site

In the course of drilling Borehole No. 257 at the above site at co-ordinates 383692E, 408585N very soft fill was encountered to a depth of 14 metres. Solid ground was not found and the drilling rig was moved for safety reasons. The nearest recorded shaft position is approximately 30 metres away at location 383664E, 408580N.

This information has already been passed verbally to Mr. R. Sheard your Senior Surveyor here at Anderton House but I am also sending him a copy of this letter.

Your clearance for prospecting at this site was given per unreferenced letter dated 4th January 1982.

Yours sincerely,

W. OWEN,
Regional Planning Manager.

c.c. R. Sheard, Senior Sueveyor, Anderton House.
A.O.G. (Lancs & N. Wales). Via. A.O.M.

NATIONAL COAL BOARD
RECEIVED
7 OCT 1982
AREA OFFICE

# Memorandum

From R.P.M., North West Region.

To A.O.M. Lancs./N.Wales.

Subject PROSPECTING FOR OPENCAST COAL - SITE CLEARANCE REPORT
Site Name: Pilsworth
Site Number:031703

Our Ref 1703/003/1

Your Ref

Date 9th March, 1982.

I enclose for your information and attention five copies of the Composite Prospecting Information Plan (1 velo, 1 polyester and 3 paper, Drawing No. 03/1703/03) for this site. The information shown is "as reported" by the various bodies who were consulted about our proposals and this will need, where relevant, to be verified in the field.

Please advise me of any major discrepancies in order that I may take the matter up with the relevant Authority.

The following is a Summary of the comments (if any) made and/or conditions imposed by the various bodies.

1. N.C.B.

1.1 Area Surveyor & Minerals Manager :-

The site clearance report indicates the presence of 6 shafts the positions of which have been marked on the plan. The Board have no abandonment plans for any disused workings situated within the site, but a shaft is shown on the geological map in this area. The remaining 5 shafts indicated on the plan were found on an old 1/10560 scale plan kept in the library at Wigan College. I have enclosed a copy of this reply for your attention.

2. Local Authorities

2.1 Greater Manchester County Council :-

Please note that the G.D.O. period of notice expired on 14th December 1981.

2.2.1 G.M.C. have no land interests on the site.

2.2.2 Comments from the County Engineer and County Planning Officer have not yet been received. This is being followed up and will be forwarded to you as soon as possible.

2.2 Bury Metropolitan Borough Council :-

2.2.1 The Council have no land interests or public sewers on the site.

2.2.2 The western part of the site is affected by 7 footpaths. The convenient use of these footpaths by the public must not be adversely affected by any drilling operations on site.

If further information is required our contact is Mr. Shaw, Engineering Department, Town Hall, Pinfold Lane, Whitefield. Telephone 061-766-6601.

2.3 Rochdale Metropolitan Borough Council :-

2.3.1 The Council will object to an opencast site in the Pilsworth Area on the basis that it would despoil this attractive area and would erode the value of the Green Belt.

2.3.2 The eastern part of the site is affected by 4 footpaths. The convenient use of these footpaths by the public must not be adversely affected by any drilling operations on site.

If further information is required our contact is Mr. Shepherd, Estates Department, Telegraph House, Baillie Street, Rochdale. Telephone 0706-47474, Ext.408.

3. Statutory Undertakers

3.1 Water - North West Water

3.1.1 The site is affected by an 800mm trunk main from the Manchester Bulk Supply System which enters the western site boundary from Pilsworth Road and runs in a generally easterly direction to leave the site just north of Stock Nook Farm. In addition there is a 150mm washout to Brightley Brook from the sewage works just west of Moss Hall Road.

3.1.2 A 3" main enters the site boundary from Moss Hall Road at Coal Pits and runs in a generally south-westerly direction to leave the site in the extreme south-west corner.

3.1.3 A number of smaller water mains run adjacent to the site boundary along Moss Hall Road and Pilsworth Road.

3.1.4 There are 3 privately owned and operated sewage works in the area. The details are as follows :-

(i) London carriers, Birch Industrial Eatate (due to cease operation in August 1982).

(ii) Heywood Industrial Estate, Pilsworth Road, Heywood.

(iii) Heywood No.2 Industrial Estate. (This has now been abandoned and discharges direct to the sewers).

3.1.5 The Water Authority requested that they are consulted again if there is any likelihood of coal being worked on the site as operations would affect several watercourses. In addition there is one licenced surface water abstractor and two licenced ground water abstractors in the area. The points of abstraction are all outside the site : from Hawswater Aqueduct.

3.2 Electricity

3.2.1 CEGB - No interest.

3.2.2 NORWEB -

(i) In the western half of the site an 11kV (ex -33kV) underground cable enters the site from Moss Hall Lane and runs in a generally south-westerly direction serving Hill Top and Captain's Farm to leave the site north of Castle Road.

(ii) From the above cable a 33kV overhead line (energised to 11kv) branches off in a generally north-north-westerly direction to serve Moor Hall Farm and Brook Cottages.

(iii) Further south down Moss Hall Road an 11kV overhead line branches westwards and then in a generally southerly direction to serve Higher Barn and Meadow Croft Fold, leaving the site north of Broom Hill Farm.

(iv) In the eastern half of the site an 11kV overhead line enters the site boundary from Moss Hall Road at Coal Pits and runs in a generally south easterly direction to serve Higher Fields Farm.

(v) In the extreme south-easterly corner of the site an 11kV overhead line, serving Stock Nook enters the site boundary for a short length.

(vi) In the extreme north west corner of the site a 33kV overhead line cuts diagonally across the site.

(vii) There are a number of 415/240 volt lines, pilot and telephone lines as marked on the plan enclosed.

If further information is required our contact is Mr. A.G. Hughes at Breightmet Fold Lane District Office, Bolton. Telephone Bolton 22361 Ext.89.

3.3. Gas - North West Gas - No interest.

3.4 British Telecommunications

3.4.1 An underground cable runs down the southern part of Moss Hall Road, a branch of which serves Higher Fields.

3.4.2 Overhead telephone lines enter the site in the south west corner to serve Captain's, branches from the line along Pilsworth Road to serve Hill Top and Lomax's; in the extreme north a branch from Moss Hall Road serves Moor Hole Farm and in the extreme south east a line serves Stock Nook.

If further information is required our contacts are :-

(i) Mr. P. Dunn (for the Blackburn Area) at 49, Preston New Road, Blackburn. Telephone Blackburn 666361.

(ii) Mr. Plenderlieth (for Manchester North Area) at 36, Borougton Street, Cheetham, Manchester M8 8NS. Telephone 061-863-8123.

3.5 Canals - British Waterways - No interest.

3.6 British Rail

No reply received yet. Any information received will be forwarded to you at the earliest opportunity.

4. Ministries :-

4.1 Department of Environment and Transport

No direct interest. However we have been asked to note that there will be no question of allowing direct access onto the M66 Motorway and design of stockpiles and slopes adjacent to the motorway would have to be agreed in the interest of protecting the stability of the motorway including its drainage.

4.2 Property Services Agency - No interest

4.3 Health and Safety Exectuive - No interest

4.4 MAFF

No interest. Land Classification Map indicates the majority of the site is grade 3a. An area of grade 3b exists to the south west of Moor Hole Farm, and along the southern and eastern boundary areas. Grade 3c land exists between Coal Pits and Higher Barn. Grade 4 land runs through the centre of the site from north east of Captain's to the north east of Higher Fields and there is a further small area of similar quality on the extreme south western boundary. There is also another strip of Grade 4 land running from the M66 Motorway across the northern edge of the homestead at Jackson Fold.

5. Other Bodies

5.1 Forestry Commission - No interest.

5.2 Nature Conservancy Council - No interest.

5.3 The Council for the Protection of Rural England

Would object on the basis of the land being mainly grade 3 and also within the G.M.C. proposed Green Belt.

5.4 Bury Archaeological Group -

The Group is studying the history and archaeology of the township and are interested in the following farms :

Hill Top, Lomax's, Jackson Fold, Coalpits, Captain's, Moorhole and Higher Fields. Potentially the most important site is the area around Meadowcroft and they have asked to be informed of any ground disturbance there.

If further information is required our contact is Mr. N. Tyson, 18, Church Street, Ainsworth, Bolton.

Please let me know when drilling starts on site so that I may keep the County and District Councils informed.

Marian C Russell (Miss)

for W. Owen

MR0103W006
(26)

NCB 4056
**ENCLOSURE SLIP**

Date 18/3/82

FROM [redacted]

TO Head Quarters RDD 18/3/82

| | | | |
|---|---|---|---|
| | For approval and return | | Insufficient information |
| | For your attention | | Please note and return to sender |
| ✓ | For your information | | Returned as requested |
| | Please note and pass to | | |
| | For comments and return | | |

REMARKS :

No grouting on Pilsworth

KPU 2078

**National Coal Board**
Western Area, Staffordshire House
Berry Hill Road Stoke-on-Trent ST4 2NH
Telex: 882161 (CBHOB G)
Station Code WES

NCB

Our ref 1703/003
Your ref

| N.C.B. O.E. No.3 REGION | |
|---|---|
| TO BE SEEN BY | |
| Official | Initials |
| 1 A/RPM | |
| 2 MCR. | MCR |
| 3 | |
| 4 | |
| 5 | |

W. Owen, Esq.,
Regional Planning Manager,
Opencast Executive,
National Coal Board,
Anderton House,
Lowton,
Warrington,
Cheshire.

cc. A.O.M. Lancs/N. Wales.

Date: 4th January, 1982.

Dear Sir,

Clearance for Prospecting - Pilsworth - 031703

I refer to your request for prospecting clearance of the above site.

No active deep mine workings are taking place under or in the vicinity of the proposed prospecting site, and no workings are planned in this area in the foreseeable future.

The Board have no abandonment plans for any disused workings situated within the site, but a shaft is shown on the Geological Map in this area, and reference is made to "coal pits" on the Ordnance Plan, which is underlined in red on the 1/2500 Scale Plan. The shaft (No. 7) shown on the geological map has been plotted on the 1/2500 scale site plan. It is recorded as sunk 132 feet to the Sand Rock Mine.

An old 1/10560 Scale Plan, kept in the library at Wigan College of Technology, also indicates five other shafts situated within the site, and they are numbered 2 to 6 on the 1/2500 Scale Site Plans. Additionally, there may well be other shafts and adits in this area, of which the Board have no knowledge.

The shafts plotted from the old 1/10560 Scale Plan must be taken as very approximate, and therefore, drilling rigs should not be situated within 40 metres of the shafts, or on any site which may be indicative of an old shaft, since the vibrations induced by boring could precipitate a collapse of the shaft drilled.

* I am informed that the greater part of the site is located within the Green Belt, but a local plan for this area is in preparation, and further enquiries immediately before entering the land should be made, in order to determine the method of sealing the boreholes.

The proposals do not conflict with any current Deep Mine Plans or exploration areas.

OG/KH/GK/20 .../...

* Discussion with RPM & ADM & AOG as a definate development on Pilsworth grouting is not necessary.
KT. 18/3/82

Telephone: 0782 48201 Ext.

There are, therefore, no objections to your prospecting, providing the shaft positions are avoided when boring, and care is exercised in case of unrecorded shafts being present. The question of sealing or filling boreholes should be considered later when the Green Belt area is defined.

Yours faithfully,

pp (O. Gregory)
Area Surveyor & Minerals Manager

OG/KH/GK/21

IBC 26/10/81 ALO-Action Please

# Memorandum

**From** R.P.M., North West Region.

**Our Ref** 1703/003/1

**To** A.O.M. Lancs./N.Wales

**Your Ref**

**Subject** PROSPECTING FOR OPENCAST COAL
Site Name: Pilsworth
Site Number: 031703

**Date** 20th October 1981

Please note that the General Development Order Notice, quoting a date for commencement of prospecting as not earlier than 14th December 1981, the Water Resource Act Notice, and the usual letters to Local Authorities, Statutory Undertakers and Government Departments have been sent out today in respect of the above site. Copies of all relevant correspondence are enclosed.

Deep Mines clearance of our proposals has been requested through Area Surveyor & Minerals Manager. A copy of his clearance conditions will be sent to you immediately they come to hand. Obviously no drilling should be undertaken until Deep Mines clearance is received.

I enclose six copies of the 1/2500 plan (Drawing No. 03/1703/02) on which the site boundary is shown by a dot dash line and should be grateful if you would ascertain who the relevant owners, occupiers, tenants etc. are and open negotiations with them for necessary entry rights as follows :-

(i) immediate entry by Land Survey Staff, purely for the purposes of verification of the location of Statutory Undertakers' apparatus, equipment, mains, etc. and the revision of surface features;

(ii) eventual entry for prospecting purposes for a period of 2 years from the date of entry.

I should be grateful if you would keep me informed of the progress of your negotiations as this will enable me to co-ordinate my own functions in relation to those of yourself, R.L.M. and R.D.M. In due course, when all the consultation replies have been received, I will let you have copies of a Composite Prospecting Information Plan together with a summary of the relevant replies.

Lowen

W. Owen

Copy to:-

Regional Lands Manager



MR1910W001
2

Circulate: AOG
ALS

Telephone ext.

National Coal Board
Opencast Executive
No 3 North West Region
Anderton House
Newton Road
Lowton, Nr. Warrington
Cheshire
WA3 2AG
Telex: 677505

NCB

RECORDED DELIVERY

Our Ref: 1703/003/2/1

20th October 1981

P.D. Quick, LL.B.,
Solicitor,
County Legal Officer,
Greater Manchester Council,
P.O. Box 430,
County Hall,
Piccadilly Gardens,
Manchester. M60 3HP.

Dear Sir,

Prospecting for Opencast Coal
Site Name: Pilsworth
Site No: 031703

I have to inform you that the National Coal Board propose to prospect for coal, workable by opencast methods, within the area shown edged by a dot dash line on the enclosed plan (Drawing No. 03/1703/02). I therefore enclose a Notice, together with a copy, in accordance with the requirements of the Town & Country Planning General Development Order, 1977, and should be pleased if you would return the copy Notice with the acknowledgement duly completed on behalf of your Authority at your earliest convenience.

I would emphasise that only prospecting for coal is involved at this stage. If there should later be any likelihood of working the coal it will be necessary for me to write to you again. However, if you require any further information about the proposed prospecting operations please let me know.

Under separate cover, I am seeking from your Authority information regarding any interest you may have in the land.

Yours faithfully,

W. Owen
Regional Planning Manager

Encls.

MR1610W027
3

Telephone: Leigh 672404

Our Ref: 1703/003/2/1

To the Greater Manchester County Council

The Town and Country Planning Act, 1971

The Town and Country Planning General Development Order, 1977

Site Name: Pilsworth

Site No: 031703

TAKE NOTICE that the National Coal Board, in exercise of the powers conferred on them by the above-mentioned Act and Statutory Instrument, intend temporarily to use the land shown verged by a dot dash line on the enclosed 1/2500 scale plan, for the purpose of prospecting for coal workable by opencast methods and the carrying out of any operations requisite for that purpose.

The prospecting will begin not earlier than the 14th day of December 1981 and will for a duration of approximately 2 years from the date of commencement.

The methods employed will involve putting down such boreholes and trial pits and carrying out such pitting, trenching and other operations as may appear to the Board to be necessary for the purpose of proving the presence or absence of coal and associated minerals under the surface of the land.

Dated this 20th day of October 1981

Signed : Lowen
for the National Coal Board

On behalf of the Greater Manchester County Council I hereby acknowledge receipt of the Notice of which this is a copy.

Signed : .....

Date : .....

MR1610W029
4

National Coal Board
Opencast Executive
No. 3 North West Region
Anderton House
Newton Road
Lowton, Nr. Warrington
Cheshire
WA3 2AG
Telex: 677505

NCB

Our Ref: 1703/003/2/1

20th October 1981

P.D. Quick,
Solicitor,
County Legal Officer,
Greater Manchester Council,
P.O. Box 430,
County Hall,
Piccadilly Gardens,
Manchester M60 3HP.

Dear Sir,

Prospecting for Opencast Coal
Site Name: Pilsworth
Site No: 031703

The National Coal Board propose to prospect for coal, workable by opencast methods, within the area shown verged by a dot dash line on the enclosed plan (Drawing No. 03/1703/02), two copies of which are enclosed.

I would emphasise that only prospecting for coal is involved at this stage, and should there be any likelihood of working the coal at a later date, full consultations will be held with your Council and all other interested parties.

More immediately, it is necessary for me to obtain and analyse all possible information concerning the area of land shown on the plan, together with any relevant information in the immediate vicinity. In this respect I should be obliged if you would let me know as soon as possible of any interest which you may have in the land and return one copy of the plan to me showing clearly any information which may be the concern of your Council. I am particularly interested in the following :-

> Land ownership, buildings, structures, apparatus, drains, sewers, roads, footpaths or other works existing or proposed, on, under, above or in the land or its immediate vicinity.

I appreciate that your Council may wish to comment on the Board's proposals and as always this interest is welcomed. I should be grateful however, if you would treat the supplying of the information previously referred to separately as this has great bearing on the Board's continuous prospecting programme. I thank you in anticipation of your co-operation in this matter.

A copy of this letter has been sent to your County Planning Officer.

Yours faithfully,

Owen

W. Owen
Regional Planning Manager

Telephone: Leigh 672404

National Coal Board
Opencast Executive
No. 3 North West Region
Anderton House
Newton Road
Lowton, Nr. Warrington
Cheshire
WA3 2AG
Telex: 677505

NCB

Our Ref: 1703/003/2/2

20th October 1981

Chief Executive,
Rochdale Metropolitan Borough Council,
Town Hall,
Rochdale,
Lancs.

Dear Sir,

Prospecting for Opencast Coal
Site Name: Pilsworth
Site No: 031703

The National Coal Board propose to prospect for coal, workable by opencast methods, within the area shown verged by a dot dash line on the enclosed plan (Drawing No. 03/1703/02), two copies of which are enclosed. Also enclosed is a copy of a notice under the General Development Order 1977 which has been served upon the County Council.

I would emphasise that only prospecting for coal is involved at this stage, and should there be any likelihood of working the coal at a later date, full consultations will be held with your Council and all other interested parties.

More immediately, it is necessary for me to obtain and analyse all possible information concerning the area of land shown on the plan, together with any relevant information in the immediate vicinity. In this respect I should be obliged if you would let me know as soon as possible of any interest which you may have in the land and return one copy of the plan to me showing clearly any information which may be the concern of your Council. I am particularly interested in the following :-

> Land ownership, buildings, structures, apparatus, drains, sewers, roads, footpaths or other works existing or proposed, on, under, above or in the land or its immediate vicinity.

I appreciate that your Council may wish to comment on the Board's proposals and as always this interest is welcomed. I should be grateful however, if you would treat the supplying of the information previously referred to separately as this has great bearing on the Board's continuous prospecting programme. I thank you in anticipation of your co-operation in this matter.

Yours faithfully,

W. Owen
Regional Planning Manager

MR1610W033
7

Telephone: Leigh 672404

National Coal Board
Opencast Executive
No. 3 North West Region
Anderton House
Newton Road
Lowton, Nr. Warrington
Cheshire
WA3 2AG
Telex: 677505

NCB

Our Ref: 1703/003/2/2

20th October 1981

B. Abbott, Esq.,
Director of Administration,
Metropolitan Borough of Bury,
Town Hall,
Knowsley Street,
Bury,
Lancs. BL9 0SW.

Dear Sir,

Prospecting for Opencast Coal
Site Name: Pilsworth
Site No: 031703

The National Coal Board propose to prospect for coal, workable by opencast methods, within the area shown verged by a dot dash line on the enclosed plan (Drawing No. 03/1703/02), two copies of which are enclosed. Also enclosed is a copy of a notice under the General Development Order 1977 which has been served upon the County Council.

I would emphasise that only prospecting for coal is involved at this stage, and should there be any likelihood of working the coal at a later date, full consultations will be held with your Council and all other interested parties.

More immediately, it is necessary for me to obtain and analyse all possible information concerning the area of land shown on the plan, together with any relevant information in the immediate vicinity. In this respect I should be obliged if you would let me know as soon as possible of any interest which you may have in the land and return one copy of the plan to me showing clearly any information which may be the concern of your Council. I am particularly interested in the following :-

> Land ownership, buildings, structures, apparatus, drains, sewers, roads, footpaths or other works existing or proposed, on, under, above or in the land or its immediate vicinity.

I appreciate that your Council may wish to comment on the Board's proposals and as always this interest is welcomed. I should be grateful however, if you would treat the supplying of the information previously referred to separately as this has great bearing on the Board's continuous prospecting programme. I thank you in anticipation of your co-operation in this matter.

Yours faithfully,

Owen

W. Owen
Regional Planning Manager

MR1610W032
7 Telephone: Leigh 672404

B. A copy of this letter has been sent to your Director of Planning & Architecture

Our Ref: 1703/003/2/3 WO/SS

21st October, 1981

J.F.D. Pierce Esq.,
Borough Planning & Estates Officer,
Rochdale Metropolitan Borough Council,
P.O. Box 32,
Telgraph House,
Baillie Street,
Rochdale, OL16 1JH.

Dear Mr. Pierce,

Prospecting for Opencast Coal
Pilsworth Proposed Site No. 031703

I refer to my meeting with Mr. Thompson and Mr. Woodhouse at your office on 15th October 1981 when I explained the background to the Board's proposed prospecting operations at the above site.

Please note that I have today served notice on Greater Manchester Council under the terms of the General Development Order 1977 and have enclosed copy of same for your information. Also enclosed is a self explanatory letter of even date addressed to the Chief Executive of your Council.

I will write to you again when a firm date for commencement of drilling is known and I will let you know the results of the drilling as soon as possible thereafter.

Yours sincerely,

W. OWEN,
Regional Planning Manager.

c.c. A.O.M. Lancs & N. Wales.

Our Ref: 1703/003/2/2 WO/SS

21st October, 1981

J.B. Hall Esq.,
Director of Planning & Architecture,
Metropolitan Borough of Bury,
Craig House,
5, Bank Street,
Bury,
Lancs, BL9 ODN.

Dear Mr. Hall,

Prospecting for Opencast Coal
Pilsworth Proposed Site No. 031703

I refer to discussions which have taken place with your officers in connection with the Pilsworth District Plan and particularly to the meeting at your office on 5th October 1981 which was chaired by Mr. Butterworth.

Please note that I have today served notice on Greater Manchester Council under the terms of the General Development Order 1977 and have enclosed copy of same for your information. Also enclosed is a self explantory letter of even date addressed to the Director of Administration of your Council.

I will write to you again when a firm date for commencement of drilling is known and I will let you know the results of the drilling as soon as possible thereafter.

Yours sincerely,

W. OWEN,
Regional Planning Manager.

C.C. A.O.M. Lancs & N. Wales.

National Coal Board
Opencast Executive
No. 3 North West Region
Anderton House
Newton Road
Lowton, Nr. Warrington
Cheshire
WA3 2AG
Telex: 677505

NCB

RECORDED DELIVERY

Our Ref: 1703/003/3/1

20th October 1981

Director of Operations,
North West Water Authority,
Dawson House,
Gt. Sankey,
Warrington. WA5 3LW.

For the attention of R.S. Anderson

Dear Sir,

Prospecting for Opencast Coal
Site: Pilsworth
No: 031703

The National Coal Board propose to prospect for coal workable by opencast methods, within the area shown edged by a dot dash line on the enclosed plan (Drawing No. 03/1703/02). I therefore enclose a Notice, together with a copy, in accordance with the requirements of the Water Resources Act, 1963, Section 78(2), and should be pleased if you would return the copy Notice with the acknowledgement duly completed on behalf of your Authority at your earliest convenience.

I would emphasise that only prospecting for coal is involved at this stage. If there should later be any likelihood of working the coal it will be necessary for me to write to you again. However, if you require any further information about the proposed prospecting operations please let me know.

Under separate cover, I am seeking from your Authority information regarding any interest you may have in the land.

Yours faithfully,

Owen

W. Owen
Regional Planning Manager

Encls.

MR1610W034
9

Telephone: Leigh 672404

Our Ref: 1703/003/3/1

To The North West Water Authority

Water Resources Act, 1963, Section 78(2)

Notice of Intention to Construct of Extend a Boring for the purpose of Searching for or extracting Minerals

Site Name: Pilsworth

Site No.: 031703

NOTICE is hereby given that the National Coal Board, Opencast Executive, intends on or after the 14th day of December 1981 to begin to construct borings in the area marked by a dot dash line on the accompanying map for the purpose of searching for minerals.

Details of the proposed construction of borings are as follows :-

Shallow boreholes to prove coal workable by opencast methods.

It is not expected that there will be any water available at the surface for disposal.

I declare that to the best of my knowledge the statements made above are true.

Communications about this Notice should be addressed to:

The Regional Planning Manager,
National Coal Board,
Opencast Executive,
No.3 North West Region,
Anderton House,
Lowton,
Nr. Warrington. WA3 2AG.

Signed : Lowen ..... Date : 20 October 1981
On behalf of the ~~National~~ Coal Board
Opencast Executive.

On behalf of the North West Water Authority I hereby acknowledge receipt of the Notice of which this is a copy.

Signed : ..... Date : .....

MR1610W035
10

National Coal Board
Opencast Executive
No. 3 North West Region
Anderton House
Newton Road
Lowton, Nr. Warrington
Cheshire
WA3 2AG
Telex: 677505

NCB

Our Ref: 1703/003/3/1

20th October 1981

Director of Operations,
North West Water Authority,
Dawson House,
Gt. Sankey,
Warrington.
WA5 3LW.

For the attention of R.S. Anderson

Dear Sir,

Prospecting for Opencast Coal
Site: Pilsworth
No: 031703
Location: 2 kilometres South East of Bury

The National Coal Board propose to prospect for coal, workable by opencast methods, within the area shown verged by a dot dash line on the enclosed plan (Drawing No. 03/1703/02), two copies of which are enclosed.

I should be obliged if you would, as soon as possible, inform me of any interest which you may have in the land, and return one copy of the plan showing clearly any such interest together with the location of any buildings, structure, apparatus or other works on, under, above or in the land or its immediate vicinity which may be the concern of your Authority. In the case of mains, cables, pipes etc. I should be grateful if you would indicate the size, capacity, type etc. and where applicable depth.

This information will eventually be incorporated in a Composite Prospecting Information Plan which will be sent to our Area Land Surveyor for precise location. I should be grateful, therefore, if you would include in your reply, the name, address and telephone number of some officer of your Authority to whom reference can be made in the case of discrepancies and for the purpose of obtaining further information.

I would emphasise that only prospecting for coal is involved at this stage. If there should later be any likelihood of working the coal, it will be necessary for me to write to you again at that time inviting your further comments.

Yours faithfully,

W. Owen
Regional Planning Manager

MR1610W036
11

Telephone: Leigh 672404

PROSPECTING FOR OPENCAST COAL

Site Name: Pilsworth

Site No: 031703

Location: 2 kilometres South East of Bury

List of Government Departments, Statutory Undertakers and other bodies consulted on the prospecting proposals :-

P.D. Quick, LL.B.,
Solicitor,
County Legal Officer,
Greater Manchester Council,
P.O. Box 430,
County Hall,
Piccadilly Gardens,
Manchester. M60 3HP.

J.S. Millar, Esq.,
County Planning Officer,
Greater Manchester Council,
P.O. Box 430,
County Hall,
Piccadilly Gardens,
Manchester. M60 3HP.

B. Abbott, Esq.,
Director of Administration,
Metropolitan Borough of Bury,
Town Hall,
Knowsley Street,
Bury,
Lancs. BL9 0SW.

Chief Executive,
Rochdale Metropolitan Borough Council,
P.O. Box 32,
Telegraph House,
Baillie Street,
Rochdale,
OL16 1JH.

Director of Operations,
North West Water Authority,
Dawson House,
Gt. Sankey,
Warrington. WA5 3LW.

Executive Officer (Estates & Wayleaves),
C.E.G.B.,
North West Region,
,
Europa House,
Bird Hall Lane,
Cheale Heath,
Stockport,
Cheshire. SK3 0XA.

District Engineer,
North Western Electricity Board,
South Lancashire Area,
Market Street,
Bury,
Lancs. BL9 0AL.

B. Thompson, Esq.,
Regional Secretary,
North West Gas,
Welman House,
Altrincham.
Cheshire. WA15 8AE.

District Engineer,
North West Gas Board,
Central Lancashire Area,
Lunn Street,
Bolton. BL1 1UW.

N.W. Telecommunications Board,
Telecommunications House,
91 London Road,
Manchester M60 1HQ.

British Waterways Board,
P.O. Box 9,
1 Dock Street,
Leeds. LS1 1HH.

Chief Civil Engineer,
British Railways,
London Midland Region,
Stephenson House,
London NW1 2PP.

Regional Controller (Planning),
Dept. of the Environment (North West)

Sunley Buildings,
Piccadilly Plaza,
Manchester M1 4BE.

MR1610W057
15

Regional Controller (Roads & Transportation),
Dept. of the Environment (North West),
Sunley Buildings,
Piccadilly Plaza,
Manchester. M1 4BE.

Property Services Agency,
Dept. of the Environment (North West),
Seymour Grove,
Old Trafford,
Manchester. M16 0JL.

Dept. of the Environment,
2 Marsham Street,
London. SW1P 3EB.

H.M. Chief Inspector of Explosives,
Health & Safety Executive,
Banyards House,
1 Chepstow Place,
London W2 4TF.

The Secretary,
Countryside Commission,
North West Region,
184 Deansgate,
Manchester M3 3WB.

A.F. Halford-Walker,
Secretary,
Council for the Protection of Rural England,
Hobart Place,
London. SW1W 0HY.

Lancashire Naturalists' Trust,
10 Top o' th' Lane,
Brindle,
Chorley,
Lancs. PR6 8PA.

Nature Conservancy Council,
Blackrod Council Offices,
Church Street,
Blackrod,
Nr. Bolton, Lancs.

The Conservator,
Forestry Commission,
North West (E) Conservancy,
Dee Hills Park,
Chester. CH3 5AT.

Divisional Surveyor,
M.A.F.F.,
Eden Bridge House,
Lowther Street,
Carlisle. CA3 8DX.

Sectional Mineral Valuer (Central West),
Valuation Office,
Severn House,
Severn Street,
Birmingham. B1 1PU.

Public Relations Officer,
N.C.B.,
Western Area,
Staffordshire House,
Berry Hill Road,
Stoke-on-Trent.

Public Relations Officer,
N.C.B.,
Eastwood Hall,
Nottingham.

T.I. Mather, Esq.,
Deputy Area Solicitor,
N.C.B.,
Western Area,
Anderton House,
Lowton,
Nr. Warrington. WA3 2AG.

MR1610W058
15

PILLSWORTH

# C. M. Holker (Construction) Ltd.

WEEK ENDING_____

NO 3

| Names | Hours | Trav | Din | MONDAY |
|---|---|---|---|---|
| 263 | | | | WATER TO TOP OF HOLE NO LAND DRINE |
| 264 | | | | DAMPNES AROUND HOLE " " " |
| 265 | | | | WATER TO TOP OF HOLE " " " |
| 260 | | | | NO WATER IN BORE HOLE 2 DRINES RUNING TO 1 |
| 259 | | | | HOLE FULL OF WET SAND LAND DRINE RUNING TWO METRE |
| | | | | OF BORE HOLE |
| 261 | | | | NO WATER WET SAND TO TOP OF HOLE |
| 258 | | | | NO WATER HOLE 2' ACCROS TOP |
| 262 | | | | NO WATER HOLE 1' ACCROS TOP |
| 257 | | | | HOLE FULL OF WATER GROUND FULL OF SAND |
| 256 | | | | HOLE NOT LOCATED |
| 255 | | | | WATER TO TOP OF HOLE |

| Names | Hours | Trav | Din | TUESDAY |
|---|---|---|---|---|
| 284 | | | | NO WATER CAVATETED BADLY |
| 253 | | | | BOTH HOLES TOGETHER WATER IN 2 HOLES |
| 249 | | | | |
| 251 | | | | NO WATER |
| 252 | | | | NO WATER |
| 185 | | | | HOLE BADLY CAVATETED FULL OF WATER |
| 186 | | | | NO WATER HOLE SOLID |
| 182 | | | | NO WATER HOLE SOLID |
| 192 | | | | STONE IN HOLE WATER PUMPING OUT OF HOLE |
| 193 | | | | " " " " " " " |
| 195 | | | | HOLE FULL TO TOP WITH WATER |
| 187 | | | | HOLE NOT LOCATED |

| Names | Hours | Trav | Din | WEDNESDAY |
|---|---|---|---|---|
| 188 | | | | STONE IN HOLE |
| 189 | | | | HOLE WET |
| 199 | | | | STONE IN HOLE NO WATER |
| 206 | | | | STONE IN HOLE NO WATER |
| 205 | | | | BADLY CAVATETED NO WATER |
| 198 | | | | STONE IN HOLE FULL OF WATER |
| 187 | | | | HOLE BADLY CAVATETED |
| 183 | | | | HOLE BADLY CAVATETED |
| 140 | | | | STONE IN HOLES |
| 202 | | | | |
| | | | | |

| Names | Hours | Trav | Din | THURSDAY |
|---|---|---|---|---|
| 191 | | | | NO WATER |
| 194 | | | | NO WATER STONE IN HOLE |
| 186 | | | | STONE IN HOLE FULL OF WATER |
| 203 | | | | NO WATER |
| 184 | | | | SAND NO WATER |
| 206 | | | | SAND NO WATER |
| 201 | | | | NO WATER NO COUNTY |
| 209 | | | | STONE NO QUARRY. |
| 208 | | | | HOLE FULL OF STONE NO WATER |
| 207 | | | | SAND NO WATER |
| 180 | | | | STONE NO WATER |
| **Names** | **Hours** | **Trav** | **Din** | **FRIDAY** |
| 220 | | | | LAND DRINE HOLES REOPENING |
| **Names** | **Hours** | **Trav** | **Din** | **SATURDAY** |
| **Names** | **Hours** | **Trav** | **Din** | **SUNDAY** |

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN .....
SITE NAME .....
JOB No. .....
BOREHOLE No. .....
EQUIPMENT IN USE .....
VEHICLE No. .....

DATE + TIME OF START/FINISH .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | | | | | | | | | | | | | |
| MADE GROUND | | | | | 0.3 | | | | | | | | | | | | |
| MADE GROUND CLAYEY SOFT SAND. | | | | | 3.1 | | | | | | | | | | | | |
| FIRM BROWN SILTY GRAVELLY CLAY | | | | | 16.2 | | | | | | | | | | | | |
| DENSE BROWN SAND & GRAVEL | | | | | 17.3 | | | | | | | | | | | | |
| VERY STIFF BOULDER CLAY | | | | | 17.8 | | | | | | | | | | | | |
| BLACK SHALE | | | | | | | | | | | | | | | | | |
| INJECTING GROUT BH 212 1½ HRS | | | | | | | | | | | | | | | | | |
| MATERIALS USED 8 BAGS OF CEMENT 4 BAGS OF BENTONITE | | | | | | | | | | | | | | | | | |
| INJECTING GROUT BH 212A 1½ HRS | | | | | | | | | | | | | | | | | |
| MATERIALS USED 8 BAGS OF CEMENT 4 BAGS OF BENTONITE | | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | | | | | | | | | | | | | |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| | | |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 27.3.84

TOWN [illegible]
SITE NAME [illegible]
JOB No.
BOREHOLE No. [illegible]
EQUIPMENT IN USE [illegible]
VEHICLE No.

| DESCRIPTION OF STRATA (Soft/Firm/Stiff, Loose/Dense; Colour, Fine - Coarse, Medium; Clayey, Silty, Sandy etc.; SOIL TYPE; Sand bands, Cobbles etc.) | DEPTH to base of STRATA m | REMARKS |
|---|---|---|
| Start of days drilling | GL | DRILLING 4.00-6.45 |
| MOIST BROWN SILTY SAND | 3.5 | |
| FIRM BROWN SILTY BOULDER CLAY | 10.4 | |
| DENSE BROWN SAND & GRAVEL | 16.9 | |
| GREY BROWN SHALEY BOULDER CLAY | 17.7 | |
| BLACK SHALE | [illegible] | |
| End of days drilling | 18.5 | |

| SAMPLES No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| [illegible] | GL | 18.0 |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [illegible]
CLIENT [illegible]

# Northwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN ....
SITE NAME ....
JOB No. ....
BOREHOLE No. ....A
EQUIPMENT IN USE ....
VEHICLE No. ....

DATE + TIME OF START/FINISH 21-2-04

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine · Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | 16.0 | | | | | | | | | | | | |
| FIRM BROWN SILTY CLAY (BOULDERS) | | | | | 17.8 | | | | | | | | | | | | |
| HARD GREY SANDSTONE (POSS BOULDER) | | | | | | | | | | | | | | | | | |
| INJECTING GROUT BH236A 2½HRS MATERIALS USED 6 BAGS OF CEMENT 3 BAGS OF BENTONITE | | | | | | | | | | | | | | | | | |
| MOVING AND CONSTRUCTING PLATFORM BH236A TO BH212 1½HRS | | | | | | | | | | | | | | | | | |
| TOPPING UP PREVIOUS BH'S WITH GROUT ½HR MATERIALS USED 2 BAGS OF CEMENT 1BAG OF BENTONITE | | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 18.0 | | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | GL | 18.0 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| CHISELLING ROCK OR BOULDER | 17.8 | 18.5 | 1½ |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH [illegible] 7 . 84

TOWN [illegible]
SITE NAME
JOB No.
BOREHOLE No. [illegible]
EQUIPMENT IN USE [illegible]
VEHICLE No.

| DESCRIPTION OF STRATA (Soft/Firm/Stiff, Loose/Dense / Colour, Fine - Coarse Medium / Clayey Silty Sandy etc. / SOIL TYPE / Sand bands Cobbles etc.) | DEPTH to base of STRATA m |
|---|---|
| Start of days drilling | [illegible] 0 |
| [illegible] BROWN SILTY BOULDER CLAY | 25.3 |
| WET GREY SAND & GRAVEL | [illegible] |
| STIFF GREY BROWN SHALEY/ BOULDER CLAY/ | 28.4 |
| BLACK SHALE | |
| INJECTING GROUT. BH179 3HRS MATERIALS USED 12 BAGS OF CEMENT 6 BAGS OF BENTONITE | |
| End of days drilling | [illegible] |

SHOW SAMPLES THUS :

| SAMPLES No. Type | Penetration m From | To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 |
|---|---|---|---|---|---|---|---|---|---|---|

REMARKS: [illegible]

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

**CASING**

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| [illegible] | [illegible] | [illegible] |
| 150 | 9.0 | 29.0 |

**DELAYS/BAD ACCESS/PITS/HARD STRATA etc.**

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|

**WATER**

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER ..................
CLIENT [signature]

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN [illegible]
SITE NAME [illegible]
JOB No. [illegible]
BOREHOLE No. 2A
EQUIPMENT IN USE [illegible]
VEHICLE No. [illegible]

DATE + TIME OF START/FINISH 16-3-94

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | GL |
| MOIST BROWN SANDY CLAY | | | | | 1.6 |
| FIRM BROWN SILTY BOULDER CLAY | | | | | |
| MOVING AND CONSTRUCTING PLATFORM BH210 TO 236A 2HRS | | | | | |
| End of days drilling | | | | | 10.0 |

| SAMPLES | | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | | |
| | | | | | | | | | | | | MOVING 1.00-3.00 [illegible] |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| [illegible] | GL | 10.0 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [illegible]
CLIENT [illegible]

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 22.2.84

TOWN .....
SITE NAME .....
JOB No. .....
BOREHOLE No. .....
EQUIPMENT IN USE .....
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | GL | | | | | | | | | | | |
| DISTURBED CLAY & SAND | | | | | 9.4 | | | | | | | | | | | MOVING FROM BH213 TO BH210 AND CONSTRUCTING PLATFORM 1½HRS |
| BROWN SANDSTONE | | | | | | | | | | | | | | | | |
| MOVING FROM BH213 TO BH 210 AND CONSTRUCTING PLATFORM 1½HRS | | | | | | | | | | | | | | | | |
| INJECTING GROUT BH210 1½HRS MATERIALS USED 4 BAGS OF CEMENT 1 BAG OF BENTONITE. | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 10.0 | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | GL | 10.0 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH .....

TOWN .....
SITE NAME .....
JOB No. .....
BOREHOLE No. .....
EQUIPMENT IN USE .....
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | Start of days drilling | | | | | | | | | | | | | |
| BROWN | SANDY | CLAY | | | 1.9 | | | | | | | | | | | |
| WET | BROWN | SILTY | SAND | | 4.1 | | | | | | | | | | | |
| FIRM | BROWN | SILTY | BOULDER CLAY | | 24.3 | | | | | | | | | | | |
| WEATHERED | GREY | SANDSTONE | | | | | | | | | | | | | | |
| INJECTING | GROUT | 4 HRS | | | | | | | | | | | | | | |
| MATERIALS | USED | 16 | BAGS | OF | | | | | | | | | | | | |
| CEMENT | & | BAGS | OF | BENTONITE | | | | | | | | | | | | |
| | | | End of days drilling | | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| | 5.2 | 5.6 |
| 150 | 9.0 | 25.0 |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 22/3/84

TOWN
SITE NAME
JOB No.
BOREHOLE No. 3
EQUIPMENT IN USE PILCON
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | 0.0 | | | | | | | | | | | | |
| FILLED STONE AND CLAY | | | | | 9.2 | | | | | | | DRILLING 8.30 – 11.0 | | | | | |
| BROWN SANDSTONE | | | | | | | | | | | | GROUTING 11.0 – 12.30 | | | | | |
| GROUTING — 1½ HRS | | | | | | | | | | | | | | | | | |
| MATERIALS USED 4 BAGS OF CEMENT 2 BAGS OF BENTONITE | | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | TD | | | | | | | | | | | | |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| [illegible] | 0.0 | 9.0 |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| GROUTING | 1½ HRS | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 21/7/84

TOWN
SITE NAME
JOB No.
BOREHOLE No. 226
EQUIPMENT IN USE
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | 0.0 | | | | | | | | | | | | |
| DISTURBED BROWN SAND AND SILTY CLAY | | | | | 10.1 | | | | | | | MOVING | | | 10.30 | | 10.30 - |
| BROWN SANDSTONE | | | | | | | | | | | | DRILLING | | | 10.1 - 2.00 | | |
| | | | | | | | | | | | | GROUTING | | | 2.00 - 3.30 | | |
| MOVING AND CONSTRUCTING PLATFORM 2HRS | | | | | | | | | | | | MOVING | | | 3.30 - 5.30 | | |
| DRILLING FROM 0.0 - 10.1 1HRS | | | | | | | | | | | | | | | | | |
| GROUTING — 1½HRS. | | | | | | | | | | | | | | | | | |
| (6 CEMENT 3 BENTONITE) | | | | | | | | | | | | | | | | | |
| MOVING FROM 226 TO 213 2HRS | | | | | | | | | | | | | | | | | |
| SHOW SAMPLES THUS : End of days drilling | | | | | 10.1 | | | | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | 0.0 | 10.1 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| MOVING | 4HRS | | |
| GROUTING | 1½HRS | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| MOIST. | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN ....
SITE NAME ....
JOB No. ....
BOREHOLE No. ....
EQUIPMENT IN USE ....
VEHICLE No. ....

DATE + TIME OF START/FINISH ....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine · Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | Start of days drilling | | | | | | | | | | | | | |
| P[illegible] SANDY CLAY WITH WET SAND BANDS | | | | | 10.3 | | | | | | | | | | | |
| STIFF BROWN SANDY BOULDER CLAY | | | | | 13.8 | | | | | | | | | | | |
| DARK GREY SHALE | | | | | | | | | | | | | | | | |
| MOVING AND CONSTRUCTING PLATFORM BH216A TO 211A 2HRS | | | | | | | | | | | | | | | | |
| INJECTING GROUT 2HRS MATERIALS USED. 8 BAGS OF CEMENT 4 BAGS OF BENTONITE | | | | | | | | | | | | | | | | |
| MOVING AND CONSTRUCTING PLATFORM BH211A TO BH178 | | | | | | | | | | | | | | | | |
| | | | End of days drilling | | | | | | | | | | | | | |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

REMARKS: [illegible] & SHALE
DRILLING [illegible]
GROUTING 2.00-[illegible]
MOVING 4.00-6.00

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| [illegible] | GL | [illegible] |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT [illegible]

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN .....
SITE NAME .....
JOB No. .....
BOREHOLE No. 229
EQUIPMENT IN USE .....
VEHICLE No. .....

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 226 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | | | | | | | | | | | | |
| WEATHERED BROWN CLAY | | | | | 7.4 | | | | | | | DRILLING | | | | |
| BROWN SANDSTONE | | | | | | | | | | | | GROUTING | | | | |
| GROUTING — 1 HR. | | | | | | | | | | | | | | | | |
| MATERIALS USED 1 CEMENT 2 BENTONITE | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| | | |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| GROUTING | 1 HR | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| DRY | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 21/3/84

TOWN Ilkley Ruby
SITE NAME [redacted]
JOB No. [redacted]
BOREHOLE No. [redacted]
EQUIPMENT IN USE [redacted]
VEHICLE No. [redacted]

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | U blows | S.P.T./C.P.T 0 to 75 mms. | 75 to 150 mms. | 150 to 225 mms. | 226 to 300 mms. | 300 to 375 mms. | 375 to 450 mms. | 450 to 500 mms. | |
| | | | Start of days drilling | | 0.0 | | | | | | GROUTING | | | | 8:30 | | 10:30 |
| | | | DISTURBED BROWN CLAY AND SAND | | | | | | | | MOVING | | | | | | 12:30 |
| | | | | | 11.4 | | | | | | [redacted] | | | | 10:30 | | |
| | | | COARSE BROWN SANDSTONE | | 11.7 | | | | | | DRILLING | | | | 1:00 | | 2:30 |
| | | | DARK GREY SANDY SHALE | | | | | | | | GROUTING | | | | 2:30 | | 4:00 |
| | | | GROUTING BORE HOLE 225 2HRS MAT + 8 CEMENT 4 BENTONIE | | | | | | | | MOVING | | | | 4:00 | | 6:00 |
| | | | MOVING FROM 225 – 228 2HRS. | | | | | | | | | | | | | | |
| | | | DRILLING 0.0 – 12.0 1½ HRS. | | | | | | | | | | | | | | |
| | | | GROUTING B/H 228 — 1½HR. | | | | | | | | | | | | | | |
| | | | MOVING FROM 228 TO 229 2HRS | | | | | | | | | | | | | | |
| | | | MATERAILS USE IN B/H 228 6 CEMENT 3 BENTONITE. | | | | | | | | | | | | | | |
| SHOW SAMPLES THUS : | | | End of days drilling | | 12.0 | | | | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | 0.0 | 10.5 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| GROUTING | | 3½ | HRS. |
| | | | |
| MOVING | | 4 | HRS. |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| DRY | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [redacted]
CLIENT [redacted]

# Nowcst Holst Civil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN .....
SITE NAME .....
JOB No. .....
BOREHOLE No. .....
EQUIPMENT IN USE .....
VEHICLE No. .....

DATE + TIME OF START/FINISH 20-3-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | Start of days drilling | | | | SL | | | | | | | | | | | | |
| | BROWN SANDY CLAY | | | | 2.1 | | | | | | | | | | | | |
| | WET BROWN SILTY SAND | | | | 2.9 | | | | | | | | | | | | |
| | FIRM BROWN SILTY BOULDER CLAY | | | | 16.0 | | | | | | | | | | | | |
| | BLACK SHALE. | | | | | | | | | | | | | | | | |
| | INJECTING GROUT BH 234A. 2½ HRS | | | | | | | | | | | | | | | | |
| | MATERIALS USED 8 BAGS OF CEMENT 84 BAGS OF BENTONITE. | | | | | | | | | | | | | | | | |
| | MOVING AND CONSTRUCTING PLATFORM BH 234A TO BH 216A 2HRS | | | | | | | | | | | | | | | | |
| | INJECTING GROUT BH216A 2HRS | | | | | | | | | | | | | | | | |
| | MATERIALS USED) 6 BASS OF CEMENT. 3 BASS OF BENTONITE. | | | | | | | | | | | | | | | | |
| | End of days drilling | | | | 16.5 | | | | | | | | | | | | |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| | | |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN .....
SITE NAME .....
JOB No. .....
BOREHOLE No. .....
EQUIPMENT IN USE .....
VEHICLE No. .....

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 22/3/94

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | 0.0 | | | | | | MOVING | 1.00- | | | 3.00 | |
| DISTURBED BROWN CLAY AND SAND (TRACES OF ROCK CUTTINGS) | | | | | 1.6 | | | | | | DRILLING | 3.00- | 5.00 | | | |
| LIGHT GREY MUDSTONE | | | | | | | | | | | | | | | | |
| MOVING AND CONSTRUCTING DRILLING PLATFORM FROM 2.14 TO 2.25 ——— 2HRS | | | | | | | | | | | | | | | | |
| DRILLING FROM 0 OTO 150 2HRS | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 15.0 | | | | | | | | | | | |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | 0.0 | 1.50 |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| MOVING | | 2HRS | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| MOIST. | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 20/3/84

TOWN .....
SITE NAME [illegible] BANK
JOB No. .....
BOREHOLE No. 14
EQUIPMENT IN USE [illegible]
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | 0 0 |
| DISTURBED BROWN CLAY AND SAND | | | | | 14·7 |
| LIGHT GREY MUDSTONE | | | | | |
| DRILLING 0·0 – 15·5 2HRS. | | | | | |
| GROUTING 15·5 – 0·0 2 HRS. | | | | | |
| MATERIALS USED & CEMENT: & BENTONITE | | | | | |
| End of days drilling | | | | | 15·5 |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | DRILLING | | | | 9 35 | | - 10 30 |
| | | | | | GROUTING | | | | 10 30 | | - 12 2[illegible] |

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | 0 0 | 15 0 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| GROUTING | | | 2HRS |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| MOIST. | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [illegible]
CLIENT [illegible]

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 10/3/84

TOWN .....
SITE NAME .....
JOB No. .....
BOREHOLE No. 227
EQUIPMENT IN USE .....
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | 0.0 | | | | | | | MOVING | | | 9:30 - 10:30 | |
| DISTURBED BROWN CLAY AND SAND. | | | | | 13.7 | | | | | | | DRILLING | 10:3 | | 14:30 | |
| LIGHT GREY SANDY SHALE | | | | | | | | | | | | GROUTING | 14:3 | | 4.00 | |
| MOVING AND ERRECTING PLATFORM FROM 215 TO 227 2HRS | | | | | | | | | | | | MOVING | 4.3C | | 6.0C | |
| DRILLING 0.0 TO 14.5 2HRS | | | | | | | | | | | | | | | | |
| GROUTING 227 WHEN PRESSURISING GROUT CAME UP BH 211 3HRS | | | | | | | | | | | | | | | | |
| MIX 1:6 CEMENT & BENTONITE | | | | | | | | | | | | | | | | |
| MOVING AND ERRECTING PLAT-FROM FROM 227 TO 214 2HRS. | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 14.5 | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 120 | 0.0 | 13.5 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| MOVING | 4HRS. | | |
| GROUTING | 3HRS | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| MOIST. | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN Bury
SITE NAME [illegible]
JOB No. .....
BOREHOLE No. 234
EQUIPMENT IN USE [illegible]
VEHICLE No. .....

DATE + TIME OF START/FINISH 10-3-85 [illegible]

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | GL | | | | | | | | | | | | Driving 2.00-6.00 |
| | BROWN | SANDY | CLAY | | 1.9 | | | | | | | | | | | | |
| WET | BROWN | SILTY | SAND | | 2.5 | | | | | | | | | | | | |
| FIRM | BROWN | SILTY | BOULDER CLAY | | 19.6 | | | | | | | | | | | | |
| | BLACK | SHALE | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 25 | | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | GL | 19.5 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

SIGNATURES
DRILLER .....
CLIENT .....

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

# Newcast Holst Civil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN RUSH
SITE NAME [illegible]
JOB No. [illegible]
BOREHOLE No. [illegible]
EQUIPMENT IN USE [illegible]
VEHICLE No. [illegible]

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 19-3-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | 9.5 |
| FIRM BROWN SILTY BOULDER CLAY | | | | | 19.7 |
| BLACK SHALE | | | | | |
| INJECTING GROUT 2½ HRS | | | | | |
| MATERIALS USED 8 BAGS OF CEMENT 4 BAGS OF BENTONITE | | | | | |
| End of days drilling | | | | | 20.5 |

| SAMPLES | | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | | |
| | | | | | | | | | | | | [illegible] |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | GL | |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT G Eccleston

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 16-3-84

TOWN BURY
SITE NAME [illegible]
JOB No. .....
BOREHOLE No. 234
EQUIPMENT IN USE DANDO
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff<br>Loose/Dense | Colour<br>Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | Start of days drilling | | | | GL | | | | | | | | | | | | 8-00-10.30 GROUTING |
| WET | BROWN | SILTY | SAND | | 4.0 | | | | | | | | | | | | 10.30-12.00 MEALS |
| FIRM | BROWN | SILTY | BOULDER CLAY | | | | | | | | | | | | | | 12-00-1.00 DRILLING |
| INJECTING GROUT BH 218 B<br>2½ HRS MATERIALS USED<br>8 BAGS OF CEMENT 4 BAGS OF BENTONITE | | | | | | | | | | | | | | | | | |
| MOVING AND ERECTING PLATFORM 1½ HRS. | | | | | | | | | | | | | | | | | |
| | End of days drilling | | | | 7.5 | | | | | | | | | | | | |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | GL | 7.5 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| STRUCK | | | GL | SOME | — |
| SEALED OFF | | | | | 6.0 |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

SIGNATURES
DRILLER [signature] CLIENT [signature]

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 15-3-84

TOWN [illegible]
SITE NAME [illegible]
JOB No. .....
BOREHOLE No. 215
EQUIPMENT IN USE [illegible]
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | Start of days drilling | | | | GL | | | | | | | | | | | | MOVINGS 230 TO 215 830-930 |
| DISTURBED SAND & CLAY | | | | | 17.9 | | | | | | | | | | | | DRILLING 930-330 |
| SOFT GREY SHALE. | | | | | | | | | | | | | | | | | SHOOTING 330-530 |
| MOVING AND ERECTING PLATFORM BH 230 TO BH 215 1 HR | | | | | | | | | | | | | | | | | |
| INJECTING GROUT 2 HRS. MATERIALS USED 8 BAGS OF CEMENT 4 BAGS OF BENTONITE. | | | | | | | | | | | | | | | | | |
| SHOW SAMPLES THUS : | End of days drilling | | | | 19.0 | | | | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | GL | 19.0 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [illegible]
CLIENT [illegible]

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 15-3-84

TOWN RUGBY
SITE NAME [illegible]
JOB No. .....
BOREHOLE No. 218B
EQUIPMENT IN USE [illegible]
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | Start of days drilling | GL | | | | | | | | | | | 8.30-11.00 GROUTING |
| | BROWN | | SANDY CLAY | | 3.7 | | | | | | | | | | | 11.00-1.00 MOVING |
| | WET BROWN | | SILTY SAND | | 5.3 | | | | | | | | | | | 1.30-5.30 DRILLING |
| | FIRM BROWN | | SANDY BOULDER CLAY | | 17.3 | | | | | | | | | | | |
| | GREY | | SHALE | | | | | | | | | | | | | |
| | INJECTING GROUT BH218A 2HRS MATERIALS USED 8 BAGS OF CEMENT 4 BAGS OF BENTONITE. | | | | | | | | | | | | | | | |
| | TOPPING UP BH218 ½HR MATERIALS USED 2 BAGS OF CEMENT 1 BAG OF BENTONITE. | | | | | | | | | | | | | | | |
| | MOVING AND ERECTING PLATFORM BH218A TO BH218B 2HRS. | | | | | | | | | | | | | | | |
| | | | | End of days drilling | 19.0 | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| | | |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT [signature]

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN Leeds
SITE NAME [illegible]
JOB No. .....
BOREHOLE No. 19
EQUIPMENT IN USE UNIDO
VEHICLE No. .....

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 23-3-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | | | | | | | | | | | | |
| WET BROWN SILTY SAND | | | | | 2.0 | | | | | | | | | | | |
| FIRM BROWN SILTY BOULDER CLAY | | | | | | | | | | | | | | | | |
| MOVING AND ERECTING PLATFORM 2 HRS | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 10.5 | | | | | | | | | | | |

REMARKS: 8.30-10.30 MOVING — 10.30-12.30 DRILLING

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 200 | SL | 9.0 |
| 150 | 9.0 | 10.5 |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# Northwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 11-3-94

TOWN [illegible]
SITE NAME [illegible]
JOB No. .....
BOREHOLE No. 230
EQUIPMENT IN USE [illegible]
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | 0.0 | | | | | | | | | | | |
| DISTURBED BROWN CLAY AND SAND | | | | | | | | | | | | MOVING 8.30 - 10.30 | | | | |
| | | | | | 17.8 | | | | | | | | | | | 30 MINS DINNER |
| LIGHT GREY MUDSTONE | | | | | | | | | | | | DRILLING 10.30 - 4.00 | | | | |
| | | | | | | | | | | | | GROUTING 4.00 - 6.00 | | | | |
| MOVING PLATFORM FROM 221 TO 230 — 2HRS | | | | | | | | | | | | | | | | |
| DRILLING FROM 0.0 - 18.5 - 5 HRS | | | | | | | | | | | | | | | | |
| MIXING AND INJECTING GROUT - 2 HRS. | | | | | | | | | | | | | | | | |
| MATERAILS USED 8 CEMENT. 4 BENTONITE | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 18.5 | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | 0.0 | 18.0 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| MOVING | | | 24RS. |
| GROUTING | | | 24RS |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| MOIST. | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 14-3-84

TOWN [illegible]
SITE NAME [illegible]
JOB No. [illegible]
BOREHOLE No. 218A
EQUIPMENT IN USE DANTO
VEHICLE No. [illegible]

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff Loose/Dense | Colour Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | Start of days drilling | | 9L | | | | | | | | | | | Starting 8.30-11.00 |
| | | | BROWN SANDY CLAY | | 3.7 | | | | | | | | | | | MOVING 11.00-12.30 |
| | | | WET BROWN SILTY SAND. | | 6.3 | | | | | | | | | | | DRILLING 1.00-6.00 |
| | | | FIRM BROWN SANDY BOULDER CLAY | | 17.2 | | | | | | | | | | | |
| | | | GREY SANDY SHALE | | | | | | | | | | | | | |
| | | | INJECTING GROUT BH218 2½ HRS MATERIALS USED. 10 BAGS OF CEMENT 5 BAGS OF BENTONITE | | | | | | | | | | | | | |
| | | | MOVING AND ERECTING PLATFORM [redacted] 218 TO 218A 1½ HRS | | | | | | | | | | | | | |
| | | | End of days drilling | | 19.0 | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | 9L | 17.5 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| STRUCK | | | 3.7 | 1 l/s | 3.0 |
| SEALED OFF | | | | | 7.0 |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT Geo Clayton

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN Tuply
SITE NAME [illegible]
JOB No. .....
BOREHOLE No. 212
EQUIPMENT IN USE Dando
VEHICLE No. .....

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 13-3-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | GL | | | | | | | | | | | | 8.30-11.00 GROUTING |
| BROWN SANDY CLAY | | | | | 3.7 | | | | | | | | | | | | 11.00-5.00 DRILLING |
| WET BROWN SILTY SAND | | | | | 5.3 | | | | | | | | | | | | 5.00-6.00 GROUTING |
| FIRM BROWN SANDY BOULDER CLAY | | | | | 17.8 | | | | | | | | | | | | |
| GREY SHALE | | | | | | | | | | | | | | | | | |
| INJECTING GROUT BH 219 2½ HRS MATERIALS USED 10 BAGS OF CEMENT 5 BAGS OF BENTONITE | | | | | | | | | | | | | | | | | |
| TOPPING UP BH NO'S 185, 189, 206, 208, AND 257A. 1HR MATERIALS USED. 2 BAGS OF CEMENT 1 BAG OF BENTONITE. | | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 18.5 | | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 700 | GL | 17.5 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| STRUCK | | | 3.9 | NIL | 3.0 |
| SEALED OFF | | | | | 7.0 |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN
SITE NAME
JOB No.
BOREHOLE No. 1
EQUIPMENT IN USE
VEHICLE No.

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 12/3/84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff | Colour | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Loose/Dense | Fine - Coarse Medium | | | | | | | | | | | | | | | | |
| Start of days drilling | | | | | 0·0 | | | | | | | | | | | MOVING 9.30 - 10.30 | |
| DISTURBED BROWN CLAY AND SAND | | | | | 17·4 | | | | | | | | | | | DINNER 1 HR<br>DRILLING 10.30 - 3.00 | |
| LIGHT GREY SHALE | | | | | | | | | | | | | | | | GROUTING 3.00 - 5.00 | |
| MOVING AND CONSTRUCTING PLATFORM 2HRS. | | | | | | | | | | | | | | | | | |
| DRILLING FROM 0·0 TO 18·0 4 HRS. | | | | | | | | | | | | | | | | | |
| GROUTING B/H. 2 HRS | | | | | | | | | | | | | | | | | |
| MATERIALS USED. 6 CEMENT. 3 BENTONITE. | | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 18·0 | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | 0·0 | 18·0 |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| MIST. | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| MOVING. | | | 2HRS |
| GROUTING. | | | 2HRS |
| | | | |
| | | | |
| | | | |
| | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN BURY
SITE NAME [illegible]
JOB No. .....
BOREHOLE No. 219
EQUIPMENT IN USE DANDO
VEHICLE No. .....

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 12.3.84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | Start of days drilling | | | | SL | | | | | | | | | | | | 8.30-10.30 MOVING DRILLING 11.20-6.00 |
| MOIST TO WET | BROWN | CLAYEY SANDY | SILT | | 7.0 | | | | | | | | | | | | |
| FIRM TO STIFF | BROWN | SANDY BOULDER CLAY | | | 19.5 | | | | | | | | | | | | |
| DARK GREY SHALE | | | | | | | | | | | | | | | | | |
| MOVING AND ERRECTING PLATFORM BH220 TO BH219 2HRS | | | | | | | | | | | | | | | | | |
| | | | | | 20.0 | | | | | | | | | | | | |
| | End of days drilling | | | | [illegible] | | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 200 | SL | 19.5 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| SL | | | | SLIGHT. | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [signature]
CLIENT [signature]

# Newcast Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 12-3-84

TOWN Bury
SITE NAME [illegible]
JOB No. .....
BOREHOLE No. 217
EQUIPMENT IN USE [illegible]
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | Start of days drilling | | | | 0·0 | | | | | | | | | | | | |
| DISTUREBED | BROWN | SAND AND | CLAY | | | | | | | | MOVING | | | | 10·0 | | -12·30 |
| | | | | | 17·4 | | | | | | DRILLING | | | | 1·00 | | - 4·00 |
| LIGHT | GREY | MUSTONE | | | | | | | | | GROUTING | | | | 4·00 | | - 6·00 |
| MOVING AND CONSTRUCTING PLATFORM FROM 257A TO 217 | | | | | 2½ HRS. | | | | | | | | | | | | |
| DRILLING FROM 0·0 TO 18·0 | | | | | 3 HRS. | | | | | | | | | | | | |
| MIXING AND INJECTING GROUT. | | | | | 2 HRS. | | | | | | | | | | | | |
| MATERIALS USED 8 CEMENT. 4 BENTONITE. | | | | | | | | | | | | | | | | | |
| | End of days drilling | | | | 18·0 | | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | 0·0 | 18·0 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| MOVING | 2½ HRS. | | |
| GROUTING | 2 HRS. | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| MOIST. | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [signature]
CLIENT [signature]

# Newcast Halst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 9-3-84

TOWN Pudsey
SITE NAME HIGHSIDE WAKEFIELD
JOB No.
BOREHOLE No. 220
EQUIPMENT IN USE DANDO
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/ Stiff | Colour | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Loose/Dense | Fine - Coarse Medium | | | | |
| Start of days drilling | | | | | |
| INJECTING GROUT BH220 3HRS MATERIALS USED) 10 BAGS OF CEMENT 5 BAGS OF BENTONITE | | | | | |
| TOPPING UP BH'S No. 180 AND 189 1HR MATERIALS USED) 2 BAGS OF CEMENT 1BAG OF BENTONITE | | | | | |
| SHOW SAMPLES THUS : End of days drilling | | | | | |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| | | |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

SIGNATURES
DRILLER
CLIENT

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

# Nowcast Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 9-3-84

TOWN Bra...
SITE NAME Ley's Farm
JOB No. .....
BOREHOLE No. 200 (A)
EQUIPMENT IN USE Tricon
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | 0·0 | | | | | | | | | | | |
| DISTURBED BROWN CLAY AND SAND | | | | | 5·4 | | | | | | | | | | | MOVING 8·30 - 9·30 |
| BROWN SANDSTONE | | | | | | | | | | | | | | | | DRILLING 9·30 - 10·0 |
| MOVING R/S OVER TO THIS HOLE 1 HR. | | | | | | | | | | | | | | | | GROUTING 10·0 - 11·30 |
| DRILLING FROM 0·0 - 6·0 ½ HR. | | | | | | | | | | | | | | | | |
| MIXING AND INJECTING GROUT. 1½ HRS. | | | | | | | | | | | | | | | | |
| MATERAILS USE 1 CEMENT. 2 BENTONITE. | | | | | | | | | | | | | | | | |
| SHOW SAMPLES THUS : | End of days drilling | | | | 6·0 | | | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | 0·0 | 6·0 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| MOVING | 1 HR. | | |
| GROUTING | 1½ HRS. | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER ..... CLIENT .....

# North West Hoist Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 9/3/84

TOWN Ilkley
SITE NAME HIGHER BARN FARM
JOB No.
BOREHOLE No. 200
EQUIPMENT IN USE PIDGON
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | 0·0 | | | | | | | | | | | | |
| DISTURBED GREY SILT AND BROWN SANDY CLAY | | | | | 6·4 | | | | | | MOVING | | | | 2 | 00 | 4·00 |
| VERY SOFT BROWN SAND-STONE | | | | | | | | | | | DRILLING | | | | 4 | 00 | 4·30 |
| MOVING FROM B/H 257A TO 200 2HRS. | | | | | | | | | | | GROUTING | | | | 4 | 30 | 6·00 |
| DRILLING THIS HOLE ½HR. | | | | | | | | | | | | | | | | | |
| MIXING AND INJECTING GROUT. 1½ HRS. | | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 7·0 | | | | | | | | | | | | |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | 0·0 | 7·0 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| MOVING | 2HRS. | | |
| GROUTING | 1½HRS. | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# Nowcast Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

Trial Hole 256

DATE + TIME OF START/FINISH 8/3/84

TOWN Ellel
SITE NAME HIGHER BARN FARM
JOB No.
BOREHOLE No.
EQUIPMENT IN USE
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | 0.0 | | | | | | | | | | | | |
| BLOWING DOWN PIPE TO 2.8. METER AND GROUTING BORE HOLE 1 HR. | | | | | | | | | | | | GROUTING | | | | | 1.00 - 2.00 |
| THIS WAS A SHELL AND AUGER HOLE NEXT TO 256 | | | | | | | | | | | | | | | | | |
| MATERAILS USE 2 CEMENT 1 BENTONITE. | | | | | | | | | | | | | | | | | |
| SHOW SAMPLES THUS : End of days drilling | | | | | 2.8 | | | | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| | | |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 8-3-84

TOWN BURY
SITE NAME HIGHER LAKE FARM
JOB No.
BOREHOLE No. 220
EQUIPMENT IN USE DANDO
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 76 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | GL | | | | | | | | | | | | 8.30-11.00 GROUTING |
| YELLOW BROWN CLAY | | | | | 1.0 | | | | | | | | | | | | |
| WET BROWN CLAY SAND. | | | | | 5.3 | | | | | | | | | | | | 11.00-12.30 MOVING |
| BROWN SILTY BOULDER CLAY | | | | | 15.7 | | | | | | | | | | | | |
| YELLOW GREY SANDY MUDSTONE | | | | | | | | | | | | | | | | | 1.00-5.30 DRILLING |
| INJECTING GROUT BH 222 2½ HRS MATERIALS USED 12 BAGS OF CEMENT 6 BAGS OF BENTONITE | | | | | | | | | | | | | | | | | |
| MOVING AND CONSTRUCTING PLATFORM BH 222 TO BH 220 1½ HRS | | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 16.5 | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| [illegible] | GL | 16.0 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# North West Holst Civil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN Bury
SITE NAME Higher Carn Lane
JOB No.
BOREHOLE No. 257(A)
EQUIPMENT IN USE Pilcon
VEHICLE No.

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 8/3/84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | 0·0 |
| FILLED CLAY AND SHALE | | | | | 3·4 |
| SOFT TO FIRM BROWN VERY SANDY BOULDER CLAY | | | | | 6·2 |
| STIFF DARK BROWN SANDY STONEY BOULDER CLAY WITH TRACES OF SHALE | | | | | 7·6 |
| BLACK SHALE TRACES OF COAL | | | | | 8·7 |
| LIGHT GREY MUDSTONE | | | | | |
| MOVING AND ERRECTING PLATFORM | | | | | |
| DRILLING FROM 0·0 – 9·0 METERS | | | | | 11 |
| GROUTING B/H | | | | | |
| MATERAILS USED 4 CEMENT 2 BENTONITE. | | | | | 11 |
| End of days drilling | | | | | 9·0 |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | MOVING | | | 8.30 | | - 10·0 |
| | | | | | | DRILLING | | | 10·0 | | - 11·0 |
| | | | | | | GROUTING | | | 11·0 | | - 12·30 |
| B1 | 7·6 | 9·0 | | | | | | | | | |
| 5·0 | Barrels | HR | SPENT | MOVING | | | | | | | 7-3-84 |
| FROM | B/H | 216 | TO | 257A | | | | | | | 2½ HRS |
| | | | | | | | | | | | 1 HR. |
| | | | | | | | | | | | 1½ HRS |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| | 0·0 | 7·5 |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| DRY | | | | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| MOVING | 2½ HRS. | | |
| GROUTING | 1½ HRS. | | |
| | | | |
| | | | |
| | | | |
| | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# North West Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 7/3/84

TOWN BURY
SITE NAME HIGHER BARN FARM
JOB No.
BOREHOLE No. 216
EQUIPMENT IN USE PIHCON
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | 0.0 |
| DISTURBED BROWN SILTY CLAY AND SAND. | | | | | 16.6 |
| BLACK SHALE AND COAL | | | | | |
| MOVING AND CONSTRUCTING PLATFORM FROM 224 TO 216 2 HRS | | | | | |
| DRILLING FROM 0.0 – 17.5. 3¾ HRS. | | | | | |
| MIXING AND INJECTING GROUT. 1¾ HRS | | | | | |
| MATERIALS USED 8 BAGS of CEMENT + 4 BAGS of BENTONITE (checked with B. Hanson). | | | | | |
| End of days drilling | | | | | 17.5 |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | MOVING | | | | 10.30 | – 12.30 | |
| | | | | | DRILLING | | | | 12.30 | – 2.45 | |
| | | | | | GROUTING | | | | 2.45 | – 5.00 | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| [illegible] | 0.0 | 16.5 |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| MOIST. | | | | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| MOVING | 2 HRS. | | |
| GROUTING. | 1¾ HRS | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

SIGNATURES
DRILLER [signature]
CLIENT [signature]

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

# North West Hoist Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 7-3-84

TOWN BURY
SITE NAME HIGHER BARN FARM
JOB No. .....
BOREHOLE No. 222
EQUIPMENT IN USE DANDO
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff<br>Loose/Dense | Colour<br>Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | GL |
| WET BROWN CLAYEY SAND. | | | | | 7.3 |
| BROWN SILTY BOULDER CLAY | | | | | 17.3 |
| BLACK SHALE & COAL | | | | | 17.6 |
| GREY SANDY MUDSTONE. | | | | | |
| INJECTING GROUT BH223 2HRS MATERIALS USED 12 BAGS OF CEMENT 6 BAGS OF BENTONITE | | | | | |
| MOVING AND CONSTRUCTING PLATFORM BH223 TO BH222 2HRS. | | | | | |
| End of days drilling | | | | | 18.0 |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | GROUTING BH223 8.30-10.30 |
| | | | | | | | | | | | MOVING BH223 TO BH222 10.30-12.30 |
| | | | | | | | | | | | DRILLING 1.00-3.30 |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 200 | GL | 17.5 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES DEP CLIENT

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 6/3/84

TOWN BARY
SITE NAME HIGHER FARM FARM
JOB No.
BOREHOLE No. 224
EQUIPMENT IN USE LINSON
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | 0·0 |
| DISTURBED CLAY AND SAND | | | | | 17·8 |
| LIGHT GREY SHALE | | | | | |
| GROUTING B/H 233 2HRS | | | | | |
| MOVING AND CONSTRUCTING PLATFORM FROM 233 TO 224 2 HRS | | | | | |
| DRILLING 0·0 TO 18·5 2 HRS | | | | | |
| GROUTING B/H 224 2 HRS | | | | | |
| MAT ½ FOR B/H 233 8 CEMENT 4 BENTONITE | | | | | |
| MAT ½ FOR B/H 224 8 CEMENT 4 BENTONITE | | | | | |
| End of days drilling | | | | | 18·5 |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | GROUTING | | | | 8·30 | | - 10·30 |
| | | | | | MOVING | | | | 10·30 | | - 12·30 |
| | | | | | DRILLING | | | | 1·30 | | - 5·30 |
| | | | | | GROUTING | | | | 3·30 | | - 5·30 |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | 0·0 | 16·5. |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| GROUTING 4 HRS. | | | |
| MOVING 2 HRS. | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 6-3-84

TOWN [illegible]
SITE NAME [illegible]
JOB No. .....
BOREHOLE No. 223
EQUIPMENT IN USE DANDO
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff<br>Loose/Dense | Colour<br>Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | GL |
| DISTURBED CLAY WITH SAND BANDS | | | | | 17.3 |
| YELLOW BROWN SANDSTONE | | | | | |
| INJECTING GROUT BH 235 2HRS MATERIALS USED 10 BAGS OF CEMENT 5 BAGS OF BENTONITE. | | | | | |
| MOVING AND ERECTING PLATFORM BH 235 TO BH 223 2HRS. | | | | | |
| End of days drilling | | | | | 18.0 |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | 10.30-12.30 SHOOTING |
| | | | | | | | | | | | 12.30-1.00 MOVING |
| | | | | | | | | | | | 1.00-1.30 LUNCH |
| | | | | | | | | | | | 1.30-3.00 MOVING |
| | | | | | | | | | | | 3.00-5.00 DRILLING |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 200 | GL | 16.5 |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| MOIST | | | | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 5-8-84

TOWN Bury
SITE NAME Higher Barn Farm
JOB No.
BOREHOLE No. 235
EQUIPMENT IN USE Dando
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | GL | | | | | | | | | | | |
| DISTURBED CLAY & SAND. | | | | | 18.3 | | | | | | | | | | | |
| GREY SANDY MUDSTONE | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 19.0 | | | | | | | | | | | |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 200 | GL | 18.0 |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 5/4/84

TOWN Bury St.
SITE NAME Higher Barn Farm
JOB No. .....
BOREHOLE No. 203
EQUIPMENT IN USE Pigeon
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff | Colour | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Loose/Dense | Fine - Coarse Medium | | | | |
| Start of days drilling | | | | | 0.0 |
| DISTURBED CLAY AND SAND | | | | | 17.2 |
| DARK GREY SANDY MUDSTONE | | | | | |
| End of days drilling | | | | | 18.0 |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. Type | Penetration m From | To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | 0.0 | 18.0 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| MOIST. | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN BURY
SITE NAME HIGHER BURN FARM
JOB No.
BOREHOLE No. 232
EQUIPMENT IN USE FALCON
VEHICLE No.

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 2/3/84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse / Medium | Clayey / Silty / Sandy etc. | SOIL TYPE | Sand bands / Cobbles etc. | |
| Start of days drilling | | | | | 7.5 |
| DISTURBED BROWN CLAY AND SAND | | | | | 15.0 |
| DARK GREY MUDSTONE | | | | | |
| DRILLING 7.5 TO 15.5 3HRS. | | | | | |
| GROUTING 15.5 TO 0.0 1½HRS | | | | | |
| MATERIALS USED. 10 CEMENT. 5 BENTONITE | | | | | |
| MOVING AND CONSTRUCTING PLATFORM FROM 232 TO 233 2HRS. | | | | | |
| End of days drilling | | | | | 15.5 |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | DRILLING | | | | | | 8.30 - 11.30 |
| | | | | | GROUTING | | | | | | 11.30 - 1.00 |
| | | | | | MOVING | | | | | | 1.00 - 3.00 |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | 0.0 | 15.0 |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| MOIST. | | | | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| GROUTING 1½HRS | | | |
| MOVING 2 HRS. | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 2-3-84

TOWN BURY
SITE NAME MICHAEL ROAD EXIT
JOB No.
BOREHOLE No. 236
EQUIPMENT IN USE DANDO
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff | Colour | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Loose/Dense | Fine - Coarse Medium | | | | |
| Start of days drilling | | | | | |
| INJECTING GROUT. BH236 3HRS | | | | | |
| MATERIALS USED 14 CEMENT 7. BENTONITE. | | | | | |
| MOVING AND ERECTING PLATFORM BH236 TO BH235 2HRS | | | | | |
| End of days drilling | | | | | |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | GROUTING 8.30-11.30 |
| | | | | | | | | | | | MOVING 11.30-13.30 |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| [illegible] | 0 | |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN Bury
SITE NAME HIGHER BARN FARM
JOB No.
BOREHOLE No. 236
EQUIPMENT IN USE DANDO
VEHICLE No.

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 1-3-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | SL |
| DISTURBED CLAY & SAND. | | | | | 20.4 |
| YELLOW BROWN SANDSTONE | | | | | |
| BH 236 | | | | | |
| INJECTING GROUT 3HRS | | | | | |
| MATERIALS USED 20 BAGS OF CEMENT 10 BAGS OF BENTONITE | | | | | |
| & GROUTING NOT COMPLETED. | | | | | |
| TOPPING UP BHS NO 180 & 181 AND MOVING GROUTING EQUIPMENT TO BH 236 2HRS | | | | | |
| MATERIALS USED 4 CEMENT AND 2 BAGS OF BENTONITE | | | | | |
| End of days drilling | | | | | 21.0 |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 226 | 226 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | GROUTING 8.30-10.30 |
| | | | | | | | | | | | DRILLING SL-21.0 10.30-3.00 |
| | | | | | | | | | | | GROUTING 3.00-6.00 |

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 200 | SL | 21.0 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# Norwest Holst Soil Engineering Ltd.

Peckside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN Batley
SITE NAME HIGHER BARN FARM
JOB No. .....
BOREHOLE No. 232
EQUIPMENT IN USE PILSON
VEHICLE No. .....

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 1/3/84 +~~[illegible]~~4

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine · Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | 0 0 | | | | | | | | | | | | |
| ~~Brick~~ DISTURBED BROWN CLAY AND SAND. 1/3/84 | | | | | 7.5 | | | | | | | | MOVING | | | | 2.30 - 4.30 |
| | | | | | | | | | | | | | DRILLING | | | | 4.30 - 5.30 |
| MOVING AND CONSTRUCTING PLATFORM FROM 231 – 232 (2 HRS) | | | | | | | | | | | | | | | | | |
| DRILLING 0.0 – 7.5 1 HR. | | | | | | | | | | | | | | | | | |
| SHOW SAMPLES THUS : End of days drilling | | | | | | | | | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| | | |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| Moist. | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER P Howell
CLIENT C Barry Clark

# Norwest Holst Soil Engineering Ltd.

Ridside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN BURY
SITE NAME HIGHER BARN FARM
JOB No.
BOREHOLE No. 231
EQUIPMENT IN USE PINCON
VEHICLE No.

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 1/3/84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | 0.0 | | | | | | | | | | | | DRILLING 8.30-11.30 |
| DISTURBED BROWN CLAY AND SAND | | | | | | | | | | | | | | | | | GROUTING 11.30-12.30 |
| | | | | | 11.4 | | | | | | | | | | | | DINNER 12.30-1.00 |
| BROWN COARSE GRAINED SANDSTONE | | | | | | | | | | | | | | | | | GROUTING 1.00-2.30 |
| DRILLING 0.0 - 12.0 3HRS | | | | | | | | | | | | | | | | | |
| COLLECTING MATERIALS 1HRS | | | | | | | | | | | | | | | | | |
| MIXING AND INJECTING GROUT 1½ | | | | | | | | | | | | | | | | | |
| MATERIALS USED 4 BAGS CEMENT 2 BENTONITE. | | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 12.0 | | | | | | | | | | | | |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | 0.0 | 12.0 |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| GROUTING | | | 2½HRS. |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| MOIST. | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER P Nowell
CLIENT G E M Cox

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 29-2-84

TOWN BURY
SITE NAME HIGHER BARN FARM
JOB No. .....
BOREHOLE No. 180
EQUIPMENT IN USE DANDO
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff<br>Loose/Dense | Colour<br>Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | Start of days drilling | | | | 12.0 | | | | | | | | | | | 8.30-12.00 DRILLING |
| WET FINE | BROWN | | SILTY SAND | | 14.0 | | | | | | | | | | | 12.00-12.30 LUNCH |
| FIRM TO STIFF | BROWN | | SILTY BOULDER CLAY | | 19.6 | | | | | | | | | | | 12.30-3.30 GROUTING |
| GREY | BROWN | | SANDSTONE | | | | | | | | | | | | | 3.30-6.00 MOVING |
| | End of days drilling | | | | 20.0 | | | | | | | | | | | |

INJECTING GROUT. 3 HRS
MATERIALS USED 22 BASS OF CEMENT. 11 BASS OF BENTONITE.

MOVING FROM BH180 TO BH236 AND CONSTRUCTING PLATFORM 2½ HRS

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 200 | GL | 12.0 |
| 150 | 12.0 | 20.0 |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# Northwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 29/2/84

TOWN Bury
SITE NAME HIGHER BARN FARM
JOB No.
BOREHOLE No. 203
EQUIPMENT IN USE PINCON
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | 0·0 |
| DISTURBED SAND AND CLAY | | | | | 3·7 |
| BROWN SANDSTONE | | | | | |
| MOVING AND CONSTRUCTING PLATFORM FROM 207 TO 203 2½ HRS | | | | | |
| DRILLING 0·0 - 4·0 ½ HR. | | | | | |
| GROUTING B/H 203 AND TOPPING UP B/H 207 1½ HRS | | | | | |
| MATERAILS USED 4 CEMENT 2 BENTONITE | | | | | |
| MOVING PLATFORM AND DRILLING EQUIPMENT FROM BH. 203 TO 231 3½ HRS | | | | | |
| End of days drilling | | | | | 4·0 |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | MOVING | | | | | 8·30 - 11·00 |
| | | | | | | DRILLING | | | | | 11·0 - 11·30 |
| | | | | | | GROUTING | | | | | 11·30 - 1·00 |
| | | | | | | MOVING | | | | | 1·30 - 5·00 |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | 0·0 | 4·0 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| MOIST. | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

SIGNATURES
DRILLER P Mawer
CLIENT G.M. Clayton

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

# Newcast Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 28-2-84

TOWN BURY
SITE NAME HIGHER BARN FARM
JOB No. .....
BOREHOLE No. 180
EQUIPMENT IN USE DANDO
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | SL | | | | | | | | | | | MOVING 8.30-11.00 |
| WET FINE BROWN SILTY SAND. | | | | | | | | | | | | | | | | DRILLING 11.00-6.00 |
| ALTERNATE BANDS OF FIRM BROWN SILTY BOULDER CLAY AND WET BROWN SILTY SAND. | | | | | 8.3 | | | | | | | | | | | |
| MOVING AND ERECTING PLATFORM BH189 TO BH180 @ 2½ HRS | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 12.0 | | | | | | | | | | | |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 200 SE | SL | 12.0 |
| 150 | SL | 12.0 |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| STRUCK | | | SL | MED. | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# N w st H lst S il Engin ring Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN BURY
SITE NAME HIGHER BARN FARM
JOB No.
BOREHOLE No. 131
EQUIPMENT IN USE PILCON
VEHICLE No.

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 28/2/84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | Start of days drilling | | | | 0·0 | | | | | | | | | | | | |
| LOOSE WET BROWN SILTY SAND | | | | | 8·4 | | | | | | | | | | | | |
| STIFF BROWN SILTY BOULDER CLAY | | | | | 21·7 | | | | | | | | | | | | |
| COARSE GRAINED GREY AND BROWN SANDSTONE | | | | | | | | | | | | | | | | | |
| DRILLING FROM 0·0 - 10·5 | | | | | 8·30 - 12·30 | | | | | | | | | | | | |
| DRILLING FROM 10·5 - 22·0 | | | | | 1·00 - 3·30 | | | | | | | | | | | | |
| MIXING AND INJECTING GROUT | | | | | 3·30 - 6·00 | | | | | | | | | | | | |
| MATERIALS USED 14 CEMENT. 7 BENTONITE. | | | | | | | | | | | | | | | | | |
| SHOW SAMPLES THUS : | End of days drilling | | | | 22·0 | | | | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | 0·0 | 21·0 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| STRUCK | | | 21·7 | MED | 19·5 |
| FINNAL LEVEL | | | 17·5 | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| GROUTING | 22·0 | 0·0 | 2½ Hrs |
| | | | |
| | | | |
| | | | |
| | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# N w st H ist il Engin ring Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 27/2/84

TOWN BURY
SITE NAME HIGHER BARN FARM
JOB No.
BOREHOLE No. [redacted] 207
EQUIPMENT IN USE PINCON
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T 0 to 75 mms. | 75 to 150 mms. | 150 to 225 mms. | 225 to 300 mms. | 300 to 375 mms. | 375 to 450 mms. | 450 to 500 mms. | |
| Start of days drilling | | | | | 0·0 | | | | | | | | | | | | |
| [redacted] DISTUREBED BROWN SAND AND CLAY | | | | | 7·1 | | | | | | | | GROUTING | | | | 10·30 - 11·30 |
| BROWN AND GREY SHALE | | | | | | | | | | | | | MOVING | | | | 11·30 - 1·00 |
| GROUTING B/H 208 1 HR. | | | | | | | | | | | | | DRILLING | | | | 1·30 - 2·00 |
| MOVING FROM B/H 208 TO [redacted] 207 1½ HRS. | | | | | | | | | | | | | GROUTING | | | | 2·00 - 3·30 |
| ~~DRILLING~~ [redacted] B/H 207 ½ HR. | | | | | | | | | | | | | MOVING | | | | 3·30 - 5·30 |
| GROUTING BH 207 1½ HRS. | | | | | | | | | | | | | | | | | |
| MOVING FROM 207 TO 181 2 HRS. | | | | | | | | | | | | | | | | | |
| MAT ÷ USED IN B/H 208 6 CEMENT 3 BENTONITE | | | | | | | | | | | | | | | | | |
| MAT ÷ USED IN B/H 207 4 CEMENT 2 BENTONITE | | | | | | | | | | | | | | | | | |
| SHOW SAMPLES THUS : End of days drilling | | | | | 7·5 | | | | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | 0·0 | 7·0 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| MOIST. | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Read |
|---|---|---|---|---|---|
| | | | | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [redacted]
CLIENT

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 27-2-84

TOWN Bury
SITE NAME HOMER BARN FARM
JOB No.
BOREHOLE No. 189
EQUIPMENT IN USE DANDO
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | GL | | | | | | | | | | | | |
| DISTURBED SAND & CLAY | | | | | 8.0 | | | | | GROUTING BH204 | | | | | | | 11.30-12.30 |
| BROWN SANDSTONE | | | | | | | | | | MOVING BH204 TO BH189 | | | | | | | 1.00-3.00 |
| | | | | | | | | | | DRILLING GL TO 8.5 | | | | | | | 3.00-4.00 |
| | | | | | | | | | | GROUTING BH189 | | | | | | | 4.00-5.30 |
| INJECTING GROUT BH204 1HR MATERIALS USED. 2 CEMENT 1 BENTONITE (BASS) | | | | | | | | | | | | | | | | | |
| MOVING AND ERRECTING PLATFORM BH204 TO BH189. 2HRS. | | | | | | | | | | | | | | | | | |
| INJECTING GROUT BH189 1½HRS MATERIALS USED. 4 CEMENT 1 BENTONITE. (BASS) | | | | | | | | | | | | | | | | | |
| SHOW SAMPLES THUS : | End of days drilling | | | | 8.5 | | | | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | GL | 8.5 |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| MOIST. | | | | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# North West Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 24-2-84

TOWN BURY
SITE NAME HIGHER BARN FARM
JOB No.
BOREHOLE No. 208
EQUIPMENT IN USE FALCON
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | 0·0 |
| LOOSE WET BROWN SAND AND CLAY | | | | | 8·7 |
| BROWN SANDSTONE | | | | | |
| End of days drilling | | | | | 9·5 |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | 0·0 | 9·0 |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| WATER AT | 1·0 METER | | WHILE DRILLING | | |
| SEALED | | | 9·0 | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# Northwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 24-2-84

TOWN BURY
SITE NAME HIGHER BARN FARM
JOB No.
BOREHOLE No. 204
EQUIPMENT IN USE DANDO
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | GL | | | | | | | | | | | | |
| DISTURBED | SAND & CLAY | | | | 4.2 | | | | | | | | | | | | |
| | BROWN SANDSTONE | | | | | | | | | | | | | | | | |
| MOVING RIG & DRILLING EQUIPMENT BH209 TO 204 1HR. | | | | | | | | | | | | | | | | | |
| SHOW SAMPLES THUS : End of days drilling | | | | | 6.0 | | | | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | GL | 4.5 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# N w st H lst il Engin ring Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN BURY
SITE NAME HIGHER BARN FARM
JOB No.
BOREHOLE No. 206
EQUIPMENT IN USE RICON
VEHICLE No.

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 23/2/84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | Start of days drilling | | | | 0·0 | | | | | | | | | | | | MOVING 11·30 - 1·00 |
| DISTURBED | | SAND | AND | CLAY | 9·5 | | | | | | | | | | | | DRILLING |
| BROWN | | SANDSTONE | | | | | | | | | | | | | | | [redacted] |
| MOVING | AND | CONSTRUCTING | | | | | | | | | | | | | | | [redacted] 1·30 - 2·15 |
| PLATFORM | | | | 1½HRS | | | | | | | | | | | | | GROUTING |
| DRILLING | 0·0 - 10·0 | | | ¾ HR | | | | | | | | | | | | | 2·15 - 3·30 |
| MIXING | AND | IJECTING | GROUT. | | 1¼HRS. | | | | | | | | | | | | |
| MAT ÷ | 6 | CEMENT | 3 | BENTONITE. | | | | | | | | | | | | | MOVING TO B/H 208 |
| | | | | | | | | | | | | | | | | | 3·30 - 6·00 |
| MOVING | AND | CONSTRUCTING | | | | | | | | | | | | | | | |
| PLATFORM | FROM | B/H | 206 | | | | | | | | | | | | | | |
| TO | 208 | 2½ HRS. | | | | | | | | | | | | | | | |
| | End of days drilling | | | | 10·0 | | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| | | |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER T Hawes
CLIENT G Barry Clerk of Works

# N w st H lst il Engin ring Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN Bury
SITE NAME HEATON BASIN FRAN
JOB No.
BOREHOLE No. 1A
EQUIPMENT IN USE
VEHICLE No.

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 23/2/84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | Start of days drilling | G.L. | | | | | | | | | | | | |
| SAND & CLAY - D/Studard FLUSHING DOWN 2" STEEL SST. PIPE FROM 0.0 – 4.0 M AND INJECTING GROUT 1HR. | | | | | 2.00 | | | | | | | | | | | | TOPPING UP B/HS 8.30-10.30 FLUSHING 10.30-11.30 |
| TOP UP PREVIOUS B/H'S 2HR. | | | | | | | | | | | | | | | | | |
| MAT ÷ USED BH 199 2 CEMENT. 1 BENTONITE. | | | | | | | | | | | | | | | | | |
| MAT ÷ USED TOPPING UP. PREVIOUS B/H'S 2 CEMENT. 1 BENTONITE. | | | | | | | | | | | | | | | | | |
| | | | | End of days drilling | | | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| | | |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# N w st H lst S il Engin ring Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN BURY
SITE NAME HIGHER BARN FARM
JOB No. .....
BOREHOLE No. 209
EQUIPMENT IN USE DANDO
VEHICLE No. .....

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 23-2-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | Start of days drilling | SL | | | | | | | | | | | | 11.00-1.00 MOVING |
| | | | | DISTURBED SAND & CLAY WEATHERED GREY SHALE | 3.3 | | | | | | | | | | | | 1.30-3.30 DRILLING |
| | | | | MOVING AND ERECTING PLATFORM 2HRS | | | | | | | | | | | | | 3.30-5.00 GROUTING |
| | | | | INJECTING GROUT. 1½HRS MATERIALS USED. 4 BAGS OF CEMENT. 2 BAGS OF BENTONITE. | | | | | | | | | | | | | 5.00-6.00 MOVING |
| | | | | MOVING GIRDERS AND DECKING FROM BH209 TO BH204 INC | | | | | | | | | | | | | |
| | | | | End of days drilling | 6.0 | | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | SL | 6.0 |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| STRUCK | | | 2.5 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# N w st H lst S il Engin ring Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 23-2-84

TOWN Bury
SITE NAME HIGHER BARN FARM
JOB No.
BOREHOLE No. 184
EQUIPMENT IN USE DANDO
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | GL | | | | | | | | | | | | 8.30-9.00 MOVING |
| DISTURBED SAND & CLAY | | | | | 8.0 | | | | | | | | | | | | 9.00-9.30 DRILLING |
| BROWN SANDSTONE | | | | | | | | | | | | | | | | | 9.30-11.00 GROUTING |
| MOVING RIG & DRILLING EQUIPMENT BH198 - 184 8½HR | | | | | | | | | | | | | | | | | |
| INJECTING GROUT 1½HRS | | | | | | | | | | | | | | | | | |
| MATERIALS USED. 6 BAGS OF CEMENT 3 BAGS of BENTONITE. | | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 9.0 | | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | GL | 9.0 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| STRUCK | | | 7.0 | MED | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

SIGNATURES
DRILLER
CLIENT

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

# North West Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 22/2/84

TOWN BURY
SITE NAME HIGHER BARN FARM
JOB No.
BOREHOLE No. 201
EQUIPMENT IN USE RICON
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | REMARKS |
|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | |
| Start of days drilling | | | | | 0·0 | MOVING 1·30-3·00 |
| DISTUREBED CLAY AND SAND | | | | | 6·8 | DRILLING 3·00-3·30 |
| BROWN SANDSTONE | | | | | | GROUTING 3·30-5·30 |
| MOVING AND CONSTRUCTING PLATFORM 1½ HRS | | | | | | |
| DRILLING 0·0 - 7·5 ½ HR | | | | | | |
| MIXING AND INJECTING GROUT. 2HRS | | | | | | |
| MAT ÷ 4 CEMENT. 2 BENTONITE | | | | | | |
| End of days drilling | | | | | 7·5 | |

| SAMPLES | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 |
| | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| | | |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER P Hayward
CLIENT G. Eng. Clayton

# N w st H lst S il Engin ring Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 22/2/84

TOWN BURY
SITE NAME HIGHER BARN FARM
JOB No.
BOREHOLE No. 197
EQUIPMENT IN USE PINCON
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | 0.0 |
| DISTURBED BROWN CLAY AND SAND. | | | | | |
| BROWN SAND STONE | | | | | 5.8 |
| MOVING AND CONSTRUCTING PLATFORM 8.30 - 10.30 (2HRS) | | | | | |
| DRILLING FROM 0.0 - 6.5 (½ HR) | | | | | |
| MIXING AND INJECTING GROUT. (1½ HRS) | | | | | |
| MATERAILS USED 4 CEMENT 2 BENTONITE. | | | | | |
| End of days drilling | | | | | 6.5 |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | MOVING 8.30-10.30 DRILLING 10.30-11.00 GROUTING 11.00-11.30 |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| | | |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

SIGNATURES
DRILLER
CLIENT

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

# N w st H lst S il Engin ring Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 22-2-84

TOWN BURY
SITE NAME HIGHER BRANDLES
JOB No. BH198
BOREHOLE No. [redacted]
EQUIPMENT IN USE DANDO
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | GL |
| DISTURBED CLAY & SAND. | | | | | 4.3 |
| BROWN SANDSTONE | | | | | |
| TOPPING UP BH205 1HR MATERIALS USED. 2 BAGS OF CEMENT 1 BAG OF BENTONITE | | | | | |
| MOVING BH 205 TO BH 198 1½ HRS | | | | | |
| INJECTING GROUT BH198 1HR MATERIALS USED 4 BAGS OF CEMENT 1 BAG OF BENTONITE. | | | | | |
| MOVING GIRDERS AND DECKING FROM BH198 TO BH184 | | | | | |
| End of days drilling | | | | | 8.0 |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | 10.30-11.30 GROUTING BH205 |
| | | | | | | | | | | | 11.30-1.00 MOVING |
| | | | | | | | | | | | 1.00-1.45 DRILLING |
| | | | | | | | | | | | 3.30-4.30 GROUTING |
| | | | | | | | | | | | 4.30-5.30 MOVING |

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | GL | 6.0 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# North West Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN .....
SITE NAME .....
JOB No. .....
BOREHOLE No. 183
EQUIPMENT IN USE .....
VEHICLE No. .....

DATE + TIME OF START/FINISH 2.2.84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | Start of days drilling | | | | | | | | | | | | |
| Drilled clay and silt | | | | | 3.7 | | | | | | | | | | | | |
| Hand dug to 4.6m | | | | | | | | | | | | | | | | | |
| MOVING AND CONSTRUCTING Datum 14.48 | | | | | | | | | | | | | | | | | |
| INJECTING GROUT. THE MATERIALS USED 2 BAGS OF CEMENT 1 BAG OF BENTONITE | | | | | | | | | | | | | | | | | |
| | | | | | End of days drilling | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| | GL | |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# N[illegible]t H[illegible]lst [illegible]il Engin[illegible]ring Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN [illegible]
SITE NAME [illegible]
JOB No. .....
BOREHOLE No. .....
EQUIPMENT IN USE [illegible]
VEHICLE No. .....

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 21-6-94

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 160 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | Start of days drilling | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | End of days drilling | | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standerd Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| | | |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [illegible] CLIENT [illegible]

# N[illegible]est H[illegible]ist [illegible]il Engin[illegible]ring Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN .....
SITE NAME .....
JOB No. .....
BOREHOLE No. .....
EQUIPMENT IN USE .....
VEHICLE No. .....

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | | | | | | | |
| Start of days drilling | | | | | | | | | | | | | | | | | |
| DISTURBED SAND & CLAY | | | | | TO | | | | | | | | | | | | |
| [illegible] | | | | | 7.1 | | | | | | | | | | | | |
| YELLOW BROWN SANDSTONE | | | | | | | | | | | | | | | | | |
| INJECTING GROUT BH188 1HR | | | | | | | | | | | | | | | | | |
| MATERIALS USED 2 BAGS OF CEMENT 1 BAG OF BENTONITE | | | | | | | | | | | | | | | | | |
| MOVING AND CONSTRUCTING PLATFORM BH195 TO BH205 1½HRS | | | | | | | | | | | | | | | | | |
| INJECTING GROUT BH205 ¾HR | | | | | | | | | | | | | | | | | |
| MATERIALS USED 4 BAGS OF CEMENT 1 BAG OF BENTONITE | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| [illegible] | GL | [illegible] |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| DRY | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# North Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN .....
SITE NAME .....
JOB No. .....
BOREHOLE No. .....
EQUIPMENT IN USE .....
VEHICLE No. .....

DATE + TIME OF START/FINISH 20-2-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | Start of days drilling | 0.0 | | | | | | | | | | | | |
| DISTURBED BROWN CLAY AND SAND | | | | | 2.3 | | | | | | | | | | | | |
| BROWN SANDSTONE. | | | | | | | | | | | | | | | | | |
| MIXING AND INJECTING GROUT. 1HR. | | | | | | | | | | | | | | | | | |
| MATC 1 CEMENT 1½ BENTONITE. | | | | | | | | | | | | | | | | | |
| | | | | End of days drilling | 4.5 | | | | | | | | | | | | |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | 0.0 | 3.5 |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# N[illegible]rt H[illegible]lst S[illegible]il Engin[illegible]ring Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 20/4/84

TOWN [illegible]
SITE NAME [illegible]
JOB No. .....
BOREHOLE No. [illegible]
EQUIPMENT IN USE [illegible]
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | 0 |
| MIXING AND INJECTING GROUT. B/H 190 AND 202. 1HR. MATERIALS :- CEMENT. 1½ - BENTONITE. | | | | | 21 |
| BROWN SANDSTONE | | | | | |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | [illegible] [illegible] [illegible] [illegible] 210 - 315 |

SHOW SAMPLES THUS : End of days drilling

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | 0.0 | [illegible] |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [illegible]
CLIENT [illegible]

# [illegible] Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN Bulk
SITE NAME [illegible]
JOB No. .....
BOREHOLE No. [illegible]
EQUIPMENT IN USE [illegible]
VEHICLE No. .....

DATE + TIME OF START/FINISH 20-2-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | Start of days drilling 0·0 | | | | | | | | | | | |
| DISTURBED BROWN CLAY AND SAND | | | | | 2·9 | | | | | | | | | | | |
| BROWN SANDSTONE | | | | | | | | | | | | | | | | |
| MOVING AND CONSTRUCTING PLATFORM 1½ HRS. | | | | | | | | | | | | | | | | |
| | | | | | End of days drilling 3·0 | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | 0·0 | 3·0 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [illegible]
CLIENT [illegible]

# North West Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 20-2-84

TOWN BURY
SITE NAME HIGHER BURN FARM
JOB No.
BOREHOLE No. 188
EQUIPMENT IN USE
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m. | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | GL | | | | | | | | | | | MOVING 0400-530 |
| FILLED STONE. | | | | | 2.0 | | | | | | | | | | | 530-600 DRILLING |
| DISTURBED CLAY & SAND. | | | | | 5.4 | | | | | | | | | | | |
| DARK GREY SHALE | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 6.0 | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | GL | 6.0 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# North Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN .....
SITE NAME .....
JOB No. .....
BOREHOLE No. .....
EQUIPMENT IN USE .....
VEHICLE No. .....

DATE + TIME OF START/FINISH 20-2-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | Start of days drilling | | | | 0 | | | | | | | | | | | | |
| DISTURBED BROWN CLAY AND (SAND) | | | | | 21 | | | | | | | | | | | | |
| BROWN SANDSTONE | | | | | | | | | | | | | | | | | |
| INJECTING GROUT 1½ HRS. | | | | | | | | | | | | | | | | | |
| MATERIALS USED 2 CEMENT 1 BENTONITE | | | | | | | | | | | | | | | | | |
| | End of days drilling | | | | 21 | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standerd Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | 0·0 | 2·2 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# N[illegible]t H[illegible]lst S[illegible]il Engin[illegible]ring Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH [illegible]

TOWN [illegible]
SITE NAME [illegible]
JOB No. [illegible]
BOREHOLE No. [illegible]
EQUIPMENT IN USE [illegible]
VEHICLE No. [illegible]

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | 0 | | | | | | | | | | | MOVING 2.00-3[illegible] DRILLING 3.00-3[illegible] [illegible] 3.15-4[illegible] |
| DISTURBED CLAY & SAND | | | | | 27 | | | | | | | | | | | |
| BROWN SAND | | | | | | | | | | | | | | | | |
| MOVING RIG TO BH 185 1HR | | | | | | | | | | | | | | | | |
| INJECTING GROUT. 3 T/HR MATERIALS USED. 4 BAGS OF CEMENT 2 BAGS OF BENTONITE. | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 30 | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 12 | GL | 30 |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [illegible]
CLIENT [illegible]

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 2-2-88

TOWN
SITE NAME
JOB No.
BOREHOLE No.
EQUIPMENT IN USE
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | 0 |
| DRILLED 0-4.0 | | | | | 4.0 |
| BLACK GREY SHALE | | | | | |
| MUNING AND CONSTRUCTING PLATFORM BH186 TO BH187 1½HR | | | | | |
| INJECTING GROUT 1HR | | | | | |
| MATERIALS USED. 2BAGS OF CEMENT 1BAG OF BENTONITE. | | | | | |
| End of days drilling | | | | | 4.0 |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | 11.00-17.00 [illegible] |
| | | | | | | | | | | | 17.30-18.00 [illegible] |
| | | | | | | | | | | | 1.00-2.00 GROUTING |

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | GL | 4.0 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# North Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN Ferrybridge
SITE NAME A1(M) Ferrybridge
JOB No.
BOREHOLE No. 10/6
EQUIPMENT IN USE 2
VEHICLE No.

DATE + TIME OF START/FINISH 20-2-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse / Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | |
| FILLED STONE AND BRICKS | | | | | 2.3 |
| DARK GREY SHALE | BROWN | | | | 4.5 |
| MOVING AND CONSTRUCTING PLATFORM FROM BH87 - BH86. | | | | | |
| INJECTING GROUT. 3/4 HR. MATERIALS USED 2 BAGS OF CEMENT 1 BAG OF BENTONITE. | | | | | |
| End of days drilling | | | | | 3.0 4.5 |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | 8.30-10.00 MOVING |
| | | | | | | | | | | | 10.00-15.15 DRILLING |
| | | | | | | | | | | | 15.15-11.00 MOVING |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | 9L | 4.5 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER W Mawson
CLIENT

# North Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 18-2-84

TOWN ...
SITE NAME ...
JOB No. ...
BOREHOLE No. ...
EQUIPMENT IN USE ...
VEHICLE No. 2

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | |

GROUTING GROUT BH182 1HR MATERIALS USED 2 BAGS OF CEMENT 1 BAG OF BENTONITE

INJECTING GROUT BH193 1HR MATERIALS USED 2 BAGS OF CEMENT 1 BAG OF BENTONITE

MOVING AND CONSTRUCTING PLATFORM BH193 TO BH191 2HRS.

| SAMPLES | | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | | 12.30-1.30 CARRYING OUT LUNCH HOURS |
| | | | | | | | | | | | | 1.30-1.30 GROUTING BH182 |
| | | | | | | | | | | | | 1.30-1.30 GROUTING BH193 |
| | | | | | | | | | | | | 1.30-3.30 MOVING BH193 TO BH191 |

SHOW SAMPLES THUS : End of days drilling

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| | | |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER ...
CLIENT ...

**Norwest Holst Soil Engineering Ltd.** STONE

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

# SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 17-2-84

TOWN [illegible]
SITE NAME [illegible]
JOB No. 182
BOREHOLE No. [illegible]
EQUIPMENT IN USE [illegible]
VEHICLE No.

| DESCRIPTION OF STRATA | DEPTH to base of STRATA m | REMARKS |
|---|---|---|
| Start of days drilling | GL | 8.30 - 9.00 [illegible] GL - 3.5 |
| Fill: STONE AND CLAY | 2.8 | [illegible] - 12.30 GROUTING BHS 251 TO 265 |
| HARD GREY SHALE | | 12.30 - 2.00 GROUTING S.I. HOLE |
| TOPPING BH'S 251 TO 265 3½HRS MATERIALS USED 4 BAGS OF CEMENT 2 BAGS OF BENTONITE | | |
| GROUTING SITE INVESTIGATION HOLE THAT HAD COLLAPSED 1½ HRS MATERIALS USE 4 BAGS OF CEMENT 2 BAGS OF BENTONITE | | |
| End of days drilling | 3.5 | |

SAMPLES: No./Type | Penetration m From / To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 — (no entries)

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

## CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | GL | 3.0 |

## WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

## DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [signature]
CLIENT [signature]

# N[illegible]t H[illegible]lst [illegible]il Engin[illegible]ring Ltd.

STONE

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN [illegible]
SITE NAME [illegible] GREEN PARK
JOB No. .....
BOREHOLE No. 193
EQUIPMENT IN USE [illegible]CON
VEHICLE No. (2)

DATE + TIME OF START/FINISH 11-2-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | Start of days drilling | SL | | | | | | | | | | | | 2·30-10·30 HOURS |
| FILLED | STONE | & | CLAY | | 3·1 | | | | | | | | | | | | 1·3-11·5 HOURS ON 45 |
| DARK | GREY | SHALE | | | | | | | | | | | | | | | |
| MIXING AND CONSTRUCTING PLATFORM 2HRS | | | | | | | | | | | | | | | | | |
| BH193 TO BH193 | | | | | | | | | | | | | | | | | |
| | | | | End of days drilling | -1·5 | | | | | | | | | | | | |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | SL | -1·5 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| STRUCK | | | SL | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

SIGNATURES
DRILLER [illegible]
CLIENT [illegible]

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

# North Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN RUSH
SITE NAME [illegible]
JOB No. .....
BOREHOLE No. 195
EQUIPMENT IN USE [illegible]
~~VEHICLE No.~~ RIG 2

DATE + TIME OF START/FINISH 16-2-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | SL | | | | | | | | | | | 3.00-4.30 Pinning |
| DISTURBED CLAY & SAND | | | | | 2.8 | | | | | | | | | | | 11.30-5.00 Pinning |
| GREY SANDSTONE | | | | | | | | | | | | | | | | Socket Coring |
| PINNING AND ERECTING PLATFORM FROM BH265 TO BH195 1½ HRS | | | | | | | | | | | | | | | | |
| INSECTING SOCK. 1HR MATERIALS USED 1½ BAGS OF CEMENT ¾ BAG OF BENTONITE | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 4.5 | | | | | | | | | | | |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | SL | 4.0 |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# N[illegible]st H[illegible]lst S[illegible]il Engin[illegible]ring Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN [illegible]
SITE NAME [illegible]
JOB No. [illegible]
BOREHOLE No. [illegible]
EQUIPMENT IN USE [illegible]
VEHICLE No. [illegible] (2)

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 16-2-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | C[illegible] |
| DISTURBED CLAY & STONE | | | | | 5.0 |
| BLACK SHALE | | | | | |
| INJECTING GROUT 1½ HRS | | | | | |
| MATERIALS USED. 2 BAGS OF CEMENT 1 BAG OF BENTONITE. | | | | | |
| End of days drilling | | | | | [illegible] |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | 12.30-1.30 DRILLING SL to 5.5 |
| | | | | | | | | | | | 2.30-3.00 GROUTING |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | SL | 5.5 |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [illegible] CLIENT [illegible]

STONE FILLED.

# North East Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 16.2.84

TOWN Rowy
SITE NAME [illegible]
JOB No. .....
BOREHOLE No. 192
EQUIPMENT IN USE [illegible]
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | Start of days drilling | SL | | | | | | | | | | | | 1.30-3.00 MOVING BACK TO BH192. |
| FILL | STONE | SILT | AND | SAND | 4.2 | | | | | | | | | | | | 3.00-3.30 DRILLING SL TO 5.0 |
| BLACK | SHALE | AND | FINES | | | | | | | | | | | | | | 3.30-4.30 GROUTING |
| MOVING FROM BH204 TO BH192 AND CONSTRUCTING PLATFORM 1½HRS | | | | | | | | | | | | | | | | | 4.30-5.00 MOVING BH192 TO BH182 |
| INJECTING GROUT 1 HR MATERIALS USED 1½ BAGS OF CEMENT ¾ BAG OF BENTONITE. | | | | | | | | | | | | | | | | | |
| MOVING FROM BH192 TO BH182 AND CONSTRUCTING PLATFORM 1½ HRS | | | | | | | | | | | | | | | | | |
| | | | | End of days drilling | | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| [illegible] | SL | 16.5 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| STRUCK | | | SL | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [signature] CLIENT [signature]

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN .....
SITE NAME .....
JOB No. .....
BOREHOLE No. 264
EQUIPMENT IN USE .....
VEHICLE No. .....

DATE + TIME OF START/FINISH 16-2-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | 6.0 |
| DISTURBED CLAY & SAND | | | | | 5.7 |
| DARK CLAYEY SILTY RECORDS WITH [illegible] | | | | | |
| INSERTING LIGHT INK | | | | | |
| MATERIALS USED 4 BAGS OF CEMENT & BAGS OF BENTONITE | | | | | |
| End of days drilling | | | | | 9.0 |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | 8.30-9.00 Drilling 6.0-9.0 Stopped 4.00-10.00 |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| [illegible] | 0 | 9.0 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT [signature]

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN Bury
SITE NAME Higher Barn Farm
JOB No. .....
BOREHOLE No. 254
EQUIPMENT IN USE Dando
VEHICLE No. .....

DATE + TIME OF START/FINISH 16-2-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff | Colour | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. | Penetration m | | u blows | S.P.T./C.P.T mms. | | | | | | | |
| Loose/Dense | Fine - Coarse Medium | | | | | Type | From | To | | 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | Start of days drilling | | | | | | | | | | | | | | |

FLUSHING DOWN 2" GAS PIPE AND INJECTING GROUT. 1HR. MATERIALS USED 1 BAG OF CEMENT ½ BAG OF BENTONITE.

2" PIPE FLUSHED DOWN TO 4·0 METRES

SHOW SAMPLES THUS : End of days drilling

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| | | |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# [illegible]rwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH .....

TOWN .....
SITE NAME .....
JOB No. .....
BOREHOLE No. 260
EQUIPMENT IN USE .....
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | Start of days drilling | | | | | | | | | | | | | |
| FLUSHING DOWN 4" CASING AND INSERTING SPOUT TUBE. MATERIALS USED 1 BAG OF CEMENT ½ BAG OF BENTONITE. 3" PIPE FLUSHED DOWN TO 4.0 METRES | | | | | | | | | | | | | | | | | |
| | | | | End of days drilling | | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| | | |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

DRILLER TO REDO with details 262, 254

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 16-2-84

(34)

TOWN ..... CARR FARM
SITE NAME .....
JOB No. ..... 254
BOREHOLE No. .....
EQUIPMENT IN USE .....
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | 6.0 | | | | | | | | | | | | DRILLING 6.0-9.0 3.30-9.00 |
| DISTURBED CLAY & SAND | | | | | 6.3 | | | | | | | | | | | | GROUTING BH 246 9.00-10.00 |
| BLACK CLAYEY SAND FLUSHINGS HARDER WITH DEPTH | | | | | | | | | | | | | | | | | INSECTING GROUT BH2 1100-11.0 |
| INSECTING GROUT BH264 1HR MATERIALS USED 4 BAGS OF CEMENT 2 BAGS OF BENTONITE. | | | | | | | | | | | | | | | | | INSECTING GROUT BH260 11.00-12.00 |
| FLUSHING DOWN 2" GAS PIPE AND ~~INSECTING~~ GROUT. BH260 1HR MATERIALS USED 2 BAS OF CEMENT ½ BAG OF BENTONITE. | | | | | | | | | | | | | | | | | INSECTING GROUT BH254 12.00-1.00 |
| FLUSHING DOWN 2" GAS PIPE AND INSECTING GROUT BH254 1HR MATERIALS USED 1 BAG OF CEMENT ½ BAG OF BENTONITE | | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 9.0 | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | GL | 9.0 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| INSECTING GROUT BH259 | | | 1 |
| MATERIALS USED 2 BAGS OF | | | |
| CEMENT 1 BAG OF BENTONITE | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 16-2-94

TOWN Bury
SITE NAME [illegible]
JOB No.
BOREHOLE No. 259
EQUIPMENT IN USE [illegible]
VEHICLE No.

| DESCRIPTION OF STRATA (Soft/Firm/Stiff, Loose/Dense; Colour; Fine - Coarse Medium; Clayey Silty Sandy etc.; SOIL TYPE; Sand bands Cobbles etc.) | DEPTH to base of STRATA m | SAMPLES (No./Type; Penetration m From/To; U blows; S.P.T./C.P.T. mms. 0 to 75, 75 to 150, 150 to 225, 225 to 300, 300 to 375, 375 to 450, 450 to 500) | REMARKS |
|---|---|---|---|
| Start of days drilling | GL | | 8.30-9.30 MOVING |
| DISTURBED CLAY & SAND | 2.1 | | 9.30-9.45 [illegible] 9L-2.5 |
| BLACK SHALE | | | 11.[illegible] MOVING |
| CONSTRUCTING PLATFORM AND MOVING RIG TO THIS BH. 1HR | | | |
| MOVING AND CONSTRUCTING PLATFORM BH259 TO BH265 1½HRS | | | |
| 186 / 187 / 188 / 191 | | | |
| (grouting of 259.) 190 / 202 | | | |
| BHs ? 260 / 254 / 255 / 257 [illegible] — 193 / 194 / 196 | | | |
| End of days drilling | 2.5 | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| [illegible] | GL | 2.5 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [signature] CLIENT [signature]

# Dorwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN Hull
SITE NAME Hull Farm
JOB No. 33
BOREHOLE No. 264
EQUIPMENT IN USE D
VEHICLE No.

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 15-2-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | GL | | | | | | | | | | | | Drilling GL to 6.0 @ 10.30 SBO |
| DISTURBED CLAY & SAND. | | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 6.0 | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | GL | 6.0 |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# Cherwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 15-2-84

TOWN [illegible]
SITE NAME .....
JOB No. .....
BOREHOLE No. .....
EQUIPMENT IN USE .....
VEHICLE No. .....

32

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | GL | | | | | | | | | | | | |
| DISTURBED GRAY SAND | | | | | 2.0 | | | | | | | | | | | | 7.00-7.00 MOVING |
| GREY SANDY SILTY | | | | | | | | | | | | | | | | | 7.00-2.15 DRILLING |
| [redacted] | | | | | | | | | | | | | | | | | 2.15-3.00 GROUTING |
| MOVING RIG FROM BH253 TO 266 1HR | | | | | | | | | | | | | | | | | MOVING TO BH264 |
| GROUTING BH 3/4 HR MATERIALS USED 1 BAG OF CEMENT 1/2 BAG OF BENTONITE | | | | | | | | | | | | | | | | | [redacted] 3.00-4.30 |
| End of days drilling | | | | | | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | GL | 2.0 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [illegible]
CLIENT [illegible]

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN Bulk
SITE NAME HEATON GRANGE FARM
JOB No. 31
BOREHOLE No. 25
EQUIPMENT IN USE DANDO
VEHICLE No.

DATE + TIME OF START/FINISH 15-2-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse / Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | 9L |
| DISTURBED CLAY & SAND | | | | | 2.0 |
| GREY SANDY SHALE | | | | | |
| MOVING FROM BH251 TO BH253 AND CONSTRUCTING PLATFORM 1½ | | | | | |
| INJECTING GROUT ~~3/4~~ HR | | | | | |
| MATERIALS USED 1 BAG OF CEMENT ½ BAG OF BENTONITE | | | | | |
| End of days drilling | | | | | 2.5 |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | MOVING 10.00-11.30 |
| | | | | | | | | | | | DRILLING 11.30-11.45 |
| | | | | | | | | | | | SHOUTING 11.45-12.30 |
| | | | | | | | | | | | LUNCH 12.30-1.00 |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | 9L | 2.5 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN Pontefract
SITE NAME Baghill Lane, Pontefract
JOB No. .....
BOREHOLE No. 30
EQUIPMENT IN USE .....
VEHICLE No. .....

DATE + TIME OF START/FINISH 15.2.84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | Start of days drilling | GL | | | | | | | | | | | | Drilling 8.30-9.00 |
| | | | | DISTURBED CLAY & SAND. | 5.- | | | | | | | | | | | | Grouting 9.00-10.00 |
| | | | | BLACK SHALE | | | | | | | | | | | | | |
| | | | | End of days drilling | | | | | | | | | | | | | |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | GL | 5.0 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| STRUCK | | | 4 m | Slight | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| INJECTING GROUT MIXING USED 2 BAGS OF CEMENT 1 BAG OF BENTONITE | | | 1 |
| | | | |
| | | | |
| | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# Clerwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 15-2-83

TOWN [illegible]
SITE NAME [illegible]
JOB No. BH261
(29) BOREHOLE No. [illegible]
EQUIPMENT IN USE [illegible]
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 76 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | Start of days drilling | 0·0 | | | | | | | | | | | | MOVING 2·30 - 1·00 |
| DISTURBED BROWN CLAY | | | | | 3·2 | | | | | | | | | | | | DRILLING 1·00 - 4·15 |
| DARK GREY SHALE | | | | | | | | | | | | | | | | | GROUTING 4·15 - 5·00 |
| MOVING TO THIS HOLE 1½ HRS. | | | | | | | | | | | | | | | | | |
| DRILLING B/H ¼ HR | | | | | | | | | | | | | | | | | MOVING RSJ'S 5·30 |
| GROUTING B/H. ¾ HR. | | | | | | | | | | | | | | | | | 5·00 - 5·45 |
| MAT :- 1 CEMENT ½ BAG BENTONITE | | | | | | | | | | | | | | | | | |
| [redacted] | | | | | | | | | | | | | | | | | |
| MOVING RSJ'S AND TIMBER. ¾ HR. | | | | | | | | | | | | | | | | | |
| | | | | End of days drilling | 3·5 | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | 0·0 | 3·0 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

SIGNATURES
DRILLER [illegible]
CLIENT [illegible]

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

# Harwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 15-2-84

TOWN [illegible]
SITE NAME HIGHER BARN FARM
JOB No. [illegible]
28 BOREHOLE No. [illegible]
EQUIPMENT IN USE [illegible]
VEHICLE No. [illegible]

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | 0.0 |
| DISTURBED BROWN CLAY | | | | | 2.3 |
| DARK GREY SHALE | | | | | |
| MOVING TO THIS HOLE 1½ HRS | | | | | |
| DRILLING B/H. ¼ HR. | | | | | |
| GROUTING B/H. ¾ HR. | | | | | |
| MAT ✓ 1 CEMENT. ¼ BAG BENTONITE. injected. | | | | | ✗ |
| | | | | | ✗ |
| End of days drilling | | | | | 3.0 |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | MOVING 11.30-1.00 DRILLING 1.00-1.15 DINNER 1.15-1.45 GROUTING 1.45-2.30 |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | 0.0 | 3.0 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER F Mace
CLIENT Steel Clayton

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 15-2-84

TOWN BURY
SITE NAME WATER BARN FE
JOB No. 252
BOREHOLE No. 27
EQUIPMENT IN USE FALCON
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | Start of days drilling | | 0·0 | | | | | | | | | | | | MOVING 8·30 - 10·00 |
| DISTURBED CLAY AND SAND | | | | | 4·2 | | | | | | | | | | | | DRILLING 10·00 - 10·30 |
| DARK GREY SHALE | | | | | | | | | | | | | | | | | GROUTING 10·30 - 11·30 |
| MOVING TO THIS HOLE 1½ HRS. | | | | | | | | | | | | | | | | | |
| DRILLING B/H ½ HR. | | | | | | | | | | | | | | | | | |
| MIXING AND INJECTING GROUT. 1 HR. | | | | | | | | | | | | | | | | | |
| MAT 2 CEMENT 1 BENTONITE | | | | | | | | | | | | | | | | | |
| | | | End of days drilling | | 4·5 | | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | 6·0 | 4·5 |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

SIGNATURES
DRILLER
CLIENT G.E.M. Clayton

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN Bury
SITE NAME Higher Elton Farm
JOB No. 26
BOREHOLE No. BH25
EQUIPMENT IN USE D.A.N.D.O.
VEHICLE No.

DATE + TIME OF START/FINISH 14-2-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse / Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | GL |
| STIFF BROWN SANDY BOULDER CLAY WITH SAND BANDS | | | | | 3.4 |
| SHALE SANDY SHALE | | | | | |
| MOVING AND CONSTRUCTING PLATFORM FROM BH25 TO BH258 2HRS | | | | | |
| MOVING AND CONSTRUCTING PLATFORM BH 258 TO BH251 1½ HRS | | | | | |
| End of days drilling | | | | | 4.0 |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | 11.00-12.00 GROUTING BH25 |
| | | | | | | | | | | | 12.35-2.30 MOVING TO BH258 |
| | | | | | | | | | | | 2.30-3.00 DRILLING BH258 |
| | | | | | | | | | | | 3.00-4.00 GROUTING BH258 |
| | | | | | | | | | | | 4.00-5.30 MOVING TO BH251 |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 150 | GL | 4.0 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| INJECTING GROUT BH25 MATERIALS USED 4 BAGS OF CEMENT 2 BAGS OF BENTONITE | | | 1 |
| INJ. GROUT BH258 MATERIALS USED 2 CEMENT 1 BAG OF BENTONITE | | | 1 |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# Derwent Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN ..... Bury .....
SITE NAME ..... Higher Farm Park .....
JOB No. .....
(25) BOREHOLE No. ..... 25 .....
EQUIPMENT IN USE ..... Linton .....
VEHICLE No. .....

DATE + TIME OF START/FINISH 14/2/84 .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | Start of days drilling | | 0.0 | | | | | | | | | | | |
| STIFF SANDY BOULDER CLAY | | | | | 6.5 | | | | | | | | | | | |
| LIGHT GREY SHALE | | | | | | | | | | | | | | | | |
| MOVING TO THIS HOLE 1½HR. | | | | | | | | | | | | | | | | |
| DRILLING B/H 1 HR | | | | | | | | | | | | | | | | |
| GROUTING BH 15/2/84 1½ | | | | | | | | | | | | | | | | |
| MAT - 2 CEMENT 1 BENTONITE | | | | | | | | | | | | | | | | |
| SHOW SAMPLES THUS : | | | End of days drilling | | 7.0 | | | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| | | |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| STRUCK | | | 5.2 | FIRED | 4.5 |
| F/L | | | 4.3 | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

SIGNATURES
DRILLER ..... CLIENT .....

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN ..... Pudsey .....
SITE NAME Highfield BARN FARM
JOB No. .....
(24) BOREHOLE No. 2
EQUIPMENT IN USE .....
VEHICLE No. .....

DATE + TIME OF START/FINISH 14/2/84 .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | Start of days drilling | | | | 0.0 | | | | | | | | | | | | |
| DISTURBED SANDY CLAY | | | | | 3.6 | | | | | | | | | | | | |
| LIGHT GREY SHALE | | | | | | | | | | | | | | | | | |
| SETTING RIG UP 1½ HRS | | | | | | | | | | | | | | | | | |
| DRILLING B/H ½ HR. | | | | | | | | | | | | | | | | | |
| MIXING AND INJECTING GROUT. | | | | | 1½ | | | | | | | | | | | | |
| MATERIALS USED 2 CEMENT 1 BENTONITE ALSO TOPPING UP B/H 25? ½ Hr. | | | | | | | | | | | | | | | | | |
| MATERIALS USED 2 CEMENT. 1 BENTONITE. | | | | | | | | | | | | | | | | | |
| | End of days drilling | | | | 4.0 | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | 0.0 | 4.0 |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER ..... CLIENT .....

# Forrest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN ..... BURY .....
SITE NAME ..... HIGHER BROWN PIT .....
JOB No. ..... (23) .....
BOREHOLE No. ..... 352 .....
EQUIPMENT IN USE ..... LOGAN .....
VEHICLE No. .....

DATE + TIME OF START/FINISH 13/14/2/84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | Start of days drilling | 0·0 | | | | | | | | | | | | |
| DISTURBED BROWN SANDY CLAY AND SAND | | | | | 3·3 | | | | | | | | | | | | |
| LIGHT GREY SHALE | | | | | | | | | | | | | | | | | |
| SETTING UP RIG 1½ HRS | | | | | | | | | | | | | | | | | |
| DRILLING B/H ½ HR | | | | | | | | | | | | | | | | | |
| MIXING AND INJECTING GROUT 1½ HRS | | | | | | | | | | | | | | | | | |
| MATERIALS USED 2 CEMENT | | | | | | | | | | | | | | | | | |
| 1 BENTONITE | | | | | | | | | | | | | | | | | |
| | | | | End of days drilling | 4·0 | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | 0·0 | 4·0 |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER ..... CLIENT .....

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 13-2-84

TOWN BURY
SITE NAME HIGHER BARN FARM
JOB No.
(22) BOREHOLE No. BH 2-57
EQUIPMENT IN USE RIDGON
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | Start of days drilling | 0.0 | | | | | | | | | | | | |
| | | | | FILLED CLAY AND SHALE ETC. | 8.7 | | | | | | | | | | | | |
| | | | | LIGHT GREY SHALE | | | | | | | | | | | | | |
| | | | | 11.00 - 1.00 MOVING RIG AND SETTING UP. DRILLING 0.0 - 9.5 1½ HR. GROUTING B/H 1½ | | | | | | | | | | | | | |
| | | | | MATERIALS USED 3 CEMENT 1½ BENTONITE | | | | | | | | | | | | | |
| | | | | End of days drilling | 9.5 | | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 150 | 0.0 | 9.0 |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER Paul
CLIENT G. Crossley

# Forrest Hoist Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN BURY
SITE NAME HIGHER BALL FARM
JOB No. .....
BOREHOLE No. 250 (21)
EQUIPMENT IN USE .....
VEHICLE No. .....

DATE + TIME OF START/FINISH 13-2-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | GL |
| DISTURBED SOIL & CLAY | | | | | 1.5 |
| STIFF BROWN SANDY BOULDER CLAY WITH SAND BANDS | | | | | 6.9 |
| BLACK SHALE | | | | | |
| End of days drilling | | | | | 7.5 |

SHOW SAMPLES THUS :

| SAMPLES | | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | | 2.30-3.30 MOVING RIG<br>3.30-4.30 DRILLING GL-7.5 |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 200 | GL | 7.5 |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| MOVING RIG FROM BH259 TO BH252 | | | 1 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [signature] CLIENT [signature]

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN BURY
SITE NAME HISHEL ROAD EARTH
JOB No. (20)
BOREHOLE No. 259
EQUIPMENT IN USE DANDO
VEHICLE No.

DATE + TIME OF START/FINISH 13-2-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | GL | | | | | | | | | | | | 7.00-8.00 MOVING DRILLING EQUIPMENT |
| DISTURBED | | | SOIL & CLAY | | 1.5 | | | | | | | | | | | | 8.00-12.30 DRILLING GL-7.5 |
| STIFF BROWN SANDY/ BOULDER CLAY WITH SAND BANDS | | | | | 6.9 | | | | | | | | | | | | 12.30-1.00 LUNCH 1.00-2.30 BLASTING |
| BLACK SHALE | | | | | | | | | | | | | | | | | |
| VS : End of days drilling | | | | | 7.5 | | | | | | | | | | | | |

Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| FROM (m) | TO (m) |
|---|---|
| GL | 7.5 |
| | |
| | |

### LOSS/PITS/HARD STRATA etc.

| | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| LOSS EQUIPMENT | | | |
| DRILLING PERSON | | | 2 |
| OUT BH 239 | | | 1½ |
| 3 BAGS OF LOSS OF BENTONITE | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

ENT

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN ..... (19)
SITE NAME ..... ROAD FARM
JOB No. .....
BOREHOLE No. 2
EQUIPMENT IN USE .....
VEHICLE No. .....

DATE + TIME OF START/FINISH 10.2.84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse / Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | Start of days drilling | 0 | | | | | | | | | | | | 8.30-11.00 MOVING DRILLING EQUIPMENT |
| DISTURBED SOIL & CLAY | | | | | 1.5 | | | | | | | | | | | | |
| STIFF BROWN CLAY WITH | | SANDY | BOULDER | SAND BANDS | 7.5 | | | | | | | | | | | | 11.00-1.00 DRILLING SL-11.5 |
| WET BROWN | | CLAYEY | SILTY | SAND | 8.9 | | | | | | | | | | | | 1.30-2.00 LUNCH |
| FIRM BROWN | | SILTY | CLAY | | 10.2 | | | | | | | | | | | | 2.00-3.30 BLASTING BOREHOLE |
| STIFF BROWN | | SANDY | BOULDER CLAY | | 11.0 | | | | | | | | | | | | |
| BLACK SHALE. | | | | | | | | | | | | | | | | | |
| MOVING DRILLING EQUIPMENT AND CONSTRUCTING PLATFORM 2½ HRS | | | | | | | | | | | | | | | | | |
| | | | | End of days drilling | 11.5 | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 200 | GL | 12.5 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| STRUCK | | | 2.0 | MED | |
| STRUCK | | | 7.3 | MED | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| BLASTING BOREHOLE | 11.5 | 12.5 | 1½ |
| MATERIALS USED 4 BAGS OF CEMENT 2 BAGS OF BENTONITE | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER ..... CLIENT .....

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 9-2-84

(18)

TOWN BURY
SITE NAME HIGHER BARN FARM
JOB No. .....
BOREHOLE No. 238
EQUIPMENT IN USE JANDO
VEHICLE No. .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | Start of days drilling | | | | GL | | | | | | | | | | | | |
| DISTURBED | | | SOIL & CLAY | | 1.5 | | | | | | | | | | | | 9.0-10.00 GROUTING BH240 |
| STIFF BROWN SANDY BOULDER CLAY WITH SAND BANDS | | | | | 4.6 | | | | | | | | | | | | 10.0-12.00 GROUTING BH237 |
| STIFF BROWN SILTY CLAY WITH MOIST SAND BANDS | | | | | 7.0 | | | | | | | | | | | | 12.00-1.30 MOVING DRILLING EQUIPMENT |
| BLACK SHALE | | | | | | | | | | | | | | | | | 1.30-2.00 LUNCH |
| MOVING DRILLING EQUIPMENT CONSTRUCTING PLATFORM AND ERECTING RIG 2HRS | | | | | | | | | | | | | | | | | 2.00-2.30 ERECTING RIG |
| GROUTING BH238 1½HRS | | | | | | | | | | | | | | | | | 2.30-3.30 DRILLING GL-7.5 |
| MATERIALS USED. 4 BAGS OF CEMENT 2 BAGS OF BENTONITE | | | | | | | | | | | | | | | | | 3.30-5.00 GROUTING BH238 |
| SHOW SAMPLES THUS : | End of days drilling | | | | 7.5 | | | | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 200 | GL | 7.5 |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| TOPPING UP BH240 WITH GROUT | | | 1 |
| MATERIALS USED 2 BAGS OF CEMENT 1 BAG OF BENTONITE | | | |
| IN [illegible] GROUT BH237 | | | 2 |
| MATERIALS USED 6 BAGS OF CEMENT 3 BAGS OF BENTONITE | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

SIGNATURES
DRILLER [signature] CLIENT [signature]

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 8-2-84

TOWN BURY
SITE NAME HIGHER BAND FARM
JOB No. 17
BOREHOLE No. 234
EQUIPMENT IN USE DANDO
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse / Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | SL |
| DISTURBED TOP SOIL & CLAY | | | | | 1.5 |
| MOIST BROWN CLAYEY SAND WITH BANDS OF SANDY CLAY | | | | | 8.4 |
| STIFF BROWN SANDY BOULDER CLAY | | | | | 10.5 |
| BLACK SHALE | | | | | 10.8 |
| GREY SANDY MUDSTONE | | | | | |
| MOVING DRILLING EQUIPMENT FROM BH240 TO BH234 CONSTRUCTING PLATFORM AND ERECTING RIG 1.00 TO 3.30 2½ HRS | | | | | |
| End of days drilling | | | | | 11.0 |

SHOW SAMPLES THUS :

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 200 | SL | 10.5 |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| TOPPING UP BH242 WITH GROUT MATERIALS USED 2 BAGS OF CEMENT 1 BAG OF BENTONITE | 4.5 | 10.30 | 1 |
| GROUTING GROUT BH240 MATERIALS USED 4 BAGS OF CEMENT 2 BAGS OF BENTONITE | | | 2 |

SIGNATURES 10.30 - 12.30
DRILLER CLIENT

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 7-2-84

TOWN BURY
SITE NAME HIGHER BARN FARM
(16) JOB No.
BOREHOLE No. 240
EQUIPMENT IN USE DANDO
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse / Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | GL |
| DISTURBED SOIL & CLAY | | | | | 1.5 |
| STIFF BROWN SANDY CLAY WITH SAND BANDS | | | | | 5.7 |
| STIFF BROWN SILTY BOULDER CLAY | | | | | 7.8 |
| HARD BROWN CLAYEY SANDY SILT BECOMING MOIST WITH DEPTH | | | | | 12.5 |
| GREY SANDY MUDSTONE | | | | | |
| MOVING DRILLING EQUIPMENT FROM BH 242 TO BH 240 CONSTRUCTING PLATFORM AND ERECTING RIG 1.00 PM TO 3.30 PM 2½ HRS | | | | | |
| End of days drilling | | | | | 12.0 |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 200 | GL | 11.5 |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| TOPPING BH'S NO 248 & 249 WITH GROUT 1 HR MATERIALS USED 2 BAGS OF CEMENT 1 BAG OF BENTONITE | 9.00 | 10.00 AM | |
| INJECTING GROUT BH NO 242 MA[illegible] USED 10 BAGS OF CEMENT 5 BAGS OF BENTONITE | 10.0AM | 12.30 PM | 2½ |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [signature]
CLIENT [signature]

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN ...
SITE NAME ...
JOB No. ...
(15) BOREHOLE No. ...
EQUIPMENT IN USE ...
VEHICLE No. ...

DATE + TIME OF START/FINISH 6-2-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff Loose/Dense | Colour Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| | | | | Start of days drilling | 0 |
| | | | | DISTURBED SOIL & CLAY | 1.5 |
| | | | | BROWN SANDY CLAY WITH SAND BANDS | 5 |
| | | | | INTERMITTENT BANDS OF MOIST BROWN CLAYEY SAND AND STIFF BROWN SILTY CLAY | 11.4 |
| | | | | STIFF BROWN SANDY BOULDER CLAY | 12.5 |
| | | | | GREY SANDY MUDSTONE | |
| | | | | End of days drilling | |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. Type | Penetration m From | To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | CLAY LOOSE DRILLING BETWEEN 0.0 - 1.5 |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 200 | | |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| DIGGING DOWN AND PLACING | | | |
| BOREHOLE CAPS ON BH'S No | | | |
| 243, 243A, 244, 245, 246 & 247 | | | |
| | 9.30 | 11.30 | 2 |
| NO: PILING EQUIPMENT | | | |
| CONSTR. OF PLATFORM AND | | | |
| ERECTION OF RIG | 11.30 | 2.30 | 2½ |

SIGNATURES
DRILLER ...
CLIENT ...

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN BURY
SITE NAME HIGHER BARN FARM
JOB No. (14)
BOREHOLE No. 249
EQUIPMENT IN USE DANDO
VEHICLE No.

DATE + TIME OF START/FINISH 3-2-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | 13.0 | | | | | | | | | | | | |
| FIRM BROWN SILTY CLAY | | | | | 13.2 | | | | | | | | | | | | |
| BROWN SAND & GRAVEL | | | | | 13.5 | | | | | | | | | | | | |
| STIFF BROWN SANDY BOULDER CLAY | | | | | 17.7 | | | | | | | | | | | | |
| YELLOW GREY SANDSTONE. | | | | | | | | | | | | | | | | | |
| TOPPING UP BH'S NO. 243, 243A 244 245 246 & 247. 1½ HRS. MATERIALS USED 48 BAGS OF CEMENT 2 BAGS OF BENTONITE. | | | | | | | | | | | | | | | | | |
| SHOW SAMPLES THUS : | End of days drilling | | | | 18.0 | | | | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 200 | SL | 18.0 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| DRY | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| TOPPING UP BH 248 WITH GROUT | | | 1 |
| MATERIALS USED 2 BAGS OF CEMENT 1 BAG OF BENTONITE. | | | |
| GROUTING BH 249 | | | 2 |
| MATERIALS USED 6 BAGS OF CEMENT 3 BAGS OF BENTONITE | | | |

SIGNATURES
DRILLER Brown
CLIENT G. Bulcock

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

(13)

TOWN ....
SITE NAME ....
JOB No. ....
BOREHOLE No. 249
EQUIPMENT IN USE ....
VEHICLE No. ....

DATE + TIME OF START/FINISH ....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine · Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | |
| DISTURBED SOIL [illegible] | | | | | 1.0 |
| [illegible] BROWN SAND [illegible] CLAY | | | | | 6.3 |
| FIRM BROWN SILTY BOULDER CLAY WITH WET SAND BANDS | | | | | 9.5 |
| STIFF BROWN SILTY BOULDERY CLAY | | | | | |
| MOVING DRILLING EQUIPMENT FROM BH248 TO BH249 CONSTRUCTING PLATFORM AND ERECTING RIG 2½ HRS. | | | | | |
| End of days drilling | | | | | 9.5 |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | GROUND WATER LOOSE AND BROKEN FROM 2.5 M |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| [illegible] | 2.6 | 10.0 |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| [illegible] | | | 2.6 | | |
| [illegible] OFF | | | | | 6.5 |
| MOIST FROM 0.3 TO 9.5 | | | | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| [illegible] | | | |
| MATERIALS USED 2 BAGS OF CEMENT 1 BAG OF BENTONITE | | | 1 |
| [illegible] BH248 2 | | | |
| MATERIALS USED 6 BAGS OF CEMENT 3 BAGS OF BENTONITE | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .... CLIENT ....

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN Bury
SITE NAME ...
JOB No. ...
(12) BOREHOLE No. 24
EQUIPMENT IN USE ...
VEHICLE No. ...

DATE + TIME OF START/FINISH ...

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | 5 |
| DISTURBED ... | | | | | 1.7 |
| STIFF BROWN ... WITH ... | | | | | 6.1 |
| WET BROWN SAND | | | | | 6.4 |
| ALTERNATE BANDS OF ... BROWN CLAYEY SAND AND STIFF BROWN SILTY CLAY | | | | | 15.2 |
| STIFF BROWN SANDY ... CLAY | | | | | 15.6 |
| End of days drilling | | | | | 16.2 |

SHOW SAMPLES THUS ...

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 200 | GL | 6 |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| ... | | | 6.2 | MED | 6.0 |
| ... OFF | | | | | 15.2 |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| ... | | PM | ENT |
| FROM ... TO ... | | | |
| CONSTRUCTING PLATFORM AND | | | |
| ERECTING RIG | 9.00 | 12.00 | 3 |
| | | | |
| | | | |
| | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER ...
CLIENT ...

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

(11)

TOWN BURY
SITE NAME HIGHER BARN FARM
JOB No.
BOREHOLE No. 245
EQUIPMENT IN USE DANDO
VEHICLE No.

DATE + TIME OF START/FINISH 31-1-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | 6.0 |
| STIFF BROWN SANDY CLAY WITH SAND BANDS | | | | | 7.2 |
| ALTERNATE BANDS OF MOIST BROWN CLAYEY SAND AND STIFF BROWN SILTY CLAY | | | | | 12.7 |
| STIFF BROWN SILTY BOULDER CLAY | | | | | 14.3 |
| COAL | | | | | 14.9 |
| GREY SHALE | | | | | |
| End of days drilling | | | | | 15.0 |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| | | |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| TOPPING UP BH245 WITH GROUT. | | | |
| | 9.00 | 10.30 | 1½ |
| MATERIALS USED 4 BAGS OF CEMENT | | | |
| 2 BAGS OF BENTONITE. | | | |
| INJECTING GROUT BH245. | | | 2 |
| MATERIALS USED 4 BAGS OF CEMENT | | | |
| 2 BAGS OF BENTONITE | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| MOIST FROM 7.2 | TO 12.7 | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

(10)

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 3[illegible]

TOWN [illegible]
SITE NAME [illegible]
JOB No.
BOREHOLE No. 2[illegible]
EQUIPMENT IN USE [illegible]
VEHICLE No.

| DESCRIPTION OF STRATA (Soft/Firm/Stiff, Loose/Dense; Colour, Fine - Coarse Medium; Clayey Silty Sandy etc.; SOIL TYPE; Sand bands Cobbles etc.) | DEPTH to base of STRATA m |
|---|---|
| Start of days drilling | G[illegible] |
| DISTURBED TOP SOIL [illegible] | [illegible] |
| STIFF BROWN [illegible] | |
| End of days drilling | [illegible] |

| SAMPLES No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 200 | GL | [illegible] |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| [illegible] BH 2[illegible] | [illegible] | | 1[illegible] |
| MATERIAL USED 4 BAGS OF | | | |
| CEMENT 2 BAGS OF BENTONITE | | | |
| | | | |
| MOVING FROM BH 2[illegible] TO BH 2[illegible]5 | | | |
| CONSTRUCTING PLATFORM AND | | | |
| ERECTING RIG | | | 2[illegible] |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

SIGNATURES
DRILLER ..........
CLIENT G. [illegible] (signature)

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

# Norwest Holst Soil Engineering Ltd.

(9)

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN .....
SITE NAME .....
JOB No. .....
BOREHOLE No. 1.6
EQUIPMENT IN USE .....
VEHICLE No. .....

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH ..... 30-1-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | Start of days drilling | | | | | | | | | | | | | |
| DISTURBED TOP SOIL | | | | | 1 | | | | | | | | | | | | |
| STIFF BROWN SANDY CLAY WITH SAND | | | | | 12 | | | | | | | | | | | | |
| ALTERNATE BANDS OF BROWN CLAYEY SAND AND STIFF BROWN SILTY CLAY | | | | | 12.4 | | | | | | | | | | | | |
| STIFF BROWN SANDY BOULDER CLAY | | | | | 14.4 | | | | | | | | | | | | |
| WEATHERED YELLOW BROWN SANDSTONE. | | | | | | | | | | | | | | | | | |
| | | | | End of days drilling | | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 200 | 52 | |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| [illegible] | | | |
| TOPPING UP HOLES | | | 2 |
| MATERIALS USED 24 BAGS OF CEMENT 1 BAG OF BENTONITE | | | |
| 2nd TOP UP 2 BAGS OF CEMENT 1 BAG OF BENTONITE. | | | |
| | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT G.E.M. Clayton

# Norwest Holst Soil Engineering Ltd.

(8)

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN BURY
SITE NAME ASHER BARN FARM
JOB No.
BOREHOLE No. 243A
EQUIPMENT IN USE DANDO
VEHICLE No.

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 26-1-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | 9.0 | | | | | | | | | | | | |
| ALTERNATE BANDS OF BROWN SILTY CLAY AND FICIST TO WET BROWN CLAYEY SAND. | | | | | 13.0 | | | | | | | | | | | | |
| STIFF BROWN SANDY BOULDER CLAY | | | | | 14.0 | | | | | | | | | | | | |
| BLACK SHALE | | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 14.5 | | | | | | | | | | | | |

TRACES OF GROUND FROM 8.0 ONWARDS SAND VERY FIRM AND CEMENTED. SHOUT VISIBLE IN FISSURES IN SILTY CLAY BANDS

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 200 | GL | 13.5 |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| START OF DAY | | | 7.5 | | 9.0 |
| SEALED OFF | | | | | 13.5 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER B Howard
CLIENT G McClafferty

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN ?
SITE NAME [illegible] FARM
JOB No. .....
BOREHOLE No. 2A
EQUIPMENT IN USE 1
VEHICLE No. .....

DATE + TIME OF START/FINISH 2

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| | | | | Start of days drilling | |
| | | | | TOP SOIL | |
| | | | | STIFF BROWN SANDY CLAY WITH SAND BANDS | |
| | | | | ALTERNATE BANDS OF STIFF BROWN SANDY CLAY AND MEDIUM CLAYEY SAND | |
| | | | | End of days drilling | |

| SAMPLES | | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | | |
| | | | | | | | | | | | | GUARANTEES USED TOPPINS UP BHZ47 WITH 1 BAG OF CEMENT 28 BAGS OF BENTONITE. |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| [illegible] | [illegible] | [illegible] |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| [illegible] | | | |
| TOPPING UP BOREHOLE WITH GROUT | | 24? | 1½ |
| | | | |
| CONTINUING PLATFORM MOVING AND SETTING RIG ETC. ON THIS BOREHOLE | | | 2½ |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| [illegible] | | | | | |
| [illegible] | | | | | [illegible] |
| | | | | | |
| [illegible] | | | 90 | LARGE | 85 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT G. [illegible]

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN .....
SITE NAME .....
JOB No. .....
BOREHOLE No. .....
EQUIPMENT IN USE .....
VEHICLE No. .....

DATE + TIME OF START/FINISH .....

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | Start of days drilling | | | | | | | | | | | | |
| DISTURBED TOP SOIL + CLAY | | | | | 1.5 | | | | | | | | | | | | |
| STIFF BROWN MOTTLED GREY CLAY WITH SAND | | | | | 1.2 | | | | | | | | | | | | |
| ALTERNATE BANDS OF STIFF BROWN SANDY CLAY AND MOIST BROWN CLAYEY SAND, | | | | | 12.0 | | | | | | | | | | | | |
| FIRM MOIST BROWN CLAYEY SILT WITH CLAY BANDS. | | | | | 13.7 | | | | | | | | | | | | |
| DENSE BROWN SAND AND FINE TO COARSE GRAVEL | | | | | 14.6 | | | | | | | | | | | | |
| WEATHERED YELLOW GREY SANDSTONE | | | | | | | | | | | | | | | | | |
| | | | | | End of days drilling | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| [illegible] | SL | [illegible] |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| [illegible] | [illegible] | 12.[illegible] | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| SHELLING BOREHOLE 1.5 - SL | | | 2½ |
| 2.30 PM TO 5.00 PM. | | | |
| | | | |
| QUANTITIES | | | |
| 3 BAGS OF CEMENT | | | |
| 5 BAGS OF BENTONITE | | | |
| | | | |

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN ...
SITE NAME ...
JOB No. ...
BOREHOLE No. ...
EQUIPMENT IN USE ...
VEHICLE No. ...

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH ...

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | | | | | | | |
| Start of days drilling | | | | | | | | | | | | | | | | | |

MOVING DRILLING EQUIPMENT
SUNDRIES FROM BOREHOLE FROM
BH 244 TO BH 247.

CONSTRUCTING PLATFORM AND
ERECTING RIG FROM 9.00 AM
TO 2.30 PM. 5½ HRS

SHOW SAMPLES THUS : End of days drilling

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| | | |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER ...
CLIENT ...

(4)

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 20-1-83

TOWN [illegible]
SITE NAME [illegible]
JOB No. [illegible]
BOREHOLE No. [illegible]
EQUIPMENT IN USE [illegible]
VEHICLE No. [illegible]

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | | | | | | | | | | | | | |
| Start of days drilling | | | | | | | | | | | | | | | | | |
| UNABLE TO PROGRESS 8" BORE FURTHER THAN 12.6 | | | | | | | | | | | | | | | | | |
| PIEZO TUBE FLUSHED DOWN PREVIOUS BOREHOLE TO 18.0 M 1HR FLUSHING DOWN PIEZO TUBE | | | | | | | | | | | | | | | | | |
| GROUTING BOREHOLE 18.0 TO GL. 10.00 AM TO 2.30 PM. 4½ HRS | | | | | | | | | | | | | | | | | |
| QUANTATIES 5 BAGS OF CEMENT 4 BAGS OF BENTONITE. | | | | | | | | | | | | | | | | | |
| SHOW SAMPLES THUS : End of days drilling | | | | | | | | | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| | | |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT G. McClyburn

11

(3)

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN Bury
SITE NAME HIGHER BARN FARM
JOB No.
BOREHOLE No. 34
EQUIPMENT IN USE DANDO
VEHICLE No.

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 19-1-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | SL | | | | | | | | | | | | |
| DISTURBED SOIL & CLAY | | | | | 1.5 | | | | | | | | | | | | |
| STIFF BROWN SANDY BOULDER CLAY WITH SAND BANDS | | | | | 7.0 | | | | | | | | | | | | |
| MOIST TO WET BROWN CLAYEY SAND WITH CLAY BANDS | | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | 12.6 | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 200 | SL | 12.6 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| STRUCK | | | 7.0 | SLIGHT | 7.0 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| LARGE BOULDER AT 12.6 | | | |
| UNABLE TO PROGRESS | | | 2 |
| | | | |
| ERECTING PLATFORM AND | | | |
| MOVING EQUIPMENT | 9.30 | 12.30 | 3 |
| | | | |
| | | | |

SIGNATURES
DRILLER
CLIENT

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

(2)

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN Barnsley
SITE NAME Hiscel Barn Farm
JOB No. .....
BOREHOLE No. 213
EQUIPMENT IN USE Dando
VEHICLE No. .....

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 18-1-84

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | Penetration m To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | | | | | | | | | | | | | |
| 9.30 AM TO 12.30 AM ERECTING GROUTING PLANT. | | | | | | | | | | | | | | | | | |
| 1.00 PM TO 4.00 PM GROUTING BOREHOLE | | | | | | | | | | | | | | | | | |
| QUANTITIES USED 5 BAGS OF CEMENT 4 BAGS OF BENTONITE | | | | | | | | | | | | | | | | | |
| 4.00 PM TO 5.00 PM MOVING GIRDERS FROM BH243 TO BH244 | | | | | | | | | | | | | | | | | |
| End of days drilling | | | | | | | | | | | | | | | | | |

SHOW SAMPLES THUS :
U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| | | |
| | | |
| | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER .....
CLIENT .....

(1)

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN ...
SITE NAME ...
JOB No. ...
BOREHOLE No. ...
EQUIPMENT IN USE ...
VEHICLE No. ...

DATE + TIME OF START/FINISH 10.11.83

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | |
| TOP SOIL | | | | | 0.3 |
| STIFF BROWN SANDY CLAY WITH SAND BANDS. | | | | | 6.6 |
| ALTERNATE BANDS OF STIFF BROWN SILTY CLAY AND WET BROWN CLAYEY SAND. | | | | | 13.1 |
| STIFF BROWN SANDY BOULDER CLAY WITH SHALE TRACES | | | | | 14.0 |
| BLACK SHALE | | | | | |
| End of days drilling | | | | | |

SHOW SAMPLES THUS :

| SAMPLES | | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 200 | | 13.3 |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| | | | 5.9 | Slight | |
| SD OFF | | | | | 13.3 |
| END OF DAY | | | DRY | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| ERECTING PLATFORM TO SUPPORT RIG OVER BOREHOLE | | | 5½ |
| BENTONITE PLUG INSERTED 14.5 TO 13.5 LEFT TO SET FOR 1HR BEFORE GROUTING | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER
CLIENT

# N rw st H lst S il Engin ring Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 10-1-1984

TOWN BURY
SITE NAME PILSWORTH.
JOB No.
(1) BOREHOLE No. 237.
EQUIPMENT IN USE
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine · Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | GL |
| TOPSOIL | | | | | GL 0.30 |
| FIRM BROWN MOTTLED CLAY | | | | | 0.30 1.20 |
| FIRM BROWN MOTTLED SLIGHTLY GREY SANDY CLAY | | | | | 1.20 2.10 |
| FIRM TO STIFF BROWN SANDY SLIGHTLY STONEY CLAY VERY | | | | | 2.10 5.90 |
| FIRM BROWN SANDY STONY CLAY | | | | | 5.90 7.60 |
| MEDIUM DENSE BROWN CLAYEY STONEY SAND. | | | | | 7.60 8.20 |
| STIFF BROWN STONEY CLAY | | | | | 8.20 8.35 |
| SILTY YELLOWISH BROWN SAND | | | | | 8.35 9.75 |
| STIFF BROWN BOULDER CLAY | | | | | 9.75 10.50 |
| FIRM TO STIFF DARK GREY COAL MEASURES BECOMING STIFF. | | | | | 10.50 12.0 |
| End of days drilling | | | | | 12.0 |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| SAMPLES | | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| 1J | GL | 0.30 | | | | | | | | | |
| 2J | | 0.45 | | | | | | | | | |
| 3 | 0.50 | 1.05 | 54 | | | | | | | | |
| 4J | | 1.25 | | | | | | | | | |
| 5 | 1.50 | 2.00 | 70 | | | | | | | | |
| 6J | | 2.25 | | | | | | | | | |
| 7 | 2.50 | 3.00 | 87 | | | | | | | | |
| 8J | | 3.50 | | | | | | | | | |
| 9J | | 3.80 | | | | | | | | | |
| 10 | 4.0 | 4.50 | 20 | | | | | | | | |
| 11 | 4.50 | 4/5 | | | | | | | | | |
| 12J | | 5.0 | | | | | | | | | |
| 13 | 5.50 | 6.0 | 81 | | | | | | | | |
| 14 | 6.0 | 7.0 | | | | | | | | | |
| 15 | 7.0 | 7.50 | 72 | | | | | | | | |
| 16J | 7.50 | 4/5 | | | | | | | | | |
| 17 | 7.60 | 8.05 | | 1 | 2 | 3 | 4 | 4 | 5 | | |
| 18J | | 8.30 | | | | | | | | | |
| 19 | 8.50 | 9.0 | 111 | | | | | | | | |
| 20J | 9.0 | 4/5 | | | | | | | | | |
| 21 | 9.20 | 9.45 | | 4 | 4 | 7 | 8 | 7 | 10 | | |
| 22J | | 9.90 | | | | | | | | | |
| 23 | 10.0 | 10.60 | 71 | | | | | | | | |
| 24J | | 11.45 | | | | | | | | | |
| 25 | 11.0 | 12.0 | | 16 | 21 | 23 | 30 | FOR | 20MM. | | |
| 26J | W. | | | | | | | | | | |

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 200 | GL | 10.50. |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| SETTING UP RIG BY | | | |
| RIG BY USING TRACTOR + TRAILER TO TRANSPORT EQUIP | | | 2½ HRS |
| MOVING RIG TO 236 | | | |
| AFTER BACKFILLING 237 WITH PEA GRAVEL + FINISHING | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| STRUCK | | | 7.70 | 7.20 | 7.50 |
| SEALED | | | 8.50. | | |
| BH BACKFILLED WITH PEA GRAVEL ON COMPLETION. | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER Jeff Burnley CLIENT

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 11-1-1984

TOWN BURY
SITE NAME PILSWORTH
JOB No.
(2) BOREHOLE No. 248
EQUIPMENT IN USE
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/Stiff Loose/Dense | Colour Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| Start of days drilling | | | | | G.L. | 1J | G.L. | 0.35 | | | | | | | | | |
| TOPSOIL | | | | | G.L. 0.35 | 2J | | 0.45 | | | | | | | | | |
| FIRM LIGHT BROWN MOTTLED CLAY | | | | | 0.35 1.65 | 3J 4J | 0.50 | 1.00 1.25 | U1 | | | | | | | | |
| | | | | | | 5J 6J | 1.50 | 2.00 2.25 | U5 | | | | | | | | |
| FIRM BROWN SANDY STONY CLAY. | | | | | 1.65 4.45 | 7J 8B 9J | 2.50 3.0 | 3.00 C/S 3.50 | U7 | | | | | | | | |
| | | | | | | 10J | 4.0 | 4.50 | U4 | | | | | | | | |
| MEDIUM DENSE LIGHT BROWN CLAYEY SAND. | | | | | 4.45 5.65 | 11J 12B 13J | 4.50 4.95 | 4.95 5.65 5.80 | | 2 | 4 | 6 | 8 | 7 | 7 | | |
| | | | | | | 14J 15B | 5.0 5.50 | 5.50 C/S | U10 | | | | | | | | |
| FIRM TO STIFF LIGHT BROWN VERY SANDY CLAY | | | | | 5.65 6.00 | 16J 17B | 6.00 7.05 | 7.05 8.05 | | 3 | 6 | 6 | 8 | 7 | 7 | | |
| MEDIUM DENSE COARSE LIGHT BROWN SAND + OCCASIONAL CLAY BANDS | | | | | 6.00 12.0 | 18J 19B 20J 21B | 8.05 8.50 9.05 9.50 | 8.50 9.05 9.50 10.50 | | 4 4 | 6 4 | 7 6 | 7 7 | 10 8 | 10 8 | | |
| WET DARK BROWN SILTY SAND | | | | | 12.0 13.25 | 22J 23B | 10.50 10.95 | 10.95 12.0 | | 3 | 7 | 9 | 9 | 9 | 11 | | |
| FIRM BROWN SILTY SAND | | | | | 13.25 14.40 | 24J 25B | 12.0 12.65 | 12.45 13.05 | | 1 | 2 | 2 | 3 | 3 | 4 | | |
| STIFF BROWN CLAY STONY CLAY | | | | | 14.40 15.10 | 26J 27J | 13.50 | 13.25 14.0 | U12 | | | | | | | | |
| HARD LIGHT BROWN SAND STONE | | | | | 15.10 16.0 | 28J 29B | 15.0 | 14.50 15.40 | | 14 | 17 | 24 | 41 | | | | |
| SHOW SAMPLES THUS : End of days drilling | | | | | 16.0 | 30J | 15.40 | 16.0 | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test — 50 C.P. 45mm

31J

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 200 | G.L. | 15.0. |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| STRUCK | | | 4.80 | 4.50 | 4.70. |
| SEALED | | | 5.30 | | |
| | | | | | |
| STRUCK | | | 12.10 | 11.70 | 12.0 |
| SEALED. | | | 14.60. | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| CHISEL | 5.40 | 16.0 | 1HR |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER J Burrows CLIENT

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 12-1-1984

TOWN BURY
SITE NAME PILSWORTH
JOB No.
(3) BOREHOLE No. 259
EQUIPMENT IN USE
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse / Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | GL |
| TOPSOIL | | | | | GL 0.35 |
| FIRM BROWN MOTTLED CLAY | | | | | 0.35 0.90 |
| FIRM BLACK + BROWN SHALEY CLAY | | | | | 0.90 1.85 |
| STIFF GREYISH BLACK CLAYEY MUDSTONE BECOMING HARDER | | | | | 1.85 4.00 |
| End of days drilling | | | | | 4.0 |

| SAMPLES | | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| 1J | GL | 0.35 | | | | | | | | | |
| 2J | | 0.45 | | | | | | | | | |
| 3J | 0.50 | 1.0 | 18 | | | | | | | | |
| 4B | 0.5 | 1.0 | | | | | | | | | |
| 5J | | 1.25 | | | | | | | | | |
| 6J | 1.50 | 2.00 | 96 | | | | | | | | |
| 7J | | 2.35 | | | | | | | | | |
| 8B | 2.50 | 2.80 | | 17 | 21 | 41 | 50 | | | | |
| 9J | 2.80 | 3.25 | | | | | | | | | |
| 10B | 3.25 | 4.0 | | 50 for | | 100 for | | | 1mm | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 200 | GL | 3.0 |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| DRY | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER J Burrkees CLIENT Gen Clerk

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN Bury
SITE NAME Pilsworth
JOB No.
(4) BOREHOLE No. 263
EQUIPMENT IN USE
VEHICLE No.

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 12-1-1984

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | GL |
| TOPSOIL | | | | | GL<br>0.30. |
| FIRM BROWN MOTTLED SANDY CLAY FINE BROWN SAND. | | | | | 0.30<br>2.70 |
| FIRM BROWN SANDY CLAY | | | | | 2.90<br>3.15. |
| SANDSTONE | | | | | 3.15<br>3.30. |
| STIFF GREY CLAYEY MUDSTONE WITH YELLOW BANDS BECOMING HARD. | | | | | 3.35<br>5.00 |
| End of days drilling | | | | | 5.00 |

| SAMPLES | | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| 1J | GL | 0.30 | | | | | | | | | |
| 2J | | 0.45 | | | | | | | | | |
| 3J | 0.50 | 1.00 | 64 | | | | | | | | |
| 4J | | 1.25 | | | | | | | | | |
| 5J | 1.50 | 2.00 | 71 | | | | | | | | |
| 6J | | 2.25 | | | | | | | | | |
| 7J | 2.50 | 3.00 | 117 | | | | | | | | |
| 8B | 2.5 | 3.00 | | | | | | | | | |
| 9J | 3.15 | 3.30 | | 50 for 125mm. | | | | | | | |
| 10J | 3.30 | 3.80 | 191 | | | | | | | | |
| 11B | 3.80 | 4.00 | | | | | | | | | |
| 12J | 4.00 | 5.00 | | 24 | 37 | 50 | for | 40mm. | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 200 | GL | 3.50 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| STRUCK | | | 2.65 | 2.40 | 2.50 |
| SEALED | | | 3.10. | | |
| | | | | | |
| BH BACKFILLED ON COMPLETION WITH PEA GRAVEL & CAP INSERTED | | | | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| MOVING RIG FROM 248 TO BH263 BACKFILLING WITH PEA GRAVEL ETC. | | | 3HRS |
| MOVING RIG FROM 263 TO BH259 | | | TRAVEL |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER J Burnlees
CLIENT G. Em. Clayton

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 13-1-1984

TOWN BURY
SITE NAME PILSWORTH
JOB No. 5
BOREHOLE No. 251
EQUIPMENT IN USE
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour | Clayey Silty Sandy etc. / Fine - Coarse Medium | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | Start of days drilling | | | GL | 1 B | GL | 0.45 | | | | | | | | | RIG BROKEN DOWN — WINCH FROM INITIATIVE. |
| TOPSOIL | | | | | 0.40 | 2 | | 0.45 | | | | | | | | | |
| FIRM BROWN MOTTLED GREY CLAY. | | | | | 0.40 | 3 B | 0.50 | 1.0 | | | | | | | | | |
| | | | | | 30. | 4 B | 0.75 | 1.0 | | | | | | | | | |
| | | | | | | 5 | | 1.25 | | | | | | | | | |
| | | | | | | 6 B | 1.50 | 2.0 | | | | | | | | | |
| | | | | | | 7 | | 2.25 | | | | | | | | | |
| | | | | | | 8 B | 2.50 | 3.0 | | | | | | | | | |
| | | End of days drilling | | | 3.0 | | | | | | | | | | | | |

SHOW SAMPLES THUS :

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 200 | GL | 2.50 |
| | | |
| | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| MOVING RIG FROM BH 2[illegible]. TO BH 25[illegible] | | | 2HRS |
| | | | |
| | | | |
| | | | |
| | | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| DRY. | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER J Burbeck CLIENT G. McClymont

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 16-1-1984

TOWN BURY
SITE NAME ILLSWORTH
(5) JOB No.
BOREHOLE No. 75b
EQUIPMENT IN USE
VEHICLE No.

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | 3.0 |
| FIRM TO STIFF BROWN SANDY CLAY | | | | | 3.0<br>5.05 |
| MEDIUM DENSE GRAVEL. | | | | | 5.05<br>5.20 |
| STIFF BROWN VERY SANDY STONY CLAY. | | | | | 5.50<br>6.60 |
| FIRM GREY SHALEY CLAY BECOMING HARD GREY SHALE MUDSTONE. | | | | | 6.60<br>8.0 |
| End of days drilling | | | | | 8.0 |

SHOW SAMPLES THUS :

| SAMPLES | | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | Penetration m To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | | |
| 9 T | | 4.50 | | | | | | | | | | |
| 10 U | 4.0 | 4.50 | 12 | | | | | | | | | |
| 11 S | | 5.0 | | | | | | | | | | |
| 12 S | 5.05 | 5.50 | | 6 | 7 | 7 | 9 | 7 | 10 | | | |
| MP 1 | 5.05 | 5.50 | | | | | e | | | | | |
| 13 U | 5.50 | 6.035 | | | | | | | | | | |
| 14 T | | 6.50 | | | | | | | | | | |
| 15 S | | 6.75 | | | | | | | | | | |
| 16 S | 6.80 | 7.10 | | 12 | 22 | 37 | 50 for 30mm. | | | | | |
| 17 S | 7.10 | 7.75 | | | | | | | | | | |
| 18 S | 7.75 | 8.0 | | 27 | 40 | 50 for 60mm | | | | | | |
| 19 W. | | | | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 200 | 3.0 | 6.50 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| STRUCK | | | 5.15 | 4.0 | 5.0 |
| SEALED | | | 6.20 | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| CHISEL | 7.10 | 7.75 | 1 hr. |
| BACKFILLING BH 25b WITH PEA GRAVEL + INSERTING PIEZ. TUBE THEN MOVING TO BH 25a | | | 2 |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

HPD

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER J Saunders CLIENT G M Clayton

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN BURY
SITE NAME PILSWORTH
JOB No. (6)
BOREHOLE No. 200
EQUIPMENT IN USE
VEHICLE No.

DATE + TIME OF START/FINISH 17-1-1984

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | |
| TOPSOIL | | | | | 0.40 |
| FIRM MOTTLED BROWN SANDY CLAY. | | | | | 2.80 |
| DRY MEDIUM DENSE LIGHT BROWN SAND | | | | | 5.0 |
| DAMP BROWN SAND | | | | | 5.55 |
| HARD LIGHT BROWN SANDSTONE. | | | | | 6.50 |

SHOW SAMPLES THUS : End of days drilling

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| SAMPLES | | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| 1J | 0.40 | 0.45 | | | | | | | | | |
| 2J | | 0.45 | | | | | | | | | |
| 3B | 0.50 | 1.0 | 42 | | | | | | | | |
| 4J | | 1.25 | | | | | | | | | |
| 5B | 1.50 | 2.0 | 62 | | | | | | | | |
| 6B | 1.75 | 2.0 | | | | | | | | | |
| 7J | | 2.25 | | | | | | | | | |
| 8B | 2.50 | 3.0 | 100 | | | | | | | | |
| 9B | 2.75 | 3.0 | | | | | | | | | |
| 10J | 3.0 | 3.45 | | 4 | 4 | 5 | 5 | 7 | 6 | | |
| 11B | 3.0 | 4.0 | | | | | | | | | |
| 12J | 4.0 | 4.45 | | 3 | 6 | 7 | 8 | 8 | 8 | | |
| 13B | 4.0 | 5.0 | | | | | | | | | |
| 14J | 5.0 | 5.45 | | 2 | 3 | 3 | 4 | 4 | 5 | | |
| 15B | 5.0 | 5.55 | | | | | | | | | |
| 16J | 5.55 | 5.70 | | 50 | 40 | 12 | 125mm | | | | |
| 17B | 5.70 | 6.34 | | | | | | | | | |
| 18J | | 6.50 | | 50 | 50 | 12 | 105 | mm. | | | |
| 19J | 6.4 | | | | | | | | | | |

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 200 | G.L | 6.0 |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| SLIGHT SEEPAGE | | | 5.0 | 4.80 | 5.0 |
| FM DRY-WATER SEEPAGE | | | 5.50 | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| CHISEL | 5.70 | 6.50 | 1HR |
| RST BACKFILLED WITH PEA GRAVEL THEN MIX MAT IMPERTED UP TO GL | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| 2 IE. | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

SIGNATURES
DRILLER
CLIENT

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

TOWN BURY
SITE NAME PILSWORTH
JOB No. (1)
BOREHOLE No. 21B
EQUIPMENT IN USE
VEHICLE No.

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 18-1-1984

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff Loose/Dense | Colour Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | G.L. |
| TOPSOIL | | | | | G.L. 0.35 |
| FIRM BROWN MOTTLED SANDY CLAY | | | | | 0.35 1.70 |
| MEDIUM DENSE LIGHT BROWN SAND | | | | | 1.70 2.50 |
| LOOSE SILTY BROWN SAND. | | | | | 2.50 2.95 |
| SOFT TO FIRM SILTY BROWN CLAY | | | | | 2.95 5.40 |
| STIFF BROWN SLIGHTLY STONY CLAY | | | | | 5.40 14.30 |
| STIFF BROWN STONY SANDY CLAY | | | | | 14.30 16.10 |
| HARD GREY SHALE - MUDSTONE. | | | | | 16.10 17.50 |
| SHOW SAMPLES THUS : End of days drilling | | | | | 17.50 |

| SAMPLES | | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | | |
| 1T | G.L. | 0.35 | | | | | | | | | | |
| 2T | | 0.45 | | | | | | | | | | |
| 3U | 0.50 | 1.00 | 4 | | | | | | | | | |
| 4T | | 1.25 | | | | | | | | | | |
| 5U | 1.50 | 2.00 | 1 | | | | | | | | | |
| 6D | 2.00 | 2.45 | | 2 | 4 | 4 | 5 | 7 | 7 | | | |
| 7B | 2.45 | 2.95 | | | | | | | | | | |
| 8U | 3.00 | 3.50 | 37 | | | | | | | | | |
| 9B | 3.50 | 4.00 | | | | | | | | | | |
| 10U | 4.50 | 5.00 | 51 | | | | | | | | | |
| 11T | | 5.50 | | | | | | | | | | |
| 12U | 6.00 | 6.50 | 92 | | | | | | | | | |
| 13T | | 7.00 | | | | | | | | | | |
| 14U | 7.50 | 8.00 | 12 | | | | | | | | | |
| 15T | | 8.50 | | | | | | | | | | |
| 16U | 9.00 | 9.50 | 110 | | | | | | | | | |
| 17T | | 10.00 | | | | | | | | | | |
| 18U | 10.50 | 11.00 | 120 | | | | | | | | | |
| 19T | | 11.50 | | | | | | | | | | |
| 20U | 12.00 | 12.50 | 136 | | | | | | | | | |
| 21T | | 13.00 | | | | | | | | | | |
| 22U | 13.50 | 14.00 | 140 | | | | | | | | | |
| 23T | | 14.50 | | | | | | | | | | |
| 24U | 15.00 | 15.50 | 142 | | | | | | | | | |
| 25T | | 15.80 | | | | | | | | | | |
| 26U | 16.00 | 16.40 | | 12 | 20 | 21 | 41 | | | | | |
| 27B | 16.40 | 17.35 | | | | | | | | | | |
| 28C | 17.35 | 17.50 | | 50 for 75mm. | | | | | | | | |
| 29B | V4 | | | | | | | | | | | |

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| 200 | G.L. | 1.50 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| STRUCK | | | 2.20 | 1.50 | 2.00 |
| SEALED. | | | 4.10 | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| CHISEL | 16.40 | 17.35 | 1HR |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER J. Burrows CLIENT

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

## SOFT GROUND DAILY RECORD

TOWN BURY
SITE NAME PILSWORTH
(8) JOB No.
BOREHOLE No. 234
EQUIPMENT IN USE
VEHICLE No.

DATE + TIME OF START/FINISH 19-1-1984

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m |
|---|---|---|---|---|---|
| Soft/Firm/Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | |
| Start of days drilling | | | | | 0.L |
| TOPSOIL | | | | | 0.L – 0.50 |
| SOFT TO FIRM LIGHT BROWN SANDY CLAY | | | | | 0.50 – 0.95 |
| DAMP LIGHT BROWN SILTY SAND. | | | | | 0.95 – 3.05 |
| FIRM BROWN SLIGHTLY LAMINATED CLAY | | | | | 3.05 – 9.0 |
| STIFF BROWN STONY CLAY. | | | | | 9.0 – 17.0 |
| End of days drilling | | | | | 17.0 |

| SAMPLES | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. / Type | Penetration m From | To | U blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| 1J | 0.L | 0.50 | | | | | | | | | |
| 2U | 0.50 | 1.00 | 37 | | | | | | | | |
| 3D | 1.00 | 1.45 | | 1 | 2 | 2 | 3 | 3 | 5 | | |
| 4B | 1.45 | 3.0 | | | | | | | | | |
| 5D | 2.0 | 2.45 | | 2 | 4 | 4 | 4 | 4 | 5 | | |
| 6U | 3.00 | 3.50 | 80 | | | | | | | | |
| 7J | | 4.00 | | | | | | | | | |
| 8U | 4.50 | 5.00 | 46 | | | | | | | | |
| 9J | | 5.50 | | | | | | | | | |
| 10U | 6.00 | 6.50 | 50 | | | | | | | | |
| 11J | | 7.0 | | | | | | | | | |
| 12U | 7.50 | 8.00 | 127 | | | | | | | | |
| 13J | | 8.50 | | | | | | | | | |
| 14U | 9.00 | 9.50 | 126 | | | | | | | | |
| 15J | | 10.00 | | | | | | | | | |
| 16U | 10.50 | 11.00 | 130 | | | | | | | | |
| 17J | | 11.50 | | | | | | | | | |
| 18U | 12.00 | 12.50 | 132 | | | | | | | | |
| 19J | | 13.00 | | | | | | | | | |
| 20U | 13.50 | 14.00 | 140 | | | | | | | | |
| 21J | | 14.50 | | | | | | | | | |
| 22U | 15.00 | 15.50 | 140 | | | | | | | | |
| 23J | | 16.00 | | | | | | | | | |
| 24U | 16.5 | 17.00 | 151 | | | | | | | | |

SHOW SAMPLES THUS : U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

| CASING | | |
|---|---|---|
| SIZE (mm) | FROM (m) | TO (m) |
| 200 | 0.L | 9.0 |
| | | |
| | | |

| WATER | | | | | |
|---|---|---|---|---|---|
| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
| STRUCK | | | 2.05 | 16.0 | 2.0 |
| SEALED | | | 3.10 | | |

| DELAYS/BAD ACCESS/PITS/HARD STRATA etc. | | | |
|---|---|---|---|
| Cause | From (m) | To (m) | Time (hr) |
| BACKFILLING BH2 WITH PEA GRAVEL + INSERTING MEX HAT THEM MOVING RIG TO BH2SLT. | | | 3hr |
| | | | |
| | | | |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Depth of Seals (m) Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER J Burrows
CLIENT

# Norwest Holst Soil Engineering Ltd.

Parkside Lane, Dewsbury Road, Leeds LS11 5SX
Telephone Leeds (0532) 711111 Telex 557357

(8)

TOWN RUFF
SITE NAME [illegible]
JOB No. [illegible]
BOREHOLE No. [illegible]
EQUIPMENT IN USE
VEHICLE No.

## SOFT GROUND DAILY RECORD

DATE + TIME OF START/FINISH 20-1 1984

| DESCRIPTION OF STRATA | | | | | DEPTH to base of STRATA m | SAMPLES | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soft/Firm/ Stiff / Loose/Dense | Colour / Fine - Coarse Medium | Clayey Silty Sandy etc. | SOIL TYPE | Sand bands Cobbles etc. | | No. Type | Penetration m From | To | u blows | S.P.T./C.P.T mms. 0 to 75 | 75 to 150 | 150 to 225 | 225 to 300 | 300 to 375 | 375 to 450 | 450 to 500 | |
| | | | | | Start of days drilling 17 0 | | | | | | | | | | | |
| [illegible] | | | | | 17 0 | | | | | | | | | | | |
| | | | | | 11 10 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 1 | 2 | 2 | 3 | 4 | 5 | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 6 | 9 | 9 | 9 | 11 | 13 | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 21 | 47 | 50 | FOR | 20 | MM | 1. |
| [illegible] | | | | | 17 90 20 7 | | | | | | | | | | | |
| [illegible] | | | | | 20 20 21 | | | | | | | | | | | |
| [illegible] | | | | | 21 2 2 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

SHOW SAMPLES THUS : End of days drilling 22 0

U Undisturbed; D Disturbed; B Bulk; W Water; S Standard Penetration Test; C Cone Penetration Test

### CASING

| SIZE (mm) | FROM (m) | TO (m) |
|---|---|---|
| [illegible] | L E | 20 0 |
| | | |
| | | |

### WATER

| OBSERVATION | DATE | TIME | DEPTH | INFLOW | CASING |
|---|---|---|---|---|---|
| D1 | 20 1 84 | 8 [illegible] | [illegible] | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

### DELAYS/BAD ACCESS/PITS/HARD STRATA etc.

| Cause | From (m) | To (m) | Time (hr) |
|---|---|---|---|
| CHISEL | 20 | 22 | 1 1/2 |
| | | | |
| BACKFILLING ISH 23 | | | |
| WITH TEA TRAVEL | | | |
| INTERMITTENT MIXY HARD | | | |
| | | | |
| | | | 1HR |

| STAND PIPE/PIEZOMETER | Time taken (hr) | Depth | Depth of Seals (m) Top | Bottom | Reading |
|---|---|---|---|---|---|
| | | | | | |

OBSERVATIONS : e.g. Struck, Rate of flow, Sealed, Final standing level, Dry

WEATHER : Fine / Drizzling / Raining / Stormy / Snow / Freezing

SIGNATURES
DRILLER [illegible]
CLIENT

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PILSWORTH

SITE No.

DATE 7/3/83 / 8/3/83 9/3/83

SHEET OF

Contractor AMCO DRILLING CO

Area LANCASHIRE

TYPE & No. of Drill

WORKS ORDER No.

DRILLER

2nd MAN

3rd MAN

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| HIGHER BARN FARM | | | | | | | | |
| PILSWORTH | | | | | | | | |
| EXCAVATED 25 BHS | | | | | | | | |
| TRANSPORTED SPOIL TO | | | | | | | | |
| TIP BACK FILLED | | | | | | | | |
| WITH 2" STONE AND | | | | | | | | |
| 18" OF TOP SOIL | | | | | | | | |
| PLANT ON SITE JCB | | | | | | | | |
| DUMPER AND TWO | | | | | | | | |
| MEN MATERIALS USED | | | | | | | | |
| *20 TONS OF STONE ◆10 TON | | | | | | | | |
| OF TOP SOIL | | | | | | | | |
| HIGHER FIELD FARM | | | | | | | | |
| TOP SOILED FOUR BHS. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

* 20tons 2"stone

◆ 10 tons topsoil

Signed J Oldman Contractors Rep

Signed [redacted] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

SITE NAME Pilsworth / Ellenbeck. **DAILY DRILL LOG**

SITE No 031703 REGION No. 3 NORTH WEST

DATE Mon. 4-10-82.

SHEET 1 OF 1

Contractor Amco.

Area Lancs.

TYPE & No. of Drill Gopha 45.

WORKS ORDER No. 7747.

DRILLER H. Gordon.

2nd MAN J. O'Connor.

3rd MAN M. Costello.

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Site move. Pilsworth / Ellenbeck. | | | | | | | | |
| 28. miles. | | | | | | | | |
| Move payable on first Ellenbeck North Bhs. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| 10 | MOVING | | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | | | |
| | | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Fri: 1-10-82.
SHEET 1 OF 1

Contractor Amco.
Area Lancs.

TYPE & No. of Drill Keyphen 45.
WORKS ORDER No. 7747
DRILLER H. Rowson.
2nd MAN J. O'Connor.
3rd MAN M. Costello.

M 2746R

BH. No. 283 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sand. | 13.40 | 12.90 | | | 13 | | | |
| Brown Sandy clay. | 27.80 | 14.40 | | | | 5 | | |
| Dark Sandy mudstone | 38.90 | 11.10 | | | 58 | | | |
| Grey Sandstone | 42.20 | 3.30 | | | 50 | | | |
| Dark Sandy mudstone | 50.00 | 7.80 | | | 58 | 6 | | |
| 50.00m casing. Dry | | | | | | | | |
| Move over 2.00m. | | | | | | | | |
| Blt Capped & backfilled. | | | | | | | | |
| Site cleaned up. Ready for moving. MONDAY. | | | | | | | | * finished |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 283 |
| 3 | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 3 | CASING | HX | 6 |
| | | PX | 18 |
| | | SX | 6 |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| 1/2 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| 3½ | cleaning Site | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

SITE NAME Pilsworth NATIONAL COAL BOARD OPENCAST EXECUTIVE

SITE No. 031703 DAILY DRILL LOG

DATE Thurs 30-9-82. REGION No. 3 NORTH WEST

SHEET 3 OF 3 Contractor Amco

M 2746R Area Lancs.

TYPE & No. of Drill Cryphon 45. 7747

WORKS ORDER No.

DRILLER H. Bamford.

2nd MAN J. O'Connor

3rd MAN M. Costello

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 282. | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sand. | 8.40 | 7.90 | | | 13 | | | |
| Brown Sandy clay. | 16.00 | 7.60 | | | | 5 | | |
| Hard G/B. Sandstone | 45.20 | ~~28.80~~ | 29.20 | | 56 | | | |
| Dark Sandy mudstone | 50.00 | 4.80 | | | 58 | 6 | | |
| 18.00m casing. Left in Dry. | | | | | | | | |
| Move over 8.00m. | | | | | | | | |
| R/H Capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 282 |
| | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 12 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Thur 30-9-82. SHEET 2 OF 3

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryphon 48.
WORKS ORDER No. 7749.
DRILLER H. Rowson
2nd MAN J. O'Connor.
3rd MAN M. Costello

M 2746R

BH. No. 281 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sand. | 4.90 | 4.40 | | | 13 | | | |
| Brown Sandy clay. | 13.20 | 8.30 | | | | 5 | | |
| Hard B/B Sandstone | 41.50 | 28.30 | | | 50 | | | |
| Hard Sandy mudstone | 42.50 | 1.00 | | | 57 | | | |
| Dark Sandy mudstone | 50.00 | 7.50 | | | 58 | 6 | | |
| 15.00 m casing. wet & Dry | | | | | | | | |
| Move over 2.00m. | | | | | | | | |
| B/H Capped & backfilled | | | | | | | | |

| HRS | AMOUNT PAYABLE | 281 |
|---|---|---|
| | OPEN HOLE HF | 50.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | 9 |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed ____ Contractors Rep

Signed K J Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703.
DATE Thur. 30-9-82
SHEET 1 OF 3

TYPE & No. of Drill Creypher 45.
WORKS ORDER No. 7749.
DRILLER H. Gordon.
2nd MAN J. O'Connor.
3rd MAN M. Costello.

Contractor Amco.
Area Lunes.

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 280. | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 1.90 | 1.40 | | | | | | |
| Sand | 7.80 | 5.90 | | | 13 | 5 | | |
| Hard S/B. Sandstone | 48.30 | 40.50 | | | 50 | | | |
| Dark Sandy mudstone | 50.00 | 1.70 | | | 58 | 6 | | |
| 15.00m Casing. Water 39.00m. | | | | | | | | |
| move over 2.00m. | | | | | | | | |
| BIH Capped & backfilled. | | | | | | | | |

| HRS | | | AMOUNT PAYABLE 280. |
|---|---|---|---|
| 5 | OPEN HOLE | HF | 50 250 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 3½ | CASING | HX | 6 |
| | | PX | 9 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| 1½ | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | * |
| | Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703 DATE Wed: 29-9-82 SHEET 2 OF 2

Contractor Amco. Area Lancs.

TYPE & No. of Drill Gryphon 48. WORKS ORDER No. 7749.

DRILLER H. Borrow. 2nd MAN J. O'Connor. 3rd MAN M. Costello.

M 2746R

BH. No. 270. Field No.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Sand. | 4.00 | 3.50 | | | 13 | | | |
| Brown Sandy clay. | 13.40 | 9.40 | | | | 5 | | |
| B/G. sandstone (Hard) | 41.50 | 28.10 | | | 50 | | | |
| Dark Sandy mudstone | 46.20 | 4.70 | | | 58 | | | |
| Grey Sandstone | 50.00 | 3.80. | | | 50 | 6 | | |
| 18.00m casing. Water 38.00m. | | | | | | | | |
| move over 2.00m | | | | | | | | |
| B/H capped & backfilled | | | | | | | | |

HRS

AMOUNTS PAYABLE 279

| | | |
|---|---|---|
| OPEN HOLE | HF | 50.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 9 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Wed. 29-9-82. SHEET 1 OF 2

TYPE & No. of Drill Reyrolle 45. WORKS ORDER No. 7749.

DRILLER H. Rowlands. 2nd MAN J. O'Connor. 3rd MAN M. Costello.

Contractor Amco Area Lancs.

M 2746R

| BH. No. 278 Field No | DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| | Top Soil | 0.80 | 0.80 | | | | | | |
| | Sand. | 3.40 | 2.90 | | | 13 | | | |
| | Brown Sandy clay. | 16.90 | 13.50 | | | | 5 | | |
| | Grey Sandstone | 21.00 | 4.10. | | | 50 | | | |
| | Sandy mudstone | 33.25. | 12.25 | | | 58 | | | ? |
| | Coal. | 33.40 | 0.15. | | | 20 | | | ? |
| | Hard Sandy mudstone | 35.60 | 2.20 | | | 57 | | | |
| | Dark Sandy mudstone | 36.60 | 1.00. | | | 58 | | | |
| | Coal. | 36.70 | 0.10 | | | 20 | | | ? |
| | Hard Sandy Mudstone | 39.30 | 2.60. | | | 57 | | | |
| | Dark Sandy mudstone | 80.00 | 10.70. | | | 58 | 6 | | |
| | 18.00cm casing Dry | | | | | | | | |
| | Move over 8.00cm. | | | | | | | | |
| | Bit Capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | 278 |
|---|---|---|---|
| 8 | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| 4 | CASING | 412/HF | |
| | | CORE PF | |
| | | REC SF | |
| | | D4 | |
| | | HX | 6 |
| | | PX | 12 |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Tue: 28-9-82.
SHEET 2 OF 2

Contractor Amco
Area Lancs.

TYPE & No. of Drill Syphon 48.
WORKS ORDER No. 7749
DRILLER H. Gordon.
2nd MAN J. O'Connor.
3rd MAN M. Costello.

M 2746R

BH. No. 277 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sand | 3.20 | 2.70 | | | 13 | | | 10 |
| Brown Sandy clay. | 16.20 | 13.00 | | | | | | |
| Sand | 17.80 | 1.60 | | | 13 | 5 | | |
| Dark mudstone | 25.70 | 7.90 | | | | | | |
| Sandy mudstone | 35.40 | 9.70 | | | 58 | | | } code as Unit |
| Dark Sandy mudstone | 50.00 | 14.60 | | | 58 | 6 | | } |
| 18.00m casing. Dry | | | | | | | | |
| move over 2.00m | | | | | | | | |
| R/H Rapped & Backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 27 |
| | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 12 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703
DATE Tue: 28-9-82
SHEET 1 OF 2

Contractor Amco
Area Lancs.

TYPE & No. of Drill Creighton 45.
WORKS ORDER No. 7749
DRILLER H. Gordon.
2nd MAN J. O'Connor.
3rd MAN M. Costello.

M 2746R

BH. No. 276 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80. | 0.80 | | | | | | |
| Sand. | 8.50. | 8.00 | | | 13 | | | |
| Brown Sandy clay. | 28.70 | 23.20 | | | | 5 | | |
| Sandy mudstone | 32.20 | 3.30 | | | 58 | | | } code as limit. |
| Dark Sandy mudstone | 47.30 | 15.10 | | | 58 | | | |
| Sandy mudstone | 50.00 | 2.70 | | | 58 | 6 | | |

Boom casing Dry.
casing very tight.

move over 8.00m.

B/H capped & backfilled.

| HRS | AMOUNTS PAYABLE | | 2Rs |
|---|---|---|---|
| 8 | OPEN HOLE | HF | 50-00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 4 | CASING | HX | 6 |
| | | PX | 18 |
| | | SX | 6 |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No 031703.
DATE Mon: 27-9-82.
SHEET 2 OF 2

Contractor Amco
Area Cawes.

TYPE & No. of Drill Creyphan 45.
WORKS ORDER No. 7749
DRILLER H. Gordon.
2nd MAN J. O'Connor.
3rd MAN M. Costello.

M 2746R

BH. No. 275 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sand. | 10.80 | 10.00 | | | 13 | | | |
| Brown Sandy clay. | 23.40 | 12.90 | | | | 5 | | |
| Dark mudstone | 24.70 | 1.30 | | | | | | |
| Sandy mudstone | 28.90 | 4.20 | | | 58 | | | } code as 1 unit. |
| Dark Sandy mudstone | 46.50 | 17.60 | | | 58 | | | |
| Grey Sandstone | 50.00 | 3.50 | | | 50 | 6 | | |
| 24.00m casing dry. Casing very tight pulling out. | | | | | | | | |
| Move over 2.00m. | | | | | | | | |
| BH capped & backfilled | | | | | | | | ✓ |

HRS

AMOUNTS PAYABLE 2.75

| | | |
|---|---|---|
| OPEN HOLE | HF | 50.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 18 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE 27-9-82 Mon
SHEET 1 OF 2

Contractor Amco
Area Lancs.

TYPE & No. of Drill Gopher 45. 17X49.
WORKS ORDER No.
DRILLER Mr Rowlands.
2nd MAN J. O'Connor.
3rd MAN M. Costello.

M 2746R

BH. No. 274 Field No.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Sand | 12.70 | 12.20 | | | 13 | | | |
| Brown Sandy clay. | 28.50 | 15.80 | | | | 5 | | |
| Grey Sandstone | 31.00 | 2.50 | | | 50 | | | |
| Dark Sandy mudstone | 48.20 | 17.20 | | | 58 | | | } code as 1 unit. |
| Sandy mudstone | 50.00 | 1.80. | | | 58 | 6 | | |
| Boom casing. Dry casing tight pulling out | | | | | | | | |
| Move over 8.00m. | | | | | | | | |
| BH capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 274 |
| 5 | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | 412/HF CORE REC. | PF | |
| | | SF | |
| | | D4 | |
| 4 | CASING | HX | 6 |
| | | PX | 18 |
| | | SX | 6 |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No 031703.
DATE Fri: 28-9-82
SHEET 2 OF 2.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Reynolds.
WORKS ORDER No. 7749
DRILLER H. Rowlands.
2nd MAN J. O'Connor.
3rd MAN M. Costello

M 2746R

BH. No. 273 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sand. | 12.30 | 11.70 | | | 13 | | | |
| Brown Sandy clay (with stones) | 24.40 | 12.10 | | | | 5 | | |
| Hard to hard rock head, reading sloppy till casing seated. | | | | | | | | |
| Sandy mudstone | 27.80 | 3.40 | | | 58 | | | Unit Subject. |
| Dark Sandy mudstone | 41.80 | 14.00 | | | 58 | | | |
| Grey Sandstone | 43.60 | 3.60 | | | 50 | | | |
| Hard Sandy mudstone | 50.00 | 4.60 | | | 57 | 6 | | |
| 24.00 - casing dry. | | | | | | | | |
| Move over 2 ocm. | | | | | | | | |
| Rig rapped & backfilled | | | | | | | | |

HRS

AMOUNTS PAYABLE 273

| | | |
|---|---|---|
| OPEN HOLE | HF | 50 00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 18 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Fri: 24-9-82.
SHEET 1 OF 2

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryphon 48.
WORKS ORDER No. 7749.
DRILLER H. Rowlan.
2nd MAN J. O'Connor.
3rd MAN M. Costello.

M 2746R

BH. No. 272 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sand. | 18.00 | 16.80 | | | 13 | | | |
| Brown Sandy clay. | 21.00 | 6.00 | | | 10 | 6 | | |
| 18.00m cem | | | | | | | | |
| Augers used on RIH while cementing 18.00m casing. Sand pumping out of RIH. casing forming RIH Abandoned. | | | | | | | | |

GEOLOGISTS NOTES

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 272 |
| 4 | OPEN HOLE | HF | 2.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 5 | CASING | HX | 6 |
| | | PX | 12 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thur: 23-9-82.
SHEET 2 OF 2.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Greyhound 43.
WORKS ORDER No. 7749.
DRILLER H. Ronson
2nd MAN J. O'Connor.
3rd MAN M. Costello.

M 2746R

BH. No. 271 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sand. | 14.00 | 13.50 | | | 13 | | | |
| Brown Sandy clay. | 25.40 | 11.40 | | | | 5 | | |
| Sandy mudstone | 27.90 | 2.50 | | | 58 | | | } cable tool. |
| Dark Sandy Mudstone | 50.00 | 22.10 | | | 586 | | | } |
| 27.00 m ran - Water. Wet Dry. 34.00 m. | | | | | | | | |
| Move over 2.00 m. | | | | | | | | |
| R/H Capped a Inch Wheel | | | | | | | | |

HRS

AMOUNTS PAYABLE 27

| | | |
|---|---|---|
| OPEN HOLE | HF | 80.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | ~~27~~ 8 |
| | SX | 3 |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Thurs 23-9-82
SHEET 1 OF 2

Contractor Hmco
Area Lancs.

TYPE & No. of Drill Creyphan 45. 270
WORKS ORDER No. 7749
DRILLER H. Rowson
2nd MAN J. O'Connor
3rd MAN M. Costello

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sand | 11.00 | 10.20 | | | 13 | | | |
| Brown Sandy clay | 17.10 | 6.10 | | | | 5 | | |
| Sandy mudstone | 22.30 | 5.20 | | | 58 | | | } 1 unit |
| Dark Sandy mudstone | 27.20 | 4.90 | | | 58 | | | |
| Coal. (Dirt Band) | 27.60 | 0.40 | | | 23 | | | |
| Sandstone (Grey) | 29.80 | 2.20 | | | 50 | | | |
| Coal. Dark mudstone | 31.40 | 1.60 | | | | | | |
| Coal. | 31.50 | 0.10 | | | 20 | | | |
| Sandy mudstone | 33.80 | 2.00 | | | 58 | | | } 1 unit. |
| Dark Sandy mudstone | 40.20 | 6.70 | | | 58 | | | |
| Sandy mudstone | 43.10 | 2.90 | | | 58 | | | |
| Dark Sandy mudstone | 48.70 | 5.60 | | | 58 | | | |
| Grey Sandstone | 50.00 | 1.30 | | | 50 | 6 | | |
| 18.00 m casing Dry. | | | | | | | | |
| Move over Soon. | | | | | | | | |
| RIH Capped a backfilled | | | | | | | | ✓ |

| HRS | AMOUNTS PAYABLE | | 270 |
|---|---|---|---|
| 5 | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| 4 | CASING | 412/HF | |
| | | CORE PF | |
| | | REC. SF | |
| | | D4 | |
| | | HX | 6 |
| | | PX | 12 |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Wed: 22-9-82.
SHEET 2 OF 2

Contractor Amco
Area Lancs.

TYPE & No. of Drill Creyghton 43.
WORKS ORDER No. 7749
DRILLER H. Rowlands.
2nd MAN T. O'Connor.
3rd MAN M. Costello

M 2746R

BH. No. 269 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sand | 13.50 | 13.00 | | | 13 | | | |
| Brown Sandy clay | 17.40 | 3.90 | | | | 5 | | |
| Dark Sandy mudstone | 43.20 | 25.80 | | | 58 | | | |
| Sandy mudstone | 44.00 | 0.80 | | | 58 | | | |
| Grey Sandstone | 47.70 | 3.70 | | | 50 | | | |
| Dark Sandy mudstone | 50.00 | 2.30 | | | 58 | 6 | | |
| 18.00m casing. Dry | | | | | | | | |
| Move over 2.00m. | | | | | | | | |
| B/H Capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 12 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Ellsworth.
SITE No. 031703.
DATE Wed. 22-9-82.
SHEET 1 OF 2

Contractor Amco
Area Cones.

TYPE & No. of Drill Gopher 45.
WORKS ORDER No. 7749.
DRILLER H. Crossley.
2nd MAN T. O'Connor.
3rd MAN M. Costello

M 2746R

BH. No. 268 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 4.70 | 4.20 | | | | | | |
| Sand | 8.90 | 4.20 | | | 13 | | | |
| Brown Sandy clay. | 19.80 | 10.90 | | | | 5 | | |
| Grey Sandstone | 26.50 | 6.70 | | | 50 | | | |
| Dark Sandy mudstone | 50.00 | 23.50 | | | 58 | 6 | | |
| 21.00m casing - Wet/dry from 2.70m | | | | | | | | |
| Move over 8.00m | | | | | | | | |
| Bit capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | 268 |
|---|---|---|---|
| S | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | 412/HF CORE REC | PF | |
| | | SF | |
| | | 04 | |
| S | CASING | HX | 6 |
| | | PX | 15 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No 031703.
DATE Tue. 21-9-82.
SHEET 4 OF 4

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryphe 45.
WORKS ORDER No 7449
DRILLER H. Gordon.
2nd MAN J. O'Connor.
3rd MAN M. Costello.

M 2746R

| BH No. / Field No. DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Site move changed Farms. 1 1/2 miles. | | | | | | | | |
| | | | | | | | | Exploratory BH. |
| 267 | | | | | | | | |
| Top soil | 0.80 | 0.80 | | | | | | |
| Sand | 14.20 | 13.70 | | | 13 | | | |
| Brown Sandy clay | 28.50 | 14.30 | | | | 5 | | |
| Dark mudstone | 31.10 | 2.60 | | | | | | |
| Sandy mudstone | 32.80 | 1.70 | | | 58 | | | code as limit. |
| Dark Sandy mudstone | 42.20 | 9.40 | | | 58 | | | |
| Grey Sandstone | 44.70 | 2.50 | | | 50 | | | |
| Hard Sandy mudstone | 50.00 | 5.30 | | | 57 | 6 | | |
| 30.00m casing | Dry. | | | | | | | |
| Move over 8-ocm. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | ✓ |

HRS

AMOUNTS PAYABLE 267

| | | |
|---|---|---|
| OPEN HOLE | HF | 50.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | ~~24~~ 18 |
| | SX | 6 |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 1/2 Miles |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed K.L. Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No 031703. DATE Tue' 21-9-82. SHEET 3 OF 4

Contractor Amco. Area Lancs.

TYPE & No. of Drill Gryphon 45. WORKS ORDER No. 7749.

DRILLER H. Gordon. 2nd MAN J. O'Connor. 3rd MAN M. Costello.

M 2746R

BH. No. Field No

266 on 253.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.00 | 1.80 | | | | 5 | | |
| Sandy mudstone | 4.80 | 2.80 | | | 58 | | | |
| Dark mudstone | 5.80 | 1.00 | | | | | | |
| Coal. | 5.65 | 0.15 | | | 20 | | A150 | |
| Sandy mudstone | 10.00 | 4.35 | | | 58 | | | |
| Core) 10.00 — 11.70 | | | | | | | | |
| mudstone grey soft/firm good stich | 10.68 | 0.68 | 0.68 | | | | | |
| Coal banded dull & bright good stich fossile inferon found at top 0.1cm. | 11.16 | 0.81 | 0.91 | | 20 | 1 | A103 | S-5 / S-6 |
| mudstone dark grey soft. | 11.19 | 0.03 | 0.03 | | 21 | 2 | A102 | Sandrock Mine |
| Coal banded dull bright good stich | 11.36 | 0.17 | 0.17 | | 20 | 1 | A101 | S 7. |
| Sandstone weathered soft | 11.39 | 0.02 | 0.02 | | 50 | | | |
| Lost core. | 11.70 | 0.32. | | | | 6 | | |
| | | 1.70 | 1.38 | | | | | RT. 300 x 11.70 |
| Boom casing Dry move over Boom. | | | | | | | | = 35.10 |
| -1H Capped & backfilled | | | | | | | | * As far as drilled |

| HRS | AMOUNTS PAYABLE | 266 |
|---|---|---|
| | OPEN HF | 11.70 |
| | HOLE PF | |
| | SF | |
| | 412/HF | 1.38 |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | 35.10 |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | ■ |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Tue. 21-9-82. SHEET 2 OF 4

Contractor Amec. Area CAMS.

TYPE & No. of Drill Bucyrus 45S. WORKS ORDER No. 7769.

DRILLER H. Gordon. 2nd MAN J. O'Connor. 3rd MAN M. Costello.

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 268. | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 5.00 | 4.80 | | | | 5 | | |
| Dark mudstone | 7.80 | 2.80 | | | | | | |
| Sandy mudstone | 12.10 | 4.30 | | | 58 | | | |
| Dark mudstone | 14.00 | 1.90 | | | | | | |
| Coal. | 14.18 | 0.18 | | | 20 | | A150 | |
| Sandy mudstone | 17.50 | 3.35 | | | 58 | | | |
| Soft loose Drilling (@ 0.60) | 18.50 | 1.00 | | | 30 | | A100 | Sandrock OW |
| Solid Drilling | 20.00 | 1.50 | | | 796 | | | |
| 6.00 m casing Dry. | | | | | | | | |
| Move over 8.00m. | | | | | | | | |
| R/H Capped & backfilled. | | | | | | | | |
| 11" 2p/s cementing plug | 17.00m. | | | | | | | |

HRS

AMOUNTS PAYABLE 265

| | | |
|---|---|---|
| OPEN HOLE | HF | 20.80 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6.00 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | 1/2 |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

Signed ____ Contractors Rep

Signed M Barber Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Tue: 21-9-82. SHEET 1 OF 4

Contractor Amco. Area Lewis.

TYPE & No. of Drill Greypher 45. WORKS ORDER No. 7749

DRILLER H. Gordon. 2nd MAN T. O'Connor. 3rd MAN M. Costello.

M 2746R

BH. No. 264 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 3.00 | 2.20 | | | | 5 | | |
| mudstone | 9.10 | 6.10 | | | | | | |
| Dark mudstone | 11.50 | 2.40 | | | | | | |
| Sandy mudstone | 15.05 | 3.55 | | | 58 | | | |
| Dark mudstone | 17.10 | 2.05 | | | | | | |
| Coal. | 17.25 | 0.15 | | | 20 | | A150 | |
| Sandy mudstone | 19.90 | 2.65 | | | 58 | | | |
| Light loose Drilling. (P.O.W) | 20.55 | 0.65 | | | 30 | | A100 | Sandrock OW |
| Sandy mudstone | 21.30 | 0.75 | | | 58 | | | |
| Grey Sandstone | 24.00 | 2.70 | | | 50 | 6 | | |
| 3.00 m casing Dry. | | | | | | | | |
| move over 2.00m | | | | | | | | |
| B/H capped & backfilled | | | | | | | | |
| p/s 1/2 Covering plug | 19.00m | | | | | | | |

| HRS | AMOUNTS PAYABLE 264 | |
|---|---|---|
| 5 | OPEN HOLE HF | 24.00 |
| | PF | |
| | SF | |
| 3 | 412/HF CORE PF REC. SF D4 | |
| | CASING HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| 2 | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | ½ |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | plug | 1 |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No 031703. DATE Mon. 20-9-82. SHEET 6 OF 6

Contractor Amec

Area Lancs.

TYPE & No. of Drill Creyton 45. WORKS ORDER No. 7749.

DRILLER H. Gordon.

2nd MAN T. O'Connor.

3rd MAN M. Costello.

M 2746R

BH. No. 263 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 3.70 | 3.20 | | | | 5 | | |
| Dark mudstone | 12.00 | 8.30 | | | | | | |
| Sandy mudstone | 19.80 | 3.80 | | | 58 | | | |
| Dark mudstone | 16.40 | 0.60 | | | | | | |
| Coal. | 16.80 | 0.10 | | | 20 | | | |
| Dark mudstone | 17.80 | 1.30 | | | | | | |
| Coal. | 17.95 | 0.15. | | | 20 | | A150 | |
| Sandy mudstone | 21.60 | 3.65. | | | | | | |
| Soft coal | 22.05. | 0.65. | | | 28 | | A100 | Sandrock Pillar? |
| Sandy mudstone | 22.70 | 0.65 | | | 58 | | | |
| Grey Sandstone | 24.00 | 1.30 | | | 50 | 6 | | |
| 6.00m casing Dry. | | | | | | | | |
| Move over 6.00m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

HRS

AMOUNTS PAYABLE 263

| | | |
|---|---|---|
| OPEN HOLE | HF | 24.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Mon. 20-9-82
SHEET 5 OF 6

Contractor Amco
Area Lancs.

TYPE & No. of Drill Gryphon 45.
WORKS ORDER No. 7749.
DRILLER H. Gordon.
2nd MAN J. O'Connor.
3rd MAN M. Costello.

M 2746R

BH. No. 262. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 3.20 | 2.70 | | | | 5 | | |
| Dark mudstone | 7.40 | 4.20 | | | | | | |
| Sandy mudstone | 7.70 | 0.30 | | | 58 | | | |
| Dark mudstone | 8.00 | 0.30 | | | | | | |
| Sandy mudstone | 11.90 | 3.90 | | | 58 | | | |
| Dark mudstone | 12.50 | 0.60 | | | | | | |
| Coal. | 12.55 | 0.05. | | | 20 | | | |
| Dark mudstone | 13.70 | 1.15. | | | | | | |
| Coal. | 13.85 | 0.15. | | | 20 | | | |
| Sa. y mudstone | 16.40 | 2.55. | | | 58 | | | |
| Soft-loose Drilling (P.O.W) | 17.40 | 1.00 | | | 30 | | | |
| Sandy mudstone | 18.30 | 0.90 | | | 58 | | | |
| Grey Sandstone. | 20.00 | 1.70 | | | 50 | 6 | | |
| 6.00m casing Dry | | | | | | | | |
| move over 6.00m. | | | | | | | | |
| B/H capped & backfilled | | | | | | | | ✓ |
| 1/2 p/s. inserting plug. 16.00m. | | | | | | | | |

HRS

AMOUNTS PAYABLE 262

| | | |
|---|---|---|
| OPEN HOLE | HF | 20.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | ½ |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | |

MATERIALS USED

Signed ____ Contractors Rep.
Signed M Bowden Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

SITE NAME Pilsworth. SITE No. 031703. DATE Mon. 20-9-82. SHEET 4 OF 6

REGION No. 3 NORTH WEST

Contractor Amco

Area Cands.

TYPE & No. of Drill Reydon 45. WORKS ORDER No. 7749.

DRILLER H. Gowson

2nd MAN J. O'Connor

3rd MAN M. Costello

M 2746R

BH. No. 261 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 3.80 | 3.00 | | | | 5 | | |
| Dark mudstone | 4.70 | 1.20 | | | | | | |
| Sandy mudstone | 9.60 | 4.90 | | | 52 | | | |
| Coal. | 9.70 | 0.10 | | | 20 | | | |
| Dark mudstone | 10.70 | 1.00 | | | | | | |
| Coal. | 10.80 | 0.10 | | | 20 | | A150 | |
| Sandy mudstone | 13.10 | 2.30 | | | 58 | | | |
| Old workings (County) | 14.00 | 0.90 | | | 32 | | A100 | Sandhoe OW. |
| Solid Drilling | 16.00 | 2.00 | | | 79 | 6 | | |
| 6.00m casing Dry | | | | | | | | |
| move over Boom. | | | | | | | | |
| B/H Capped & backfilled | | | | | | | | |
| 1/2 p/s inserting plug. 12.80. | | | | | | | | |

| HRS | AMOUNTS PAYABLE 261 | |
|---|---|---|
| | OPEN HOLE HF | 16.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE REC. PF | |
| | SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | 1/2 |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | plug | 1 |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Mon: 20-9-82.
SHEET 3 OF 6

Contractor Amco
Area Lancs

TYPE & No. of Drill Greyhound 43.
WORKS ORDER No. 7749
DRILLER H. Barton.
2nd MAN J. O. Connor.
3rd MAN M. Costello

M 2746R

BH. No. 260 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 3.90 | 3.40 | | | | 51 | | |
| Sandy mudstone | 10.20 | 6.30 | | | 58 | | | |
| Black mudstone | 10.35 | 0.15. | | | | | | |
| Sandy mudstone | 14.80 | 1.45. | | | 58 | | | |
| Grey Sandstone | 20.00 | 5.20 | | | 50 | 6 | | |
| Boom. casing Dry- | | | | | | | | |
| move over Boom | | | | | | | | |
| B/H capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 260 |
| | OPEN HOLE | HF | 20.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 3 |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed R Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth

SITE No. 031703

DATE Mon: 20-9-82

SHEET 2 OF 6

Contractor Amco

Area Lancs

TYPE & No. of Drill Creighton 43. 7749

WORKS ORDER No.

DRILLER H. Barton

2nd MAN J. O'Connor

3rd MAN M. Costello

M 2746R

BH. No. 259 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 2.10 | 1.60 | | | | 5 | | |
| Dark mudstone | 3.90 | 1.80 | | | | | | |
| Sandy mudstone | 8.70 | 4.20 | | | 58 | | | |
| Dark mudstone | 9.80 | 1.10 | | | | | | |
| Coal. | 9.98 | 0.18. | | | 20 | | A150 | |
| Sandy mudstone | 12.00 | 2.02. | | | 58 | | | |
| Old working (cavity) | 13.00 | 1.00 | | | 32 | | A100 | Sandstone ow |
| Solid Drilling | 15.00 | 2.00. | | | 50 | 6 | | |
| 3.00m casing Dry | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| RIH capped a backfilled | | | | | | | | |
| 1/2 p/s inserting plug. 11.80. | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

✓* ps for 20 this

HRS

AMOUNTS PAYABLE 259

| | | |
|---|---|---|
| OPEN HOLE | HF | 15.00 |
| | PF | |
| | SF | |
| CASING | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | HX | 3. |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND | | |
| TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | 1/2 |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1. |

MATERIALS USED

Signed _____ Contractors Rep

Signed H Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703.
DATE Mon: 20-9-82.
SHEET 1 OF 6.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Gryphon 45. 7749.
WORKS ORDER No.
DRILLER H. Rondon.
2nd MAN J. O'Connor.
3rd MAN M. Costello.

M 2746R

BH. No. 258. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 3.30 | 2.80 | | | | 5 | | |
| Dark mudstone | 5.60 | 2.30 | | | | | | |
| Sandy mudstone | 9.40 | 3.80 | | | 58 | | | |
| Dark mudstone | 10.00 | 0.60 | | | | | | |
| Coal. | 10.10 | 0.10 | | | 20 | | | |
| Dark mudstone | 11.38 | 1.28 | | | | | | |
| Coal. | 11.50 | 0.15 | | | 20 | | A150 | |
| Sandy mudstone | 13.50 | 2.00 | | | 58 | | | |
| old working (empty) | 14.50 | 1.00 | | | 32 | | A100 | |
| Solid Drilling (SST) | 16.50 | 2.00 | | | 50 | 6 | | |
| 6.00m casing Dry move over 5.00m. | | | | | | | | |
| B/H capped & backfilled | | | | | | | | |
| 1/2 p/s covering plug 13.00m. | | | | | | | | |

GEOLOGIST'S NOTES

| HRS | AMOUNTS PAYABLE 258 | |
|---|---|---|
| 5 | OPEN HOLE HF | 16.50 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| 2 | CASING HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| 3 | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | ½ |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | plug | 1 |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth

SITE No. 031703

DATE Fri. 17-9-82

SHEET 5 OF 5

Contractor Amco

Area Lancs.

TYPE & No. of Drill Reyphon. 45. 7749.

WORKS ORDER No.

DRILLER H. Borrow.

2nd MAN M. Costello

3rd MAN P. Gibson.

M 2746R

BH. No. 257 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 1.50 | 1.00 | | | | | | |
| Very Soft Infill. | 14.00 | 12.50 | | | 18 | 6 | | |
| possible Shaft position. | | | | | | | | |
| Solid Drilling not found. | | | | | | | | |
| B/H abandoned for Safety. | | | | | | | | |

HRS

AMOUNTS PAYABLE 257

| | | |
|---|---|---|
| OPEN HOLE | HF | 14.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | — |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND | | |
| TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed H. Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Fri. 17-9-82. SHEET 4 OF 8

Contractor Amco

Area Lopes.

TYPE & No. of Drill Creyton. 45.

WORKS ORDER No. 7745.

DRILLER H. Bordon.

2nd MAN M. Costello.

3rd MAN P. Gibson.

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 286. | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 5.10 | 4.60 | | | | 5 | | |
| Sandy mudstone | 9.40 | 4.30 | | | 58 | | | |
| Dark mudstone | 11.00 | 1.60 | | | | | | |
| Coal. | 11.20 | 0.20 | | | 20 | | Aiso | |
| Sandy mudstone | 12.40 | 4.20 | | | 58 | | | |
| Cavity . old workings | 16.40 | 1.00 | | | 32 | | A100 | Sandoor OWs |
| Solid Drilling (SST) | 18.00 | 1.60 | | | 50 | 6 | | |
| 6.00m casing Dry. | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| R/H capped & backfilled | | | | | | | | |
| 1/2p/s inserting plug 18.00m. | | | | | | | | |

HRS

AMOUNTS PAYABLE 256

| | | |
|---|---|---|
| OPEN HOLE | HF | 18.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | 1/2 |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Fri: 17-9-82
SHEET 3 OF 5

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cyclone 45. 7749
WORKS ORDER No.
DRILLER H. Berrow.
2nd MAN M. Costello.
3rd MAN D. Gibson.

M 2746R

BH. No. 255. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 2.00 | 1.50 | | | | 5 | | |
| Dark mudstone | 4.50 | 2.50 | | | | | | |
| Sandy mudstone | 8.70 | 4.20 | | | 58 | | | |
| Dark mudstone | 9.40 | 0.70 | | | | | | |
| Coal. | 9.55 | 0.15 | | | 20 | | ~~A150~~ | |
| Dark mudstone | 10.30 | 0.75 | | | | | | |
| Coal. | 10.45 | 0.15. | | | 20 | | A150 | |
| Sandy mudstone | 13.70 | 3.25 | | | 58 | | | |
| OD Workings (Cavity) | 14.90 | 1.00. | | | 32 | | A100 | |
| Solid Drilling (SST) | 17.00 | ~~1.30~~ 2.30 | | | 50 | 6 | | |
| Boom. casing dry. | | | | | | | | |
| Move over 2.00m. | | | | | | | | |
| RIH capped & backfilled. | | | | | | | | |
| 1/2 hr p/s inserting plug 13.00 | | | | | | | | |

HRS AMOUNTS PAYABLE 255

| | | |
|---|---|---|
| OPEN HOLE | HF | 17.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | 1/2 |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

Signed _____ Contractors Rep

Signed M.J. Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703
DATE Fri: 17-9-82.
SHEET 2 OF 3
Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryjohn 45. 7249.
WORKS ORDER No.
DRILLER H. Gordon.
2nd MAN M. Costello.
3rd MAN P. Gibson.

M 2746R

BH. No. 254 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.00 | 1.50 | | | | 5 | | |
| Dark mudstone | 4.35 | 2.35 | | | | | | |
| Coal. | 4.50 | 0.15 | | | 20 | | A150 | |
| Sandy mudstone | 7.90 | 3.40 | | | 58 | | | |
| Cavity old working | 8.90 | 1.00 | | | 32 | | A150 | Sandbag OW. |
| Solid Drilling (SST) | 11.00 | 2.10. | | | 50 | 6 | | |
| 3.00m cas. dry | | | | | | | | |
| move over 2.00m | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |
| ½m p/s. Inserting plug | 7.40. | | | | | | | |

| HRS | AMOUNTS PAYABLE 254 | |
|---|---|---|
| | OPEN HOLE HF | 11.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | ½ |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | plug | 1 |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No 031703. DATE Fri 17-9-82 SHEET 1 OF 3.

Contractor Amco

Area Lancs.

TYPE & No. of Drill Gryphon 45. 7769

WORKS ORDER No.

DRILLER H. Bordon.

2nd MAN M. Costello.

3rd MAN P. Gibson.

M 2746R

BH. No. 253. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: O/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.00 | 1.80. | | | | 5 | | |
| Sandy mudstone | 4.80 | 2.80 | | | 58 | | | |
| Dark mudstone | 5.80 | 1.00 | | | | | | |
| Coal. | 5.65 | 0.15. | | | 20 | | A150 | |
| Sandy mudstone | 10.70 | 5.05. | | | 58 | | | |
| Coal. (Soft) | 11.45. | 0.75. | | | 28 | | A100 | Sandook |
| Grey Sandstone | 14.00 | 2.55 | | | 50 | 6 | | |
| 3.00m. cas Dry | | | | | | | | |
| move over 3.00m. | | | | | | | | |
| Bit Capped a backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE 253 | | |
|---|---|---|---|
| 5 | OPEN HOLE | HF | 14.00 |
| | | PF | |
| | | SF | |
| | 412/HF | | |
| | CORE REC | PF | |
| | | SF | |
| | | D4 | |
| 2½ | CASING | HX | 3 |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 2½ | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed T Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No 031703. DATE Thurs. 16-9-82. SHEET 5 OF 5

Contractor Amco

Area Lancs.

TYPE & No. of Drill Cryptra 48

WORKS ORDER No. 7749.

DRILLER H. Borden.

2nd MAN M. Costello

3rd MAN P. Ribson

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| ~~BH~~ 252 | | | | | | | | |
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay | 4.60 | 4.10 | | | | 5 | | |
| Sandy mudstone | 9.40 | 4.80 | | | 58 | | | |
| Dark mudstone | 10.10 | 0.70 | | | | | | |
| Coal. | 10.20 | 0.10 | | | 20 | | A150 | |
| Sandy mudstone | 14.50 | 4.30 | | | 58 | | | |
| Soft Coal. (P.O.W) | 15.03 | 0.53 | | | 28 | | A100 | Sandock Ow |
| Sandy mudstone | 16.10 | 1.08. | | | 58 | | | |
| Grey Sandstone | 20.00 | 3.90 | | | 50 | 6 | | |
| 6.00m casing dry. | | | | | | | | |
| Move over 8.00m. | | | | | | | | |
| R/H Reprod & backfilled. | | | | | | | | |
| 1/2h p/s cementing plug. 16.00 | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HF | 25 |
| | HOLE PF | 25 |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | 1/2 |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | plug | 1 |

MATERIALS USED

Signed ... Contractors Rep

Signed ... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thur. 16-9-82.
SHEET 4 OF 5.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Greyhen 45. 7749.
WORKS ORDER No.
DRILLER H. Borders.
2nd MAN M. Costello.
3rd MAN P. Gibson

M 2746R

BH. No. 251 ~~250~~ Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 5.80 | 5.30 | | | | 5 | | |
| Dark mudstone | 6.60 | 0.80 | | | | | | |
| Sandy mudstone | 7.40 | 0.80 | | | 58 | | | |
| Dark mudstone | 11.10 | 3.70 | | | | | | |
| Coal. | 11.25 | 0.15. | | | 20 | | A150 | |
| Sandy mudstone | 13.40 | 3.15 | | | 58 | | | |
| Soft Coal. (P.O.W) | 16.00 | 0.60. | | | 28 | | A100 | Sandbox |
| Sandy mudstone | 16.90 | 0.90 | | | 58 | | | |
| Grey Sandstone | 20.00 | 3.10. | | | 50 | 6 | | |
| 9.00m casing. Dry. | | | | | | | | |
| Move over 8.00m | | | | | | | | |
| R/H Rapped. backfilled. | | | | | | | | |
| 1/2 hr p/s inserting plug | 15.00m. | | | | | | | |

HRS AMOUNTS PAYABLE 25

| | | |
|---|---|---|
| OPEN HOLE | HF | 20.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 3 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | ½ |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703 DATE Thurs. 16-9-82. SHEET 3 OF 5

Contractor Ameo

Area Lancs.

TYPE & No. of Drill Gryphon 48

WORKS ORDER No. 7749

DRILLER H. Rowson.

2nd MAN M. Costello.

3rd MAN P. Gibson.

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 259 – 239 | | | | | | | | |
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay | 6.90 | 6.40 | | | | 5 | | |
| Dark mudstone | 8.75 | 1.85 | | | | | | |
| Sandy mudstone | 12.25 | 3.50 | | | 58 | | | |
| Dark mudstone | 14.45 | 2.20 | | | | | | |
| Coal. | 14.60 | 0.15. | | | 20 | | A150 | |
| Sandy mudstone | 16.70 | 2.10 | | | 58 | | | |
| Core) 16.70 – 18.30. | | | | | | | | |
| ~~Lost Core.~~ | ~~16.70~~ | ~~1.00~~ | ~~1.00~~ | | | | | |
| Sandstone fine grained broken plant remains Slop dip 1 in 2. | 16.99. | 0.29 | 0.29 | | 50 | | | Sandrock OWs. |
| Lost core in o.ws. | 17.83 | 0.84 | | | 39 | | | |
| backfill Soft | 17.94 | 0.11 | 0.11 | | 30 | | A100 | |
| Sandstone broken soft Stitch | 18.30 | 0.36 | 0.36. | | 50 | 6 | | |
| | | 0.76 | 1.60 | | | | | RT. 3x 18.30 = |
| 9.00m casing Dry | | | | | | | | |
| move over 8.00m B/H. capped & backfilled. | | | | | | | | ✓ |

HRS

AMOUNTS PAYABLE 250

| | | |
|---|---|---|
| OPEN HOLE | HF | 1830 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | 076 |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 3 |
| | SX | |
| | GEOLOG | |
| ROUND | | 54.9 |
| TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed J. Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thur: 16-9-82
SHEET 3 OF 5

Contractor Amco
Area Canes.

TYPE & No. of Drill Gryphon 45
WORKS ORDER No. 7749.
DRILLER H. Bonson.
2nd MAN M. Costello.
3rd MAN P. Gibson

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: O/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 249 | | | | | | | | |
| Top Soil | 0.50 | 0.50 | | | | | | |
| Sand. | 2.40 | 1.90 | | | 13 | | | |
| Brown Sandy clay | 16.60 | 14.20 | | | | 5 | | |
| Brown Sandstone | 25.00 | 8.40 | | | 50 | 6 | | |
| 15.00 — casing Dry | | | | | | | | |
| Move over 5.00m | | | | | | | | |
| R/H Capped & Backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | 249 |
|---|---|---|
| | OPEN HOLE HF | 25.00 |
| | F | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | 04 | |
| | CASING HX | 6 |
| | PX | 9 |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | | |
| | | |
| | MATERIALS USED | |

Signed _____ Contractors Rep

Signed J Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

M 2746R

BH No. 031703 DATE Thurs: 16-9-82. SHEET 2 OF 5.

Contractor Amco

Area Lanes

TYPE & No. of Drill Cryphon 45

WORKS ORDER No. 7749.

DRILLER H. Gordon.

2nd MAN M. Costello.

3rd MAN P. Gibson.

Field No 248

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Sand. | 1.50 | 1.00 | | | 13 | | | |
| Brown Sandy clay | 16.40 | 14.90 | | | | 3 | | |
| Grey/Brown Sandstone | 25.00 | 8.60 | | | 5 | 6 | | |
| 15.00m casing Dry | | | | | | | | |
| Move over 5.00m. | | | | | | | | |
| R/H capped & Locked off | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE HF | 25.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | 9 |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Thurs: 16-9-82.
SHEET 1 OF 5.

Contractor Ameo
Area Lancs.

TYPE & No. of Drill Reyphen 45
WORKS ORDER No. 7749
DRILLER H. Rowson
2nd MAN M. Costello
3rd MAN P. Gibson

M 2746R

BH. No. 247 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay Sand. | 11.50 | 11.00 | | | | | | |
| | 15.50 | 4.00 | | | 13 | 5 | | |
| Grey Brown Sandstone | 25.00 | 9.50 | | | 50 | 6 | | |
| 15.00m casing. Dry | | | | | | | | |
| Move over 8.00m - | | | | | | | | |
| RIH Capped & backfilled. | | | | | | | | |

GEOLOGIST'S NOTES

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | | £ p |
| 5 | OPEN HOLE HF | 25.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | HX | 6 |
| 2½ | CASING PX | 9 |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| 2½ | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

OPENCAST EXECUTIVE

# DRILL LOG

## No. 3 NORTH WEST

TYPE & No. of Drill: Reynolds CS. 7749.

WORKS ORDER No.:

DRILLER: H. Rowson

2nd MAN: M. Costello

3rd MAN: P. Gibson

Contractor: Hunco

Area: Cymcs.

2

| OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 7.20 | 6.70 | | | | | | |
| Sand | 11.50 | 4.30 | | | 13 | | | Access Fault. |
| Brown Sandy clay | 14.70 | 3.20 | | | | 5 | | |
| Brown Sandstone | 30.00 | 15.30 | | | 50 | 6 | | |
| 15.00 m. casing Dry. | | | | | | | | |
| Move over 2.00m. | | | | | | | | |
| R/H Capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 30.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 9 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed: _____ Contractors Rep

Signed: _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No 031703.
DATE Wed. 15-9-82
SHEET 3 OF 4

Contractor Amec
Area Lancs.

TYPE & No. of Drill Greyhound 48.
WORKS ORDER No. 7749
DRILLER H. Bonson.
2nd MAN M. Costello.
3rd MAN P. Wilson.

M 2746R

BH. No. 245. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 11.40 | 10.90 | | | | | | |
| Sand & Gravel (wet) | 15.00 | 3.60 | | | 15 | 5 | | |
| Coal. traces (drill to Base) | 15.20 | 0.20 | | | 21 | | A100 | Sandsk Cop. |
| Sandy mudstone | 15.80 | 0.60 | | | 58 | | | |
| Grey/Brown Sandstone | 25.00 | 9.20 | | | 50 | 6 | | |
| 15 cm casing. Dry. | | | | | | | | |
| Move over Loom. | | | | | | | | |
| R/H capped & Locked off. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HF | 25.00 |
| | OPEN PF | |
| | HOLE SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | 6 |
| | CASING PX | 6 |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractors Rep

Signed P Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No 031703 DATE Wed. 15-9-82. SHEET 2 OF 4

Contractor Amco

Area Lancs.

TYPE & No. of Drill Cryphon 45.

WORKS ORDER No. 7749.

DRILLER H. Rondon.

2nd MAN M. Costello.

3rd MAN D. Gibson.

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 244 | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 12.50 | 12.00 | | | | | | |
| Sand & Gravel | 15.00 | 2.50 | | | 5 | 5 | | Above cap ? |
| (Hard to Read. (All cased) | | | | | | | | across panel. |
| Grey/Brown Sandstone | 25.00 | 10.00 | | | 50 | 6 | | |
| 15.00 — casing. Dry. | | | | | | | | |
| Move over 2.00m. | | | | | | | | |
| R/H Capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 24 |
| | OPEN HOLE | HF | 25.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 9 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No 031703. DATE WED: 15-9-82 SHEET 1 OF 4

Contractor Amco

Area Lancs.

TYPE & No. of Drill Gryphon 45.

WORKS ORDER No. 7749

DRILLER H. Rowson

2nd MAN M. Costello

3rd MAN P. Gibson

M 2746R

BH. No. 243 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 5.90 | 5.40 | | | | | | |
| Sand. | 8.40 | 2.80 | | | 13 | | | |
| Brown Sandy clay | 16.00 | 5.60 | | | | 5 | | |
| Sandy mudstone/Dark Bands | 16.80 | 2.80 | | | 58 | | | |
| Soft loose drilling (P.O.W) | 17.80 | 1.00 | | | 30 | | A100 | Sundries OWs |
| Sandy mudstone | 18.50 | 0.70 | | | 58 | | | |
| Grey Sandstone | 20.00 | 1.50 | | | 50 | 6 | | |
| 15.00m Casing Dry. | | | | | | | | |
| move over 5.00m. | | | | | | | | |
| R/H capped & backfilled | | | | | | | | |
| 1/2hr p/s inserting plug 16.00m. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | 243 |
|---|---|---|---|
| 5 | OPEN HOLE | HF | 20 d |
| | | PF | |
| | | SF | |
| 3 | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 9 |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| 2 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | 1/2 |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | plug | | 1 |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Tue: 14-9-82
SHEET 1 OF 1

Contractor Ameo
Area Lancs.

TYPE & No. of Drill Creighton 4.S. 7749.
WORKS ORDER No.
DRILLER H. Bonsor.
2nd MAN M. Costello.
3rd MAN

M 2746R

BH. No. 242 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 12.20 | 11.70 | | | | 5 | | |
| Sandy mudstone/ Dark Bs. | 13.80 | 1.60 | | | 58 | | | |
| @ 15' working (cavity) | 15.00 | 1.20 | | | 30 | | A100 | Sandrock OW |
| Solid Drilling. (Ameo) | 18.00 | 3.00 | | | | 6 | | |
| 12.00 – casing. Dry move over 5.00m | | | | | | | | |
| B/H capped & backfilled | | | | | | | | |
| ½ hr p/s cementing plug 14.80. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | | 2nd |
| | OPEN HF | 18 a |
| | HOLE PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | 6 |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | ½ |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | plug | 1 |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No 031703
DATE Tue: 14-9-82
SHEET 4 OF 5.

Contractor Amco
Area Lancs

TYPE & No. of Drill Gryphon 45.
WORKS ORDER No. 7769.
DRILLER H. Bonsall
2nd MAN M. Costello
3rd MAN

M 2746R

BH. No. 241 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 8.40 | 7.90 | | | | | | |
| Sands. | 10.20 | 1.80 | | | 13 | 5 | | |
| Dark mudstone | 12.40 | 2.20 | | | | | | |
| Coal. | 12.50 | 0.10 | | | 20 | | A150 | a fault. ? |
| Soft Sandy mudstone | 15.80 | 3.30 | | | 30 | | A180 | Smaller dyke. |
| Sandstone | 26.00 | 10.20 | | | 50 | 6 | | |

12.00m casing dry
move over 2.00m.

R/H capped & backfilled.

HRS

AMOUNTS PAYABLE 241

| | | |
|---|---|---|
| OPEN HOLE | HF | 26.0 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 6 |
| | SX | |
| GEOLOG | | |
| ROUND | | |
| TRIPPING | | |
| MOVING | | |
| Extra Wheels | | |
| Standing Rig in | | |
| Stand not | | |
| Imm | | |
| S | | |

Rep

Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No 031703.
DATE Tue: 14-9-82.
SHEET 3 OF 5.

Contractor Amco.
Area Lancs.

TYPE & No of Drill Greyhon 4S.
WORKS ORDER No 7749.
DRILLER H. Gordon.
2nd MAN M. Costello.
3rd MAN

M 2746R

BH. No. 240 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 11.10 | 10.60 | | | | 5 | | |
| Brown Sandstone | 11.70 | 0.60 | | | 50 | | | |
| Grey Sandstone | 12.70 | 1.00. | | | 50 | | | |
| ~~P.o.w. (county)~~ H.S.M. | 14.90 | 2.20 | | | 58 | | | |
| P.o.w. (County) | 16.10 | 1.20 | | | 32 | | A100 | Sandstone Obs. |
| Solid Drilling | 18.00 | 1.90 | | | | 6 | | |
| 12.00m casing Dry | | | | | | | | |
| move over 2.00m | | | | | | | | |
| RIH capped & backfilled | | | | | | | | |
| 1/2 h p/s inserting plug | | 16.00. | | | | | | |

| HRS | AMOUNTS PA | 2560 |
|---|---|---|
| | OPEN HF | 1800 |
| | HOLE PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | 6 |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | 1/2 |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | plug | 1 |

MATERIALS USED

Signed ____ Contractors Rep.

Signed H Bowton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703 DATE Tue: 14-9-82 SHEET 2 OF 3

Contractor Amec Area Lancs.

TYPE & No. of Drill Greyphon 45 WORKS ORDER No. 7749.

DRILLER H. Barton 2nd MAN M. Costello 3rd MAN

M 2746R

BH. No. 239 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 6.90 | 6.40 | | | | 5 | | |
| Dark mudstone | 8.75. | 1.85. | | | | | | |
| Sandy mudstone | 12.25. | 3.50 | | | 58 | | | |
| Dark mudstone | 14.45. | 2.20 | | | | | | |
| Coal | 16.60 | 0.15. | | | 20 | | A150 | |
| Sandy mudstone | 17.25. | 2.65. | | | 58 | | | |
| Coal. | 17.85 | 0.60 | | | 20 | | A100 | Sandrock Mine. |
| Sandy mudstone | 18.40 | 0.55. | | | 58 | | | |
| Clay Sandstone | 20.00 | 1.60 | | | 50 | 6 | | |
| 9.00am casing Dry. move over 8.00am. | | | | | | | | |
| R/H capped & backfilled | | | | | | | | |

| HRS | AMOUNTS | 239 |
|---|---|---|
| OPEN HOLE | HF | 20.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 3 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed H Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Tue: 14-9-82. SHEET 1 OF 5.

Contractor Amco

Area Lancs

TYPE & No. of Drill Greyphon 45. 7749.

WORKS ORDER No.

DRILLER H. Rowson.

2nd MAN M. Costello.

3rd MAN

M 2746R

BH. No. 238 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 7.10 | 6.60 | | | | 5 | | |
| Dark mudstone | 11.30 | 4.20 | | | | | | |
| Coal. | 11.40 | 0.10 | | | 20 | | Arse | 6" |
| Sandy mudstone | 14.50 | 3.10 | | | 58 | | | |
| Coal. (soft) | 15.10 | 0.60 | | | 38 | | Acc | Sandock |
| Sandy mudstone | 16.00 | 0.90 | | | 58 | | | |
| Grey Sandstone | 26.00 | 10.00 | | | 50 | 6 | | |
| 9.00 am casing Dry | | | | | | | | |
| Move over 3.00 pm | | | | | | | | |
| R/H capped & backfilled. | | | | | | | | |

1 + oo for oo this

| HRS | AMOUNTS PAYABLE | | 238 |
|---|---|---|---|
| 5 | OPEN HOLE | HF | 26-00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| 2½ | | PX | 3 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| 24 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Mon: 13-9-82.
SHEET 2 OF 2

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryphon 45.
WORKS ORDER No. 7749.
DRILLER H. Bonson.
2nd MAN M. Costello.
3rd MAN

M 2746R

BH. No. 237 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 10.80 | 10.00 | | | | 5 | | |
| Dark mudstone | 10.80 | 0.30 | | | | | | Sandrock ? |
| Sandy mudstone | 15.50 | 4.70 | | | 58 | | | fanked out. |
| Dark mudstone | 16.20 | 0.70 | | | | | | |
| Sandy mudstone | 19.50 | 3.30 | | | 58 | | | |
| Brown Sandstone | 50.00. | 30.50 | | | 50 | 6 | | |
| 12.00— cars. water 37.00— moved over 5 cars | | | | | | | | |
| R/H capped a backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | 237 |
|---|---|---|
| | OPEN HOLE HF | 50.0 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE REC. PF | |
| | SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | 6 |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Mon: 13-9-82. SHEET 1 OF 2.

Contractor Amco

Area Lancs.

TYPE & No. of Drill Gryphon 45. WORKS ORDER No. 7749

DRILLER H. Gordon. 2nd MAN P. Connell. 3rd MAN M. Costello.

M 2746R

BH. No. 236 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.30 | 0.30 | | | | | | |
| Brown Sandy clay. | 14.00 | 13.30 | | | | | | |
| Sand & Gravel. | 16.20 | 2.20 | | | 15 | | | |
| Brown Sandy clay | 20.70 | 4.50 | | | | 5 | | |
| Broken Brown Sandstone | 21.30 | 0.60 | | | 51 | | | |
| Dark mudstone | 24.50 | 3.20 | | | | | | |
| Sandy mudstone | 28.70 | 4.20 | | | 58 | | | |
| Sandy mudstone/ D.M. | 35.00 | 6.30 | | | 58 | | | |
| ~~Coal~~. Dark mudstone | 43.70 | 8.70 | | | | | | |
| Coal. | 43.85 | 0.15. | | | 20 | | A150 | 6" |
| Sandy mudstone | 46.80 | 2.95. | | | 58 | | | |
| P.O.W. Soft & loose. | 48.00 | 1.20 | | | 30 | | A100 | Sandrock DW. |
| Solid Drilling | 50.00 | 2.00 | | | | 6 | | |
| 18. 00m casing w/b & dry move over 2.00m | | | | | | | | |
| R/H capped & backfilled | | | | | | | | |
| 1/2 hr p/s inserting plug. 46.00m. | | | | | | | | ✓ |

| HRS | | | AMOUNTS PAYABLE 236 |
|---|---|---|---|
| 9. | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | CASING | 412/HF | |
| | | CORE PF | |
| | | REC SF | |
| | | D4 | |
| 4 | CASING | HX | 6 |
| | | PX | 12 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | ½ |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | plug | | 1 |

MATERIALS USED

Signed [signature] Contractors Rep

Signed M Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Fri. 10-9-82. SHEET 2 OF 2

Contractor Amco. Area Lancs.

TYPE & No. of Drill Cryphon 45. WORKS ORDER No. 7749

DRILLER H. Gordon. 2nd MAN P. Connell. 3rd MAN M. Costello.

M 2746R

BH. No. 235 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 18.80 | 18.00 | | | | 5 | | |
| Sandy mudstone | 27.30 | 8.80 | | | 58 | | | |
| Dark Mudstone | 30.40 | 3.10 | | | | | | |
| Sandy mudstone | 34.60 | 4.20 | | | 58 | | | } 1 unit |
| Dark Sandy mudstone | 35.35 | 0.75 | | | 58 | | | |
| Coal. | 35.40 | 0.05 | | | 20 | | | |
| Dark mudstone | 36.50 | 1.10 | | | | | | |
| Coal. | 36.65 | 0.15 | | | 20 | | A150 | |
| Sandy mudstone | 40.45 | ~~3~~ 3.80 | | | 58 | | | |
| Soft loose coaly mudstone | 41.00 | 0.55 | | | 30 | | A100 | Sandstone obs |
| Sandy mudstone | 42.00 | 1.00 | | | 58 | | | |
| Grey Sandstone | 45.00 | 3.00 | | | 50 | C | | |
| 18.00m casing Dry | | | | | | | | |
| move over 5.00m. | | | | | | | | |
| R/H capped a badly filled. | | | | | | | | |
| 1/2 p/s inserting plug 40.00m. | | | | | | | | |
| Casing very tight, Jammed up in R/H, casing freed by tractor. | | | | | | | | ✓ |

HRS

AMOUNTS PAYABLE 235

| | | |
|---|---|---|
| OPEN HOLE | HF | 45.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 9 12 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | 1/2 |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No 031703. DATE Fri: 10-9-82. SHEET 1 OF 2

Contractor Amco

Area Cawes.

TYPE & No. of Drill Greyphan 45 7749

WORKS ORDER No.

DRILLER H. Ronson.

2nd MAN P. Connell.

3rd MAN M. Costello.

M 2746R

BH. No. 234. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery |
|---|---|---|---|
| Top soil | 0.50 | 0.50 | |
| Sand. | 7.00 | 6.50 | |
| Brown Sandy clay. | 18.00 | 11.00 | |
| casing (18.00m) while boring connecting, was pumping out sand. Rig became unstable. B/H abandoned. casing would not load. | | | |

GEOLOGISTS NOTES

| C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|
| | | | | |
| | 13 | | | |
| | 10 | 6 | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | 234 | |
| 9 | OPEN HOLE HF | 18.00 | |
| | PF | | |
| | SF | | |
| | 412/HF | | |
| | CORE REC PF | | |
| | SF | | |
| | D4 | | |
| 4 | CASING HX | 6 | |
| | PX | 12 | |
| | SX | | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| 1 | MOVING | 1 | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Thurs 9-9-82. SHEET 2 OF 2.

Contractor Amco. Area Lancs.

TYPE & No. of Drill Gryphon 45. WORKS ORDER No. 7749

DRILLER H. Rowson. 2nd MAN P. Rowell. 3rd MAN M. Costello.

M 2746R

BH. No. 233. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 19.80 | 19.30 | | | | 5 | | |
| Dark mudstone | 24.60 | 4.80 | | | | | | |
| Coal. | 24.70 | 0.10 | | | 20 | | Also | |
| Sandy mudstone | 27.10 | 2.40. | | | 58 | | | |
| Soft loose drilling mixed. P.O.W. | 29.70 | 2.60 | | | 30 | | Also | Sandstone |
| Sandy mudstone | 30.80 | 1.10. | | | 58 | | | |
| Grey Sandstone | 33.00 | 2.20 | | | 50 | 6 | | |
| 21.00 m casing. Wet & sticky move over 8.00m. | | | | | | | | |
| R/H capped & backfilled. | | | | | | | | |
| ½ p/s inserting plug 26.00m. | | | | | | | | |

HRS

AMOUNTS PAYABLE 233

| | | |
|---|---|---|
| OPEN HOLE | HF | 33.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 12 |
| | SX | |
| GEOLOG | | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | ½ |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

Signed ____ Contractors Rep.

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE 10th Sept. 9-9-82. SHEET 1 OF 2

Contractor Amco

Area Lancs.

TYPE & No. of Drill Cryspher 45 #7749.

WORKS ORDER No.

DRILLER H. Borden.

2nd MAN P. Connell.

3rd MAN M. Costello.

M 2746R

BH. No. 232 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 15.00 | 14.50 | | | | 5 | | |
| Dark mudstone | 17.30 | 2.30 | | | | | | |
| Sandy mudstone | 23.70 | 6.40 | | | 58 | | | } 1 unit |
| Dark mudstone/Sandy Ms | 30.60 | 6.90 | | | 58 | | | } |
| Dark mudstone | 37.20 | 6.60 | | | | | | |
| Coal. | 37.35 | 0.15. | | | 20 | | Also | |
| Sandy mudstone | 40.20 | 2.85. | | | 58 | | | |
| Soft core Drilling, mudst | 40.70 | 0.50 | | | 30 | | Also | Sandst oil |
| Sandy mudstone | 41.90 | 1.20 | | | 58 | | | |
| Grey Sandstone | 45.00 | 3.10 | | | 50 | 6 | | |
| 15.00m casing. Water | 39.50m. | | | | | | | √ P1 |
| move over 8.00m | | | | | | | | |
| R/H capped & backfilled | | | | | | | | |
| 1/2 p/s inserting | plug. 39.50m. | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 252 |
| 6 | OPEN HOLE | HF | 45 00 |
| | | PF | ● |
| | | SF | |
| | | 412/HF | |
| | CORE REC | PF | |
| | | SF | |
| | | D4 | |
| 3 | CASING | HX | 6 |
| | | PX | 9 |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | ½ |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | plug | | 1 |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Ellsworth.
SITE No. 031703.
DATE Wed: 8-9-82.
SHEET 2 OF 2

Contractor Ameo
Area Lancs.

TYPE & No. of Drill Boyles 45 7749
WORKS ORDER No.
DRILLER H. Rowan.
2nd MAN P. Connell.
3rd MAN M. Costello.

M 2746R

| BH No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 231 | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sand. | 1.20 | 0.70 | | | 13 | | | |
| Brown Sandy clay | 11.10 | 8.90 | | | | 5 | | |
| Broken Brown Sandstone | 13.00 | 1.90 | | | 51 | | | |
| Brown Sandstone | 19.60 | 6.60 | | | 50 | | | |
| Sandy mudstone | 22.30 | 2.70 | | | 58 | | | |
| Sandy mudstone / Dark Mudstone | 40.60 | 18.30 | | | 58 | | | } Code as 1 unit |
| Sandy mudstone | 45.00 | 4.40 | | | 58 | | | |
| Dark mudstone | 46.55 | 1.55 | | | | | | |
| Coal. | 46.70 | 0.15 | | | 20 | | Also | |
| Sandy mudstone | 49.50 | 2.80 | | | 58 | | | |
| Coal. | 49.60 | 0.10 | | | 20 | | A100 | Sandrock faulted. |
| Brown Hard Sandstone | 60.00 | 10.40 | | | 50 | 6 | | |
| 15.00m casing. Dry | To 52.00m. | | | | | | | ✓ |
| move over 2.00m | | | | | | | | |
| RIH capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 60.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 9 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No 031703. DATE Wed: 8-9-82. SHEET 1 OF 2

Contractor Amco

Area Lancs.

TYPE & No. of Drill Creyphem 45. 7749.

WORKS ORDER No.

DRILLER H. Barrow.

2nd MAN P. Connell.

3rd MAN M. Costello.

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 230 – 215 | | | | | | | | |
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay | 18.50 | 18.00 | | | | 5 | | |
| Sandy mudstone | 20.00 | 1.50 | | | 58 | | | |
| Dark Mudstone | 21.35 | 1.35. | | | | | | |
| Coal. | 21.50 | 0.15 | | | 20 | | A150 | |
| Hard Sandy mudstone | 25.00 | 3.50 | | | 58 | | | |
| Core) 25.00 – 27.50 | | | | | | | | |
| Lost Core. 0.W. | 25.90 | 0.90 | | | 30 | 2 | A100 | Sandrock OW |
| Backfill S/f weathered | 26.90 | 1.00 | 1.00 | | 30 | 2 | A100 | |
| Sandstone grey broken S/f | 27.50 | 0.60 | 0.60 | | 51 | 6 | | |
| | | 2.50 | 1.60 | | | | | |
| 215 – casing dry. | | | | | | | | |
| move over 8.00 – | | | | | | | | |
| B/H capped a backfilled | | | | | | | | |
| ½ p/s cementing plug. 24.50 | | | | | | | | |

GEOLOGIST'S NOTES

✓ £1

3 × 27.50

£2.50

| HRS | AMOUNTS PAYABLE 230 | | |
|---|---|---|---|
| 4 | OPEN HOLE | HF | 27.50 |
| | | PF | |
| | | SF | |
| 1½ | CORE REC | 412/HF | 1.60 |
| | | PF | |
| | | SF | |
| | | D4 | |
| 3 | CASING | HX | 6 |
| | | PX | 15 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| 1½ | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | ½ |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | plug | | 1 |

MATERIALS USED

Signed ____ Contractors Rep

Signed A Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Tue. 7-9-82.
SHEET 3 OF 3

Contractor Amco
Area Lunes.

TYPE & No. of Drill Creyphon 48.
WORKS ORDER No. 7749.
DRILLER H. Conroy.
2nd MAN P. Connell.
3rd MAN M. Costello.

M 2746R

BH. No. 229 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 7.80 | 7.00 | | | | 5 | | |
| Brown Sandstone | 12.80 | 5.00 | | | 50 | | | |
| Sandy mudstone | 28.70 | 16.20 | | | 58 | | | |
| Dark mudstone | 31.50 | 2.80 | | | | | | |
| Sandy mudstone | 34.80 | 3.30 | | | 58 | | | |
| Dark mudstone | 37.55 | 2.75. | | | | | | |
| Coal. | 37.70 | 0.15 | | | 20 | | 11.50 | |
| Sandy mudstone | 38.90 | 1.20 | | | 58 | | | |
| Old workings (Cavity) | 40.50 | 1.60 | | | 32 | | Alt 2 | Sandrock OW |
| Solid Drilling | 42.50 | 2.00 | | | | 6 | | |
| 9.00m casing. water | 38.00m | | | | | | | |
| move over 3.00m | | | | | | | | |
| B/H capped & backfilled | | | | | | | | |
| 1/2 p/s cementing plug 38.00m. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 229 |
| | OPEN HOLE | HF | 42.50 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 3 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | 1/2 |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | plug | | 1 |

MATERIALS USED

Signed _____ Contractors Rep

Signed A J Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Tue. 7-9-82. SHEET 2 OF 3

Contractor Amco. Area Lancs.

TYPE & No. of Drill Cryphon 45. WORKS ORDER No. 7749.

DRILLER H. Lomax. 2nd MAN P. Connell. 3rd MAN M. Costello.

M 2746R

BH. No. 228 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 10.50 | 10.00 | | | | | | |
| Sand. | 11.00 | 0.50 | | | 13 | 5 | | |
| Dark mudstone | 17.00 | 6.00 | | | | | | |
| Sandy mudstone | 24.80 | 7.80 | | | 58 | | | |
| Dark mudstone | 31.30 | 5.80 | | | | | | |
| Coal. | 31.45 | 0.15 | | | 20 | | A150 | ✓ P/1 |
| Sandy mudstone | 34.70 | 3.25. | | | 58 | | | |
| Old Workings. (Cavity) | 36.00 | 1.30 | | | 32 | | A100 | |
| Solid Drilling | 38.00 | 2.00 | | | | 6 | | |
| 12.00m casing - Dry. move over 8.00m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |
| 1/2 p/s cementing plug - 34.00m | | | | | | | | |

| HRS | AMOUNTS PAYABLE 228 | |
|---|---|---|
| | OPEN HOLE HF | 38.80 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE REC. PF | |
| | SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | 6 |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | ½ |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | plug | 1 |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Tue. 7-9-82. SHEET 1 OF 3

TYPE & No. of Drill Gryphon 45. WORKS ORDER No. 7749.

DRILLER H. Carson. 2nd MAN P. Connell. 3rd MAN M. Costello.

Contractor Amco. Area Lancs.

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery |
|---|---|---|---|
| 227 on 211. | | | |
| Top Soil | 0.80 | 0.80 | |
| Brown Sandy clay. | 13.00 | 12.80 | |
| Dark mudstone | 15.40 | 2.40 | |
| Coal. | 15.50 | 0.10 | |
| Sandy mudstone | 18.50 | 3.00 | |
| Core) 18.50 — 20.50 | | | |
| Lost Core. O.W. | 19.65 | 1.15 | ~~1.15~~ |
| Backfill. Soft weathered dk grey Sandstone, soft weathered Iron stained | 19.88 | 0.23 | 0.23 |
| | 20.30 | 0.62 | 0.62. |
| | | 2.00 | 0.85 |
| 15.00 m casing dry | | | |
| move over 5.00m. | | | |
| B/H capped & backfilled. | | | |

GEOLOGIST'S NOTES

| G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|
| | | 5 | | |
| | 20 | | A150 | |
| | 58 | | | |
| | 39 | | | N/S. |
| | 30 | 2 | A160 | Sandrock OW. |
| | 51 | 6 | | |

V/H

RT.

3. X 20.50 / 61.50 = 0.85

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 227 |
| 4½ | OPEN HOLE | HF | 20.30 |
| | | PF | |
| | | SF | |
| 1 | CORE REC | 412/HF | 0.85 |
| | | PF | |
| | | SF | |
| | | D4 | |
| 3 | CASING | HX | 6 |
| | | PX | 9 |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | 61.50 |
| | TRIPPING | | |
| 1½ | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed M Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No 031703. DATE Mon. 6-9-82. SHEET 4 OF 4

Contractor NMC Area Lancs.

TYPE & No. of Drill Reyrolle 45. WORKS ORDER No. 7749.

DRILLER H. Riordan. 2nd MAN P. Connell. 3rd MAN M. Costello.

M 2746R

BH. No. 226. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Sand | 2.30 | 1.80 | | | 13 | | | |
| Brown Sandy clay | 10.00 | 7.70 | | | | 5 | | |
| Brown Sandstone | 13.90 | 3.90 | | | 30 | | | |
| Dark mudstone | 16.30 | 2.40 | | | | | | |
| Sandy mudstone | 24.70 | 8.40 | | | 58 | | | |
| Dark mudstone | 28.70 | 4.00 | | | | | | |
| Sandy mudstone | 31.18 | 2.48 | | | 58 | | | |
| Dark mudstone | 33.05 | 1.90 | | | | | | |
| Coal. | 33.20 | 0.15 | | | 20 | | A150 | |
| Sandy mudstone | 35.70 | 2.50 | | | 58 | | | |
| Soft loose drilling. P.O.W. | 36.70 | 1.00 | | | 30 | | A100 | |
| Sandy mudstone | 38.50 | 1.80 | | | 58 | 6 | | |
| 12.00m casing set 36.00m | | | | | | | | |
| move over 8.00m | | | | | | | | |
| R/H capped & backfilled. | | | | | | | | |
| 1/2m p/s inserting plug to 35.00m | | | | | | | | |

HRS

AMOUNTS PAYABLE 226

| | | |
|---|---|---|
| OPEN HOLE | HF | 38.50 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 6 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | 1/2 |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Mon. 6-9-82.
SHEET 3 OF 4

Contractor Anco
Area Lanes.

TYPE & No. of Drill Greyphon 45.
WORKS ORDER No. 7749.
DRILLER H. Bonson.
2nd MAN P. Connell.
3rd MAN M. Costello.

M 2746R

BH. No. 225. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Soft Grey clay. | 4.50 | 4.00 | | | | | | |
| Brown Sandy clay | 13.90 | 9.40 | | | | 5 | | |
| Sandy mudstone | 18.00 | 4.10 | | | 58 | | | |
| Dark mudstone | 23.00 | 5.00 | | | | | | |
| Sandy mudstone | 27.00 | 4.00 | | | 58 | | | |
| Dark mudstone | 27.60 | 0.60 | | | | | | |
| Coal. | 27.70 | 0.10 | | | 20 | | [illegible] | |
| Dark mudstone | 28.85 | 1.15. | | | | | | |
| Coal. | 29.00 | 0.15. | | | 20 | | A150 | |
| Sandy mudstone | 32.00 | 3.00 | | | | | | |
| c/o working (Sandy) | 33.50 | 1.50 | | | 30 | | A100 | Sand. & Oil |
| Solid Drilling | 35.00 | 1.50 | | | | 6 | | |
| 12.00m casing. Dry. move over 2.00m | | | | | | | | |
| B/H Capped & backfilled. | | | | | | | | |
| 1/2 p/s. plug inserted to 31.00m | | | | | | | | |

HRS

AMOUNTS PAYABLE 225

| | | |
|---|---|---|
| OPEN HOLE | HF | 35.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 9 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | 1/2 |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

Signed [signature] Contractors Rep.

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Ellsworth. SITE No 031703. DATE Mon: 6-9-82. SHEET 2 OF 4

Contractor Amco

Area Lancs.

TYPE & No. of Drill Cryston 48.

WORKS ORDER No. 7749.

DRILLER H. Pearson.

2nd MAN P. Cornwell.

3rd MAN M. Costello.

M 2746R

BH. No. 224. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Sand (wet) | 2.00 | 1.50 | | | 13 | | | |
| Brown Sandy clay | 18.20 | 16.20. | | | | 5 | | |
| Dark mudstone mixed (Off to read.) | 20.00 | 1.80. | | | | | | |
| Sandy mudstone | 21.70 | 1.70 | | | 58 | | | |
| Grey Sandstone. | 30.00 | 8.30 | | | 50 | 6 | | |
| 18.00 cem. Dry. More over 8.00 cem. | | | | | | | | |
| BH capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE 224 | |
|---|---|---|
| | OPEN HOLE HF | 30.50 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE REC. PF | |
| | SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | 12 |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Mon. 6-9-82.
SHEET 1 OF 4.

Contractor Amec
Area Lancs.

TYPE & No. of Drill Greyhen 43 #749
WORKS ORDER No.
DRILLER H. Bonson
2nd MAN P. Connell.
3rd MAN M. Costello.

M 2746R

BH. No. 223 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Sand. | 1.80 | 1.30 | | | 13 | | | |
| Brown Sandy clay. | 17.80 | 16.00 | | | | 5 | | |
| Dark mudstone ET. | 18.00 | 0.20 | | | 21 | | A100 | Sandall Cop. |
| Sandy mudstone | 20.00 | 2.00 | | | 59 | | | |
| Grey Sandstone | 30.00 | 10.00 | | | 50 | 6 | | |
| 18.00m C. Dry. | | | | | | | | |
| move over 8.00m | | | | | | | | |
| R/H capped backfilled. | | | | | | | | |

| HRS | | AMOUNTS PAYABLE 223 | |
|---|---|---|---|
| 5 | OPEN HOLE HF | 30.50 | |
| | PF | | |
| | SF | | |
| | 412/HF | | |
| | CORE PF | | |
| | REC SF | | |
| | D4 | | |
| 3 | CASING HX | 6 | |
| | PX | 12 | |
| | SX | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 2 | MOVING | 1 | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | | | |
| | | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Fri - 3-9-82
SHEET 3 OF 3

Contractor Amco
Area Lymes

TYPE & No. of Drill Cryphon 43
WORKS ORDER No. 7749.
DRILLER H. Bonsor.
2nd MAN P. Connell.
3rd MAN M. Castillo.

M 2746R

BH. No. 222 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy Sandy Bands clay | 16.70 | 16.20 | | | | 5 | | |
| Dark mudstone e.T. | 17.40 | 0.70 | | | 21 | | A100 | C&D |
| Sandy mudstone | 19.00 | 1.60 | | | 58 | | | |
| Grey Sandstone | 30.00 | 11.00 | | | 50 | 6 | | |
| 15.00m casing Sloppy. Diff to read. move over 8.00m | | | | | | | | |
| RIH capped & backfilled | | | | | | | | |

GEOLOGISTS NOTES

| HRS | AMOUNTS PAYABLE 222 | |
|---|---|---|
| | OPEN HOLE HF | 30.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE REC PF | |
| | SF | |
| | 04 | |
| | CASING HX | 6 |
| | PX | 9 |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Fri. 3-9-82.
SHEET 2 OF 3

TYPE & No. of Drill Gregpher 43.
WORKS ORDER No.
DRILLER H. Barlow
2nd MAN P. Connell.
3rd MAN M. Costello.

Contractor Amco
Area Lancs

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | O/RF & Level | GEOLOGIST'S NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 221 | | | | | | | | |
| Top Soil | 0.50 | 0.50 | | | | | | |
| Sand. (wet) | 5.40 | 4.90 | | | 13 | | | |
| Brown Sandy clay | 17.00 | 11.60 | | | | 5 | | |
| Dark mudstone Dff to Read. | 20.00. | 3.00. | | | 21 | 6 | | |
| Rig vibrating badly. cavity reamed casing RIH elongated. running Sand. | | | | | | | | |
| 18.00m casing wet & sloppy. move over Rear. | | | | | | | | |
| RIH capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE 221 | |
|---|---|---|
| | OPEN HOLE HF | 20 20 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE REC. PF | |
| | SF | |
| | D4 | |
| | CASING HX | C |
| | PX | 12 |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No 031703
DATE Fri 3-9-82
SHEET 1 OF 3

Contractor Amco
Area Lancs.

TYPE & No. of Drill Reyphan 45. 2225
WORKS ORDER No. 7749
DRILLER H. Gordon. 5
2nd MAN P. Connell.
3rd MAN M. Costello.

M 2746R

BH. No. 220 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sand. | 5.90 | 5.40 | | | 13 | | | |
| Brown Sandy clay | 16.40 | 10.50 | | | | 5 | | |
| Sandy mudstone | 19.60 | 2.20 | | | 58 | | | |
| Coal. | 20.30 | 0.70 | | | 20 | | A10 | Sandrock |
| Sandy mudstone | 22.00 | 1.70 | | | 58 | | | |
| Grey Sandstone | 30.00 | 8.00 | | | 50 | 6 | | |
| 18.00m casing Dry | | | | | | | | |
| Move over 8.00m. | | | | | | | | |
| B/H Capped & backfilled. | | | | | | | | |

HRS: 5 | 3½ | 1½

AMOUNTS PAYABLE

| | | |
|---|---|---|
| OPEN HOLE | HF | 30.00 |
| | PF | |
| | SF | |
| 412/HF CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 12 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thur 2-9-82.
SHEET 3 OF 3

Contractor Unco
Area Lagnes.

TYPE & No. of Drill Gryphon 45.
WORKS ORDER No. 7749.
DRILLER H. Gordon
2nd MAN P. Connell.
3rd MAN M. Costello.

M 2746R

BH. No. 219 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: O/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Sand | 5.50 | 5.00 | | | 13 | | | |
| Brown Sandy clay | 18.70 | 13.20 | | | | 5 | | |
| Dark mudstone c.T. | | | | | | | | |
| Off to rock. | 19.00 | 0.30 | | | 21 | | A100 | Sandrock |
| Grey Sandstone | 35.00 | 16.00 | | | 50 | 6 | | |
| 21.00m casing dry | | | | | | | | |
| move over 5.00m | | | | | | | | |
| R/H capped backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE 219 | |
|---|---|---|
| | OPEN HOLE HF | 35.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE REC PF | |
| | SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | 15 |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed ____ Contractors Rep

Signed M Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thur 2-9-82.
SHEET 2 OF 3

Contractor Amco
Area Lancs

TYPE & No. of Drill Creyghton 45.
WORKS ORDER No. 7749
DRILLER H. Gordon
2nd MAN P. Conwell.
3rd MAN M. Costello

M 2746R

BH. No. 218 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay (wet) | 18.50 | 18.00 | | | | 5 | | |
| Dents Mudstone Coal traces (Drill to read) | 19.20 | 0.70 | | | 21 | | Hoo | Cap of Sandrock. |
| Sandy mudstone | 20.30 | 1.10 | | | 58 | | | |
| Grey Sandstone | 35.00 | 14.70 | | | 50 | 6 | | |
| 21.00m cas. Dry | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| R/H capped & backfilled. | | | | | | | | |

HRS

AMOUNTS PAYABLE 218

| | | |
|---|---|---|
| OPEN HOLE | HF | 35.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 15 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Ailsworth.
SITE No 031703.
DATE Thurs 2-9-82
SHEET 1 OF 3.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryston 45 7749
WORKS ORDER No.
DRILLER H. Borrow
2nd MAN D. Lonnell.
3rd MAN M. Costello.

M 2746R

BH. No. 217 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sand. | 1.80 | 1.30 | | | 13 | | | |
| Brown Sandy clay | 18.40 | 16.60 | | | | 5 | | |
| Dark Mudstone | 20.30 | 1.90 | | | | | | |
| Coal. | 20.45 | 0.15. | | | 20 | | A150 | 6" |
| Sandy mudstone | 24.75 | 4.30 | | | 58 | | | |
| Coal. ~~Sandy mudstone~~ | 25.45 | 0.70 | | | 20 | | A100 | Sc = 1.00R |
| Sandy mudstone | 26.50 | 1.05 | | | 58 | | | |
| Grey Sandstone | 30.00 | 3.50 | | | 50 | 6 | | |

21.00 cas. Dry.
move over 5.00m.

B/H capped & backfilled.

| HRS | AMOUNTS PAYABLE | | 217 |
|---|---|---|---|
| 5 | OPEN HOLE | HF | 30.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 3½ | CASING | HX | 6 |
| | | PX | 15 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| 1½ | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Wed: 1-9-82.
SHEET 3 OF 3

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryphon. 45
WORKS ORDER No. 7749
DRILLER H. Rowson.
2nd MAN P. Cornwell.
3rd MAN M. Costello.

M 2746R

BH. No. 216. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 16.30 | 15.50 | | | | 3 | | |
| Dark mudstone | 16.80 | 0.50 | | | | | | |
| Sandy mudstone | 22.00 | 5.20 | | | 58 | | | |
| Coal. | 22.70 | 0.70 | | | 20 | | A100 | Sandrock ✓ |
| Sandy mudstone | 23.50 | 0.80 | | | 58 | | | |
| Grey Sandstone | 30.00 | 6.50 | | | 50 | 6 | | |
| 18: 00m casing. Dry move over 2.00m. | | | | | | | | |
| R/H Capped & backfilled. | | | | | | | | |

HRS

AMOUNTS PAYABLE 216

| | | |
|---|---|---|
| OPEN HOLE | HF | 30.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 12 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Alsworth
SITE No. 031703
DATE Wed: 1-9-82
SHEET 2 OF 3

Contractor Amec
Area Lancs

TYPE & No. of Drill Cryphon 45
WORKS ORDER No. 7749
DRILLER H. Gordon
2nd MAN P. Connell
3rd MAN M. Costello

M 2746R

BH. No. Field No

215.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay | 18.50 | 18.00 | | | | 5 | | |
| Sandy mudstone | 19.50 | 1.00 | | | 58 | | | |
| Dark mudstone | 21.00 | 0.50 | | | | | | |
| Coal. | 21.15 | 0.15 | | | 20 | | A16 | 6" |
| Hard Sandy mudstone | 25.80 | 4.65 | | | 58 | | | |
| Coal. | 26.45 | 0.65 | | | 20 | | A60 | Sandstone |
| Sandy Mudstone | 27.20 | 0.75 | | | 58 | | | |
| Grey Sandstone | 32.00 | 4.80 | | | 50 | 6 | | |

21.00m casing. Dry
move over 5.00m

B/H capped & backfilled

HRS

AMOUNTS PAYABLE 215

| | | |
|---|---|---|
| OPEN HOLE | HF | 32.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 15 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Wed. 1-9-82
SHEET 1 OF 3

Contractor Amco
Area Lancs

TYPE & No. of Drill Greyhound 7749
WORKS ORDER No.
DRILLER H. Barton.
2nd MAN P. Cornell.
3rd MAN M. Costello.

M 2746R

BH. No. 214. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: O/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 2.00 | 1.50 | | | | | | |
| Sand. | 4.00 | 2.00 | | | 13 | | | |
| Brown Sandy clay | 12.60 | 8.40 | | | | | | |
| Sand & Gravel. | 13.50 | 1.10 | | | 15 | | | |
| Brown Sandy clay | 14.20 | 0.70 | | | | 5 | | |
| Dark mudstone | 26.30 | 12.10 | | | | | | |
| Sandy mudstone | 30.10 | 3.80 | | | 57 | | | |
| Dark Sandy mudstone | 30.75 | 0.65 | | | 58 | | | |
| Coal. | 30.85 | 0.10 | | | 20 | | A1S2 | |
| Dark Sandy mudstone | 32.35 | 1.50 | | | 58 | | | |
| Coal. | 32.40 | 0.05 | | | 20 | | A1S1 | |
| Sandy mudstone | 35.30 | 2.90 | | | 58 | | | |
| Coal. | 35.95 | 0.65 | | | 20 | | M&D | Sm. Inset |
| Sandy mudstone | 36.70 | 0.75 | | | 58 | | | |
| Grey Sandstone | 40.00 | 3.30 | | | 50 | 6 | | |
| 15.00m casing Dry. | | | | | | | | |
| move over 2.00m. | | | | | | | | |
| B/H Capped & backfilled. | | | | | | | | |

HRS: 5

AMOUNTS PAYABLE 214

| | | |
|---|---|---|
| OPEN HOLE | HF | 40.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING 3½ | HX | 6 |
| | PX | 9 |
| | SX | |
| | GEOLOG | |
| ROUND | | |
| TRIPPING | | |
| MOVING 1½ | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed [signature] Contractor's Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No 031703
DATE Tue: 31-8-82
SHEET 2 OF 2
Contractor Amco
Area Lancs

TYPE & No. of Drill Cryphon #2
WORKS ORDER No. JP 77459
DRILLER H. Gordon
2nd MAN P. Connell
3rd MAN M. Costello

HRS 43

AMOUNTS PAYABLE 213

| | | |
|---|---|---|
| OPEN HOLE | HF | 46.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 6 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | 1/2 |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGIST'S NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 213. | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 6.20 | 5.70 | | | | | | |
| Sand. | 8.70 | 2.50 | | | 13 | 5 | | |
| Broken brown Sandstone (cased) | 10.50 | 1.80 | | | 51 | | | |
| Brown Sandstone | 13.50 | 3.00 | | | 50 | | | |
| Dark Sandy mudstone | 15.50 | 2.00 | | | 58 | | | } 1 unit |
| Sandy mudstone | 30.40 | 14.90 | | | 58 | | | |
| Hard Sandy mudstone | 32.50 | 2.10 | | | 57 | | | |
| Sandy mudstone | 34.00 | 1.50 | | | 58 | | | } 1 unit |
| Dark Sandy mudstone | 35.70 | 1.70 | | | 58 | | | |
| Soft loose drilling, mixed returns P.O.W. | 39.00 | 3.30 | | | 30 | | A100 | Sundrock OW |
| Sandy mudstone | 41.00 | 2.00 | | | 59 | | | |
| Grey Sandstone | 46.00 | 5.00 | | | 50 | 6 | | |
| 12.00m casing Watch | 38.50m | - | | | | | | |
| Move over 2.00m. | | | | | | | | |
| Bitt Capped & backfilled. | | | | | | | | |
| 1/2 p/s plug Inserted to 38.00m. | | | | | | | | |

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pleasant. SITE No. 031703 DATE Tue: 31-8-82 SHEET 1 OF 2

Contractor Hunco

Area Lancs

TYPE & No. of Drill Cryptron 45 7769.

WORKS ORDER No.

DRILLER H. Bordas.

2nd MAN P. Connell.

3rd MAN M. Costello.

M 2746R

BH. No. 212. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sand | 5.80 | 5.00 | | | 13 | | | |
| Brown Sandy clay | 18.70 | 13.20 | | | | 5 | | |
| Sandy mudstone | 24.20 | 5.50 | | | 58 | | | |
| Dark mudstone | 25.00 | 0.80 | | | | | | |
| Coal. Top | 25.10 | 0.10 | | | 20 | | | |
| Dark Sandy mudstone | 26.30 | 1.20 | | | 58 | | | |
| Coal. | 26.45 | 0.15 | | | 20 | | Also | 6" |
| Sandy mudstone | 28.30 | 1.85 | | | 58 | | | |
| Coal. | 29.00 | 0.70 | | | 20 | | Also | Seam 2 |
| Sandy mudstone | 30.70 | 1.70 | | | 58 | | | |
| Grey Sandstone | 42.00 | 11.30 | | | 50 | 6 | | |
| 21.00m casing dry. | | | | | | | | |
| Move over 2.00m. | | | | | | | | |
| R/H Capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 212 |
| 6 | OPEN HOLE | HF | 42.00 |
| | | PF | |
| | | SF | |
| | | 412/HF | |
| | CORE REC. | PF | |
| | | SF | |
| | | D4 | |
| 3 | CASING | HX | 6 |
| | | PX | 15 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Aldworth

SITE No. 031703

DATE Mon. 30-8-82

SHEET 1 OF 1

Contractor Amec

Area Lynes.

TYPE & No. of Drill Cryspha 72 7769.

WORKS ORDER No.

DRILLER H. Gordon

2nd MAN D. Connell.

3rd MAN M. Costello.

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| No. Drilling Today | | | | | | | | |
| Bank Holiday. | | | | | | | | |
| Hooray! | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE | HF |
| | | PF |
| | | SF |
| | CORE REC | 412/HF |
| | | PF |
| | | SF |
| | | D4 |
| | CASING | HX |
| | | PX |
| | | SX |
| | | GEOLOG |
| | ROUND | |
| | TRIPPING | |
| | MOVING | |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | | |
| | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 03/703.
DATE Fri. 27-8-82
SHEET 2 OF 2.
Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryphon 45. 7749.
WORKS ORDER No.
DRILLER H. Barclay.
2nd MAN P. Connell.
3rd MAN M. Costello.

M 2746R

BH. No. 211 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 13.00 | 12.50 | | | | 5 | | |
| Dark mudstone | 15.40 | 2.40 | | | | | | |
| Coal. Face | 15.50 | 0.10 | | | 20 | | A150 | 6" |
| Sandy mudstone | 19.15 | 3.65 | | | 58 | | | |
| Coal. | 19.60 | 0.45 | | | 20 | | A100 | Sandrock. |
| Sandy mudstone | 21.00 | 1.40 | | | 58 | | | |
| Grey Sandstone | 42.00 | 21.00 | | | 50 | 6 | | |
| 18.00m casing Dry | | | | | | | | |
| Move over. 8.00m | | | | | | | | |
| B/H capped backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | 21 |
|---|---|---|---|
| | OPEN HOLE | HF | 42.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 9 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed M Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Aldworth. SITE No. 031703. DATE Fri: 27-8-82 SHEET 1 OF 2

Contractor Rmco

Area Lanes.

TYPE & No. of Drill Dreyton 45. WORKS ORDER No. 7749.

DRILLER H. Bordon

2nd MAN P. Connell

3rd MAN M. Costello.

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 210. | | | | | | | | |
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 9.40 | 8.90 | | | | 5 | | |
| Brown Sandstone | 10.70 | 1.30 | | | 50 | | | |
| Dark Sandy mudstone | 14.00 | 3.30 | | | 58 | | | |
| Sandy mudstone | 17.40 | 3.40 | | | 58 | | | |
| Black mudstone | 19.20 | 1.80 | | | | | | |
| Dark Soft mudstone | 21.90 | 2.70 | | | | | | |
| Coal. | 21.95 | 0.05 | | | 20 | | 1100 | Sandbed Faulted? |
| Sandy mudstone | 22.70 | 0.75 | | | 58 | | | |
| Hard Grey Sandstone | 80.00 | 26.30 | | | 50 | 6 | | |
| 12.00m casing water 29.00m | | | | | | | | |
| Move over 8.00m | | | | | | | | |
| RH capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | 210 | | |
| 5½ | OPEN HOLE | HF | 5 00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 6 |
| | | PX | 6 |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| 1½ | Boat ID. | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Thurs. 26-8-82 SHEET 3 OF 3

Contractor Amco Area Lancs

TYPE & No. of Drill Cryphe-45. 7749.

WORKS ORDER No.

DRILLER H. Rowan. 2nd MAN P. Connell. 3rd MAN M. Costello.

M 2746R

BH. No. Field No

209.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 3.00 | 2.50 | | | | 5 | | |
| Sandy mudstone | 8.50 | 5.50 | | | 58 | | | |
| Brown Sandstone | 26.10 | 17.60 | | | 50 | | | |
| Dark mudstone | 32.30 | 6.20 | | | | | | |
| Sandy mudstone | 35.80 | 3.50 | | | 58 | | | |
| Dark Sandy mudstone | 40.20 | 4.40 | | | 52 | | | 1 unit |
| Sandy mudstone | 42.00 | 1.80. | | | 52 | | | |
| Dark Sandy mudstone | 47.40 | 5.40 | | | 52 | | | |
| Sandy mudstone | 51.30 | 3.90 | | | 52 | | | |
| Coal. | 51.48 | 0.18. | | | 20 | | AIR | 6" |
| Sandy mudstone | 56.70 | 5.22 | | | 52 | | | |
| Soft loose mixed Drilling mud | 57.70 | 1.00 | | | 30 | | AIR. | SALT. |
| Sandy mudstone | 58.90 | 1.20 | | | 58 | | | |
| Grey Sandstone | 62.00 | 3.10 | | | 50 | 6 | | |
| 12.00 m casing with 8.0 m move over 8.00 m. | | | | | | | | |
| R/H Pappadopoulos backfilled. | | | | | | | | |
| 1/2 p/s inserting plug to 56.00 m. | | | | | | | | |

HRS

AMOUNTS PAYABLE 209

| | | |
|---|---|---|
| OPEN HOLE | HF | 62.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 6 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | 1/2 |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703.
DATE Mon. 26-8-82.
SHEET 2 OF 3

Contractor Ameo
Area Lancs

TYPE & No. of Drill Greyhon 4S
WORKS ORDER No. 7749.
DRILLER H. Bordon
2nd MAN P. Connell.
3rd MAN M. Costello

M 2746R

BH No. 208 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Sand. | 6.50 | 6.00 | | | 13 | | | |
| Brown Sandy clay | 9.40 | 2.90 | | | | 5 | | |
| Brown Sandstone | 27.50 | 8.10 | | | 50 | | | |
| Dark mudstone | 32.70 | 5.20 | | | | | | |
| Sandy mudstone | 36.10 | 3.40 | | | 58 | | | |
| Dark Sandy mudstone | 40.20 | 4.10 | | | 58 | | | |
| Sandy mudstone | 41.80 | 1.60 | | | 58 | | | Limit |
| Dark Sandy mudstone | 46.20 | 4.40 | | | 58 | | | |
| Sandy Mudstone | 50.90 | 4.70 | | | 58 | | | |
| Dark Sandy mudstone | 52.50 | 1.60 | | | 58 | | | |
| Coal. | 52.65 | 0.15. | | | 20 | | A150 | 6" |
| Sandy mudstone | 57.95 | 5.30 | | | 58 | | | |
| Coal. | 58.70 | 0.75 | | | 20 | | A107 | SD2K |
| Sandy mudstone | 59.40 | 0.70 | | | 58 | | | |
| Grey Sandstone | 62.00 | 2.60 | | | 50 | 6 | | |
| Room recs. wet + dry move over Room | | | | | | | | ✓ |
| B/H. Capped + backfilled | | | | | | | | |

HRS

AMOUNTS PAYABLE 7.75

| | | |
|---|---|---|
| OPEN HOLE | HF | 62.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 6 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed D J Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pikeworth. SITE No. 031703. DATE Thurs: 26-8-82 SHEET 1 OF 3

Contractor Amco Area Lancs

TYPE & No. of Drill Boyles 45 7749

WORKS ORDER No.

DRILLER H. Gordon 1

2nd MAN P. Connell

3rd MAN M. Costello

M 2746R

BH. No. 207 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Very Soft clay/mud peat | 3.00 | 2.20 | | | | | | |
| Brown Sandy clay | 7.00 | 4.00 | | | | 5 | | |
| Brown Sandstone | 21.30 | 14.30 | | | 50 | | | |
| Dark Grey Sandy mudstone | 42.00 | 20.80 | | | 58 | | | } 1 unit |
| Grey Sandy mudstone | 45.30 | 3.30 | | | 58 | | | |
| Dark mudstone | 48.85 | 3.55 | | | | | | |
| Coal. | 49.00 | 0.15 | | | 20 | | A150 | 6" Mine |
| Grey Sandy mudstone | 51.80 | 2.80 | | | 58 | | | |
| Coal. | 52.35 | 0.55 | | | 20 | | A100 | Sandsell Mine |
| Grey Sandy mudstone | 54.00 | 1.65 | | | 58 | | | |
| Grey Sandstone | 56.00 | 2.00 | | | 50 | 6 | | |
| 9.00 — casing. water 21.00 —. move over 5.00 —. | | | | | | | | |
| Bit capped & backfilled. | | | | | | | | |

GEOLOGISTS NOTES

| HRS | AMOUNTS PAID | |
|---|---|---|
| | | 207 |
| 6 | OPEN HF | 56.0 |
| | HOLE PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| 2½ | CASING HX | 6 |
| | PX | 3 |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| 1½ | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed ____ Contractors Rep

Signed M Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Aldworth. SITE No. 031703. DATE Wed: 25-8-82. SHEET 3 OF 3

Contractor Amco. Area Lancs.

TYPE & No. of Drill Craystraw 65 7749

WORKS ORDER No.

DRILLER H. Bordon

2nd MAN P. Connell.

3rd MAN M. Costello

M 2746R

BH. No. 206 Field No.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 8.80 | 8.30 | | | | 5 | | |
| Brown Sandstone | 26.80 | 18.00 | | | 50 | | | |
| Dark Sandy mudstone | 43.00 | 16.20 | | | 58 | | | } Limit. |
| Sandy mudstone | 43.20 | 0.20 | | | 58 | | | |
| Dark Sandy mudstone | 46.90 | 3.70 | | | 58 | | | |
| Coal. | 47.00 | 0.10 | | | 20 | | A150 | 6" Mine |
| Sandy mudstone | 49.80 | 2.80 | | | 58 | | | |
| Soft loose mix. Drilling P.O.W | 51.00 | 1.20 | | | 30 | | A100 | Sand Rod OW |
| Sandy mudstone | 52.30 | 1.30 | | | 58 | | | |
| Grey Sandstone | 54.00 | 1.70 | | | 50 | 6 | | |
| 17.00m casing (1 extra ex. Broken 5ft) | | | | | | | | |
| water 28.80m. move over 8.00m | | | | | | | | |
| RIH capped & backfilled. | | | | | | | | |
| 1/2 p/s plug inserted to 49.00m. | | | | | | | | |

HRS AMOUNTS PAYABLE 206

| | | |
|---|---|---|
| OPEN HOLE | HF | 54.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 6 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | 1/2 |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

Signed ... Contractors Rep

Signed M Bantin Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

...sworth.
031703.
...E Wed: 25-8-82.
SHEET 2 OF 3

Contractor Amco
Area Lanes.

TYPE & No. of Drill Cryston 45.
WORKS ORDER No. 7749.
DRILLER H. Bowson
2nd MAN P. Connell
3rd MAN M. Costello.

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: CRF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 205 | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | Sand. |
| Sand. | 7.00 | 6.20 | | | 13 | 5 | | |
| Brown Sandstone | 22.80 | 15.80 | | | 50 | | | No Coal Mine. |
| Dark mudstone | 39.00 | 16.20 | | | | | | |
| Sandy mudstone | 43.90 | 4.90 | | | 58 | | | } Invert. |
| Dark Sandy mudstone | 46.70 | 2.80 | | | 58 | | | } |
| Coal. (Brassed) | 46.95 | 0.25 | | | 20 | | ACD | Sundsk Faulted. |
| Sandy mudstone | 48.90 | 1.95 | | | 58 | | | |
| Grey Sandstone | 55.00 | 6.10. | | | 50 | 6 | | |
| 9.00 ccs - On move over 2.00m | | | | | | | | |
| B/H Capped & backfilled. | | | | | | | | |
| | | | | | | | | ✓* As far as this |

HRS

AMOUNTS PAYABLE 205

| | | |
|---|---|---|
| OPEN HOLE | HF | 55.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 3 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | [redacted] |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Wed. 25-8-82.
SHEET 1 OF 3

Contractor Amco
Area Lancs

TYPE & No. of Drill Oxydrill 45 7749.
WORKS ORDER No.
DRILLER H. Bordon
2nd MAN P. Connell.
3rd MAN M. Costello.

M 2746R

BH. No. 204. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 4.30 | 3.70 | | | | 5 | | |
| Brown Sandstone | 21.50 | 17.20 | | | 50 | | | |
| Dark Sandy mudstone | 36.00 | 14.50 | | | 58 | | | } coals as Joint |
| Sandy mudstone | 39.10 | 3.10 | | | 58 | | | } |
| Dark Sandy mudstone | 41.00 | 1.90 | | | 52 | | | } |
| Coal. (very dirty) | 41.10 | 0.10 | | | 23 | | Also | 6" Nine |
| Sandy mudstone | 43.90 | 2.80 | | | 58 | | | |
| Left hole drilling P.O.W. | 44.90 | 1.00 | | | 30 | | Also | Sandrock Ont. |
| Sandy mudstone | 46.00 | 1.10 | | | 58 | | | |
| Grey Sandstone | 48.00 | 2.00 | | | 50 | 6 | | |
| 6.00m casing water | 44.00m | | | | | | | |
| move over 2.00m. | | | | | | | | |
| B/H Capped & backfilled. | | | | | | | | |
| ½ p/s cementing plug 42.00m. | | | | | | | | ✓ |

| HRS | AMOUNTS PAYABLE 204 | |
|---|---|---|
| 5 | OPEN HOLE HF | 48.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | HX | 6 |
| 3½ | CASING PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| 1½ | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | ½ hr |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | plug | 1 |

MATERIALS USED

Signed _____ Contractors Rep.

Signed A J Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Tue: 24-8-82 SHEET 4 OF 4

Contractor Amco Area Lancs.

TYPE & No. of Drill Cryphon 45. 7749.

WORKS ORDER No.

DRILLER H. Gordon.

2nd MAN P. Connell.

3rd MAN M. Costello.

M 2746R

BH. No. 203. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 3.50 | 3.00 | | | | 5 | | |
| Brown Sandstone | 21.30 | 17.80 | | | 50 | | | |
| Sandy mudstone | 28.60 | 7.30 | | | 58 | | | |
| Dark mudstone | 34.90 | 6.30 | | | | | | |
| Sandy mudstone | 40.00 | 5.10 | | | 58 | | | |
| Dark mudstone | 42.10 | 2.10 | | | | | | |
| Coal. | 42.20 | 0.10 | | | 20 | | Also | 6" Mine |
| Sandy mudstone | 45.30 | 3.10 | | | 58 | | | |
| Soft loose Drilling. P.O.W. | 46.50 | 1.20 | | | 30 | | Also | Scrubber Mine DW |
| Sandy mudstone | 48.00 | 1.50 | | | 58 | | | |
| Clay Sandstone | 50.00 | 2.00 | | | 50 | 6 | | |
| 6.00 m ccs. Water | 46.00 m. | | | | | | | |
| more over 5.00m. | | | | | | | | |
| B/H Capped & backfilled. | | | | | | | | |
| 1/2 p/s. plug inserted | | | | | | | | |
| 24.80. | | | | | | | | |

HRS

AMOUNTS PAYABLE 203

| | | |
|---|---|---|
| OPEN HOLE | HF | 50.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | |
| | SX | |
| GEOLOG | | |
| ROUND | | |
| TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | 1/2 hr |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No 031703
DATE Tue. 24-8-82
SHEET 3 OF 4
M 2746R

Contractor Anco
Area Lancs.

TYPE & No. of Drill Reydon 45. 7749
WORKS ORDER No.
DRILLER H. Gordon
2nd MAN P. Connell
3rd MAN M. Costello

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: CRF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 202 - 190 Cont'd | | | | | | | | |
| Sandstone pale grey. V. | | | | | | | | |
| coarse friable in parts | 43.00 | 0.28 | 0.28 | | 50 | 6 | | |
| | | 192 | 0.38 | | | | | |
| 6.00m casing. move over | | | | | | | | R1 4.50 x 45.00 |
| 2.00m. wait at 42.00 — | | | | | | | | = 202.5 |
| plug inserted at 42.00 — | | | | | | | | |
| 1/2 pts. | | | | | | | | |
| B/H capped & backfilled | | | | | | | | |
| | | | | | | | | ✓ |

| HRS | AMOUNTS PAYABLE 202 | |
|---|---|---|
| | OPEN HOLE HF | 45.00 |
| | PF | |
| | SF | |
| | 412/HF | 1.58 |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | 202.5 |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | 1/2 |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | plug | 1 |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No 031903. DATE Tue: 24-8-82. SHEET 2 OF 4.

TYPE & No. of Drill Oryxthon 7S 7749. WORKS ORDER No.

DRILLER H. Gordon. 2nd MAN P. Connell. 3rd MAN M. Costello.

Contractor Amco Area Cancs.

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 202 en 190 | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 1.80 | 1.00 | | | | | | |
| Sand. | 3.20 | 1.70 | | | 13 | 5 | | |
| Brown Sandstone | 19.48 | 16.28 | | | 50 | | | |
| Dark mudstone | 22.30 | 2.85 | | | | | | |
| Sandy mudstone | 26.70 | 4.40 | | | 58 | | | |
| Dark mudstone | 34.60 | 7.90 | | | | | | |
| Sandy mudstone | 39.50 | 4.90 | | | 58 | | | } limit |
| Dark Sandy mudstone | 40.80 | 1.00 | | | 58 | | | } |
| Core) 40.80 - 42.80 | | | | | | | | |
| mudstone, black, fissile to hard fissile to sub fissile | | | | | | | | |
| muds | 41.05 | 0.25 | 0.25 | C | | | | |
| Coal. Shattered | 41.22 | 0.17 | 0.17 | C | 20 | 2 | Also | 6" Mine S No |
| mudstone from hard dk. S/S. | 41.42 | 0.20 | 0.20 | | | | | |
| coal. Shattered mudstone Softness | 41.50 | 0.08 | 0.08 | | 23 | | | |
| Lost Core. | 42.50 | 1.00 | | | | | | |
| | | 2.00 | 1.00 | | | | | |
| Core) 42.50 - 44.00. | | | | | | | | |
| Coal. 0.45. | 44.42 | 1.92. | | | 32 | | A100 | Sandstone OW. |
| Seat/earth Grey fissile to sub fissile | 44.72 | 0.30 | 0.30 | | | | | |
| B/H Cont'd Sheet 4 | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE HF | |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed ... Contractors Rep

Signed K Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703.
DATE Tue. 23-8-82
SHEET 1 OF 4
Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryston 48.
WORKS ORDER No. 7749.
DRILLER H. Bonson.
2nd MAN D. Connell.
3rd MAN M. Costello.

M 2746R

| BH. No. 201 / Field No | DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| | Top Soil | 0.50 | 0.50 | | | | | | |
| | Brown Sandy clay. | 1.50 | 1.50 | | | | | | |
| | Sand. | 8.00 | 3.50 | | | 13 | | | |
| | Brown Sandy clay. | 6.50 | 1.50 | | | | 5 | | |
| | Brown Sandstone | 22.50 | 16.00 | | | 50 | | | |
| | Dark Sandy mudstone | 26.70 | 4.20 | | | 58 | | | |
| | Sandy mudstone | 29.50 | 2.80 | | | 58 | | | code as 1 unit |
| | Dark Sandy mudstone | 38.70 | 9.20 | | | 58 | | | |
| | Sandy mudstone | 45.50 | 6.80 | | | 58 | | | |
| | Coal. | 45.68 | 0.18. | | | 20 | | A150 | 6" Mine |
| | Sandy mudstone | 47.50 | 1.85. | | | 58 | | | |
| | Soft Coarse Drilling P.O.W | 49.50 | 2.00 | | | 30 | | A100 | Sandrock |
| | Sandy mudstone | 51.00 | 1.50 | | | 58 | 6 | | |
| | 9.00m cas. with 49.00. | | | | | | | | |
| | move over 50m. | | | | | | | | |
| | B/H capped & locked | | | | | | | | |
| | 1/2 pk grouting plug to 47.00m. | | | | | | | | ✓ |

| HRS | AMOUNTS PAYABLE 201 | | |
|---|---|---|---|
| 3 | OPEN HOLE | HF | 51.00 |
| | | PF | |
| | | SF | |
| 2 | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 3 | CASING | HX | 6 |
| | | PX | 3 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| 2 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | ½hr. |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | plug | | 1 |

MATERIALS USED

Signed ..... Contractors Rep

Signed H Boston Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No 031703.
DATE Mon. 23-8-82
SHEET 3 OF 3
Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryphon 45, 7749
WORKS ORDER No.
DRILLER H. Gordon.
2nd MAN P. Connell.
3rd MAN M. Costello.

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 200 | | | | | | | | |
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 2.50 | 2.00 | | | | | | |
| Sand. | 6.50 | 4.00 | | | 13 | 5 | | |
| Brown Sandstone | 17.50 | 11.00 | | | 50 | | | |
| Dark Sandy mudstone | 21.10 | 3.60 | | | 58 | | | |
| Sandy mudstone | 25.50 | 4.40 | | | 58 | | | |
| Dark Sandy mudstone | 26.70 | 1.20 | | | 58 | | | Code as Unit |
| Sandy mudstone | 31.40 | 4.70 | | | 58 | | | |
| Dark Sandy mudstone | 34.20 | 2.80 | | | 58 | | | |
| Sandy mudstone | 37.70 | 3.50 | | | 58 | | | |
| Dark Sandy mudstone | 39.15 | 1.45. | | | 58 | | | |
| Coal. | ~~41.30~~ 39.25 | 0.10 | | | 20 | | Also | 6" Mine |
| Sandy mudstone | 41.30 | 2.05 | | | 58 | | | |
| Coal. | 41.95 | 0.65 | | | 20 | | Also | Sandrock Mine |
| Sandy mudstone | 53.00 | 11.05 | | | 58 | | | |
| Grey Sandstone | 63.00 | 10.00 | | | 50 | | | |
| 9.00m cas. Dry | | | | | | | | |
| move over 8.00m | | | | | | | | |
| R/H capped & backfilled | | | | | | | | ✓ |

HRS

AMOUNTS PAYABLE 250

| | | |
|---|---|---|
| OPEN HOLE | HF | 53.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 3 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed R J Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703.
DATE Mon: 23-8-82.
SHEET 2 OF 3
Contractor Hmco
Area Lancs.

TYPE & No. of Drill Cryptons 45.
WORKS ORDER No. 7749.
DRILLER H. Bonson
2nd MAN D. Connell.
3rd MAN M. Costello.

M 2746R

BH. No. 199 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 1.80 | 1.30 | | | | 5 | | |
| Brown Sandstone | 20.10 | 18.30 | | | 50 | | | |
| Sandy mudstone | 27.40 | 7.30 | | | 58 | | | |
| Dark mudstone | 33.60 | 6.20 | | | | | | |
| Sandy mudstone | 37.60 | 4.00 | | | 58 | | | |
| Dark mudstone | 39.55 | 1.95 | | | | | | |
| Coal. | 39.70 | 0.15 | | | 20 | | A150 | 6" Mine |
| Sandy mudstone | 42.00 | 3.30 | | | 58 | | | |
| Soft loose Drilling. P.O.W. | 44.50 | 1.50 | | | 30 | | A100 | Sandrock ow |
| Sandy mudstone | 46.00 | 1.50 | | | 58 | | | |
| Grey Sandstone | 50.00 | 4.00 | | | 50 | 6 | | |
| 3.00m cas. Water 42.00m | | | | | | | | |
| move over 8.00m | | | | | | | | |
| B/H Capped & backfilled | | | | | | | | |
| 1/2 p/s plug inserted to | | | | | | | | |
| 42.50 m. | | | | | | | | |

HRS

AMOUNTS PAYABLE 104

| | | |
|---|---|---|
| OPEN HOLE | HF | 50.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | 04 | |
| CASING | HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND | | |
| TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | 1/2 hr |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

Signed [signature] Contractors Rep

Signed M Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Mon: 23-8-82
SHEET 1 OF 3
M 2746R

Contractor Amec
Area Lancs

TYPE & No. of Drill Cryston 45. 7749.
WORKS ORDER No.
DRILLER H. Bowden.
2nd MAN P. Connell
3rd MAN M. Costello

198

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 7.00 | 6.80 | | | | 5 | | |
| Brown Sandstone | 23.10 | 16.10 | | | 50 | | | |
| Dark Sandy mudstone | 27.30 | 4.20 | | | 58 | | | code as Unit |
| Sandy mudstone | 29.70 | 2.40 | | | 58 | | | |
| Dark Sandy mudstone | 37.60 | 7.90 | | | 58 | | | |
| Sandy mudstone | 43.80 | 6.20 | | | 58 | | | |
| Coal. | 44.65 | 0.85. | | | 20 | | A100 | Sandon R. Mine |
| Sandy mudstone | 45.40 | 0.75 | | | 58 | | | |
| Grey Sandstone | 55.00 | 9.60 | | | 50 | 6 | | |
| Base of seam. Grey mdst over seam. | | | | | | | | |
| RIH Rappels Unaffected. | | | | | | | | |

| HRS | AMOUNTS PAYABLE 198 | | |
|---|---|---|---|
| 5 | OPEN HOLE | HF | 55.00 |
| | | PF | |
| | | SF | |
| | 412/HF | | |
| | CORE | PF | |
| | REC. | SF | |
| | | D4 | |
| 3 | CASING | HX | 6 |
| | | PX | 3 |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| 2 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Fri: 20-8-82. SHEET 2 OF 2

Contractor Hunco Area Lancs.

TYPE & No. of Drill Cryderman 45. 7749.

WORKS ORDER No.

DRILLER H. Gordon. 2nd MAN P. Connell. 3rd MAN M. Costello.

M 2746R

BH. No. 197 Field No.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 1.00 | 0.80 | | | | | | |
| Sand. | 5.00 | 4.00 | | | 13 | 5 | | |
| Brown Mudstone | 21.40 | 16.40 | | | 50 | | | |
| Sandy mudstone | 32.70 | 11.30 | | | 58 | | | } 1 unit |
| Dark Sandy mudstone | 34.60 | 1.90 | | | 58 | | | |
| Sandy mudstone | 38.80 | 4.20 | | | 58 | | | |
| Dark Sandy mudstone | 43.00 | 4.20 | | | 58 | | | |
| P.o.w. Softrock Drilling | 45.00 | 2.00 | | | 30 | | [redacted] | Sandvik A100 |
| Sandy mudstone | 46.80 | 1.50 | | | 58 | | | Old |
| Grey Mudstone | 50.00 | 3.50 | | | 50 | 6 | | |
| 6.00m casing water 43.00m | | | | | | | | |
| move over 8.00m | | | | | | | | |
| R/H capped a backfilled. | | | | | | | | |
| 1/2 p/s inserting plug | | | | | | | | F1. |
| to 42.80m. | | | | | | | | ✓* As far as this. |

HRS AMOUNTS PAYABLE 1974

| | | |
|---|---|---|
| OPEN HOLE | HF | 5c.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | 1/2 |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Fri. 20-8-82. SHEET 1 OF 2.

Contractor Amco

Area Lancs.

TYPE & No. of Drill Cryston 43. 7749.

WORKS ORDER No.

DRILLER H. Bowden

2nd MAN P. Connell.

3rd MAN M. Costello.

M 2746R

BH. No. 196 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 3.20 | 2.70 | | | | 5 | | |
| Brown/Grey Sandstone | 19.10 | 15.90 | | | 50 | | | |
| Sandy mudstone | 29.70 | 10.60 | | | 58 | | | |
| Dark Sandy mudstone | 32.10 | 2.40 | | | 58 | | | 1 unit |
| Sandy mudstone | 35.80 | 3.70 | | | 58 | | | |
| Dark Sandy mudstone | 41.39 | 5.59 | | | 52 | | | |
| Coal. | 41.80 | 0.15. | | | 80 | | Also | |
| Sandy mudstone | 43.95 | 2.45. | | | 58 | | | |
| Coal. | 44.55 | 0.60 | | | 20 | | Also | Sandcoal. |
| Sandy mudstone | 46.00 | 1.45. | | | 58 | | | |
| Grey Sandstone | 50.00 | 4.00 | | | 50 | 6 | | |
| 6 inch casing dry. move over Rig. | | | | | | | | |
| BH capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 196 |
| 5 | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | 412/HF | | |
| | CORE REC | PF | |
| | | SF | |
| | | D4 | |
| 4 | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Thurs. 19-8-82. SHEET 4 OF 4

Contractor Amec

Area Lancs.

TYPE & No. of Drill Creighton 48 7749

WORKS ORDER No.

DRILLER H. Bowden

2nd MAN P. Connell.

3rd MAN M. Costello

M 2746R

BH. No. 195 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 4.00 | 3.20 | | | | 5 | | |
| Broken Brown Sandstone. | 10.80 | 6.80. | | | 51 | | | |
| (Loss of Wtr. Cesspit Rom) | | | | | | | | |
| Dark mudstone | 17.00 | 6.20 | | | | | | |
| Sandy mudstone | 22.85 | 5.85 | | | 58 | | | |
| Coal. | 23.00 | 0.15. | | | 20 | | A150 | |
| Sandy mudstone | 24.80 | 1.80 | | | 58 | | | |
| Soft bore Drilling. P.O.W. | 26.80 | 2.00 | | | 30 | | A100 | Sandrock Ow |
| ↓ Sandy mudstone | 28.20 | 1.70 | | | 58 | | | |
| Grey Sandstone | 37.00 | 8.80 | | | 50 | 6 | | |
| 12.00m casing. met 24.00m. move over 8.00m. | | | | | | | | |
| B/H cesspoola backfilled | | | | | | | | |
| 1/2 p/s inserting plug to 24.00m. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 3700 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 6 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | 1/2 |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | plug | | 1 |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Mon. 19-8-82.
SHEET 3 OF 4

Contractor Amco
Area Lancs

TYPE & No. of Drill Gryphon 45.
WORKS ORDER No. 7749.
DRILLER H. Gordon
2nd MAN P. Connell
3rd MAN M. Costello.

M 2746R

| BH. No. / Field No. 194. DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 1.70 | 1.20 | | | | | | |
| Sand. | 3.50 | 1.80 | | | 13 | 5 | | |
| Brown Sandstone | 19.40 | 15.90 | | | 50 | | | |
| Dark mudstone | 32.30 | 11.10 | | | | | | |
| Sandy mudstone | 35.60 | 3.10 | | | 58 | | | |
| Dark Sandy mudstone | 38.60 | 3.00 | | | 58 | | | } 1 unit |
| Sandy mudstone | 40.50 | 1.90 | | | 58 | | | |
| Coal. | 40.60 | 0.10 | | | 20 | | A150 | |
| Dark mudstone | 42.50 | 1.90 | | | | | | |
| Coal. | 42.80 | 0.30 | | | 20 | | A110 | |
| Sandy mudstone | 44.70 | 1.90 | | | | | | |
| Coal | 45.30 | 0.60 | | | 20 | | A100 | Faulted Sandst. |
| Sandy mudstone | 46.90 | 1.60 | | | 58 | | | |
| Grey/Brown Sandstone | 50.00 | 3.10 | | | 50 | 6 | | |
| 6.00m. casing dry. | | | | | | | | |
| Move over Coal. | | | | | | | | |
| RIH capped & backfilled | | | | | | | | |

HRS

AMOUNTS PAYABLE 194

| | | |
|---|---|---|
| OPEN HOLE | HF | 50.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/NF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed M Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Thur. 19-8-82. SHEET 2 OF 4

Contractor Hmco Area Cramco.

TYPE & No. of Drill Greyhound 45. 7749.

WORKS ORDER No.

DRILLER H. Bowden. 2nd MAN P. Connell. 3rd MAN M. Costello.

M 2746R

BH. No. 193. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay | 3.50 | 3.00. | | | | 5 | | |
| Sandy mudstone | 13.60 | 10.10. | | | 58 | | | } limit |
| Dark Sandy mudstone | 18.90 | 5.30 | | | 58 | | | |
| Sandy mudstone | 20.80 | 1.90 | | | 58 | | | |
| Dark mudstone | 22.90 | 2.10 | | | | | | |
| Sandy mudstone | 24.90 | 2.00 | | | 58 | | | |
| Coal. | 25.05 | 0.15. | | | 20 | | A150 | |
| Sandy mudstone | 27.80 | 2.75 | | | 58 | | | |
| Coal. | 28.40 | 0.60 | | | 20 | | A100 | Sandrock |
| Sandy mudstone | 29.70 | 1.30 | | | 58 | | | |
| Grey/Brown Sandstone | 38.00 | 8.30 | | | 50 | 6 | | |
| 6.00m casing. Met 24.00m - move over 8.00m - | | | | | | | | |
| BH Capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE 193 | | |
|---|---|---|---|
| | OPEN HOLE | HF | 32.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Thur 19-8-82. SHEET 1 OF 4.

Contractor Amco. Area Lancs.

TYPE & No. of Drill Gryphon 45. WORKS ORDER No. 7749.

DRILLER H. Rowson. 2nd MAN P. Connell. 3rd MAN M. Costello.

M 2746R

BH. No. Field No

192.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50. | 0.50 | | | | | | |
| Brown Sandy clay | 3.40. | 2.90 | | | | 5 | | |
| mudstone | 9.40. | 6.00 | | | | | | |
| Dark mudstone | 14.90. | 5.50 | | | | | | |
| Sandy mudstone | 18.50. | 3.60. | | | 58 | | | |
| Dark mudstone | 20.48. | 1.98. | | | | | | |
| Coal. | 20.60 | 0.15. | | | 20 | | | |
| Sandy mudstone | 23.00 | 2.40 | | | 58 | | | |
| Soft loose mix cuttings | 23.85 | 0.85. | | | 30 | | A100 | Sandrock OW |
| Sandy mudstone | 25.10 | 1.25. | | | 58 | | | |
| Brown/Grey Sandstone | 35.00 | 9.90. | | | 50 | 6 | | |
| 6.00 casing. water | 23.00 — | | | | | | | |
| move over 8.00m. | | | | | | | | |
| B/H Capped & backfilled. | | | | | | | | |
| plug inserted to 22.50m. | | | | | | | | |
| 1/2 p/Standing | | | | | | | | |

HRS

AMOUNTS PAYABLE 192

| | | | |
|---|---|---|---|
| 5 | OPEN HOLE | HF | 35.00 |
| | | PF | |
| | | SF | |
| 3 | CASING | 412/HF | |
| | | HX | 6 |
| | | PX | |
| | | SX | |
| | CORE REC. | PF | |
| | | SF | |
| | | D4 | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| 2 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | 1/2 |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | plug | | 1 |

MATERIALS USED

Signed ____ Contractors Rep

Signed G Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Wed. 18-8-82. SHEET 4 OF 4

Contractor Hunco

Area Lancs.

TYPE & No. of Drill Creighton 43 7749

WORKS ORDER No.

DRILLER H. Benson.

2nd MAN P. Connell.

3rd MAN M. Costello.

M 2746R

BH. No. 191 Field No.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 1.90 | 1.40 | | | | 5 | | |
| Brown Sandstone | 4.40 | 2.50 | | | 50 | | | |
| Sandy mudstone | 17.20 | 12.80 | | | 58 | | | |
| Dark mudstone | 19.30 | 2.10 | | | | | | |
| Sandy mudstone | 23.30 | 4.00 | | | 58 | | | |
| Dark Mudstone | 25.35 | 2.05. | | | | | | |
| Coal. | 25.45 | 0.10 | | | 20 | | A150 | |
| Sandy mudstone | 27.80 | 2.35. | | | 58 | | | |
| P.O.W. cavity. poor return | 28.80 | 1.00 | | | 32 | | A100 | Sandrock O/W |
| Sandy mudstone | 29.50 | 0.70 | | | 58 | | | |
| Grey Sandstone | 32.00 | 2.50 | | | 50 | 6 | | |
| 6.00 m casing water 28.80. move over Rig. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |
| ½ plug inserted. 27.00 m. | | | | | | | | |
| ½ p/s. | | | | | | | | |

HRS

AMOUNTS PAYABLE 191

| | | |
|---|---|---|
| OPEN HOLE | HF | 32 00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | ½ hr |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

Signed ____ Contractors Rep

Signed H Bennett Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703.
DATE Wed: 18-8-82.
SHEET 3 OF 4

Contractor Amco
Area Lancs.

TYPE & No. of Drill Greyhound CS. 7749.
WORKS ORDER No.
DRILLER H. Rowson.
2nd MAN P. Connell.
3rd MAN M. Costello.

M 2746R

| BH. No. / DESCRIPTION OF STRATA | Field No | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 190 | | | | | | | | | |
| Top Soil | | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | | 1.80 | 1.00 | | | | | | |
| Sand. | | 3.20 | 1.70 | | | 13 | 5 | | |
| Brown Sandstone | | 19.45 | 16.25 | | | 50 | | | |
| Dark mudstone | | 22.30 | 2.85 | | | | | | |
| Sandy mudstone | | 26.70 | 4.40 | | | 58 | | | |
| Dark mudstone | | 34.60 | 7.90 | | | | | | |
| Sandy mudstone | | 39.30 | 4.90 | | | 58 | | | |
| Dark Sandy mudstone | | 41.35 | 1.85. | | | 58 | | | |
| Coal. | | 41.50 | 0.15. | | | 20 | | A150 | |
| Sandy mudstone | | 44.20 | 2.70 | | | 58 | | | |
| Coal. | | 44.75 | 0.55. | | | 20 | | A100 | Sandrock |
| Sandy mudstone | | 46.00 | 1.25 | | | 58 | | | |
| Grey/Brown Sandstone | | 55.00 | 9.00. | | | 50 | 6 | | |
| 6.00m ccs. water | | 47.00. | | | | | | | |
| move over 6.00m. | | | | | | | | | |
| BH capped & backfilled. | | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | 190 | | |
| OPEN HOLE | HF | 55.00 | |
| | PF | | |
| | SF | | |
| CORE REC | 412/HF | | |
| | PF | | |
| | SF | | |
| | D4 | | |
| CASING | HX | 6 | |
| | PX | | |
| | SX | | |
| | GEOLOG | | |
| ROUND | | | |
| TRIPPING | | | |
| MOVING | | 1 | |
| Extra Wheels | | | |
| Standing Rig in use | | | |
| Standing Rig not in use | | | |
| Immobilised | | | |
| Standing Contractor | | | |
| Grouting | | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed M Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Wed. 18-8-82. SHEET 2 OF 4

Contractor Amec

Area Lancs.

TYPE & No. of Drill Cryphon 45.

WORKS ORDER No. 7749.

DRILLER H. Gordon.

2nd MAN P. Connell.

3rd MAN M. Costello.

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| BH9. | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.00 | 1.50 | | | | | | |
| Sand. | 5.10 | 3.10 | | | 13 | | | |
| Sand & Gravel (wet) | 8.05 | 2.95 | | | 15 | 5 | | |
| Sandy mudstone | 10.30 | 2.25 | | | 58 | | | |
| Dark Sandy mudstone | 18.60 | 8.30 | | | 58 | | | |
| Sandy mudstone | 22.90 | 4.30 | | | 58 | | | |
| Dark mudstone coaltrace | 23.40 | 0.50 | | | 21 | | A150 | |
| Dark mudstone | 28.30 | 4.90 | | | | | | |
| P.O.W. working coalseam | 28.90 | 0.60 | | | 30 | | A160 | Sandrock DW. |
| Sandy mudstone | 30.20 | 1.30 | | | 58 | | | |
| Grey Sandstone | 36.00 | 5.80 | | | 50 | 6 | | |
| 9.00m. casing. wet & sloppy. | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| BH capped. & backfilled. | | | | | | | | |
| Inserting plug. 27.80. | | | | | | | | |
| 1/2 p/s. | | | | | | | | |

HRS — AMOUNTS PAYABLE 1/89

| | | |
|---|---|---|
| OPEN HOLE | HF | 36.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 3 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | 1/2 |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No 031703. DATE Wed: 18-8-82. SHEET 1 OF 4

Contractor Amco

Area Lancs.

TYPE & No. of Drill Gryphon 45. 7749.

WORKS ORDER No.

DRILLER H. Gordon.

2nd MAN P. Connell.

3rd MAN M. Costello.

M 2746R

BH. No. 188. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 4.50 | 4.00 | | | | 5 | | |
| Dark mudstone | 5.40 | 0.90 | | | | | | |
| Sandy mudstone | 11.70 | 6.30 | | | 58 | | | |
| Dark mudstone | 16.40 | 4.70 | | | | | | |
| Soft Sandy mudstone | 23.90 | 7.50. | | | | | | |
| P.O.W. Soft mixed drilling | 25.00 | 1.10. | | | 30 | | Alco | Sandsr DW. |
| Slight Loss of flush | | | | | | | | |
| Sandy mudstone | 26.50 | 1.50. | | | 58 | | | |
| Grey/Brown Sandstone | 30.00 | 3.50. | | | 50 | 6 | | |
| 6.00— casing. Set 16.00— move over 8.00— | | | | | | | | |
| R/H capped & backfilled. | | | | | | | | |
| ½ p/s cuttg plug to 16.00. | | | | | | | | |
| F1 is Lancs Lias. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | | 188 |
| 5 | OPEN HOLE HF | 30.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| 3 | CASING HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| 2 | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | ½ |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | plug | 1 |

MATERIALS USED

Signed Contractor's Rep

Signed Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No 031703. DATE Tue. 17-8-82. SHEET 4 OF 4

Contractor Ameo Area Lancs.

TYPE & No. of Drill Gryphon 45. 7749.

WORKS ORDER No.

DRILLER H. Borden. 2nd MAN P. Connell. 3rd MAN M. Costello.

M 2746R

BH. No. 187. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 4.60 | 4.10. | | | | 5 | | |
| Dark mudstone (wet) | 9.80 | 5.20 | | | | | | |
| Sandy mudstone | 14.10 | 4.30 | | | 58 | | | |
| Dark mudstone | 15.95 | 1.85 | | | | | | |
| Coal. | 16.20 | 0.25. | | | 20 | | A150 | 6" Mine |
| Dark mudstone | 17.40 | 1.20 | | | | | | |
| P. Soft Sandy mudst. | 18.40 | 1.00 | | | | | | |
| O Very Soft loose Drilly | 19.60 | 1.20 | | | 30 | | A100 | Sandrock ass |
| W. wood cutting. | | | | | | | | |
| Sandy mudstone | 21.70 | 2.10. | | | 58 | | | |
| Grey/Brown Sandstone | 30.00 | 8.30 | | | 50 | 6 | | |
| 9.00m. casing (1 Extra casing to ease water off). water 8.00m. move over 5.00m. | | | | | | | | |
| B/H capped backfilled. | | | | | | | | |
| 1/2 p/s inserting plug - to 18.00m. | | | | | | | | |

HRS

AMOUNTS PAYABLE 187

| | | |
|---|---|---|
| OPEN HOLE | HF | 30.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 3 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | 1/2 |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

Signed ... Contractor

Signed ...

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Tue: 17-8-82.
SHEET 3 OF 4
Contractor Amco
Area Lancs.

TYPE & No. of Drill Creyton 45
WORKS ORDER No. 7749
DRILLER H. Gordon
2nd MAN D. Connell
3rd MAN M. Costello

M 2746R

BH. No. 186 | Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 2.30 | 2.00 | | | | 5 | | |
| mudstone | 12.20 | 9.70 | | | | | | |
| Dark mudstone | 14.90 | 2.70 | | | | | | |
| Sandy mudstone | 19.30 | 4.40 | | | 58 | | | |
| very soft coal. | 19.60 | 0.10 | | | 38 | | A180 | 6" |
| Drilling Poor Dark mudstone | 20.60 | 1.20 | | | 30 | | A100 | Sandlock ows |
| Returns. coal. mixed. | 20.70 | 0.10 | | | 38 | | A100 | |
| P.O.W. Sandy mudstone | 22.90 | 2.20 | | | 58 | | | |
| Grey Brown Sandstone | 32.00 | 9.10 | | | 50 | 6 | | |
| 3.00m. cas. wet at 20.00m. | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |
| 1/2 p/s inserting plug to 19.00m. | | | | | | | | |

| HRS | AMOUNTS PAYA | 186 |
|---|---|---|
| OPEN HOLE | HF | 32.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | 1/2 |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

Signed ____ Contractors Rep
Signed M Borton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Tue: 17-8-82.
SHEET 2 OF 4.
Contractor Amco
Area Lancs.

TYPE & No. of Drill Creyton 45. 7749.
WORKS ORDER No.
DRILLER H. Gordon.
2nd MAN P. Connell.
3rd MAN M. Costello.

M 2746R

BH. No. 185.
Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGIST'S NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 2.00 | 1.50 | | | | 5 | | |
| mudstone | 8.00 | 6.00 | | | | | | |
| Dark Sandy mudstone | 10.80 | 2.80 | | | 58 | | | } Unit. |
| Sandy mudstone | 14.60 | 3.80 | | | 58 | | | |
| Dark Sandy mudstone | 16.75 | 2.15 | | | 58 | | | |
| Coal. | 16.85 | 0.10 | | | 20 | | A150 | 6" Mine? |
| Sandy mudstone. | 19.90 | 3.05 | | | 58 | | | |
| Very loose soft mixed drilling R. 0.10. | 20.90 | 1.00 | | | 30 | | A100 | Sandrock Mine OW |
| Sandy mudstone | 22.70 | 1.80 | | | 58 | | | |
| Grey/Brown Sandstone | 32.00 | 9.30 | | | 50 | 6 | | |
| 3.00m casing water 21.00m. | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |
| 1½ hrs d/s [illegible] | | | | | | | | |

| | HRS | AMOUNT PAYABLE |
|---|---|---|
| OPEN HOLE HF | | 32.00 |
| OPEN HOLE PF | | |
| OPEN HOLE SF | | |
| 412/HF | | |
| CORE REC PF | | |
| CORE REC SF | | |
| CORE REC D4 | | |
| CASING HX | | 3 |
| CASING PX | | |
| CASING SX | | |
| GEOLOG | | |
| ROUND | | |
| TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | ½ |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

Signed [signature] Rep.
Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Tue: 17-8-82.
SHEET 1 OF 4

Contractor Anco
Area Lancs.

TYPE & No. of Drill Cryderhawks. 184
WORKS ORDER No. 7749.
DRILLER H. Barber.
2nd MAN P. Connell.
3rd MAN M. Costello.

M 2746R

| BH. No. 184. Field No | DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: O/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| | Top Soil | 0.50 | 0.50 | | | | | | |
| | Sand. | 8.30 | 7.80 | | | 13 | 5 | 20 30 | |
| | Brown Sandstone | 26.90 | 18.60 | | | 50 | | | |
| | Dark Sandy mudstone | 29.10 | 2.20 | | | 58 | | | |
| | Sandy mudstone | 39.25 | 10.15 | | | 58 | | | |
| | Dark Sandy mudstone | 40.20 | 0.95 | | | 58 | | | |
| | Sandy mudstone | 41.70 | 1.50 | | | 58 | | | Code at 1um+. |
| | Dark Sandy mudstone | 43.80 | 2.10 | | | 58 | | | |
| | Sandy mudstone | 48.20 | 4.40 | | | 58 | | | 49.30 \| 25.25 \| 40 |
| | Dark Sandy mudstone | 49.30 | 1.10 | | | 58 | | | |
| | Dark mudstone Coal. traces | 49.40 | 0.10 | | | 21 | | | |
| | Sandy mudstone | 81.00 | 1.60. | | | 58 | 6 | | |
| | 9.00m casing Dry. | | | | | | | | |
| | move over 8.00m. | | | | | | | | |
| | R/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 184 |
| 6 | OPEN HOLE | HF | 51.00 |
| | | PF | |
| | | SF | |
| | | 412/HF | |
| | CORE REC. | PF | |
| | | SF | |
| | | D4 | |
| 3 | CASING | HX | 6 |
| | | PX | 3 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed J. Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703.
DATE Mon: 16-8-82.
SHEET 3 OF 3

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cyphon 45.
WORKS ORDER No. 7749.
DRILLER H. Barton.
2nd MAN P. Connell.
3rd MAN M. Costello.

M 2746R

BH No. 183 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50. | | | | | | |
| Sand | 3.90 | 3.40. | | | 13 | 5 | | |
| Brown Sandstone. | 19.40 | 15.50 | | | 50 | | | Across fault? |
| Dark mudstone | 23.00 | 3.60 | | | | | | |
| Sandy mudstone | 32.80 | 9.80 | | | 58 | | | } as Unit. |
| Dark Sandy mudstone | 34.40 | 1.60. | | | 58 | | | |
| Sandy mudstone | 39.35 | 4.95. | | | 58 | | | |
| Coal. | 39.45 | 0.10. | | | 20 | | | |
| Dark Sandy mudstone | 40.45. | 0.55. | | | 58 | | | |
| Coal. | 40.55 | 0.10. | | | 20 | | | |
| Dark Sandy mudstone | 43.00 | 2.45. | | | 58 | | | } As Unit |
| Sandy mudstone | 44.80 | 1.80 | | | 58 | | | |
| Grey Sandstone | 50.00 | 5.20. | | | 50 | 6 | | |
| 6.00m casing. Water | 46.00m | | | | | | | |
| move over 8.00m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |
| | | | | | | | | F-1 to Loc. 19/8/82. |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 183 |
| | OPEN HOLE HF | 50.00 | |
| | PF | | |
| | SF | | |
| | 412/HF | | |
| | CORE PF | | |
| | REC SF | | |
| | D4 | | |
| | CASING HX | 6 | |
| | PX | | |
| | SX | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed M Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Mon: 16-8-82.
SHEET 2 OF 3

Contractor Amco
Area Lancs.

TYPE & No. of Drill Gregpha 43.
WORKS ORDER No. 7749.
DRILLER H. Bonson.
2nd MAN P. Connell.
3rd MAN M. Costello.

M 2746R

BH. No. 182. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 3.00 | 2.50 | | | | 5 | | |
| mudstone | 11.00 | 8.00 | | | | | | |
| Sandy mudstone | 13.20 | 2.20 | | | 58 | | | |
| Dark mudstone | 14.70 | 1.50. | | | | | | |
| Sandy mudstone | 17.90 | 3.20. | | | 58 | | | |
| Dark Sandy mudstone | 21.00 | 2.10. | | | 58 | | | |
| Coal. | 21.15 | 0.15. | | | 20 | | A150 | 6" Mine |
| Sandy mudstone | 23.20 | 2.05. | | | | | | |
| Very hard Soft Drilling. P.O.D. | | | | | | | | |
| part Loss of Air | 24.20 | 1.00. | | | 30 | | A100 | Sandrock OWs |
| Hard Sandy mudstone | 25.30 | 1.10. | | | 57 | | | } |
| Grey/Brown Sandstone | 35.00 | 9.70. | | | 50 | 6 | | } Rough Rock. |
| 6.00m casing dry. | | | | | | | | |
| move over 5.00m. | | | | | | | | |
| plug inserted to 22.50. | | | | | | | | |
| B/H capped & backfilled | | | | | | | | |

GEOLOGIST'S NOTES

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | | 182 |
| OPEN HOLE | HF | 35-00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | ½hr. |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| plug | | 1 |

MATERIALS USED

Signed [signature] Contractors Rep.
Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Mon: 16-8-82.
SHEET 1 OF 3

Contractor Amco
Area Lancs.

TYPE & No. of Drill Greyhound 43
WORKS ORDER No. 7749

DRILLER H. Rowson.
2nd MAN D. Connell.
3rd MAN M. Costello.

M 2746R

BH. No. 181. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80. | | | | | | |
| Brown Sandy clay. | 1.50 | 1.50. | | | | | | |
| Sand. | 11.00 | 9.80. | | | 13 | | | |
| Boulder clay. | 21.70 | 10.70. | | | | 5 | | |
| Grey/Brown Sandstone | 45.60 | 23.90 | | | 50 | | | |
| Dark Sandy mudstone | 50.00 | 4.40. | | | 57 | 6 | | |
| 21.00m casing. wet & Dry. | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

GEOLOGISTS NOTES

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| 5 | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 4 | CASING | HX | 6 |
| | | PX | 45 |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Fri 13-8-82.
SHEET 2 OF 2.
Contractor Amco.
Area Lanco.

TYPE & No. of Drill Cryphon 45. 7747.
WORKS ORDER No.
DRILLER H. Gordon
2nd MAN P. Connell.
3rd MAN D. Davis.

M 2746R

BH. No. 180 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sand. Damp. | 4.90 | 4.80 | | | 13 | | | |
| Brown Sandy clay. | 19.60 | 14.70 | | | | 5 | | |
| Grey/Brown Hard Sandstone | 44.80 | 25.20 | | | 50 | | | |
| Hard Dark Sandy mudstone | 50.00 | 5.20 | | | 57 | 6 | | |
| 21.00m casing. Water | 22.00 | | | | | | | |
| move over 8.00m. | | | | | | | | |
| B/H. Capped & backfilled. | | | | | | | | |

HRS

AMOUNTS PAYABLE 180

| | | |
|---|---|---|
| OPEN HOLE | HF | 50.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 15 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed
Contractors Rep.

Isleworth.
231703.
13-8-82.
1 OF 2

# NATIONAL COAL BOARD OPENCAST EXECUTIVE
## DAILY DRILL LOG
REGION No. 3 NORTH WEST

Contractor Hmco
Area Lanes.

TYPE & No. of Drill Gryphon 45.
WORKS ORDER No. 7747.
DRILLER H. Rowson.
2nd MAN P. Connell.
3rd MAN D. Davis.

2/46R

BH. No. 179. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Sand. (Damp.) | 9.30 | 8.80 | | | 13 | | | |
| Boulder clay. (Shelby) | 31.70 | 22.40 | | | | | | |
| Possible Coal Faces. | | | | | | 5 | | |
| Drilling from. Returns very | 33.00 | 1.30 | | | 79 | 6 | | |
| very bad. Impossible to keep. | | | | | | | | |
| 27.00m casing inserted | | | | | | | | |
| casing to tight to insert | | | | | | | | |
| any more. Bit abandoned. | | | | | | | | |
| Extra length (30.00m) attempted to be | | | | | | | | |
| inserted. | | | | | | | | |
| Bit collapsed as casing was | | | | | | | | |
| pulled out. Rig encountered. | | | | | | | | |
| | | | | | | | | |
| move over 2.00m. | | | | | | | | |
| Bit capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 179 |
| 5 | OPEN HOLE | HF | 33-00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 4 | CASING | HX | 6 |
| | | PX | 18 |
| | | SX | 3 |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed M Bowtell Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Thurs: 12-8-82. SHEET 1 OF 1

Contractor Amco Area Lancs.

TYPE & No. of Drill Boyles 45. WORKS ORDER No. 7747

DRILLER H. Bonson. 2nd MAN P. Connell. 3rd MAN D. Davis.

M 2746R

BH. No. 178. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 2.00 | 1.20 | | | | | | |
| Sand. Damp. | 9.50 | 7.50 | | | 13 | | | |
| Boulder clay. (Stoney) | 24.80 | 15.30 | | | | 5 | | |
| Grey/Brown Sandstone | 37.80 | 13.00 | | | 50 | 6 | | |
| Loss of Air. Possibly due to a Rock/joint. | | | | | | | | |
| B/H cleaned out. Air rotary. although poor. | | | | | | | | |
| B/H continued. | | | | | | | | |
| Grey/Brown Sandstone | 50.00 | 12.20. | | | 50 | 6 | | code as limit. |
| 24.00m casing. Dry. poor rotary. move over 3.00m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 178 |
| 5 | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 4 | CASING | HX | 6 |
| | | PX | 18 |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | + 1 mile |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed M Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Wed. 18-8-82. SHEET 1 OF 1

Contractor Amco Area Lancs

TYPE & No. of Drill Reyphon 48. WORKS ORDER No. 7747

DRILLER H. Bowden. 2nd MAN P. Connell. 3rd MAN D. Davis.

M 2746R

BH. No. 177 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.30 | 0.30 | | | | | | |
| Brown Sandy clay. | 2.30 | 2.00. | | | | | | |
| Sand. Damp. | 12.30 | 9.80 | | | 13 | | | |
| Brown Sandy clay. | 22.40 | 10.10 | | | | 5 | | |
| Dark Sandy mudstone | 34.70 | 12.30 | | | 58 | | | |
| Sandy mudstone | 40.30. | 5.60 | | | 58 | | | |
| Dark Sandy mudstone | 57.90 | 17.60 | | | 58 | | | |
| Grey Sandstone | 75.00 | 17.10. | | | 50 | 6 | | |
| 24.00m. casing Duplex. | | | | | | | | |
| water 30.0m. R/H. wet & Dry. | | | | | | | | |
| move over 5.0m R/H. capped & bolted | | | | | | | | |
| Site move over 1 mile. | | | | | | | | pay as a next BH. |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 177 |
| 4½ | OPEN HOLE | HF | 75 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 3 | CASING | HX | 6 |
| | | PX | 18 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| 2½ | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Tues. 10-8-82.
SHEET 2 OF 2.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Gryphon 45.
WORKS ORDER No. 7747
DRILLER H. Rowson.
2nd MAN P. Connell.
3rd MAN D. Davis.

M 2746R

BH. No. 176 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 2.50 | 2.00 | | | | | | |
| Sand. Dry. | 13.90 | 11.40 | | | 13 | | | |
| Brown Sandy clay | 18.00 | 4.10 | | | | 5 | | |
| Dark Sandy mudstone | 30.10 | 12.10 | | | 58 | | | |
| Sandy mudstone SST. Bands | 35.40 | 5.30 | | | 57 | | | |
| Dark Sandy mudstone | 40.60 | 5.20 | | | 57 | | | |
| Dark Sandy mudstone | 65.70 | 25.10 | | | 58 | | | |
| Sandy mudstone | 67.80 | 2.10 | | | 58 | | | |
| Grey Sandstone | 75.00 | 7.20 | | | 50 | 6 | | |
| 21.00 casing Duplex. | | | | | | | | |
| Water 24.00m. | | | | | | | | |
| Move over 2.00m. | | | | | | | | |
| R/H Capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | | 176 |
| | OPEN HOLE HF | 75.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | 15 |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thurs. 5-8-82.
SHEET 1 OF 1

Contractor Amco
Area Lancs.

TYPE & No. of Drill Reydon 45
WORKS ORDER No. 7747
DRILLER H. Bonson.
2nd MAN P. Connell.
3rd MAN D. Davis.

M 2746R

BH. No. 171 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sand. | 1.50 | 1.00 | | | 13 | | | |
| Brown Sandy clay. | 12.50 | 11.00 | | | | 5 | | |
| Sandy mudstone | 14.80 | 2.30 | | | 58 | | | |
| Dark Sandy mudstone | 45.20 | 30.40 | | | 58 | | | |
| Hard Sandy mudstone | 46.40 | 1.20 | | | 57 | | | |
| Grey Sandstone | 50.40 | 4.00 | | | 50 | | | |
| Dark Sandy mudstone | 54.90 | 4.50 | | | 58 | | | |
| Grey Sandstone | 59.30 | 4.40 | | | 50 | | | |
| Dark Sandy mudstone | 75.00 | 15.70 | | | 58 | 6 | | |
| 15.00m. casing Duplex. | | | | | | | | |
| Heavy wash 21.00m | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| Rlt capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 171 |
| | OPEN HOLE | HF | 75.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 9 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No 031703
DATE Tue: 10-8-82.
SHEET 1 OF 2.

Contractor Hunt
Area Lancs.

TYPE & No of Drill Gryphon 45. 175
WORKS ORDER No 7747
DRILLER H. Bordon.
2nd MAN P. Connell.
3rd MAN D. Davis.

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 175. | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sand & Gravel (Quaternary) | 8.90 | 8.60 | | | 15 | 5 | | |
| Soft mudstone. Hunts to Road. | 11.40 | 2.50 | | | | | | |
| Dark Sandy mudstone (Hunts Road) | 34.00 | 22.60 | | | 58 | 6 | | |
| 18.00m ccs. Duplex. Due to long gravel. casing would not seat properly. B/H producing H. water & Running Sand. Reaming difficult. Rig vibrating badly. | | | | | | | | |
| Move over 8.00m B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | 175 | |
| 5 | OPEN HOLE HF | 34.00 | |
| | PF | | |
| | SF | | |
| | 412/HF | | |
| | CORE PF | | |
| | REC. SF | | |
| | D4 | | |
| 4 | CASING HX | 6 | |
| | PX | 9 | |
| | SX | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | 1 | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Nr. Pilsworth.
SITE No. 031703.
DATE MON. 9-8-82.
SHEET 1 OF 1

Contractor Amco
Area Lancs.

TYPE & No. of Drill Reyphon 45.
WORKS ORDER No. 7747
DRILLER H. Gordon.
2nd MAN D. Connell.
3rd MAN D. Davis.

M 2746R

BH. No. 174 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 3.80 | 3.00 | | | | | | |
| Sand. damp. | 13.00 | 9.50 | | | 13 | | | |
| Brown Sandy clay. Gravel Bands | 16.60 | 3.80 | | | 15 | 5 | | |
| Soft mudstone | 18.10 | 1.50 | | | | | | |
| Sandy mudstone | 19.80 | 1.70 | | | 58 | | | |
| Dark Sandy mudstone | 34.70 | 14.90 | | | 58 | | | |
| Dark mudstone coaltrace | 34.80 | 0.10 | | | 21 | | | |
| Sandy mudstone | 35.90 | 1.10 | | | 58 | | | |
| Grey Sandstone | 49.70 | 13.80 | | | 50 | | | |
| Dark Sandy mudstone | 75.00 | 25.30 | | | 58 | 6 | | |
| 18.00m 200 Duplex. | | | | | | | | |
| Water 50.00— | | | | | | | | |
| move over 8.00— | | | | | | | | |
| B/H Capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 174 |
| 5 | OPEN HOLE | HF | 75.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 4 | CASING | HX | 6 |
| | | PX | 12 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Fri - 6.8.82.
SHEET 2 OF 2

Contractor Amco
Area Cancs.

TYPE & No. of Drill Gryphon 45
WORKS ORDER No. 7747
DRILLER H. Gordon.
2nd MAN P. Connell.
3rd MAN D. Davis.

M 2746R

BH. No. 173 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 3.00 | 2.80 | | | | | | |
| Sand - Damp. | 14.00 | 11.00 | | | 13 | | | |
| Brown Sandy clay | 20.30 | 6.30 | | | | 5 | | |
| Dark Sandy mudstone | 28.70 | 8.40 | | | 58 | | | |
| Sandy mudstone | 30.50 | 1.80 | | | 58 | | | |
| Dark Sandy mudstone | 35.90 | 5.40 | | | 58 | | | |
| Grey Sandstone | 40.70 | 4.80 | | | 50 | | | |
| Dark Sandy mudstone | 54.20 | 13.50 | | | 58 | | | |
| Grey Sandstone | 61.30 | 7.10 | | | 50 | | | |
| Dark Sandy mudstone. | 78.00 | 13.70 | | | 58 | 6 | | |
| 21.00 m. Duplex. Very Sticky wet dry. Hmms to Ream. | | | | | | | | |
| Move over 5.00m. Blt capped & backfilled. | | | | | | | | |

| HRS | AMOUNT PAYABLE 173 | |
|---|---|---|
| OPEN HOLE | HF | 75.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 15 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed D.J. Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Fri: 6-8-82.
SHEET 1 OF 2.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryphon 45
WORKS ORDER No. 7747

DRILLER H. Rowson.
2nd MAN P. Connell.
3rd MAN D. Davis.

M 2746R

BH. No. 172, Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sand. Damp. | 5.30 | 4.80 | | | 13 | | | |
| Brown Sandy clay. | 16.80 | 11.50 | | | | 5 | | |
| Dark Sandy mudstone | 48.00 | 31.20 | | | 58 | | | |
| Sandy mudstone | 50.20 | 2.20 | | | 58 | | | |
| Dark Sandy mudstone | 56.70 | 6.50 | | | 58 | | | |
| Hard. Grey Sandstone | 59.30 | 2.60 | | | 50 | | | |
| Dark Sandy mudstone | 75.00 | 15.70 | | | 58 | 6 | | |
| 18.00m easing Duplex Dry. move over 5.00m. | | | | | | | | |
| B/H Capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 172. |
| 5 | OPEN HOLE HF | 75.00 | |
| | PF | | |
| | SF | | |
| | 412/HF | | |
| | CORE PF | | |
| | REC. SF | | |
| | D4 | | |
| 4 | CASING HX | 6 | |
| | PX | 12 | |
| | SX | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | 1 | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703.
DATE Wed. 4-8-82.
SHEET 2 OF 2

Contractor Amco
Area Lancs.

TYPE & No. of Drill Boyles 4.S.
WORKS ORDER No. 7747
DRILLER H. Bordon.
2nd MAN P. Connell.
3rd MAN D. Davis.

M 2746R

BH. No. 170 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | Exploratory BH. |
| Brown Sandy clay. | 2.70 | 2.20 | | | | | | |
| Sand. very wet & Sloppy. | 12.80 | 9.80 | | | 13 | | | |
| Brown Sandy clay. | 15.00 | 2.80 | | | | | | |
| Sand. Damp. | 19.50 | 4.50 | | | 13 | | | |
| Brown Sandy Sticky Dampchay | 28.70 | 9.20 | | | | 5 | | |
| Hard Sandy mudstone. | 40.20 | 11.50 | | | 57 | | | |
| Grey Sandstone | 47.00 | 6.80 | | | 50 | | | |
| Dark Sandy mudstone | 60.00 | 13.00 | | | 58 | | | |
| Grey Sandstone. | 75.00 | 0.15. | | | 50 | 6 | | |
| 27.00m Duplex. not enough casing due to tightness. Reading very difficult. | | | | | | | | |
| Move over 2.0m B/H Capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | | 170 |
| | OPEN HOLE HF | 75.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| | 0-6 HX | 6 |
| | CASING 6-24 PX | 18 |
| | 24-48 BX | 3 |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractors Rep.

Signed H Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Wed: 4-8-82. SHEET 1 OF 2

Contractor Anco

Area Lanco.

TYPE & No. of Drill Cryphon 48.

WORKS ORDER No. 7747

DRILLER H. Bowman.

2nd MAN P. Connell.

3rd MAN D. Davis.

M 2746R

BH. No. 169 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | Exploratory BH. |
| Sand. Damp. | 14.00 | 13.50 | | | 13 | | | |
| Brown Sandy Sticky clay. | 21.40 | 7.40 | | | | 5 | | |
| Soft Grey mudstone | 22.70 | 1.30 | | | | | | |
| Dark Sandy mudstone | 27.10 | 4.40 | | | 58 | | | |
| Sandy mudstone | 31.20 | 4.10 | | | 58 | | | |
| Dark Sandy mudstone | 34.50 | 3.30 | | | 58 | | | |
| Hard Grey Sandstone | 67.20 | 32.70 | | | 50 | | | |
| Hard Sandy mudstone | 75.00 | 7.80 | | | 57 | 6 | | |
| 24.00m casing Duplex. Very heavy water. from | 35.00 | | | | | | | |
| B/H capped. & backfilled. | | | | | | | | |

| HRS | AMOUNT PAYABLE | | |
|---|---|---|---|
| | | | 169 |
| 5 | OPEN HOLE | HF | 75.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 4 | CASING | HX | 6 |
| | | PX | 18 |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed H Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Tue. 3-8-82.
SHEET 2 OF 2

Contractor Amco
Area Lancs.

TYPE & No. of Drill Creyblon 45. 7747
WORKS ORDER No.
DRILLER H. Bondon
2nd MAN P. Powell.
3rd MAN D. Davis.

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 168 | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sand. | 11.00 | 10.80 | | | 13 | | | |
| Brown Sandy clay. | 16.10 | 5.10 | | | | | | |
| Yellow marl | 17.90 | 1.80 | | | | 5 | | |
| Dark mudstone | 19.00 | 1.10 | | | | | | |
| Sandy mudstone | 23.30 | 4.30 | | | 57 | | | |
| Dark Sandy mudstone | 26.60 | 3.30 | | | 57 | | | |
| Sandy mudstone | 28.20 | 1.60 | | | 58 | | | |
| Hard Grey sandstone | 58.70 | 30.50 | | | 50 | | | |
| Hard Sandy mudstone | 67.80 | 9.10 | | | 57 | | | |
| Grey Sandstone | 75.00 | 7.20 | | | 50 | 6 | | |
| 21.00m casing. Duplex used. | | | | | | | | |
| water 34.00m. | | | | | | | | |
| move over 5.00m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |
| claim 1/2hr Bogging time K.H.W. | | | | | | | | |
| Travelling between B/Hs. Rig & Trailer Stuck. | | | | | | | | |

HRS

AMOUNTS PAYABLE 168

| | | |
|---|---|---|
| OPEN HOLE | HF | 75.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | / |
| | PF | |
| | SF | |
| | 04 | |
| CASING | HX | 6 |
| | PX | 15 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | / |
| MOVING | | 5m.+ |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| * Bogging | | 1/2 |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Tue: 3-8-82. SHEET 1 OF 2.

Contractor Amec. Area Lancs.

TYPE & No. of Drill Gopher 45. WORKS ORDER No. 7747

DRILLER H. Gordon. 2nd MAN P. Connell. 3rd MAN D. Davis.

M 2746R

BH. No. 167 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Sand. Damp. | 11.70 | 11.20 | | | 13 | | | |
| Brown Sandy clay. | 14.50 | 2.80 | | | | 5 | | |
| Sandy mudstone | 19.80 | 5.30 | | | 58 | | | |
| Brown Sandstone | 20.30 | 0.50 | | | 50 | | | |
| Grey Sandstone | 21.10 | 0.80 | | | 50 | | | |
| Dark Sandy mudstone | 21.60 | 0.50 | | | 58 | | | |
| Hard Sandy mudstone | 22.00 | 0.40 | | | 57 | | | |
| Grey Sandstone | 25.10 | 3.10 | | | 50 | | | |
| Sandy mudstone | 32.60 | 7.50 | | | 58 | | | |
| Dark Sandy mudstone | 41.20 | 8.60 | | | 58 | | | |
| Sandy mudstone | 42.50 | 1.30 | | | 58 | | | |
| Hard Dark Sandy mudstone | 48.90 | 6.40 | | | 57 | | | |
| Dark Sandy mudstone | 51.40 | 2.50 | | | 58 | | | |
| Dark mudstone - Coal. traces | 51.50 | 0.10 | | | 21 | | | |
| Sandy mudstone | 52.70 | 1.20 | | | 58 | | | |
| Grey Sandstone | 55.40 | 2.70 | | | 50 | | | |
| Hard Dark Sandy mudstone | 75.00 | 19.60 | | | 57 | 6 | | |
| 18.00m casing Gopher. Wet & Dry. Move over 8.00m | | | | | | | | |
| R/H capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | 167 | |
| 5 | OPEN HOLE HF | 75.00 | |
| | PF | | |
| | SF | | |
| | 412/HF | | |
| | CORE PF | | |
| | REC SF | | |
| | D4 | | |
| 4 | CASING HX | 6 | |
| | PX | 9 | |
| | SX | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | 5M+ | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractor's Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703 DATE Mon: 2-8-82. SHEET 2 OF 2.

TYPE & No. of Drill Gopher 45. WORKS ORDER No. 7747

DRILLER K. Gordon. 2nd MAN P. Connell. 3rd MAN D. Davis.

Contractor Amco Area Lancs

M 27468

BH. No. 166 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 4.20 | 3.70 | | | | | | |
| Sand. | 16.00 | 11.80 | | | 13 | | | |
| Brown Sandy clay. | 16.90 | 0.90 | | | | 5 | | |
| Dark Sandy Mudstone | 44.10 | 27.20 | | | 58 | | | |
| Coal. | 44.20 | 0.10 | | | 20 | | | |
| Sandy mudstone | 45.50 | 1.30 | | | 58 | | | |
| Grey Sandstone | 49.80 | 3.30 | | | 60 | | | |
| Dark Sandy mudstone | 52.10 | 2.30 | | | 58 | | | |
| Grey Sandstone | 56.90 | 4.80 | | | 60 | | | |
| Hard Dark Sandy Mudstone | 63.90 | 7.00 | | | 57 | | | |
| Dark Sandy Mudstone | 75.00 | 11.10 | | | 58 | 6 | | |
| 18.00m cas. Duplex. | | | | | | | | |
| Water 33.00m. | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| R/H Capped & Secured. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 166 |
| | OPEN HOLE | HF | 75.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | / |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 12 |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | / |
| | MOVING | | 5m+ |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractor's Rep.

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703
DATE Mon: 2-8-82.
SHEET 1 OF 2
Contractor Amco
Area Lancs.

TYPE & No. of Drill Gryphon 45.
WORKS ORDER No. 7747.
DRILLER H. Rowson.
2nd MAN ~~Scottish~~ P. Connell
3rd MAN D. Davis.

M 2746R

BH. No. 165 | Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay | 3.00 | 2.50 | | | | | | |
| Sand very wet. | 14.00 | 11.00 | | | 13 | | | |
| Brown Sandy clay. | 15.50 | 1.50 | | | | | | |
| Sand. wet Running | 18.00 | 2.50 | | | 13 | 6 | | |
| Sand pumping out of B/H. approx 3 to 4 Tonne, also pumping out around Rig. | | | | | | | | |
| B/H ~~abandoned~~ * Flushed. for Safty. | | | | | | | | |
| 15.00 m. Duplex. move over Sand. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 165 |
| 5 | OPEN HOLE | HF | 18.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | / |
| | | PF | |
| | | SF | |
| | | D4 | |
| 4 | CASING | HX | 6 |
| | | PX | 9 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | / |
| 1 | MOVING | | 5m+ |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractor's Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Fri 28-7-82.
SHEET 1 OF 1

Contractor Amco
Area Lancs.

TYPE & No. of Drill Gryphon 45 7747
WORKS ORDER No.
DRILLER H. Gordon.
2nd MAN M. Costello.
3rd MAN D. Davis.

M 2746R

BH. No. 164 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 5.00 | 4.80 | | | | | | |
| Sand. Damp. | 14.00 | 9.00 | | | 13 | | | |
| Brown Sandy clay. Soft & wet. | 28.30 | 14.30 | | | | 5 | | |
| Dark Sandy mudstone | 35.50 | 7.20 | | | 58 | | | |
| Sandy mudstone | 39.80 | 4.30 | | | 58 | | | |
| Dark Sandy mudstone | 52.20 | 12.40 | | | 58 | | | |
| Brown to Grey Sandstone | 75.00 | 22.80 | | | 50 | 6. | | |
| 30.00m casing. Duplex used. Sand running into RIH. Readings difficult. move over 8.00m | | | | | | | | |
| RIH capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | 164 |
|---|---|---|---|
| 4 | OPEN HOLE | HF | 75.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 5 | CASING | HX | 6 |
| | | PX | 18 |
| | | SX | 6 |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | 5m+ |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thur: 28-7-82.
SHEET 2 OF 2.

Contractor Amco
Area Lowes.

TYPE & No. of Drill Creyphon 45.
WORKS ORDER No. 7747.
DRILLER H. Rowson.
2nd MAN M. Costello.
3rd MAN D. Davis.

M 2746R

BH. No. 163 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 9.80 | 9.30 | | | | | | |
| Sand. damp. | 13.60 | 3.80 | | | 13 | | | |
| Brown Sandy clay | 31.70 | 18.10 | | | | 5 | | |
| Sandy mudstone | 41.20 | 9.50 | | | 58 | | | |
| Dark mudstone | 59.40 | 18.20 | | | | | | |
| Dark mudstone c.r. | 53.50 | 0.10 | | | 21 | | | |
| Sandy mudstone | 57.00 | 3.50 | | | 58 | | | |
| Medium Hard Grey Sandstone | 75.00 | 18.00 | | | 50 | 6 | | |
| 27.00m. Difficult Readings due to casing to tight. to Ream completely through Dyke. | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| B/H Capped & Backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | 163 |
|---|---|---|
| | OPEN HOLE HF | 75.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | / |
| | REC. SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | 18 |
| | SX | 3 |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | / |
| | MOVING | 5M+ |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractor's Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pikeworth. SITE No. 031703 DATE Mon: 28-7-82. SHEET 1 OF 2

Contractor Amco Area Lancs.

TYPE & No. of Drill Reyphon 45. WORKS ORDER No. 7747

DRILLER H. Rondon. 2nd MAN M. Costello. 3rd MAN D. Davis

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 162. Cont'd | 18.00 | | | | | | | |
| Brown Sandy clay. | 25.80 | 7.80 | | | | 5 | | |
| Dark Sandy mudstone | 32.10 | 6.30 | | | 58 | | | |
| Sandy mudstone | 33.40 | 1.30 | | | 58 | | | |
| Dark Mudstone. Coal. traces | 33.70 | 0.30 | | | 21 | | | |
| Hard Sandy mudstone | 35.50 | 1.80 | | | 57 | | | |
| Dark Sandy mudstone | 39.00 | 3.80 | | | 58 | | | |
| Grey Sandstone | 41.90 | 2.90 | | | 50 | | | |
| Hard Sandy mudstone | 44.20 | 2.30 | | | 57 | | | |
| Dark Sandy mudstone | 50.00 | 5.80 | | | 58 | B | | |
| 27.00m Casing. Dry. | | | | | | | | |
| Move over 5.00m. | | | | | | | | |
| B/H Capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | 162 | | |
| 5 | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 4 | CASING | HX | 6.00 |
| | | PX | 18.00 |
| | | SX | 3.00 |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | 5m t |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Wed. 27-7-82.
SHEET 2 OF 2.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Gryphon 45.
WORKS ORDER No. 7747
DRILLER H. Gordon
2nd MAN M. Costello
3rd MAN D. Davis

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 162. | | | | | | | | |
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 11.00 | 10.50 | | | | | | |
| Sand. Damp. | 18.00 | 7.00. | | | 13 | | | |
| B/H not completed.. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| OPEN HOLE | HF | |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed ____ Contractor's Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Ellsworth. SITE No. 031703. DATE Wed 27-7-82. SHEET 1 OF 2.

Contractor Amco

Area Lancs.

TYPE & No. of Drill Greyhound 48. 7747

WORKS ORDER No.

DRILLER H. Bowden.

2nd MAN M. Costello.

3rd MAN D. Davis.

M 2746R

BH. No. 161. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.00 | 1.50 | | | | | | |
| Sand. | 4.00 | 2.00 | | | 13 | | | |
| Brown Sandy clay. | 7.50 | 3.50 | | | | | | |
| Sand. Damp. | 14.00 | 6.50 | | | 13 | | | |
| Brown Sandy clay | 22.50 | 6.50 | | | | | | |
| Sand & Gravel. | 25.70 | 3.20 | | | 15 | | | |
| Brown Sandy clay. | 26.50 | 0.80 | | | | 5 | | |
| Dark Sandy Mudstone | 32.70 | 6.20 | | | 58 | | | |
| Sandy Mudstone | 38.10 | 5.40 | | | 58 | | | |
| Dark Sandy Mudstone | 50.00 | 11.90 | | | 58 | 6 | | |
| 27.00m Cas. Wet&Dry. | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE 161 | | |
|---|---|---|---|
| 5 | OPEN HOLE HF | 50.00 | |
| | PF | | |
| | SF | | |
| | 412/HF CORE PF | / | |
| | REC SF | | |
| | D4 | | |
| 4 | CASING HX | 6.00 | |
| | PX | 18.00 | |
| | SX | 3.00 | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | / | |
| 1 | MOVING | GTR 5m. | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractor's Rep

Signed ____ Geologist

# NATIONAL COAL BOARD OPENCAST EXECUTIVE

## DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Tue: 28-7-82.
SHEET 2 OF 2

TYPE & No. of Drill Reynolds 48. 7747.
WORKS ORDER No.
DRILLER H. Berrow.
2nd MAN M. Costello.
3rd MAN D. Davis.

Contractor Amco
Area Lancs.

M 2746R

BH. No. 160. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Sand. Damp. | 11.00 | 10.50 | | | 13 | | | |
| Brown Sandy clay | 24.10 | 13.10 | | | | 5 | | |
| Dark Sandy mudstone | 29.50 | 5.40 | | | 58 | | | |
| Hard Sandy mudstone | 39.70 | 10.20 | | | 57 | | | |
| Dark Sandy mudstone | 41.20 | 1.50 | | | 58 | | | |
| Grey Sandstone | 50.00 | 8.80 | | | 50 | 6 | | |
| 21.00m cas. Water Dry. Sticky. Move over 2.00m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE 160 | | |
|---|---|---|---|
| | OPEN HOLE HF | 50.00 | |
| | PF | | |
| | SF | | |
| | 412/HF | | |
| | CORE PF | | |
| | REC SF | | |
| | D4 | | |
| | 0-6 HX | 6.00 | |
| | CASING PX | [illegible] | |
| | 6-24 SX | | |
| | 24-48 GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | Chas 3m | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed Rosalind Tedhunter Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Tue. 27-7-82. SHEET 1 OF 2.

TYPE & No. of Drill Cryphon 45. WORKS ORDER No. 7747.

Contractor Amco Area Canes.

DRILLER H. Bowden. 2nd MAN M. Costello. 3rd MAN D. Davis.

M 2746R

BH. No. 189. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: QRF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown sandy clay. | 4.00 | 3.50 | | | | | | |
| Sand. (Damp) | 14.00 | 10.00 | | | 13 | | | |
| Brown sandy clay | 28.00 | 14.00 | | | | | | |
| Sand. (Damp.) continually pumping out of B/H. Rig Ground under rig vibrating. B/H abandoned for safety. | 35.00 | 7.00 | | | 13/10 | 6 | | Driller pulled off after phoning AGT on AGG's instructions. |
| 30.00m casing. move over 2.00m | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE 189 | | |
|---|---|---|---|
| 4 | OPEN HOLE HF | 35.00 | |
| | PF | | |
| | SF | | |
| | 412/HF | | |
| | CORE PF | | |
| | REC. SF | | |
| | D4 | | |
| 5 | 0-6 HX | 6.00 | |
| | CASING 6-24 PX | 18.00 | |
| | 24-48 SX | 6.00 | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | over 5m | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Mon: 26-7-82. SHEET 1 OF 1

Contractor Amco

Area Lancs.

TYPE & No. of Drill Cryphan 45 7747

WORKS ORDER No.

DRILLER H. Bonsors.

2nd MAN M. Costello.

3rd MAN D. Davis.

M 2746R

BH. No. 158 Field No.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 2.80 | 2.30 | | | | | | |
| Sand. (Damp) | 14.50 | 11.70 | | | 13 | | | |
| Brown Sandy clay. | 25.20 | 10.70 | | | | | | |
| Sand. | 28.70 | 3.50 | | | 13 | | | |
| Brown Sandy clay (Sticky) | 35.00 | 6.30 | | | | 5 | | |
| Sandy mudstone | 37.70 | 2.70 | | | 58 | | | |
| H. Sandy mudstone | 40.00 | 2.30 | | | 57 | | | |
| Dark Sandy mudstone | 52.30 | 12.30 | | | 58 | | | |
| Hard Sandy mudstone | 56.00 | 3.70 | | | 57 | | | |
| Grey Sandstone | 75.00 | 19.00 | | | 50 | 6 | | |
| 33.00m casing. R/H very difficult to Dark not completely Casing would not insert | Road. Sticky sealed off, close to Tightness | | | | | | | |

| HRS | AMOUNTS PAYABLE 158 | | |
|---|---|---|---|
| 4 | OPEN HOLE | HF | 75.00 |
| | | PF | |
| | | SF | |
| 5 | 412/HF | | |
| | CORE REC. | PF | |
| | | SF | |
| | | D4 | |
| | 0-6 | HX | 6.00 |
| | 6-24 | PX | 18.00 |
| | 24-48 | SX | 9.00 |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | over 5m |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Fri: 23-7-82. SHEET 1 OF 1

Contractor Amco

Area Lancs.

TYPE & No. of Drill Boyles 45. 747

WORKS ORDER No.

DRILLER H. Benson.

2nd MAN M. Costello.

3rd MAN

M 2746R

BH. No. 157. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 3.40 | 2.90 | | | | | | |
| Sand. | 11.00 | 7.60 | | | 13 | | | |
| Brown Sandy clay. | 31.20 | 2020 | | | | 5 | | |
| Grey Sandstone | 47.40 | 1620 | | | 50 | | | |
| Dark Sandy mudstone | 54.70 | 7.30 | | | 58 | | | |
| Hard Sandy mudstone | 61.30 | 6.60 | | | 57 | | | |
| Grey Sandstone | 75.00 | 13.70 | | | 50 | 6 | | |
| 33.00m casing with | 60.00 | | | | | | | |
| Reading went dry. | | | | | | | | |
| Move over 8.00m. | | | | | | | | |
| RH capped & locked. | | | | | | | | |

GEOLOGISTS NOTES

| HRS | AMOUNTS PAYABLE 157 | | |
|---|---|---|---|
| 4 | OPEN HOLE | HF | 75.00 |
| | | PF | |
| | | SF | |
| | 412/HF CORE REC. | PF | |
| | | SF | |
| | | D4 | |
| 5 | 0-6 HX CASING | | 6.00 |
| | 6-24 PX | | 18.00 |
| | 24-48 SX | | 9.00 |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | +5m. |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed Hassall & Todhunter Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thur. 22-7-82.
SHEET 2 OF 2

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryphon 45.
WORKS ORDER No. 7747
DRILLER H. Bowden.
2nd MAN M. Costello.
3rd MAN

M 2746R

BH. No. 156. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 8.70 | 7.90 | | | | | | |
| Sand | 9.50 | 0.80 | | | 13 | | | |
| Brown Sandy clay | 26.40 | 16.90 | | | | 5 | | |
| Sandy mudstone | 32.10 | 5.70 | | | 58 | | | |
| Dark mudstone | 35.00 | 2.90 | | | | | | |
| Dark Sandy mudstone | 37.50 | 2.50 | | | 58 | | | |
| Grey Sandstone | 50.00 | 12.50 | | | 50 | 6 | | |
| 27.00m casing Dry | | | | | | | | |
| move over 2.5m | | | | | | | | |
| R/H dropped a backfill bag | | | | | | | | |

HRS

AMOUNTS PAYABLE 156

| | | |
|---|---|---|
| OPEN HOLE | HF | 50.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | 0-6 HK | 6.00 |
| | 6-24 PX | 18.00 |
| | 6K | 3.00 |
| GEOLOG | | |
| ROUND | | |
| TRIPPING | | |
| MOVING | | over 30 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed Harold Todhunter. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Thurs. 22-7-82. SHEET 1 OF 2.

TYPE & No. of Drill Geyphon 45. WORKS ORDER No. 7747.

DRILLER H. Benson. 2nd MAN M. Costello. 3rd MAN

Contractor Amco. Area Lancs.

M 2746R

| BH. No. / Field No. DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 155 | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 4.80 | 4.00 | | | | | | |
| Sand (Damp) | 8.20 | 3.70 | | | 13 | | | |
| Brown Sandy clay | 15.65 | 7.45 | | | — | 5 | | |
| Coal. dirty | 15.75 | 0.10 | | | 23 | | | |
| Sandy mudstone | 20.55 | 4.80 | | | 58 | | | |
| Dark mudstone | 22.60 | 2.05 | | | | | | |
| Sandy mudstone | 25.10 | 2.50 | | | 58 | | | |
| Dark mudstone | 26.15 | 1.05 | | | | | | |
| Dark mudstone. C.T. | 26.45 | 0.30 | | | 21 | | | |
| Sandy Mudstone | 28.00 | 1.55 | | | 58 | | | |
| Grey Sandstone | 32.20 | 4.20 | | | 50 | | | |
| Sandy mudstone | 36.50 | 3.30 | | | 58 | | | |
| Grey Sandstone | 43.20 | 9.70 | | | 50 | | | |
| Dark Sandy mudstone | 44.50 | 1.30 | | | 58 | | | |
| Sandy Mudstone | 46.00 | 1.50 | | | 58 | | | |
| Dark Sandy mudstone | 50.00 | 4.00 | | | 58 | 6 | | |
| 18.00m casing Dry | | | | | | | | |
| move over 5.00m. | | | | | | | | |
| RIH Capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE 155 | | |
|---|---|---|---|
| 4 | OPEN HOLE HF | 50.00 | |
| | PF | | |
| | SF | | |
| | 412/HF | | |
| | CORE PF | | |
| | REC SF | / | |
| | D4 | | |
| 5 | 0-6 HX | 6.00 | |
| | CASING 6-24 PX | 12.00 | |
| | 9X | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | over 5m | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed Rosalind Tomlinson Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No 031703. DATE Wed. 21-7-82, SHEET 2 OF 2

TYPE & No. of Drill Creighton 45. WORKS ORDER No. 7747.

DRILLER H. Gordon. 2nd MAN M. Costello 3rd MAN

Contractor Unco Area Lancs.

M 2746R

BH. No. 154. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.80 | 2.00 | | | | | | |
| Sand. Damp. | 11.80 | 9.00 | | | 13 | | | |
| Brown. Sandy clay. | 18.70 | 7.20 | | | | 5 | | |
| Sandy mudstone | 23.60 | 3.90 | | | 58 | | | |
| Dark mudstone | 25.00 | 1.40 | | | | | | |
| Coal. Dark bands. | 25.10 | 0.10 | | | 24 | | A100 | Sandrockhire? |
| Sandy mudstone | 30.00 | 4.90 | | | 58 | | | |
| Grey Sandstone | 38.60 | 8.60 | | | 50 | | | |
| Hard Sandy mudstone | 38.70 | 3.10 | | | 57 | | | FJ |
| Grey Sandstone | 50.00 | 11.30 | | | 50 | 6 | | |
| 21.00m casing. Dry. | | | | | | | | |
| Move over 8.00m. | | | | | | | | |
| BH capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE 154 | |
|---|---|---|
| | OPEN HOLE HF | 50.00 |
| | PF | |
| | SF | |
| | CORE REC. 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| | 0-6 HX | 6.00 |
| | CASING 6-24 PX | 15.00 |
| | 24-48 SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | Over 5m |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed ____ Contractors Rep

Signed Vessal el Toddster Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Wed. 21-7-82. SHEET 1 OF 2.

TYPE & No. of Drill Creighton 45. WORKS ORDER No. JP7747.

DRILLER H. Rowson. 2nd MAN M. Costello 3rd MAN

Contractor Amco Area Langs.

M 2746R

BH. No. 153 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 3.00 | 2.20 | | | | | | |
| Sand. (wet) | 11.80 | 8.80 | | | 13 | 5 | | |
| Dark mudstone (soft) | 15.80 | 4.00 | | | | | | |
| Dark mudstone. C.T. | 15.80 | 0.30 | | | 21 | | | |
| Dark Sandy mudstone | 18.90 | 0.10 | | | 58 | | | |
| Sandy mudstone | 26.70 | 7.80 | | | 58 | | | |
| Coal. Dark mudstone | 26.80 | 0.10 | | | 23 | | A100 | ? Sandwick Mine ows? |
| Dark Sandy mudstone | 28.10 | 1.30 | | | 58 | | | |
| Grey Sandstone | 30.40 | 2.30 | | | 50 | | | |
| Hard Sandy mudstone | 33.00 | 2.60 | | | 57 | | | (F) |
| Grey/Brown Sandstone | 50.00 | 17.00 | | | 50 | 6 | | |
| 15.00m. cas. water entry 19.00m. Move over 5.00m. | | | | | | | | |
| R/H approach backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE 153 | | |
|---|---|---|---|
| 5 | OPEN HOLE HF | 50.00 | |
| | PF | | |
| | SF | | |
| | 412/HF | | |
| | CORE PF | | |
| | REC SF | | |
| | D4 | | |
| 4 | 0-6 ~~HX~~ | 6.00 | |
| | 6-24 CASING PX | 9.00 | |
| | 24-48 ~~SX~~ | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | over 5m | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | MATERIALS USED | | |

Signed _____ Contractors Rep

Signed Rosalind Todhunter Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Tue' 20-7-82. SHEET 1 OF 1

TYPE & No. of Drill Cryphon 45 WORKS ORDER No. 7747

DRILLER H. Lawson. 2nd MAN M. Costello. 3rd MAN

Contractor Amco. Area Lancs

M 2746R

BH. No. 152 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 152 Cont'd | 30.00 | | | | | | | |
| 750 compressor Arrived on Site in the Afternoon. R/H cont'd. | | | | | | | | |
| Brown Sandy clay. | 37.60 | 7.60 | | | | 5 | | |
| Dark Grey Sandy mudstone | 47.00 | 9.40 | | | 58 | | | |
| Grey Sandstone | 48.90 | 1.90 | | | 50 | | | |
| Dark Grey Sandy mudstone | 56.30 | 7.40 | | | 58 | | | |
| Grey Sandstone | 69.10 | 12.80 | | | 50 | | | |
| Hard Grey Sandy mudstone | 75.00 | 5.90 | | | 57 | 6 | | |
| + 9.00m Cas. | | | | | | | | |
| Total Casing in R/H 39.00m. | | | | | | | | |
| R/H wet & Dry. | | | | | | | | |
| Move over 8.00m. | | | | | | | | |
| R/H Capped & backfilled. | | | | | | | | |
| 6 bags of Cement delivered to site 20. miles., for use of in collapsed R/H. 150. | | | | | | | | |

| HRS | AMOUNTS PAYABLE 152 | | |
|---|---|---|---|
| 4½ | OPEN HOLE HF | 75.00 | |
| | PF | | |
| | SF | | |
| | 412/HF | | |
| | CORE PF | | |
| | REC SF | | |
| | D4 | | |
| 1½ | 0-6 HX | 6.00 | |
| | CASING 6-24 PX | 18.00 | |
| | 24-48 SX | 15.00 | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | over 5m | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting, | | |
| 4 | cleaning ending | | |
| | Bags cement used | 6 | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Mon: 19-7-82. SHEET 1 OF 1

Contractor Amco Area Lancs

TYPE & No. of Drill Greyhound 7747

WORKS ORDER No.

DRILLER H. Gorman. 2nd MAN M. Costello. 3rd MAN

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 152 Cont'D | 18.00 | | | | | | | |
| Brown Sandy clay (Boul) | 30.00 | 12.00. | | | | | | |
| Difficulty in cleaning out casing & inserting more casing. | | | | | | | | |
| Another 12.00m casing inserted. | | | | | | | | |
| B/H not Completed. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| 5 | OPEN HOLE | HF | |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 5 | CASING | HX | |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Fri 16-7-82
SHEET 2 OF 2

Contractor Hunco
Area Lancs

TYPE & No. of Drill Cressbrook 45
WORKS ORDER No. JH 7749
DRILLER H. Bowen
2nd MAN M. Costello
3rd MAN

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 182. | | | | | | | | |
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay | 1.50 | 1.00 | | | | | | |
| Sands. (Wet) | 10.00 | 8.50 | | | 13 | | | |
| Brown Sandy clay. | 18.00 | 8.00 | | | | | | |
| 18.00m Inserted Solan. | | | | | | | | |
| B/H not Completed. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| | MOVING | | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth

SITE No. 03/703

DATE Fri 16-7-82

SHEET 1 OF 2

Contractor Anco

Area Lancs

TYPE & No. of Drill Cryston 72

WORKS ORDER No. 7749

DRILLER H. Brown

2nd MAN [redacted]

3rd MAN M. Costello

M 2746R

| BH. No. / Field No. | DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 151 ~~152~~ | Top Soil | 0.50 | 0.50 | | | | | | |
| | Brown Sandy Clay | 2.00 | 2.00 | | | | | | |
| | Sand (wet) | 18.00 | 18.00 | | | 13 | 6 | | |
| | pulled off R/H due to ground ~~is~~ of sand caving out of R/H | | | | | | | | |
| | Move onto Loom. | | | | | | | | |
| | R/H repaired backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| 4 | OPEN HOLE HF | 15 | |
| | PF | 18.00 | |
| | SF | | |
| | 412/HF | | |
| | CORE REC. PF | | |
| | SF | | |
| | D4 | | |
| 2 | CASING HX | | |
| | PX | | |
| | SX | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | 1 | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 051/103.
DATE Thurs 15-7-82.
SHEET 2 OF 2

Contractor Hmcc
Area Lancs

TYPE & No. of Drill Creighton 45
WORKS ORDER No. 7749.
DRILLER H. Bonnyer.
2nd MAN P. Cornell.
3rd MAN M. Costello.

M 2746R

BH. No. 150 ~~H67~~ Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Sandy clay | 2.50 | 2.00 | | | | | | |
| Sandy Grit | 22.00 | 19.50 | | | 13 | 5 | | |
| Solid Drilling | 24.00 | 2.00 | | | 19 | 6 | | |
| 21.00m casing. White Chemtec casing, Empty Wyeond ended Rig. RH Wonderful. Rig empty. | | | | | | | | FH |
| Move over 5.00m | | | | | | | | |
| ~~RHH capped & backfilled~~ | | | | | | | | |
| RH. needs headmark, Large empty. | | | | | | | | |
| Lands dept to put ground right. | | | | | | | | R.D.M instruction on 19/7/82. |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 150 |
| | OPEN HOLE | HF | 24.00 |
| | | PF | |
| | | SF | |
| | 412/HF | | |
| | CORE REC. | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 15 |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed M Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thurs 15-7-82.
SHEET 1 OF 2.

TYPE & No. of Drill Cryshen 45
WORKS ORDER No. 7749.
DRILLER H. Correa.
2nd MAN D. Cowell.
3rd MAN M. Castello.

Contractor Hmco
Area Lancs.

M 2746R

BH. No 169
Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: O/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Sand (Damp) | 1.50 | 1.00 | | | 13 | | | |
| [redacted] Brown Sandy clay | 4.00 | 2.50 | | | | | | |
| Sand with Gravel (Wet) | 14.00 | 10.00 | | | 16 | | | |
| Brown Sandy clay. | 23.00 | 9.00 | | | 106 | | | EL |
| 21.00 metres, casing would not | | | | | | | | |
| unwind any more than 21.00m. | | | | | | | | |
| Casing very tight, jammed | | | | | | | | |
| Move over Room. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 169 |
| 4 | OPEN HOLE | HF | 23.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 5 | CASING | HX | 6 |
| | | PX | 15 |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep
Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703.
DATE Wed 14-7-82.
SHEET 1 OF

TYPE & No. of Drill Cryphon 45. 7749.
WORKS ORDER No.
DRILLER H. Gonoga.
2nd MAN P. Connell.
3rd MAN M. Costello

Contractor Amec
Area Lancs.

M 2746R

BH No. 148 ~~147~~ Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Sand (Damp) | 2.00 | 1.50 | | | 13 | | | |
| Brown Sandy clay. | 19.80 | 17.80 | | | | | | |
| Sand / clay bands. | 25.20 | 5.40 | | | 13 | 5 | | |
| Dark Sandy mudstone | 30.40 | 5.20 | | | 58 | | | } code as limit. |
| Sandy Mudstone | 36.20 | 5.80 | | | 58 | | | |
| Hard Sandy mudstone | 41.60 | 5.60 | | | 57 | | | |
| Dark Sandy mudstone | 46.80 | 5.20 | | | 58 | | | |
| Grey Sandstone | 47.50 | 0.70 | | | 50 | | | |
| Sandy Mudstone | 51.70 | 4.20 | | | 58 | | | } 1 unit |
| Dark Sandy Mudstone / S.M.B. | 68.40 | 16.70 | | | 58 | | | } E1 |
| Dark mudstone / coal bands. | 68.50 | 0.10 | | | 21 | | | |
| Black mudstone | 73.10 | 4.60 | | | | | | |
| Dark mudstone | 78.00 | 4.90 | | | | 6 | | |
| 27.0cm casing. Water 47.0cm. | | | | | | | | |
| Mud over 8cm. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | 148 |
|---|---|---|---|
| 6 | OPEN HOLE HF | 78.00 | |
| | PF | | |
| | SF | | |
| 12 | 412/HF CORE REC PF | | |
| | SF | | |
| | D4 | | |
| | CASING HX | 6 | |
| | PX | 18 | |
| | SX | 3 | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| 1 | MOVING | 1 | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed J.M. Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Tue: 13-7-82.
SHEET 1 OF 1

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryshaw 45
WORKS ORDER No. 7749
DRILLER H. Bowen.
2nd MAN P. Carnell.
3rd MAN M. Costello.

M 2746R

BH. No. 167 ~~116~~ Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 2.80 | 2.00 | | | | | | |
| Sand (Damp) | 12.80 | 10.30 | | | 13 | | | |
| Soft Sticky clay. | 31.00 | 18.20 | | | 10 | 6 | | |
| Casing Very tight. 30.00cm. | | | | | | | | LY |
| Ground collapsing around RIH. | | | | | | | | |
| RIH REMOVED. | | | | | | | | |
| Move over 8.00cm. | | | | | | | | |
| RIH Capped a backfilled | | | | | | | | |

HRS

AMOUNTS PAYABLE 14.9.

| | | |
|---|---|---|
| 3 | OPEN HOLE HF | 31.00 |
| | OPEN HOLE PF | |
| | OPEN HOLE SF | |
| | 412/HF | |
| | CORE REC PF | |
| | CORE REC SF | |
| | CORE REC D4 | |
| 3 | CASING HX | 6 |
| | CASING PX | 18 |
| | CASING SX | 6 |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractors Rep

Signed M Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Plawsworth
SITE No. 031703
DATE Mon. 12-7-82.
SHEET 1 OF 1

Contractor Amec.
Area Lanes

TYPE & No. of Drill Cryphaus 45
WORKS ORDER No. 7749

DRILLER H. Sawyer
2nd MAN P. Connell.
3rd MAN M. Costello

M 2746R

BH. No. GREENWOOD FARM Field No 146

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 5.40 | 4.90 | | | | | | Rockhead not reached. |
| Sands + (Damp) | 18.50 | 13.10 | | | 13 | | | |
| Soft Sticky clay (Sands Damp) | 41.00 | 22.50 | | | 10 | 6 | | |
| 39.00m casing cemented. | | | | | | | | 4) |
| R/H Abandoned due to difficulty | | | | | | | | 3 miles Love |
| in inserting casing. | | | | | | | | |
| R/H Capped & backfilled | | | | | | | | |

HRS: 5 | 5

AMOUNTS PAYABLE 146

| | | |
|---|---|---|
| OPEN HOLE | HF | 41.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 18 |
| | SX | 15 |
| | GEOLOG | |
| ROUND | | |
| TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ____ Contractor's Rep

Signed M. Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Fri 9-7-82
SHEET 1 OF 1

Contractor Arco
Area Lancs

TYPE & No. of Drill Gopher 45 7749
WORKS ORDER No.
DRILLER H. Gowan.
2nd MAN P. Connell.
3rd MAN M. Costello.

M 2746R

| BH. No. / Field No. DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: O/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Move Site. | | | | | | | | |
| Move over 2 miles. X | | | | 3 miles. | | | | |
| Also clearing previous Jobs. | | | | | | | | |
| Ghr breakdown due to blow out on Compressor while moving. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| | MOVING | | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed M Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PILSWORTH
SITE No. 031703
DATE 8/7/82
SHEET 2 OF 1
M 2746R

Contractor AMCO
Area LANC/S

TYPE & No. of Drill GRYPHON 45
WORKS ORDER No. 7749
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D GIBSON

BH. No. 145 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| TOPO SOIL | 00.50 | 00.50 | | | | | | Exploratory Hole |
| SAND & CLAY | 21.10 | 20.60 | | | | 5 | | |
| WEATHERED MUDSTONE | 21.50 | 00.40 | | | | | | |
| DARK SANDY MUDSTONE | 24.40 | 02.90 | | | 58 | | | |
| BANDED SANDSTONE | 36.00 | 11.60 | | | 50 | | | |
| DARK SANDY MUDSTONE | 50.00 | 14.00 | | | 58 | 6 | | |
| DRIFT VERY WET BAD READINGS | | | | | | | SY | |
| 24.00 CAS | | | | | | | | |
| B.H CAPPED & BACKFILLED | | | | | | | | |

HRS

AMOUNTS PAYABLE 145

| HRS | | AMOUNTS PAYABLE 145 |
|---|---|---|
| 6 | OPEN HOLE HF | 50.00 |
| | OPEN HOLE PF | |
| | OPEN HOLE SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| 3 | 0-6m PX CASING | 6 |
| | 6-24 m | 18 |
| | 24-48 | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| 1 | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed P Connell
Contractors Rep

Signed M Barton
Geologist

# NATIONAL COAL BOARD OPENCAST EXECUTIVE

## DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PILSWORTH
SITE No. 031703
DATE 8/7/82
SHEET 1 OF 1

TYPE & No. of Drill GRYPHON 45
WORKS ORDER No. 7749
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D GIBSON

Contractor AMCO
Area LANGS BURY

M 2746R

BH. No. 144 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| TOP SOIL | 00·50 | 00·50 | | | | | | |
| SAND & CLAY | 22·90 | 22·40 | | | | 5 | | |
| WEATHERD MUDSTONE | 23·40 | 00·50 | | | | | | |
| DARK SANDY MUDSTONE | 26·20 | 02·80 | | | 58 | | | |
| BANDED SANDSTONE V/HARD | 38·00 | 11·80 | | | 50 | | | Y |
| DARK SANDY MUDSTONE | 50·00 | 12·00 | | | 58 | 6 | | |
| DRIFT VERY WET BAD READINGS | | | | | | | | |
| 2400 CAS | | | | | | | | |
| B.H. CAPPED & BACKFILLED | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HF | 50·00 |
| | OPEN PF | |
| | HOLE SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | 6 |
| | CASING PX | 18 |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed P. Connell
Contractors Rep

Signed M Barton
Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PILSWORTH
SITE No. 031703
DATE 7/7/82
SHEET 2 OF 1

Contractor AMCO
Area LANC/S

TYPE & No. of Drill GRYPHON 45
WORKS ORDER No. 7749
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D. GIBSON

M 2746R

BH. No. 143 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| TOP SOIL | 00·50 | 00·50 | | | | | | |
| SAND & CLAY CLAY | 23·05 | 22·55 | | | | 5 | | |
| WEATHERD MUDSTONE | 23·60 | 00·55 | | | | | | |
| DARK SANDY MUDSTONE | 26·50 | 02·90 | | | 58 | | | |
| BANDED SANDSTONE V/HARD | 38·30 | 11·80 | | | 50 | | | |
| DARK SANDY MUDSTONE | 50 00 | 11·70 | | | 58 | 6 | | |
| DRIFT BAD RIBBINE'S | | | | | | | | |
| 24·00 CAS | | | | | | | | |
| WET AT 24·00 | | | | | | | | |
| B.H. CAPPED & BACKFILLED | | | | | | | | |

| HRS | AMOUNTS PAYABLE 143 | |
|---|---|---|
| 6 | OPEN HOLE HF | 50·00 |
| | PF | |
| | SF | |
| - | 412/HF CORE PF REC. SF D4 | |
| 3 | CASING HX | 6 |
| | PX | 18 |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| 1 | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed P. Connell
Contractor's Rep

Signed M Barton
Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PILSWORTH
SITE No. 031703
DATE 7/7/82
SHEET 1 OF 1

Contractor AMCO
Area LANC/S

TYPE & No. of Drill GOYMON 45
WORKS ORDER No. 7749
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D. GIBSON

M 2746R

BH. No. 142 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| TOP SOIL | 00.50 | 00.50 | | | | | | |
| SAND & SANDY CLAY | 21.40 | 20.90 | | | | 5 | | |
| WETHERD MUDSTONE | 22.00 | 00.60 | | | | 4 | | |
| DARK SANDY MUDSTONE | 24.90 | 02.90 | | | 58 | | | |
| BANDED SANDSTONE | 37.00 | 12.10 | | | 50 | | | |
| DARK SANDY MUDSTONE | 50.00 | 13.00 | | | 58 | 6 | | |
| | | | | | | | | 4) |
| DRIFT BAD READINGS 24.00 CMS | | | | | | | | |
| VERY WET AT 25.00 | | | | | | | | |
| B.H. CAPPED & BACKFILLED | | | | | | | | |

| HRS | AMOUNTS PAYABLE 142 | |
|---|---|---|
| | OPEN HOLE HF | 50.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | 6 |
| | CASING PX | 18 |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed P. Connell
Contractors Rep

Signed M Barton
Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE 6/7/82
SHEET 2 OF 1

TYPE & No. of Drill GRYPHON 45
WORKS ORDER No. 7749
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D GIBSON

Contractor AMCO
Area LANG/S

M 2746R

BH. No. 141 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| TOP SOIL | 00·50 | 00·50 | | | | | | |
| BROWN SANDY CLAY | 01·20 | 00·70 | | | | | | |
| SAND WITH TRACES OF PEAT | 09·80 | 08·60 | | | 13 | | | |
| SANDY CLAY MUDSTONE | 19·00 | 09·20 | | | | 5 | | |
| DARK SANDY MUDSTONE | 22·10 | 03·10 | | | 58 | | | |
| VERY HARD BANDED SANDSTONE | 34·00 | 11·90 | | | 50 | | | |
| DARK SANDY MUDSTONE | 50·00 | 16·00 | | | 58 | 6 | | H |
| B.H. WET AT 22.00 | | | | | | | | |
| 21.00 GAS | | | | | | | | |
| B.H. CAPPED & BACKFILLED | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| 6 | OPEN HOLE HF | 50·00 | |
| | PF | | |
| | SF | | |
| | 412/HF | | |
| | CORE PF | | |
| | REC SF | | |
| | D4 | | |
| 3 | CASING HX | 6 | |
| | PX | 15 | |
| | SX | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | 1 | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed P. Connell
Contractors Rep

Signed H Baxter.
Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE 5/7/82 Monday
SHEET 2 OF 1
Contractor AMCO
Area LANCS

TYPE & No. of Drill GRYPHON 45
WORKS ORDER No. 7749
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D GIBSON

M 2746R

BH. No. 140 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| TOP SOIL | 00·50 | 00·50 | | | | | | |
| BROWN SANDY CLAY | 02·90 | 02·40 | | | | | | |
| SAND | 06·10 | 03·20 | | | 13 | | | |
| SANDY CLAY | 08·05 | 01·95 | | | | | | |
| SAND | 19·30 | 11·25 | | | 13 | 5 | | |
| WEATHERD MUDSTONE | 19·80 | 00·50 | | | | | | |
| DARK SANDY MUDSTONE | 22·50 | 02·70 | | | 58 | | | |
| VERY HARD BANDED SANDSTONE | 35·05 | 12·55 | | | 50 | | | |
| DARK SANDY MUDSTONE | 50·00 | 14·95 | | | 58 | 6 | | |
| 21·00 CAS | | | | | | | | |
| B.H CAPPED & BACKFILLED | | | | | | | | |
| RUNNING SAND | | | | | | | | |
| VERY HEAVY WATER | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | 140 | | |
| 6 | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 3 | CASING | HX | 6 |
| | | PX | 15 |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

1

Signed P. Connell Contractors Rep

Signed M. Baxter Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PALSWORTH
SITE No. 931703
DATE 5/2/82 MON
SHEET 1 OF 1

Contractor AMCO
Area LANC/S

TYPE & No. of Drill GRYPHON 45
WORKS ORDER No. 7749
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D. GIBSON

M 2746R

BH. No. 134 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| TOP SOIL | 0-50 | 0-50 | | | | | | |
| SANDY CLAY | 12-90 | 12-40 | | | | 5 | | |
| DARK SANDY MUDSTONE | 13-65 | 00-75 | | 1-70 | 58 | | | code 00 (unit |
| SANDY MUDSTONE | 14-60 | 00-95 | | | 58 | | | |
| VERY HARD SANDSTONE | 27-40 | 12-80 | | | 50 | | | |
| DARK SANDY MUDSTONE | 50-00 | 22-60 | | | 58 | 6 | | |
| | | | | | | | | 4 |
| 15-00 CAS | | | | | | | | |
| WET AT 15-50 | | | | | | | | |
| B-H CAPPED & BACKFILLED | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | | 137 |
| OPEN HOLE | HF | 50-00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 9 |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed P. Connell Contractor's Rep

Signed M Bowers Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PILSWORTH
SITE No. 031703
DATE FRIDAY 2/7/82
SHEET 2 OF 1

TYPE & No. of Drill GRYPHON 75
WORKS ORDER No. 7749
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D GIBSON

Contractor AMCO
Area LANC/S

M 2746R

BH. No. 138 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| TOP SOIL | 00-50 | 00-50 | | | | | | |
| BROWN SANDY CLAY | 05-05 | 04-55 | | | | | | |
| HEAVY RUNNING SAND | 12-00 | 06-95 | | | 13 | | | |
| SANDY CLAY | 14-35 | 02-35 | | | | 5 | | |
| DARK SANDY MUDSTONE | 15-65 | 01-30 | | 3 Limit | 58 | | | 3 Limit |
| SANDY MUDSTONE | 16-50 | 00-85 | | | 58 | | | |
| VERY HARD BANDED SANDSTONE | 28-40 | 11-90 | | | 50 | | | |
| DARK SANDY MUDSTONE | 30-00 | 21-60 | | | 58 | 6 | | |
| DRIFT HARD TO READ | | | | | | | | |
| 15.00 CAS | | | | | | | | (4) |
| 18.H CAPPED & BACK-FILLED | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| 4 | OPEN HOLE HF | 50.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| 2 | CASING HX | 6 |
| | PX | 9 |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| 1 | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

P. CONNELL

Signed P Connell
Contractors Rep

Signed M Boulton
Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PILSWORTH
SITE No. 031703
DATE FRIDAY 2/7/82
SHEET 1 OF 1
M 2746R

Contractor AMCO
Area LANC/S

TYPE & No. of Drill GRYPHON 45
WORKS ORDER No. 7749
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D GIBSON

| BH. No. / Field No. | DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 137 | | | | | | | | | |
| | TOP SOIL | 00.50 | 00.50 | | | | | | |
| | BROWN SANDY CLAY | 01.85 | 01.35 | | | | | | |
| | PEAT | 03.00 | 01.15 | | | 12 | | | |
| | HEAVY RUNNING SAND | 13.90 | 10.90 | | | 13 | 5 | | |
| | DARK SANDY MUDSTONE | 15.00 | 01.10 | | | 59 | | | 1 unit |
| | SANDY MUDSTONE | 16.05 | 01.05 | | 2.15 | 58 | | | |
| | VERY HARD BANDED SANDSTONE | 26.70 | 10.65 | | | 50 | | | |
| | DARK SANDY MUDSTONE | 30.00 | 23.30 | | | 58 | 6 | | |
| | DRIFT HARD TO READ | | | | | | | | (A) |
| | 15.00 CAS | | | | | | | | |
| | B.H CAPPED & BACKFILLED | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE HF | 50.00 | |
| | OPEN HOLE PF | | |
| | OPEN HOLE SF | | |
| | 412/HF | | |
| | CORE REC PF | | |
| | CORE REC SF | | |
| | CORE REC D4 | | |
| | CASING HX | 6 | |
| | CASING PX | 9 | |
| | CASING SX | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | 1 | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed P. Connell
Contractor's Rep

Signed K. Barton
Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PILSWORTH
SITE No. 031703
DATE 1/7/82 1HUR
SHEET 2 OF 1

Contractor AMCO
Area LANC/S

TYPE & No. of Drill GRYPHON 45
WORKS ORDER No. 7749
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D. GIBSON

M 2746R

BH. No. 136 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| TOP SOIL | 0.50 | 0.50 | | | | | | |
| BROWN SANDY CLAY | 01.30 | 00.80 | | | | | | |
| SAND PEAT TRACES | 12.60 | 11.30 | | | 13 | | | |
| SANDY CLAY | 17.20 | 04.60 | | | | 5 | | |
| DARK SAND MUDSTONE | 19.10 | 01.90 | | 3.10 | 58 | | | Limit |
| SANDY MUDSTONE | 20.30 | 01.20 | | | 58 | | | |
| VERY HARD BANDED SANDSTONE | 31.80 | 11.50 | | | 50 | | | |
| DARK SANDY MUDSTONE | 50.00 | 18.20 | | | 58 | 6 | | |
| | | | | | | | | SA |
| 18.00 CASIE | | | | | | | | |
| B.H CAPPED & BACKFILLED | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 136 |
| 6 | OPEN HOLE | HF | 50.00 |
| | | PF | / |
| | | SF | |
| | 412/HF CORE REC. | PF | |
| | | SF | |
| | | D4 | |
| 3 | CASING | HX | 6 |
| | | PX | 12 |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed P. Connell
Contractor's Rep.

Signed P. Barton
Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PELSWORTH
SITE No. 031703
DATE 1/7/82 THURSDAY
SHEET 1 OF 1
M 2746R

Contractor AMCO
Area LANE/S

TYPE & No. of Drill GRYPHON 45
WORKS ORDER No. 7749
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D GIBSON

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| B.H. 135 | | | | | | | | |
| TOP SOIL | 0.50 | 0-50 | | | | | | |
| SAND WITH PACIES OF PEAT | 06.40 | 05.90 | | | 13 | | | |
| SANDY CLAY | 19.20 | 12.80 | | | | 5 | | |
| DARK SAND MUDSTONE | 22.20 | 03.00 | 4.10 | | 58 | | | 1 unit |
| SANDY MUDSTONE | 23.30 | 01.10 | | | 58 | | | |
| V.H AND BANDED SANDSTONE | 34.35 | 11.05 | | | 50 | | | |
| DARK SANDY MUDSTONE | 50.00 | 15 15 | | | 58 | 6 | | |
| | | | | | | | | 4 |
| 21.00 CAS | | | | | | | | |
| WET RUNING SAND | | | | | | | | |
| B.H. CAPPED AND BACKFILLED | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 135 |
| OPEN HOLE | HF | 50.00 | |
| | PF | | |
| | SF | | |
| CORE REC. | 412/HF | | |
| | PF | | |
| | SF | | |
| | D4 | | |
| CASING | HX | 6.0 | |
| | PX | 15.0 | |
| | SX | | |
| | GEOLOG | | |
| ROUND TRIPPING | | | |
| MOVING | | 1 | |
| Extra Wheels | | | |
| Standing Rig in use | | | |
| Standing Rig not in use | | | |
| Immobilised | | | |
| Standing Contractor | | | |
| Grouting | | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed J M Boulton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PILSWORTH
SITE No. 031703
DATE WED 30/6/82
SHEET 2 OF 1

Contractor AMCO
Area LANC/S

TYPE & No. of Drill GRYPHON 45
WORKS ORDER No. 7749
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D GIBSON

M 2746R

BH. No. 134 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| TOP SOIL | 00·50 | 00·50 | | | | | | |
| SANDY CLAY | 15·40 | 14·90 | | | | 5 | | |
| DARK SANDY MUDSTONE | 19·50 | 04·10 | | | 58 | | | |
| SANDSTONE | 30·00 | 10·50 | | | 50 | 6 | | |
| VERY HEAVY WATER | | | | | | | | |
| READINGS BAD | | | | | | | | |
| WATER HITTING TOP OF MAST WITHOUT AIR ON | | | | | | | | ↓ |
| 21·00 CAS TRIED TO CAS WATER OFF | | | | | | | | |
| B.H. ABANDOND | | | | | | | | |
| B.H CAPPED & BACKFILLED | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 134 |
| 6 | OPEN HOLE | HF | 30·0 |
| | | PF | |
| | | SF | |
| | 412/HF | | |
| | CORE REC | PF | |
| | | SF | |
| | | D4 | |
| 3 | CASING | HX | 6 |
| | | PX | 15 |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | | | |
| | | | |

MATERIALS USED

Signed P Connell
Contractors Rep

Signed D Gibson
Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PILSWORTH
SITE No 031703
DATE WED 30/6/82
SHEET 1 OF 1
M 2746R

Contractor AMCO
Area LANCS

TYPE & No. of Drill GRYPHON 145
WORKS ORDER No. 7749
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D GIBSON

BH No. 133 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| TOP SOIL | 00-50 | 00-50 | | | | | | |
| BROWN SANDY CLAY | 01-70 | 01-20 | | | | | | |
| SANDY CLAY | 10-60 | 08-90 | | | | 5 | | |
| DARK SANDY MUDSTON | 16-35 | 05-75 | | | 58 | | | |
| YELLOW SANDSTONE | 22-50 | 06-15 | | | 50 | | | |
| DARK SANDY MUDSTONE | 26-40 | 03-90 | | | 58 | | | |
| BANDED SANDSTONE | 31-60 | 05-20 | | | 50 | | | |
| DARK SANDY MUDSTONE | 50-00 | 18-40 | | | 58 | 6 | (Y) | |
| 12-00 CAS | | | | | | | | |
| VERY HEAVY WATER | | | | | | | | |
| B.H CAPPED & BACKFILLED | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | | 133 |
| OPEN HOLE | HF | 50 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 6 |
| | SX | |
| | GEOLOG | |
| ROUND | | |
| TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| | | |
| | | |

MATERIALS USED

Signed _____ Contractor's Rep

Signed M Bar... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PILSWORTH
SITE No. 031703
DATE TUESDAY 29/6/82
SHEET 2 OF 1
Contractor AMCO
Area LANC/S

TYPE & No. of Drill GRYPHON 45
WORKS ORDER No. 7749
DRILLER R CONNELL
2nd MAN M. COSTELLO
3rd MAN D GIBSON

M 2746R

BH. No. 132 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| TOP SOIL | 00·50 | 00·50 | | | | | | |
| BROWN SANDY CLAY | 01·55 | 00·95 | | | | | | |
| SANDY CLAY | 10·55 | 09·00 | | | | 5 | | |
| DARK SANDY MUDSTONE | 14·00 | 03·45 | | | 58 | | | |
| GREY SANDSTONE | 21·40 | 07·40 | | | 50 | | | } 1 unit |
| YELLOW SANDSTONE | 22·05 | 00·65 | | | 50 | | | |
| GREY SANDSTONE | 23·30 | 01·25 | | 9·30 | 50 | | | |
| DARK SANDY MUDSTONE | 50·00 | 26·70 | | | 58 | 6 | | |
| 12-00 CAS | | | | | | | | |
| HEAVY WATER IN B.H | | | | | | | | |
| SLIGHT LOSS OF AIR | | | | | | | | |
| B.H. CAPPED & BACKFILLED | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 132 |
| 6 | OPEN HOLE | HF | 50·0 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 18·00 |
| | | PX | 6·00 |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 2 | MOVING | | 1 MOVE |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed [signature] Contractor's Rep

Signed [signature] Geologist

# NATIONAL COAL BOARD OPENCAST EXECUTIVE

## DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PILSWORTH
SITE No. 031703
DATE TUESDAY 29/6/82
SHEET 1 OF 1
Contractor AMCO
Area LANG/S

TYPE & No. of Drill GRYPHON 145
WORKS ORDER No. 7749
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D GIBSON

M 2746R

BH. No. 131 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| TOP SOIL | 00·50 | 00·50 | | | | | | |
| BROWN SANDY CLAY | 01·80 | 01·30 | | | | | | Exploratory B/H. |
| SANDY CLAY | 07·50 | 05·70 | | | | | | |
| BOULDER CLAY | 11·10 | 03·60 | | | | 5 | | |
| DARK SANDY MUDSTONE | 13·80 | 02·70 | | | 58 | | | |
| GREY SANDSTONE | 26·10 | 12·30 | | | 50 | | | |
| DARK SANDY MUDSTONE | 30·10 | 04·00 | | | 58 | | | |
| BANDIED SANDSTONE | 36·20 | 06·10 | | | 50 | | | |
| DARK SANDY MUDSTONE | 50·00 | 13·80 | | | 58 | 6 | | |
| 12·00 CAS | | | | | | | | |
| VERY HEAVY WATER IN B.H | | | | | | | | |
| DRIFT VERY WET DIFFICULT TO READ | | | | | | | | |
| B.H. CAPPED & BACKFILLED | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 51 |
| | | PF | |
| | | SF | 53 |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 36·00 |
| | | PX | 6·00 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 Mor |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed P. Connell
Contractor's Rep

Signed D Gibson
Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PILSWORTH
SITE No. 031703
DATE MONDAY 28/6/72
SHEET 1 OF 1
M 2746R

Contractor AMCO
Area LANGS

TYPE & No. of Drill GRYPHON 45
WORKS ORDER No. 7749
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D. GIBSON

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| MOVING SITE APROX | | | | | | | | |
| 2½ MILES | | | | | | | | |
| CLAIMING 25.00 M. | | | | | | | | |
| B.H. 129 TOP SOIL | 00·50 | 00·50 | | | | | | |
| BROWN SANDY CLAY | 02·80 | 02·30 | | | | | | Large boulder in drift. |
| BOULDERS SANDY CLAY | 18·00 | 15·20 | | | 10 | 6 | | |
| | | B.H CAPPED & BACKFILLED | | | | | | |
| OBSTRUCTION IN B.H | | | | | | | | |
| POSIBLE BOULDER | | | | | | | | |
| CASING JAMMED TIGHT | | | | | | | | |
| AT 17·00 METER'S | | | | | | | | |
| B.H ABANDOND 17·00 CASING | | | | | | | | |
| | | | | | | | | F |
| B.H. 130 TOP SOIL | 00·50 | 00·50 | | | | | | |
| SAND | 01·90 | 01·40 | | | 13 | | | |
| BROWN SANDY CLAY | 02·80 | 00·90 | | | | | | |
| WET SAND | 15·00 | 12·20 | | | 13 | 6 | | |
| LARGE CAVITY IN B.H | | B.H CAPPED | | | | | | |
| TRYING TO CASE SAND | | & BACKFILLED | | | | | | |
| OF RIG IN DANGER | | | | | | | | |
| OF COLAPSING | | | | | | | | |
| 15·00 CAS (B.H ABANDOND) | | | | | | | | |

| HRS | | AMOUNTS PAYABLE | 129 / 130 |
|---|---|---|---|
| 3 | OPEN HOLE HF | 18·00 | 15·00 |
| | PF | | |
| | SF | | |
| | 412/HF | | |
| | CORE PF | | |
| | REC SF | | |
| | D4 | | |
| 3 | CASING HX | 6·00 | ~~15·00~~ 6·00 |
| | CASING PX | 11·00 | 9·00 |
| | SX | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 4 | MOVING | 2½ miles 1 more. | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PILLSWORTH
SITE No. 031703
DATE FRI 25.6.82
SHEET 6 OF 1
M 2746R

Contractor AMCO
Area LANC/S

TYPE & No. of Drill
WORKS ORDER No.
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D GIBSON

BH. No. 128 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| TIP | 00.70 | 00.70 | | | 16 | | | |
| BROWN SANDY CLAY | 01.90 | 01.20 | | | 16 | | | Restored. Soil? |
| BROKEN GROUND | 11.15 | 09.25 | | | 16 | 5 | | Quarry Backfill |
| SANDY MUDSTONE | 12.05 | 00.90 | | | 58 | | | |
| SHALY DARK MUDSTONE | 13.10 | 01.05 | | | | | | |
| CAVITY POSSIBLE OLD WORKINGS | 14.95 | 01.85 | | | 32 | 6 | A100 | Sandrock OW. |
| 12.00 CASING B.H. WET | | | | | | | | F1 |
| MOVE OVER 05.00 M | | | | | | | | |
| B.H. BACKFILLED & CAPPED | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 128 |
| 6 | OPEN HOLE | HF | |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 6 |
| | | PX | 6 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| 2 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed P. Connell Contractors Rep

Signed M Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PILLSWORTH

SITE No. 071703

DATE FRI 23/6/82

SHEET 1 OF 1

Contractor AMCO

Area LANC/S

TYPE & No. of Drill

WORKS ORDER No.

DRILLER P CONNELL

2nd MAN M. COSTELLO

3rd MAN D. GIBSON

M 2746R

BH. No. 127 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| TIP | 04·60 | 04·60 | | | 16 | | | |
| BROWN SANDY CLAY | 06·70 | 01·10 | | | | 5 | | |
| SANDY MUDSTONE | 08·30 | 01·60 | | | 58 | | | |
| SHALY DARK MUDSTONE | 09·35 | 01·05 | | | | | | |
| COAL | 09·75 | 00·40 | | | 20 | | A100 | Panel. |
| GREY SANDSTONE | 20·00 | 10·25 | | | 50 | 6 | | |
| B.H.DRY D·6·00 CASING | | | | | | | | FC |
| MOVE OVER 05·00 | | | | | | | | |
| B-H CAPPED & BACKFILLED | | | | | | | | |

HRS

AMOUNTS PAYABLE 127

| | | |
|---|---|---|
| OPEN HOLE | HF | 20·00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed P Connell Contractors Rep

Signed M Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PILLSWORTH
SITE No. 031703
DATE FRI 25/6/82
SHEET 6 OF 1
M 2746R

Contractor AMEC
Area LANGS

TYPE & No. of Drill
WORKS ORDER No.
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D. GIBSON

BH. No. 126 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| TIP | 00.90 | 00.90 | | | 16 | | | |
| BROWN SANDY CLAY | 03.80 | 02.90 | | | | 5 | | |
| SANDY MUDSTONE | 04.70 | 00.90 | | | 58 | | | |
| SHALEY DARK MUDSTONE | 05.90 | 01.20 | | | | | | |
| COAL | 06.20 | 00.30 | | | 20 | | A100 | fault? |
| GREY SANDSTONE | 20.00 | 13.80 | | | 50 | 6 | | |
| | | | | | | | | |
| | | | | | | | | |
| BH DRY 06.00 CASING | | | | | | | | F1 |
| | | | | | | | | |
| MOVE OVER 05.00 M | | | | | | | | |
| | | | | | | | | |
| 13.11 CAPPED & BACKFILLED | | | | | | | | |

| HRS | AMOUNTS PAYABLE | 126 |
|---|---|---|
| OPEN HOLE | HF | 20.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed P. Connell
Contractors Rep

Signed M Barnes
Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PELLS WORTH
SITE No. 031703
DATE FRI 25/6/82
SHEET 5 OF 1
M 2746R

Contractor AMCO
Area LANC/S

TYPE & No. of Drill
WORKS ORDER No.
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D GIBSON

BH. No. 125 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| TOP SOIL | 0.50 | 0.50 | | | | | | |
| BROWN SANDY CLAY | 02.90 | 02.40 | | | | 5 | | |
| SANDY MUDSTONE | 03.20 | 00.30 | | | 58 | | | |
| CAVITY POSSIBLE OLD WORKINGS | 04.25 | 01.25 | | | 32 | | A100 | Sandear OLD. |
| BROWN SANDSTONE | 10.00 | 05.55 | | | 50 | 6 | | |
| 06.00 CASING S.H DRY | | | | | | | | |
| MOVE OVER 05.00 PM | | | | | | | | F1 |
| B.H. CAPPED & BACKFILLED | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | | 12.5 |
| | OPEN HOLE HF | 10.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | C |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed P. Connell Contractors Rep

Signed M Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PELSWORTH
SITE No. 031703
DATE FRI 25/6/82
SHEET 4 OF 1
M 2746R

Contractor AMCO
Area LANC/S

TYPE & No. of Drill
WORKS ORDER No.
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D GIBSON

BH No. 124 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| TOP SOIL | 0.50 | 0.50 | | | | | | |
| BROWN SANDY CLAY | 03.10 | 02.60 | | | | 5 | | |
| BROWN SANDSTONE | 15.00 | 11.90 | | | 50 | 6 | | |
| 03.00 CASING 13/11 DRY | | | | | | | | |
| MOVIE OVER 05.00 M | | | | | | | | |
| B.H. CAPPED & BACK FILLED | | | | | | | | |
| | | | | | | | | F1 |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 124 |
| | OPEN HOLE | HF | 1500 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 3 |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed P. Connell Contractors Rep

Signed M Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PELSWORTH
SITE No. 031703
DATE FRI 25/6/82
SHEET 3 OF 1
M 2746R

Contractor AMCO
Area LANC/S

TYPE & No. of Drill
WORKS ORDER No.
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D. GIBSON

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 123 | | | | | | | | |
| TOP SOIL | 0.50 | 0.50 | | | | | | |
| BROWN SANDY CLAY | 08.30 | 02.80 | | | | 5 | | |
| CAVITY/ POSSIBLE OLD WORKINGS | 04.50 | 01.20 | | | 32 | | A100 | Sandrock Ows |
| BROWN SANDSTONE | 10.00 | 05.20 | | | 50 | 6 | | |
| 03.00 CASING | | | | | | | | |
| BH DRY | | | | | | | | FL |
| MOVIE OVER 05.00 PM | | | | | | | | |
| B/H CAPPED & BACKFILLED | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 123 |
| | OPEN HOLE | HF | 10.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 3 |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed P. Connell
Contractors Rep

Signed
Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME PILSWORTH
SITE No 031703
DATE FRI 25/6/82
SHEET 2 OF 1

Contractor ANCO
Area LANC/S

TYPE & No. of Drill
WORKS ORDER No.
DRILLER P. CONNELL
2nd MAN M. COSTELLO
3rd MAN D. GIBSON

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 122 | | | | | | | | |
| TOP SOIL | 0.20 | 0.20 | | | | | | |
| BROWN SANDY CLAY | 02.10 | 01.60 | | | | | | |
| SAND WET | 03.05 | 00.95 | | | 13 | | | |
| BROWN SANDY CLAY | 04.20 | 01.15 | | | | 5 | | |
| COAL | 04.80 | 00.60 | | | 20 | | A100 | |
| GREY SANDSTONE | 10.00 | 05.20 | | | 50 | 6 | | |
| 06 00 CASING | | | | | | | | |
| | | | | | | | | F1 |
| MOVE OVER 05.00 M | | | | | | | | |
| B.H. CAPPED & BACKFILLED | | | | | | | | |

HRS

AMOUNTS PAYABLE 122

| | | |
|---|---|---|
| OPEN HOLE | HF | 1000 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SP | |
| | 04 | |
| CASING | HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND | | |
| TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed P. Connell
Contractor's Rep

Signed M Barton
Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703 DATE Fri 23-6-82. SHEET 1 OF 1

Contractor Amco

Area Lancs.

TYPE & No. of Drill Greyhound. WORKS ORDER No. 7749.

DRILLER P. Connell

2nd MAN M. Costello

3rd MAN D. Gibson

M 2746R

BH. No. 121 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0 50 | 0 50 | | | | | | |
| Brown Sandy Clay | 02-40 | 01-90 | | | | | | |
| Sand Coal Traces | 03-40 | 01-00 | | | 13 | 5 | | |
| Brown Sandstone | 15-00 | 11 60 | | | 50 | 6 | | |
| 03·00 M Casing | | | | | | | | Fl. |
| Dry | | | | | | | | |
| Move over 5·00 M | | | | | | | | |
| B.H. Capped & Backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 12C |
| | OPEN HOLE | HF | 15.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | 04 | |
| | CASING | HX | 3 |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed P. Connell Contractor's Rep

Signed M Bart. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thurs 24-6-82.
SHEET 8 OF 8.

Contractor Amec
Area Lancs.

TYPE & No. of Drill Cryphen 72.
WORKS ORDER No. 7747.
DRILLER H. Rowson.
2nd MAN P. Carwell.
3rd MAN M. Costello.

M 27468

BH. No. Field No.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 120 | | | | | | | | |
| Top Soil ~~Topso~~ | 0.80 | 0.80 | | | | | | |
| Sand | 5.20 | 4.70 | | | 13 | 5 | | |
| Brown Sandstone | 15.00 | 9.80 | | | 50 | 6 | | |
| 6.00 m Casing Dry | | | | | | | | |
| Move over Next Bore. | | | | | | | | F1 |
| RIH Capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 120 |
| | OPEN HF | 15.00 | |
| | OPEN PF | | |
| | HOLE SF | | |
| | 412/HF | | |
| | CORE PF | | |
| | REC SF | | |
| | D4 | | |
| | CASING HX | 6 | |
| | CASING PX | | |
| | SX | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | 1 | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thurs: 24-6-82.
SHEET 7 OF 8

Contractor Ayrco.
Area Lancs.

TYPE & No. of Drill Cryphen 172 7749
WORKS ORDER No.
DRILLER H. Gordon.
2nd MAN D. Connell.
3rd MAN W. Costello.

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 119 | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. (Sandy) | 2.60 | 2.10 | | | | | | |
| (wet) Band of Coal Trees | 4.00 | 1.40 | | | 13 | 5 | | |
| Brown Sandstone | 25.00 | 21.00 | | | 50 | 6 | | |
| 6.00m casing (Dry when cased) | | | | | | | | |
| Move over 8.00m. | | | | | | | | |
| R/H capped & backfilled. | | | | | | | | |

HRS

AMOUNTS PAYABLE

| | | |
|---|---|---|
| OPEN HOLE | HF | 25.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | |
| | SX | |
| GEOLOG | | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No 031703 DATE 14. 24-6-82. SHEET 6 OF 8

Contractor Amco

Area Lancs.

TYPE & No. of Drill Greyhon '72.

WORKS ORDER No. 7749.

DRILLER H. Bonson.

2nd MAN D. Connell.

3rd MAN M. Costello.

M 2746R

| BH. No. / Field No. | DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 118 | Top Soil | 0.50 | 0.50 | | | | | | |
| | Brown Sandy clay | 1.50 | 1.00 | | | | 5 | | |
| | Hard Brown Sandstone | 15.00 | 13.50 | | | 50 | 6 | | |
| | 8.00m Casing. Dry | | | | | | | | |
| | Move over 8.00m. | | | | | | | | |
| | R/H Capped & back filled. | | | | | | | | F1 |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | 118 | | |
| | OPEN HOLE HF | 15-00 | |
| | PF | | |
| | SF | | |
| | 412/HF | | |
| | CORE PF | | |
| | REC SF | | |
| | D4 | | |
| | CASING HX | 3 | |
| | PX | | |
| | SX | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | 1 | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | | | |
| | | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Mon 24-6-82. SHEET 8 OF 8

Contractor Amco

Area Lancs.

TYPE & No. of Drill Cryphon 72. 7749.

WORKS ORDER No.

DRILLER H. Bonsall.

2nd MAN D. Carnell.

3rd MAN M. Costello

M 2746R

| B.H. No. 117 / Field No | DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| | Top Soil | 0.80 | 0.80 | | | | | | |
| | Brown Sandy clay | 2.60 | 2.10 | | | | 5 | | |
| | Sandy mudstone | 7.50 | 4.90 | | | 58 | | | |
| | Coal. | 8.20 | 0.70 | | | 20 | | A100 | Sandsoc |
| | Brown Mudstone | 13.00 | 6.80 | | | 50 | 6 | | |
| | 3.00m casing | Dry | | | | | | | |
| | Move over 3.00m | | | | | | | | |
| | B/H capped & backfilled. | | | | | | | | F1 ✓ |

HRS

AMOUNTS PAYABLE 11.7

| | | |
|---|---|---|
| OPEN HOLE | HF | 15.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND | | |
| TRIPPING | | |
| MOVING | | 1 hour |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Mon: 24-6-82
SHEET 4 OF 8

Contractor Amec
Area Lancs.

TYPE & No. of Drill Ore Plan 72
WORKS ORDER No. 4749
DRILLER H. Rowson
2nd MAN P. Connell
3rd MAN M. Costello

M 2746R

BH. No. 116.

| DESCRIPTION OF STRATA | Field No | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| Top Soil | | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | | 3.00 | 2.20 | | | | 5 | | |
| Brown Sandstone | | 15.00 | 12.00 | | | 50 | 6 | | |
| 3.00m Casing Dry | | | | | | | | | |
| move over 3.00m. | | | | | | | | | |
| B/H Capped & backfilled. | | | | | | | | | F1 — |

HRS

AMOUNTS PAYABLE 116

| | | |
|---|---|---|
| OPEN HOLE | HF | 15.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND | | |
| TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed M Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Plswonth
SITE No. 831703.
DATE Thurs. 24-6-82.
SHEET 3 OF 8

Contractor Amec
Area Lamus.

TYPE & No. of Drill Broyphen 72
WORKS ORDER No. 7749
DRILLER H. Benson.
2nd MAN D. Carwell.
3rd MAN M. Costello

M 2746R

BH. No. 115 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 3.10 | 2.60 | | | - | 5 | | |
| Coal. | 3.75 | 0.65 | | | 20 | | A100 | Sandoor Coop. |
| Brown Sandstone | 10.00 | 6.25 | | | 50 | 6 | | |
| Boom casing Dry. | | | | | | | | |
| Move over Boom | | | | | | | | |
| | | | | | | | | Flw |
| R/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 115 |
| | OPEN HOLE | HF | 10·00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 3 |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | | 1 move |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE 18th : 24-6-82.
SHEET 2 OF 8.

Contractor Amco
Area Amco.

TYPE & No. of Drill Gryphon 172 #7749
WORKS ORDER No.
DRILLER H. Rogers.
2nd MAN D. Cornell.
3rd MAN M. Costello.

M 27468

BH. No. 114 Field No.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.80 | 2.30 | | | | 5 | | |
| mudstone | 3.40 | 0.60 | | | | | | ? |
| Coal. | 4.00 | 0.60 | | | 20 | | A120 | ? |
| mudstone | 4.40 | 0.40 | | | | | | |
| Coal. | 5.15 | 0.75 | | | 20 | | A120 | Sandrock. |
| Brown Sandstone | 11.00 | 5.85 | | | 50 | 6 | | |
| 3.00m casing. Dry | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| RH capped a badly lined. | | | | | | | | |
| F1 | | | | | | | | F1 ✓ |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE HF | 11.00 | |
| | PF | | |
| | SF | | |
| | 412/HF | | |
| | CORE PF | | |
| | REC. SF | | |
| | D4 | | |
| | CASING HX | 3 | |
| | PX | | |
| | SX | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | 1 | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703 DATE Thur. 24-6-82. SHEET 1 OF

Contractor Amco

Area Lancs.

TYPE & No. of Drill Gryphon 72.

WORKS ORDER No. 7749

DRILLER H. Bowden.

2nd MAN P. Connell.

3rd MAN M. Costello

M 2746R

BH. No. 113 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 2.80 | 2.00 | | | | | | |
| Coal Dirty | 2.60 | 0.10 | | | 19 | 5 | A100 | |
| Brown Sandy Mudstone | 4.00 | 1.40 | | | 58 | | | |
| Brown Sandstone | 25.00 | 21.00 | | | 50 | 6 | | |
| 3.00m casing Dry. Move over 2.00m | | | | | | | | F1 |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE 123 | | |
|---|---|---|---|
| 6 | OPEN HOLE | HF | 25.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | 04 | |
| 1½ | CASING | HX | 3 |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| 2½ | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Wed. 23-6-82 SHEET 5 OF 5

Contractor Anco

Area Lancs

TYPE & No. of Drill Cryphon 72. 7749.

WORKS ORDER No.

DRILLER H. Cowan.

2nd MAN P. Coxwell.

3rd MAN M. Costello

M 2746R

BH. No. 112. Field No.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 2.10 | 1.60 | | | | | | |
| Sand. wet. | 5.40 | 3.30 | | | 13 | | | |
| Sand & Coal mix (Hard) | 5.60 | 0.20 | | | 19 | 5 | H100 | Sandrock crop. |
| Brown Sandy Mudstone | 7.00 | 1.40 | | | 58 | | | |
| Brown Sandstone | 25.00 | 18.00 | | | 50 | 6 | | |
| 6.00 casing Dry (when eased) | | | | | | | | |
| Move over 8.00m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | 112 |
|---|---|---|---|
| | OPEN HOLE | HF | 25.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Wed. 23-6-82. SHEET 4 OF 8

Contractor Hunco Area Lancs.

TYPE & No. of Drill Greyhan 72. WORKS ORDER No. 7749.

DRILLER H. Bowers. 2nd MAN P. Connell. 3rd MAN M. Costello

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| III | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 2.50 | 2.00 | | | | 5 | | |
| mudstone | 4.40 | 1.90 | | | | | | |
| Very Soft Coaly/muddy | | | | | | | | |
| Slight loss of Wtr. P.o.w. | 5.80 | 1.40 | | | 38 | | A100 | Sandrock OWs? |
| Brown Sandstone | 10.00 | 4.20 | | | 50 | 6 | | drift disturbed? |
| | | | | | | | | H |
| R.odm. casing. Dry. | | | | | | | | |
| Move over R.odm. | | | | | | | | |
| R/H capped & locked/bled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE HF | 10.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE REC PF | |
| | SF | |
| | D4 | |
| | CASING HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed ____ Contractors Rep

Signed M Bowers. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703.
DATE Wed. 23-6-82.
SHEET 3 OF 5.

Contractor Unco.
Area Lunes.

TYPE & No. of Drill Cryphon 72.
WORKS ORDER No. 7749.
DRILLER H. Ransome.
2nd MAN D. Connell.
3rd MAN M. Costello

M 2746R

BH. No. 110 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 2.00 | 1.30 | | | | 5 | | |
| mudstone | 2.80 | 0.80 | | | | | | |
| Coal. Dirty | 2.95 | 0.15. | | | 23 | | | |
| mudstone | 3.80 | 0.85. | | | | | | |
| Very Soft. Coaly/wd. mix. | | | | | | | | |
| P. O. W. | 5.50 | 1.70 | | | 38 | | A100 | OWS or Maybe |
| Brown Sandstone | 10.00 | 4.50. | | | 50 | 6 | | drift disturbed. |
| | | | | | | | | FL |
| 3.00m. casing Dry. | | | | | | | | |
| Move over 2.00m | | | | | | | | |
| B/H capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | | 110 |
| OPEN HOLE | HF | 16.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND | | |
| TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed M Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703.
DATE Wed. 23-6-82.
SHEET 2 OF 5

Contractor Hmco
Area Lancs.

TYPE & No. of Drill Reyphen 72
WORKS ORDER No. 7749.
DRILLER H. Rowson.
2nd MAN D. Connell.
3rd MAN M. Costello

M 2746R

BH No. 109. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.00 | 1.80 | | | | | | |
| Wet Sand. | 3.30 | 1.30 | | | 13 | | | |
| Brown Sandy clay | 4.20 | 0.70 | | | | 5 | | |
| Coal. Faces | 4.35 | 0.15 | | | 21 | | A100 | Sandrock Crop |
| Hard Brown Sandstone | 25.00 | 20.65 | | | 50 | 6 | | |
| 6.00 - Casing Dry | | | | | | | | LFI |
| move over Loon. | | | | | | | | |
| B/H Capped & backfilled | | | | | | | | |

HRS

AMOUNTS PAYABLE 204

| | | |
|---|---|---|
| OPEN HOLE | HF | 25.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND | | |
| TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Wed: 23-6-82. SHEET 12 OF 35.

Contractor Amco. Area Lancs.

TYPE & No. of Drill Gopher 72. WORKS ORDER No. 7749.

DRILLER H. Barrow. 2nd MAN P. Connell. 3rd MAN M. Costello.

M 2746R

BH. No. 108. Field No.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 1.90 | 1.40 | | | | 5 | | |
| Soft brown mudstone | 2.30 | 0.60 | | | | | | |
| mudstone | 3.60 | 1.10 | | | | | | |
| Coal | 4.10 | 0.50 | | | 20 | | A100 | Sandoe Mine |
| mudstone | 4.15 | 0.05 | | | 29 | | A100 | Sandoe Mine |
| Coal | 4.40 | 0.25 | | | 20 | | A100 | Sandoe Mine |
| Brown Sandstone (Hard) | 22.50 | 18.10 | | | 50 | | | |
| Grey Sandstone (Hard) | 31.20 | 8.70 | | | 50 | | | |
| Dark Sandy mudstone | 41.90 | 10.70 | | | 58 | | | |
| Grey Sandstone | 50.00 | 8.10 | | | 50 | 6 | | |
| 3.00m Casing Water 30.00m - move over 2.00m | | | | | | | | |
| B/H capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE 108 | |
|---|---|---|
| 6 | OPEN HOLE HF | 50.00 |
| | PP | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| 1½ | CASING HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| 2½ | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Tue: 22-6-82.
SHEET 3 OF 3

Contractor Amco
Area Lancs.

TYPE & No. of Drill Reynolds 72
WORKS ORDER No. 17749.
DRILLER H. Rowles.
2nd MAN D Powell.
3rd MAN M. Costello

M 2746R

BH. No. 107 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.90 | 0.90 | | | | | | |
| Brown Sandy clay. | 3.60 | 3.10 | | | | 5 | | |
| Sandy mudstone | 20.80 | 17.20 | | | 58 | | | |
| Hard Sandy mudstone | 21.80 | 1.00 | | | 57 | | | |
| Sandy mudstone | 24.05 | 3.25 | | | 58 | | | |
| Dark Sandy mudstone | 25.85 | 1.80 | | | 58 | | | |
| Grey Sandstone | 40.00 | 14.15 | | | 50 | 6 | | FI |
| 6.00m casing. Water 26.00m. | | | | | | | | |
| Move over 2.00m | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 169 |
| | OPEN HOLE | HF | 40.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Tues. 22-6-82.
SHEET 2 OF 3

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryoplan 72. 7749.
WORKS ORDER No.
DRILLER H. Rowcroft.
2nd MAN P. Connell.
3rd MAN M. Costello

M 2746R

| BH. No. / Field No. DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 106 | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.00 | 1.50 | | | | 5 | | |
| Brown Sandstone | 17.00 | 15.00 | | | 50 | | | |
| Grey/Brown Sandstone | 24.70 | 7.70 | | | 50 | | | |
| Dark Sandstone | 29.00 | 4.30 | | | 50 | | | FL |
| Dark Sandy mudstone | 36.30 | 5.30 | | | 58 | | | |
| Grey Sandstone | 40.80 | 4.80 | | | 50 | | | |
| Dark Sandy Mudstone | 43.68 | 2.88 | | | 58 | | | |
| Hard Grey Sandstone | 50.00 | 6.32. | | | 50 | 6 | | |
| 3.00m Cas. water | 32.00. | | | | | | | |
| move over 3.00m. | | | | | | | | |
| RIH capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | 106 | | |
| OPEN HOLE | HF | 50.00 | |
| | PF | | |
| | SF | | |
| CORE REC | 412/HF | | |
| | PF | | |
| | SF | | |
| | D4 | | |
| CASING | HX | 3 | |
| | PX | | |
| | SX | | |
| | GEOLOG | | |
| ROUND | | | |
| TRIPPING | | | |
| MOVING | | 1 | |
| Extra Wheels | | | |
| Standing Rig in use | | | |
| Standing Rig not in use | | | |
| Immobilised | | | |
| Standing Contractor | | | |
| Grouting | | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Alsworth

SITE No. 031703.

DATE Tue. 22-6-82.

SHEET 1 OF 3

Contractor Hunco

Area Lanes

TYPE & No. of Drill Cyphon 72 - 7749.

WORKS ORDER No.

DRILLER H. Bowden.

2nd MAN P. Connell.

3rd MAN M. Costello.

M 2746R

BH. No. 105 Field No.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 1.90 | 1.40 | | | | 5 | | |
| Brown Sandstone | 3.00 | 1.10 | | | 50 | | | |
| Dark Mudstone/Mudstone | 6.50 | 3.50 | | | | | | |
| Sandy mudstone | 11.40 | 4.90 | | | 58 | | | |
| Dark Sandy mudstone | 24.40 | 13.00 | | | 58 | | | |
| Sandy Mudstone | 30.90 | 6.50 | | | 58 | | | |
| Dark Sandy Mudstone | 31.35 | 0.45. | | | 58 | | | ? |
| Coal. | 31.50 | 0.15 | | | 20 | | | |
| Dark Sandy mudstone | 34.30 | 2.80 | | | 58 | | | |
| Sandy mudstone | 37.20 | 2.90 | | | 58 | | | |
| Grey Sandstone | 41.70 | 4.50 | | | 50 | | | |
| Dark Sandy Mudstone | 46.35 | 4.65. | | | 58 | | | ? |
| Coal. | 46.98 | 0.60 | | | 20 | | | |
| Grey Sandstone | 50.00 | 3.02. | | | 50 | 6 | | |
| 3.00m casing; water 34.00m | | | | | | | | |
| Move over 2.00m | | | | | | | | |
| R/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 105 |
| 7 | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 1½ | CASING | HX | 3 |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| 1½ | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed A. Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

north.
703.
21-6-82.
OF 3

Contractor Hmco
Area Lmos.

TYPE & No. of Drill Gregshan 42. 7749
WORKS ORDER No.
DRILLER H. Bonsons.
2nd MAN P. Connell.
3rd MAN M. Costello

M 2.
BH No. 104

| DESCRIPTION OF STRATA (Field No) | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 2.00 | 1.20 | | | | 5 | | |
| Brown Sandy mudstone | 3.00 | 1.00 | | | 58 | | | |
| Brown Sandstone | 5.00 | 2.00 | | | 50 | | | |
| Sandy mudstone | 6.40 | 1.40 | | | 58 | | | |
| Brown Sandstone | 7.30 | 0.90 | | | 50 | | | |
| Sandy mudstone / Dark Bands | 33.70 | 26.40 | | | 58 | | | |
| Dark mudstone | 34.90 | 1.20 | | | | | | |
| Sandy mudstone | 38.30 | 3.40 | | | 58 | | | |
| Dark mudstone | 41.90 | 3.60 | | | | | F1 | |
| Sandy mudstone | 45.40 | 4.50 | | | 58 | | | |
| Hmco Sandy mudstone / Dark Grey | 50.00 | 4.60 | | | 57 | 6 | | |
| 6.00m Casing. Water Dry from Seam. | | | | | | | | |
| move over 2.00m. | | | | | | | | |
| R/H capped + backfilled. | | | | | | | | |

HRS

AMOUNTS PAYABLE 104

| | | |
|---|---|---|
| OPEN HOLE | HF | 50.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | |
| | SX | |
| GEOLOG | | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Mon. 21-6-82.
SHEET 2 OF 3

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryphon 72
WORKS ORDER No. 7749.
DRILLER H. Gordon.
2nd MAN P. Connell.
3rd MAN M. Costello.

M 2746R

BH. No. 103 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 3.80 | 3.30 | | | | 5 | | |
| Mudstone / Dark mudstone | 22.30 | 18.50 | | | | | | |
| Sandy Mudstone | 26.70 | 4.40 | | | 58 | | | |
| Dark mudstone | 28.50 | 1.80 | | | | | | |
| Hard Sandy Mudstone | 30.40 | 1.90 | | | 57 | | | |
| Dark Sandy mudstone | 43.40 | 13.00 | | | 58 | | | |
| Dark Grey Sandstone | 50.00 | 6.60 | | | 50 | 6 | | |
| 6.00m casing. Wet & Dry from 3.00m | | | | | | | | |
| Move over 1.00m. | | | | | | | | 5 |
| R/H capped & [redacted] backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | 103 |
|---|---|---|---|
| | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | 04 | |
| | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | MATERIALS USED | | |

Signed [signature] Contractors Rep
Signed G. Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Mon: 21-6-82.
SHEET 1 OF 3

Contractor Amco
Area Lancs.

TYPE & No. of Drill Gryphon 72.
WORKS ORDER No. 7749.
DRILLER H. Lonsdon.
2nd MAN P. Connell
3rd MAN M. Castillo

M 2746R

BH No. 102. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 1.90 | 1.40 | | | | 5 | | |
| Brown Sandstone | 10.20 | 8.30 | | | 50 | | | |
| Sandy mudstone | 11.00 | 0.80 | | | 58 | | | FI |
| Grey/Brown Sandstone | 12.90 | 1.90 | | | 50 | | | |
| Grey Sandstone Very hard with soft bands. | 50.00 | 37.10 | | | 50 | 6 | | |
| 3.00m casing. water 22.00m | | | | | | | | |
| Move over 8.00m | | | | | | | | |
| B/H capped & locked/Wed. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 102 |
| 17 | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | 412/HF CORE REC. | PF | |
| | | SF | |
| | | D4 | |
| 1½ | CASING | HX | 3 |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| 1½ | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Fri Pilsworth.
SITE No. 031703.
DATE Fri: 18-6-82.
SHEET 3 OF 3

Contractor Amco.
Area Lancs.

TYPE & No. of Drill Reyphon 72.
WORKS ORDER No. 7749.
DRILLER H. Sanson.
2nd MAN P. Connell.
3rd MAN M. Costello.

M 2746R

BH. No. 101.
Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.00 | 1.30 | | | | 5 | | |
| Soft Brown Mudstone | 5.20 | 3.20 | | | | | | |
| Sandy Mudstone / Dark Bands. | 13.40 | 8.20 | | | 58 | | | |
| Sandy Mudstone | 15.20 | 1.80 | | | 58 | | | |
| Dark Mudstone | 17.40 | 2.20 | | | | | | |
| Coal. | 17.55 | 0.15 | | | 20 | | Also | 6" |
| Hard Sandy Mudstone | 21.40 | 3.85 | | | 57 | | | |
| Grey Sandstone | 25.70 | 4.30 | | | 50 | | | |
| Sandy Mudstone | 31.35 | 5.65 | | | 58 | | | |
| Coal. | 32.00 | 0.65 | | | 20 | | A100 | Sandrock |
| Hard Sandy Mudstone | 33.50 | 1.50 | | | 57 | | | |
| Grey Sandstone | 50.00 | 16.50 | | | 50 | 6 | | |
| 6.00m casing. Water 22.00m. | | | | | | | | |
| Move over 8.00m. | | | | | | | | |
| R/H capped & backfilled | | | | | | | | |

F)

HRS

AMOUNTS PAYABLE 101

| | | |
|---|---|---|
| OPEN HOLE | HF | 50.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 move |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed M Bantan Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Fri. 18-6-82. SHEET 2 OF 3

Contractor Amco

Area Lancs.

TYPE & No. of Drill Cryphon 72. 7749.

WORKS ORDER No.

DRILLER H. Gomm.

2nd MAN P. Connell.

3rd MAN M. Costello.

M 2746R

BH. No. Field No.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 100 | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 4.10 | 3.60 | | | | 5 | | |
| Dark / Grey Sandy Mudstone | 12.20 | 8.10 | | | 58 | | | |
| Sandy mudstone | 21.20 | 9.00 | | | 58 | | | |
| Dark mudstone | 22.90 | 1.70 | | | | | | |
| Coal. | 23.08 | 0.18. | | | 20 | | | |
| Hard Sandy Mudstone | 24.50 | 1.42. | | | 57 | | | |
| Dark mudstone | 26.35 | 1.85. | | | | | | |
| Coal. | 26.50 | 0.15. | | | 20 | | A150 | 6" |
| Hard Sandy mudstone | 30.40 | 3.90 | | | 57 | | | |
| Grey Sandstone | 33.00 | 2.60 | | | 50 | | | |
| Sandy mudstone | 35.25 | 2.25. | | | 58 | | | |
| Coal. | 36.05 | 0.80 | | | 20 | | A100 | Sandst |
| Hard Sandy mudstone | 37.20 | 1.15 | | | 57 | | | |
| Grey Sandstone | 50.00 | 12.80 | | | 50 | 6 | | |
| 6.00m casing. Water @ 36.00m. | | | | | | | | |
| move order 8.00am | | | | | | | | |
| R/H capped & backfilled | | | | | | | | |

HRS

AMOUNTS PAYABLE 100

| | | |
|---|---|---|
| OPEN HOLE | HF | 50. |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6.00 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | Move |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed M. Costello Contractors Rep.

Signed G. Bentley Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Fri 10-6-82. SHEET 1 OF 3.

Contractor Amco

Area Lancs

TYPE & No. of Drill Rotaphon 72 7749

WORKS ORDER No.

DRILLER Mr Gordon

2nd MAN P. Connell

3rd MAN M. Costello

M 2746R

| BH. No. 99 / Field No | DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| | Top Soil | 0.80 | 0.80 | | | | | | |
| | Brown Sandy clay. | 3.85 | 3.05 | | | | 5 | | |
| | Sandy mudstone | 7.30 | 3.75 | | | 58 | | | |
| | Dark mudstone | 8.00 | 0.70 | | | | | | |
| | Sandy mudstone | 9.05 | 1.05 | | | 58 | | | |
| | Dark mudstone | 11.25 | 2.20 | | | | | | |
| | Coal. | 11.40 | 0.15 | | | 20 | | Ans | 6" |
| | Brown Sandstone | 17.40 | 6.00 | | | 50 | | | |
| | Sandy mudstone | 18.40 | 1.00 | | | 58 | | | |
| | Coal. | 19.35 | 0.95 | | | 20 | | Ano | Sandwich |
| | Grey/Brown Sandstone | 22.00 | 2.65 | | | 50 | 6 | | |
| | 6.00m casing Dry | | | | | | | | |
| | move over 8.00m. | | | | | | | | |
| | B/H capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE HF | 22.0 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE REC. PF | |
| | SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No 031703.
DATE Thurs. 17-6-82.
SHEET 7 OF 7

Contractor Amco.
Area Lancs

TYPE & No. of Drill Ingersoll Rand 72. 7749.
WORKS ORDER No.
DRILLER H. Rowson.
2nd MAN P. Connell.
3rd MAN J. Schofield

M 2746R

98

| BH. No. / Field No. DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay/Sand Bands | 3.60 | 2.90 | | | | 5 | | |
| Sandy mudstone | 9.35 | 5.95 | | | 59 | | | |
| Dark mudstone | 9.65 | 0.30 | | | | | | |
| Sandy mudstone | 11.40 | 1.75 | | | 58 | | | |
| Dark mudstone | 14.35 | 2.95 | | | | | | |
| Coal | 15.00 | 0.65 | | | 20 | | Ano | Sandour |
| Grey Sandstone | 20.00 | 5.00 | | | 50 | | | |
| | | | | | | | | 5 |
| 3.00m casing. Dry. | | | | | | | | |
| move over 2.00m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE HF | 20 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | 3.00 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 move |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractors Rep

Signed H C Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thurs: 17-6-82.
SHEET 6 OF 7

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryston 72.
WORKS ORDER No. 7749.
DRILLER H. Rogers
2nd MAN P. Connell.
3rd MAN J. Schaeber.

M 2746R

BH. No. 97 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 1.90 | 1.40 | | | | 5 | | |
| Grey Sandstone | 5.80 | 3.90 | | | 50 | | | } 1 unit |
| Grey/Brown Sandstone | 20.00 | 16.20 | | | 50 | 6 | | } |
| 3.00m Casing Dry. | | | | | | | | |
| move over 3.00m. | | | | | | | | 5) |
| B/H Capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE 97 | |
|---|---|---|
| | OPEN HOLE HF | 20 |
| | PF | |
| | SF | |
| | CORE REC 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| | CASING HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703
DATE Thurs: 17-6-82.
SHEET 5 OF 7

Contractor Amco
Area Lanes.

TYPE & No. of Drill Boyles '72.
WORKS ORDER No. 7749.
DRILLER H. Gordon.
2nd MAN P. Cornell.
3rd MAN J. Richardson.

M 2746R

B.H. No. 96 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 1.90 | 1.40 | | | | 5 | | |
| Brown Sandstone | 6.80 | 4.90 | | | 50 | | | |
| Dark Sandy mudstone Beyloads | 9.30 | 2.50 | | | 58 | | | |
| Brown Sandstone. | 18.20 | 8.90 | | | 50 | | | |
| Sandy mudstone | 20.00 | 1.80 | | | 58 | 6 | | |
| Boom Casing Dry. | | | | | | | | |
| move over Boom. | | | | | | | | |
| R/H Capped & Locked Hook | | | | | | | | |

HRS

AMOUNTS PAYABLE 96

| | | |
|---|---|---|
| OPEN HOLE | HF | 20.0 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND | | |
| TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed G.N. Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thurs. 17-6-82.
SHEET 4 OF 7

Contractor Amco
Area Lancs.

TYPE & No. of Drill Ruston 72. 7749
WORKS ORDER No.
DRILLER H. Gordon.
2nd MAN P. Connell.
3rd MAN J. Schouten.

M 2746R

BH. No. 95 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy Clay | 2.30 | 1.80 | | | | 5 | | |
| Soft Brown Mudstone | 4.20 | 1.90 | | | | | | |
| Brown Sandstone | 7.20 | 3.00 | | | 50 | | | |
| Sandy mudstone | 9.95 | 2.75 | | | 58 | | | |
| Dark mudstone | 10.30 | 0.35 | | | | | | |
| Brown Sandstone | 11.98 | 1.68 | | | 50 | | | |
| Coal. | 12.00 | 0.05 | | | 20 | | Also | 6" |
| Grey/Brown Sandstone | 13.10 | 1.10 | | | 50 | | | |
| Sandy mudstone | 14.00 | 0.90 | | | 58 | | | |
| Grey Sandstone | 14.70 | 0.70 | | | 50 | | | |
| Coal | 15.20 | 0.50 | | | 20 | | Also | Sandrock |
| Grey/Brown Sandstone | 20.00 | 4.80 | | | 50 | 6 | | |
| Boom. Casing Dry | | | | | | | | |
| move over Boom. | | | | | | | | |
| R/H capped backfilled. | | | | | | | | |

GEOLOGIST'S NOTES

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE HF | 20 - 95 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| | CASING HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thurs: 17-6-82
SHEET 3 OF 7

Contractor Anco.
Area Lancs.

TYPE & No. of Drill Cryplum 72.
WORKS ORDER No. 7749.

DRILLER H. Scanlon.
2nd MAN P. Connell.
3rd MAN J. Scanlon

M 2746R

BH. No. 96 | Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.30 | 1.80 | | | | 5 | | |
| Soft Brown Sandy Mudstone | 4.90 | 2.60 | | | | | | |
| Coal. | 5.90 | 1.00 | | | 20 | | A100 | Faulted |
| Mudstone | 6.00 | 0.10 | | | | | | ? ground. |
| Coal. | 6.38 | 0.38 | | | 20 | | | |
| Brown Sandstone | 9.00 | 2.62 | | | 50 | 6 | | |
| Coal. Dry. | | | | | | | | H |
| Move over Coal. | | | | | | | | |
| RH capped backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | 96 |
|---|---|---|---|
| | OPEN HOLE | HF | 9.0 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 3 |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed J. Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thur. 17-6-82.
SHEET 2 OF 7

Contractor Hunco
Area Lancs.

TYPE & No. of Drill Reyhon 72
WORKS ORDER No. 7749.
DRILLER H. Cordero.
2nd MAN D. Connell.
3rd MAN T. Schroder.

M 2746R

BH. No. 93 | Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Soft Brown Sandy clay/C.T. | 5.00 | 4.20 | | | | 5 | | |
| Brown Sandstone | 10.00 | 5.00 | | | 50 | | | |
| Dark Sandy mudstone | 10.80 | 0.80 | | | 58 | | | |
| Sandy mudstone/Dark Sands | 19.10 | 8.60 | | | 58 | | | |
| Hard Sandy Mudstone | 21.00 | 1.90 | | | 57 | 6 | | |
| 6.00m Cas. Dry. | | | | | | | | |
| Move over Loc. | | | | | | | | |
| RH capped back/Hook | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE HF | 93 | |
| | PF | | |
| | SF | 25.00 | |
| | 412/HF | | |
| | CORE PF | | |
| | REC SF | | |
| | D4 | | |
| | CASING HX | 6 | |
| | PX | | |
| | SX | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | 1 Move | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed H Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Thurs 17-6-82. SHEET 1 OF 7

Contractor Amco. Area Lancs.

TYPE & No. of Drill Greyhound 92 WORKS ORDER No. 7749.

DRILLER H. Borders. 2nd MAN P. Connell. 3rd MAN T. Schouten.

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 92. | | | | | | | | |
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay/Sandy Boulder | 5.80 | 5.30 | | | | 5 | | |
| Coal. (very soft) | 6.40 | 0.60 | | 23 | [redacted] | | A100 | Sandon Cop |
| Sandy mudstone | 7.20 | 0.80 | | | 58 | | | |
| Brown Sandstone | 25.00 | 17.80 | | | 50 | 6 | | |
| Coal cas. Dry. | | | | | | | | B |
| Move over Coal | | | | | | | | |
| R/H capped backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 92 |
| 5 | OPEN HOLE | HF | 25.0 |
| | | PF | |
| | | SF | |
| | 412/HF CORE REC | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| 3 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Plwyarth. SITE No. 031703. DATE Wed. 16-6-82. SHEET 6 OF 6.

Contractor Amco Area Lancs.

TYPE & No. of Drill Greyphen 72. WORKS ORDER No. 7749.

DRILLER H. Gordon. 2nd MAN P. Connell. 3rd MAN J. Richardson.

M 2746R

BH. No. 91 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Lyndey clay. | 2.30 | 1.50 | | | | 5 | | |
| Brown Sandstone | 19.50 | 17.20 | | | 50 | | V | |
| Dark Lyndey Mudstone | 21.40 | 1.90 | | | 58 | | | |
| Grey Sandstone | 25.00 | 3.60 | | | 56 | 6 | | |
| Boom ran. Dry. | | | | | | | | |
| Move over Boom. | | | | | | | | |
| R/H capped a backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE HF | 25. | |
| | PF | | |
| | SF | | |
| | 412/HF | | |
| | CORE PF | | |
| | REC SF | | |
| | D4 | | |
| | CASING HX | 3 | |
| | PX | | |
| | SX | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | 1 | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth

SITE No 031703

DATE Wed: 16-6-82

SHEET 3 OF 6

Contractor Amco

Area Lancs.

TYPE & No. of Drill Greyphan 72

WORKS ORDER No. 7769

DRILLER H. Gardner

2nd MAN P. Connell

3rd MAN T. Sebastian

M 2746R

BH. No. 90 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 2.30 | 1.80 | | | | 5 | | |
| Brown Sandstone / Silt Bands | 23.00 | 22.70 | | | 50 | 6 | | |
| Boom 20 Dry mud over Boom | | | | | | | | |
| B/H backfilled & capped. | | | | | | | | 4 |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 25.90 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 3 |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Wed: 16-6-82.
SHEET 4 OF 6

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryopher 72. 7749.
WORKS ORDER No.
DRILLER H. Rowlands.
2nd MAN P. Connell.
3rd MAN J. Sabastan.

M 2746R

BH. No. 89. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.00 | 1.80 | | | | 5 | | |
| Brown Sandstone | 14.80 | 12.80 | | | 50 | | | |
| Grey/Brown Sandstone | 25.00 | 10.20 | | | 50 | 6 | | |
| 3.00m casing dry hole over 8.00m. | | | | | | | | H |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 25. |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 3 |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Wed: 16-6-82. SHEET 3 OF 6.

Contractor Amco Area Lancs.

TYPE & No. of Drill Reyrolles 42 WORKS ORDER No. 7749

DRILLER H. Bardens. 2nd MAN P. Connell. 3rd MAN J. Schaefer.

M 2746R

BH. No. 88 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 2.00 | 1.50 | | | | 5 | | |
| Brown Sandstone | 18.40 | 16.40 | | | 50 | | | |
| Grey/Brown Sandstone | 25.00 | 9.60 | | | 50 | 6 | | |
| 5.00m Res. Dry. | | | | | | | F1 | |
| move over 88m | | | | | | | | |
| R/H capped & backfilled. | | | | | | | | |

HRS

AMOUNTS PAYABLE 88

| | | |
|---|---|---|
| OPEN HOLE | HF | 25. |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Wed. 16-6-82. SHEET 2 OF 6.

Contractor Hunco. Area Lancs.

TYPE & No. of Drill Reydon 72. WORKS ORDER No. 7749.

DRILLER H. Gordon. 2nd MAN P. Connell. 3rd MAN T. Sherratt.

M 2746R

BH. No. 87 Field No.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay/Sandy Band. | 4.30 | 3.80 | | | | 5 | | |
| Brown Sandstone | 18.50 | 14.20 | | | 50 | | | |
| Sandy mudstone | 21.30 | 1.80 | | | 58 | | | |
| Brown/Grey Sandstone | 25.00 | 3.70 | | | 50 | 6 | | |
| 6.00m cas. Dry. | | | | | | | | |
| Move over 8.00m. | | | | | | | | |
| | | | | | | | | F! |
| R/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | 87 |
|---|---|---|
| | OPEN HOLE HF | 25 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE REC. PF | |
| | SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703.
DATE Tues: 16-6-82.
SHEET 1 OF 6.

Contractor Hunco
Area Lancs.

TYPE & No. of Drill Cryphan 72.
WORKS ORDER No. 7749.
DRILLER H. Rowson.
2nd MAN P. Connell
3rd MAN I. Schofield

M 2746R

BH. No. 86. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | G/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Peak Soft & wet. | 2.40 | 1.90 | | | 12 | | | |
| Soft Drilling Difficult to read. | 4.80 | 2.40 | | | 79 | 5 | | |
| Grey/Brown Sandstone | 25.00 | 20.20 | | | 50 | 6 | | |
| Coal Bas. Dry | | | | | | | | |
| Hard over Seam. | | | | | | | D | |
| RIH Capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE 86 | |
|---|---|---|
| 3 | OPEN HOLE HF | 25. |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| 2 | CASING HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| 3 | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed ____ Contractors Rep

Signed H L Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Tue: 18-6-82.
SHEET 3 OF 3

TYPE & No. of Drill Cyphon 72
WORKS ORDER No. 7749.
DRILLER H. Gordon.
2nd MAN D. Connell.
3rd MAN J. Schooler.

Contractor Hunco
Area Lancs.

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 85 | | | | | | | | |
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay | 3.60 | 2.90 | | | | 5 | | |
| Brown/Grey Sandstone, SM/Band | 25.00 | 21.60 | | | 50 | 6 | | |
| 6.00m ccs. Dry | | | | | | | | |
| more over 8.00m. | | | | | | | | |
| RIH capped backfilled. | | | | | | | | |

HRS

AMOUNTS PAYABLE 85

| | | |
|---|---|---|
| OPEN HOLE | HF | 25.0 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6.00 |
| | PX | |
| | SX | |
| GEOLOG | | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Tue: 15-6-82.
SHEET 4 OF 5.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Ruston 72.
WORKS ORDER No. 7749.

DRILLER H. Gordon.
2nd MAN P. Cowell.
3rd MAN J. Schooler.

M 2746R

BH. No. 84 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 3.40 | 2.90 | | | | 5 | | |
| Brown/Grey Sandstone. | 25.00 | 21.60 | | | 50 | 6 | | |
| 6.00— cos Dry. | | | | | | | | |
| move over 8.00— | | | | | | | | |
| B/H approx backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 84 |
| | OPEN HOLE | HF | 25.0 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth  SITE No. 03.703  DATE Tue 18-6-82  SHEET 3 OF 3

TYPE & No. of Drill Gopher 72.  WORKS ORDER No. 7749

DRILLER H. Barker.  2nd MAN P. Connell.  3rd MAN J. Schroeder

Contractor Hunco  Area Lancs.

M 2746R

BH. No.  Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 83 – 76 | | | | | | | | |
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay | 2.60 | 2.10 | | | | 5 | | |
| Soft mudstone | 5.50 | 2.90 | | | | | | |
| Dark mudstone | 6.85 | 1.35 | | | | | | |
| Coal. | 7.00 | 0.15 | | | 20 | | A150 | 6" Mine |
| Hard Sandy mudstone | 12.00 | 5.00 | | | 57 | | | |
| Core) 12.00 – 13.80. | | | | | | | | |
| Sandstone grey dk grey banded hard broken stick soft friable in parts | 12.73 | 0.73 | 0.73 | | 50 | | | RT 3×13.80 = 41.40 |
| mudstone Sandy fine broken Stick | 13.57 | 0.84 | 0.84 | | 58 | | | |
| Last core | 13.80 | 0.23 | | | | | | |
| | | 1.80 | 1.57 | | | | | |
| 6.00m Cas. Dry. | | | | | | | | |
| move over 8.00m | | | | | | | | |
| B/H capped & backfilled | | | | | | | | |

HRS

AMOUNTS PAYABLE 83

| | | |
|---|---|---|
| OPEN HOLE | HF | 13.8 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | 1.57 |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND | | 41.4 |
| TRIPPING | | |
| MOVING | | 1 move |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed R J Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Tue 18-6-82.
SHEET 2 OF 5

Contractor Hmcs
Area Lancs.

TYPE & No. of Drill Ingersoll 72
WORKS ORDER No. 7749.
DRILLER H. Cannon
2nd MAN D. Cowell
3rd MAN T. Schofield

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Sec 73 | | | | | | | | |
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay | 3.00 | 2.50 | | | | 5 | | |
| Pale Sandy mudstone | 4.60 | 1.60 | | | 58 | | | |
| Coal | 4.75 | 0.15 | | | 20 | | Also | 6" Mine |
| Hard Sandy mudstone | 7.50 | 2.75 | | | 57 | | | |
| Brown Sandstone | 9.20 | 1.70 | | | 50 | | | |
| Sandy mudstone | 10.00 | 0.80 | | | 58 | | | |
| Core) 10.00 - 12.00 | | | | | | | | |
| mudstone hard grey laminated | 10.70 | 0.70 | 0.70 | | | | | Core cancelled |
| Coal Shalbert Light | 10.83 | 0.13 | 0.13 | | 28 | | | |
| Lost Core in Coal | 12.00 | 1.17 | | | 29 | 6 | | |
| | | 2.00 | 0.83 | | | | | |
| 6.00m Core Dry. | | | | | | | | |
| Move over 5.00m. | | | | | | | | |
| BH capped & backfilled. | | | | | | | | |

HRS

AMOUNTS PAYABLE 82

| | | |
|---|---|---|
| OPEN HOLE | HF | 12-0 |
| | PF | |
| | SF | |
| 412/HF | | / |
| CORE | PF | |
| REC. | SF | |
| | D4 | |
| | HX | 6 |
| CASING | PX | |
| | SX | |
| | GEOLOG | |
| ROUND | | / |
| TRIPPING | | |
| MOVING | | 1 move |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Plowsworth

SITE No. 831703

DATE Tue. 15-6-82.

SHEET 1 OF 5

Contractor Hunco

Area Hunco

TYPE & No. of Drill Reyphen 72

WORKS ORDER No. 7749

DRILLER H. Barden

2nd MAN P. Sarwell

3rd MAN T. Sarrata

M 2746R

B.H. No. S1 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay | 4.00 | 3.50 | | | | 5 | | |
| Sandy mudstone | 7.45 | 3.45 | | | 58 | | | |
| Dark mudstone | 8.40 | 0.95 | | | | | | |
| Sandy mudstone | 9.30 | 0.90 | | | 58 | | | |
| Dark mudstone | 10.40 | 1.10 | | | | | | |
| Coal | 10.50 | 0.10 | | | 20 | | A150 | 6" |
| Hard Sandy mudstone | 16.20 | 5.70 | | | 57 | | | |
| Coal | 16.80 | 0.60 | | | 20 | | A100 | Sandrock |
| Grey Sandstone | 22.00 | 5.20 | | | 50 | 6 | | |
| | | | | | | | | (1) |
| 6.00m casing Dry | | | | | | | | |
| Move over to Log | | | | | | | | |
| B/H Capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 81 |
| 5½ | OPEN HOLE | HF | 22 |
| | | PF | |
| | | SF | |
| 2 | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| 2½ | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep.

Signed A Barden Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Mon 14 - 6-82
SHEET 2 OF 2

Contractor Amec
Area Lancs.

TYPE & No. of Drill Gryphon 72
WORKS ORDER No. 7749
DRILLER H. Rodda
2nd MAN P. Connell
3rd MAN C. Hewitson

M 2746R

| BH. No. / Field No. DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 80. | | | | | | | | |
| Top Soil | 0.50 | 0.50 | | | | | | |
| Boom Lumpy clay | 2.00 | 1.50 | | | | 5 | | |
| Brown Lumpy Mudstone | 5.50 | 3.50 | | | 58 | | | |
| Lumpy mudstone | 6.10 | 0.60 | | | 58 | | | |
| Brown Sandstone | 10.60 | 4.50 | | | 50 | | | |
| Lumpy mudstone | 13.35 | 2.75 | | | 58 | | | |
| Coal | 14.60 | 1.25 | | | 20 | | A100 | Sandval |
| Boom/Brey Sandstone | 25.00 | 10.40 | | | 50 | 6 | | |
| Boom casing Dry | | | | | | | | |
| move over Boom | | | | | | | | |
| R/H capped & locked | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 80 |
| | OPEN HOLE | HF | 25.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 3 |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 631703. DATE Mon. 14-6-82. SHEET 4 OF 5.

Contractor Amco

Area Lancs.

TYPE & No. of Drill Cryphon 72

WORKS ORDER No. 7949

DRILLER H. Rordon.

2nd MAN P. Cowell

3rd MAN G. Horrocks.

M 2746R

BH. No. 179. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 2.00 | 1.20 | | | | 5 | | |
| Dark mudstone | 2.80 | 1.80 | | | | | | |
| Sandy mudstone | 6.70 | 3.20 | | | 58 | | | |
| Dark mudstone | 7.90 | 1.20 | | | | | | |
| Sandy mudstone | 14.68 | 6.78 | | | 58 | | | |
| Coal | 15.20 | 0.75 | | | 20 | | A100 | Sandroof |
| Grey Sandstone | 15.55 | 2.80 | | | 50 | 6 | | |
| 3.00 — casing Dry | | | | | | | | |
| move over Rig. | | | | | | | | |
| RIH capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| OPEN HOLE | HF | 1800 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed G Boston Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703.
DATE Mon. 16-6-82.
SHEET 3 OF 5.

Contractor Hmco
Area Lancs.

TYPE & No. of Drill Ingersoll Rand T2 7749
WORKS ORDER No.
DRILLER H. Rowson.
2nd MAN D. Connell.
3rd MAN Eric Hammerton.

M 2746R

BH. No. 78. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay | 2.50 | 2.00 | | | | 5 | | |
| Soft mudstone | 4.00 | 1.50 | | | | | | |
| Dark mudstone | 4.90 | 0.90 | | | | | | |
| mudstone | 7.00 | 2.10 | | | | | | |
| Dark mudstone | 7.95 | 0.95 | | | | | | |
| Coal. | 8.00 | 0.15 | | | 20 | | A150 | 6" |
| Hard Sandy mudstone | 13.50 | 5.50 | | | 57 | | | |
| Coal. | 14.60 | 0.80 | | | 20 | | A100 | Sandrock |
| Grey Sandstone | 20.00 | 5.40 | | | 50 | 6 | | A |
| 5.00m casing dry when ever seen. | | | | | | | | |
| B/H Capped backfilled. | | | | | | | | |

HRS

AMOUNTS PAYABLE 72

| | | |
|---|---|---|
| OPEN HOLE | HF | 20-05 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 Move |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Plawsworth
SITE No. 031703
DATE Mon. 14-6-82.
SHEET 2 OF 3

Contractor Amco
Area Lewis.

TYPE & No. of Drill Greyhen 72.
WORKS ORDER No. 7749.
DRILLER H. Rowson.
2nd MAN P. Connell.
3rd MAN R. Hammond.

M 2746R

BH. No. 177 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 1-40 | 0.90 | | | | | | |
| Sandy Gravel | 2.70 | 1.30 | | | 15 | | | |
| Brown Sandy clay | 3.10 | 0.40 | | | | 5 | | |
| Mudstone | 4.60 | 1.50 | | | | | | |
| Dark mudstone | 5.65 | 1.05 | | | | | | |
| Coal. | 5.80 | 0.15 | | | 20 | | Also | 6" |
| Hard Sandy Mudstone | 12.20 | 6.40 | | | 57 | | | |
| Coal. | 12.95 | 0.75 | | | 20 | | Also | Sandstone |
| Grey Sandstone | 18.00 | 5.05 | | | 50 | 6 | | |
| 6.00m casing Dry. | | | | | | | | |
| Move over 2.00m. | | | | | | | | |
| RIH capped a Cockpit Well | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE HF | 18.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE REC PF | |
| | SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Mon: 14-6-82.
SHEET 1 OF 5.

Contractor Hunco
Area Lancs.

TYPE & No. of Drill Gryphon 72
WORKS ORDER No. 7749.
DRILLER H. Bonsor.
2nd MAN P. Cornall.
3rd MAN R. Heywood

M 2746R

BH. No. 76 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 2.60 | 2.10 | | | | 5 | | |
| Soft Mudstone | 5.50 | 2.90 | | | | | | |
| Dark Mudstone | 6.85 | 1.35 | | | | | | |
| Coal | 7.00 | 0.15 | | | 20 | | Also | 6" |
| Hard Sandy Mudstone | 12.60 | 5.60 | | | 50 | | | |
| Coal. | 13.30 | 0.70 | | | 20 | | Also | Sandrock |
| Grey Sandstone | 19.00 | 5.70 | | | 50 | 6 | | |
| 600mm casing Dry | | | | | | | | |
| move over 200mm. | | | | | | | | |
| R/H capped & backfilled | | | | | | | | 5 |

GEOLOGIST'S NOTES

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| 5½ | OPEN HOLE HF | 1900 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| 2 | CASING HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| 24 | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractors Rep

Signed H Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Ellsworth.
SITE No. 031703.
DATE Fri 12-6-82.
SHEET 4 OF 4

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryphon 72.
WORKS ORDER No 7749
DRILLER H. Rowson.
2nd MAN D. Connell.
3rd MAN G. Herrmann.

M 2746R

BH. No. 75. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.90 | 2.40 | | | | 5 | | |
| Sandy mudstone | 4.70 | 1.80 | | | 58 | | | |
| Dark mudstone | 6.68 | 1.98 | | | | | | |
| Coal | 6.80 | 0.15 | | | 20 | | A150 | 6" |
| Hard Sandy Mudstone | 12.65 | 5.85 | | | 57 | | | |
| Coal. | 13.40 | 0.75 | | | 20 | | A100 | Sandnor |
| Grey Sandstone | 18.00 | 4.60 | | | 50 | 6 | | |
| 3.00m casing Dry. | | | | | | | | |
| Move over 3.00m | | | | | | | | |
| R/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | 75 | |
| | OPEN HOLE HF | 18.00 | |
| | PF | | |
| | SF | | |
| | 412/HF | | |
| | CORE PF | | |
| | REC. SF | | |
| | D4 | | |
| | HX | 3 | |
| | CASING PX | | |
| | SX | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | 1 | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed G Baxter. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No 031703 DATE Fri. 12-6-82. SHEET 3 OF 4

Contractor Amec Area Lancs.

TYPE & No. of Drill Bryphon 72. WORKS ORDER No. 7749

DRILLER H. Rawson. 2nd MAN P. Connell. 3rd MAN G. Heywood.

M 2746R

BH. No. 74 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy Clay | 2.70 | 2.20 | | | | 5 | | 10 |
| Soft mudstone | 3.50 | 0.80 | | | | | | |
| Soft Brown mudstone | 7.20 | 3.70 | | | | | | |
| Sandy mudstone | 8.25 | 1.05 | | | 58 | | | ? 20 |
| Coal. | 8.55 | 0.30 | | | 20 | | A100 | 30 |
| Hard Sandy mudstone | 9.80 | 1.25 | | | 57 | | | 40 |
| Hard Brown Sandstone | 20.00 | 10.20 | | | 50 | 6 | | 50 |
| | | | | | | | | 60 |
| Soon casing Dry. | | | | | | | | |
| Move over Soon. | | | | | | | 5 | |
| RH capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 74 |
| | OPEN HOLE | HF | 20-80 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | C |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Fri 12-6-82.
SHEET 2 OF 4

Contractor Anco
Area Lancs.

TYPE & No. of Drill Cryptan 72.
WORKS ORDER No. 7749.
DRILLER H. Bannon.
2nd MAN P. Connell.
3rd MAN R. Heaven Burn.

M 2746R

| BH. No. 73 / Field No | DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| | Top Soil | 0.80 | 0.80 | | | | | | |
| | Brown Sandy clay | 2.00 | 2.80 | | | | 5 | | 10 |
| | Dark mudstone | 4.60 | 1.60 | | | | | | |
| | Coal | 4.75 | 0.15 | | | 20 | | Also | 6" 20 |
| | Hard Sandy Mudstone | 7.40 | 2.65 | | | 57 | | | 30 |
| | Brown Sandstone | 9.00 | 1.60 | | | 50 | | | 40 |
| | Sandy mudstone | 11.05 | 2.05 | | | 58 | | | 50 |
| | Coal. soft | 11.80 | 0.75 | | | 28 | | A100 | Sandrock Mine 60 |
| | Brown/Grey Sandstone | 18.00 | 6.20 | | | 50 | 6 | | 70 |
| | | | | | | | | | 80 |
| | 600m Casing Dry | | | | | | | | |
| | Move over 2.00m. | | | | | | | | |
| | B/H capped & backfilled | | | | | | | | |

F-1 ✓

HRS

AMOUNTS PAYABLE 73

| | | |
|---|---|---|
| OPEN HOLE | HF | 18.00 |
| | PF | |
| | SF | |
| CORE REC. CASING GEOLOG | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| | HX | 6 |
| | PX | |
| | SX | |
| ROUND TRIPPING | | |
| MOVING | | 1 MOVE |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed H Bonton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Fri 12-6-82. SHEET 1 OF 4

Contractor Amco. Area Lancs.

TYPE & No. of Drill Gryphon 72. WORKS ORDER No. 7749

DRILLER H. Gordon. 2nd MAN P. Connell. 3rd MAN G. Hennessey

M 2746R

BH. No. 72. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay/Soft Bands | 3.10 | 2.60 | | | | 5 | | |
| Soft Mudstone | 4.00 | 0.90 | | | | | | |
| Coal. Soft. | 4.75 | 0.75 | | | 28 | | Arco | Sandrock |
| Brown Sandstone | 19.80 | 14.85 | | | 50 | | | |
| Sandy mudstone | 20.00 | 0.20 | | | 58 | | | |
| Grey Sandstone | 31.00 | 11.00 | | | 50 | | | |
| Dark Sandy mudstone | 39.00 | 8.00 | | | 58 | | | |
| Grey Sandstone | 50.00 | 11.00 | | | 50 | 6 | | |
| 6.00m cas. 100ta Day from 30.00 move over 8.00m. | | | | | | | | |
| R/H appox a back/load | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| 6 | OPEN HOLE HF | 50.00 | |
| | PF | | |
| | SF | | |
| | 412/HF | | |
| | CORE PF | | |
| | REC. SF | | |
| | D4 | | |
| 2 | CASING HX | 6 | |
| | PX | | |
| | SX | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 2 | MOVING | 1 move | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thurs 11-6-82.
SHEET 4 OF 4

Contractor Amco
Area Lancs.

TYPE & No. of Drill Rayston 42
WORKS ORDER No. 7749
DRILLER H. Bordon
2nd MAN P. Connell.
3rd MAN G. Hennessey.

M 2746R

| BH. No. / Field No. 71 — DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Soft peaty clayey | 2.30 | 2.00 | | | 12 | | | |
| Brown Sandy clay. | 3.10 | 0.60 | | | | 5 | | |
| Soft wet coal. | 3.70 | 0.60 | | | 23 | | A100 | Sandock outcrop. |
| mudstone | 4.70 | 1.00 | | | | | | |
| Hard Brown Sandstone | 25.20 | 20.50 | | | 50 | | | |
| Sandy mudstone | 31.00 | 5.80 | | | 58 | | | |
| Hard Grey Sandstone | 50.00 | 19.00 | | | 50 | 6 | | |
| 6.00m ear. with Dry from -30.00 | | | | | | | | 51 |
| Move over 3.00m. | | | | | | | | |
| R/H Rapposa backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | 71 |
|---|---|---|
| | OPEN HOLE HF | 50.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| | CASING HX | 6.00 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 move |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed ____ Contractors Rep.

Signed H. Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Thurs 17-6-82.
SHEET 3 OF 4

Contractor Amco
Area Lancs

TYPE & No. of Drill Gryphon 72
WORKS ORDER No. 7749
DRILLER H. Rowson
2nd MAN P. Sorrell.
3rd MAN G. Hermann

M 2746R

BH. No. 70 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay | 3.40 | 2.90 | | | | 5 | | |
| Soft Brown Sandy Mudstone | 4.00 | 0.60 | | | | | | |
| Hard Brown Sandstone | 24.20 | 20.20 | | | 50 | | | |
| Sandy mudstone | 30.20 | 6.00 | | | 58 | | | |
| Hard Grey Sandstone | 50.00 | 19.80 | | | 50 | 6 | | |
| 6.00 cos. Water 32.00 — | | | | | | | | FI |
| move over 3.00 m. | | | | | | | | |
| RIH capped a backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | | 1 move |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thur. 11-6-82.
SHEET 2 OF 4

Contractor Amco
Area Lancs.

TYPE & No. of Drill Gryphon 72.
WORKS ORDER No. 7749.
DRILLER H. Gordon.
2nd MAN P. Connell.
3rd MAN G. Herrmann.

M 2746R

BH. No. 69. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.00 | 1.20 | | | | | | |
| ~~Soft~~ mudstone Sand. | 2.80 | 0.80 | | | 13 | 5 | | |
| Soft mudstone | 3.40 | 0.90 | | | | | | |
| Hard Brown Sandstone | 17.50 | 14.10 | | | 50 | | | |
| Sandy mudstone | 19.20 | 1.70 | | | 58 | | | |
| Hard Brown Sandstone | 26.60 | 7.40 | | | 50 | | | |
| Hard Grey Sandstone | 31.55 | 4.95. | | | 50 | | | |
| Dark Sandy mudstone | 40.80 | 9.25. | | | 58 | | | |
| Hard Grey Sandstone | 50.00 | 9.20 | | | 50 | 6 | | |
| 6.00 m ccm. water 32.00m | | | | | | | | |
| more over 5.00m. | | | | | | | | |
| R/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE HF | 50.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | Move |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703 DATE Thurs 11-6-82. SHEET 1 OF 4

TYPE & No. of Drill Creyphan '72. 7749

WORKS ORDER No.

DRILLER H. Gowers

2nd MAN P. Cornell.

3rd MAN R. Hermann.

Contractor Amco

Area Lancs.

M 2746R

BH. No. Field No

68 on 61

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 2.70 | 2.20 | | | | 5 | | |
| Soft Dark mudstone | 4.20 | 1.50 | | | | | | |
| mudstone | 6.60 | 1.40 | | | | | | |
| Dark mudstone | 7.85 | 1.25 | | | | | | |
| Coal | 8.00 | 0.15 | | | 20 | | A150 | |
| Hard Sandy mudstone | 10.20 | 2.20 | | | 57 | | | |
| Brown Sandstone | 11.10 | 0.90 | | | 50 | | | |
| Brown Sandy mudstone | 12.70 | 1.60 | | | 58 | | | |
| core) 12.70 — 14.30 | | | | | | | | |
| Lost core | 12.94 | 0.24 | | | | | | |
| mudstone/coal/hard Shattered | 13.24 | 0.30 | 0.30 | | | | | |
| coal lost in coal (0.44) | 13.68 | 0.44 | | | 29 | | A100 | |
| Coal badly shattered active | | | | | | | | |
| Stained | 13.99 | 0.31 | 0.31 | | 38 | 2 | A100 | Sandrock Mine |
| mudstone/clay soft Stick | | | | | | | | Worked N/S. |
| Sandy to base | 14.30 | 0.31 | 0.31 | | | 6 | | |
| | | 1.60 | 0.92 | | | | | |
| 6.00m core Dry. move | | | | | | | | RT. 3x14.30 |
| over 2.00m. B/H approach backfilled. | | | | | | | | =42.90 |
| Moved Farms. Claim 1 mile move. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 68. |
| 5 | OPEN HOLE | HF | 14.30 |
| | | PF | |
| | | SF | |
| 1 | CORE REC | 412/HF | 0.92 |
| | | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | 42.9 |
| | TRIPPING | | |
| 2 | MOVING | | 1 move |
| | Extra Wheels | | + 1 mile. |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed M Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No 031703.
DATE Wed 10-6-82.
SHEET 6 OF 6

Contractor Amec
Area Lancs

TYPE & No. of Drill Cyphers 72.
WORKS ORDER No. 7749.

| | |
|---|---|
| DRILLER | H. Ronson |
| 2nd MAN | D. Connell. |
| 3rd MAN | B. Herrmann |

M 2746R

BH. No. 67a 64 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGIST'S NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 2.00 | 1.80 | | | | 5 | | |
| Dark Sandy mudstone | 5.00 | 3.00 | | | | | | |
| Sandy Mudstone | 9.40 | 4.40 | | | 58 | | | |
| Mudstone/ Dark mudstone | 14.05 | 4.65 | | | | | | |
| Coal | 14.15 | 0.10 | | | 20 | | H150 | cf BH 64 |
| Sandy mudstone | 15.00 | 0.85 | | | 58 | | | |
| Dark mudstone | 16.50 | 1.50 | | | | | | Levels different. |
| Core) 16.50 — 18.00 | | | | | | | | |
| Lost Core | 17.23 | 0.73 | | | | | | |
| Coal badly broken | 17.38 | 0.15 | 0.15 | | 28 | 2 | A100 | Sandrock Munro |
| mudstone grey V. Soft | 17.40 | 0.02 | 0.02 | | 27 | 2 | A100 | Pimented grand |
| Coal stuck/broke | 17.47 | 0.07 | 0.07 | | 28 | 2 | A100 | |
| Coal Shattered | 17.54 | 0.07 | 0.07 | | 28 | 2 | A100 | Not Sampled |
| Sandstone hard grey broken | 18.00 | 0.46 | 0.46 | | 50 | 6 | | |
| | | 0.80 | 0.92 | | | | | |
| 3.00m casing Dry move over 2.00m | | | | | | | | RT. 3x18.00 = 54 |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 1800 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | 0.92 |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 3 |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | 54. |
| | TRIPPING | | |
| | MOVING | | 1 MOVE |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Wed. 10-6-82. SHEET 3 OF 6

Contractor Hmco

Area Lancs.

TYPE & No. of Drill Cryphan 72.

WORKS ORDER No. 7749.

DRILLER H. Rowan.

2nd MAN D. Connell.

3rd MAN R. Hornsby.

M 2746R

BH. No. 66 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: Q/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.00 | 1.50 | | | | 5 | | |
| Dark mudstone | 4.60 | 2.60 | | | | | | |
| Coal | 4.85 | 0.25. | | | 20 | | Also | 6" |
| Hard Sandy mudstone | 6.70 | 5.85 | | | 57 | | | |
| Coal. | 11.35. | 0.65. | | | 20 | | A100 | Sandwash |
| Grey Sandstone | 17.00 | 5.65. | | | 50 | 6 | | |
| 3:00 on casing. Dry | | | | | | | | |
| R/H capacity backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE HF | 17.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Wed. 10-6-82.
SHEET 4 OF 6

Contractor Hmco
Area Lancs.

TYPE & No of Drill Reptron "72
WORKS ORDER No. 7769.
DRILLER H. Rowson.
2nd MAN P. Sowell.
3rd MAN S. Horsman.

M 2746R

BH. No. 65. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: O/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 2.20 | 1.70 | | | | 5 | | |
| Brown mudstone (Soft) | 3.00 | 0.80 | | | | | | |
| Mudstone / Dark mudstone | 5.55 | 2.55 | | | | | | |
| Dark mudstone | 6.75 | 1.20 | | | | | | |
| Coal. | 6.90 | 0.15 | | | 20 | | A150 | 6" |
| Hard Sandy mudstone | 12.20 | 5.30 | | | 57 | | | |
| Old workings Grey Solid Drilling | 13.60 | 1.20 | | | 32 | | A100 | Sandsoil |
| | 16.00 | 2.60 | | | 79 | 6 | | |
| Boom casing. Dry. move over Boom | | | | | | | | |
| Inverted plug 11.50m. claim ½ p/s. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE HF | 16.00 |
| | PF | |
| | SF | |
| | CORE REC. 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| | CASING HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | 1. |
| | Extra Wheels | |
| | Standing Rig in use | ½ |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | plug | 1 |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703
DATE Wed. 10-6-82.
SHEET 3 OF 6

Contractor Hunco.
Area Lancs.

TYPE & No. of Drill Ingersoll 72.
WORKS ORDER No. 7749.
DRILLER H. Ramsay.
2nd MAN P. Connell.
3rd MAN R. Hewerdine.

M 2746R

BH. No. 64 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.00 | 1.50 | | | | 5 | | |
| Dark mudstone | 8.00 | 3.00 | | | | | | |
| Sandy mudstone | 9.60 | 4.60 | | | 58 | | | |
| Mudstone / Dark mudstone | 12.80 | 3.40 | | | | | | |
| Coal / Dirty | 12.85 | 0.05. | | | 23 | | Also | 6" |
| Hard Sandy mudstone | 17.05 | 4.20 | | | 57 | | | |
| Coal. | 17.70 | 0.65 | | | 20 | | Also | Sandrock |
| Grey Sandstone | 19.00 | 1.30. | | | 50 | | | |
| Brown Sandstone | 23.00 | 4.00 | | | 50 | 6 | | |
| 3.00m coring 'Dry. | | | | | | | | |
| Mud over 3.00m. | | | | | | | | |
| R/H opened backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE HF | 23.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE REC. PF | |
| | SF | |
| | D4 | |
| | CASING HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | 1 Move |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractors Rep

Signed J.H. Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Aldsworth. SITE No. 03/0703 DATE Wed-To-6-82. SHEET 2 OF 6

Contractor Anco Area Lancs.

TYPE & No. of Drill Reyphen 72. WORKS ORDER No. 7749.

DRILLER H. Bonsall. 2nd MAN D. Powell. 3rd MAN R. Hornsby.

M 2746R

BH. No. 63 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.60 | 2.10 | | | | E | | |
| Made up Ground (MS & clay mix) | 4.80 | 1.90 | | | 16 | 5 | | |
| Dark mudstone | 7.90 | 3.40 | | | | | | |
| Sandy mudstone | 11.30 | 3.40 | | | 58 | | | |
| Dark mudstone | 13.00 | 1.70 | | | | | | |
| Coal. | 13.10 | 0.10 | | | 20 | | Also | 6" |
| Hard Sandy mudstone | 19.20 | 6.10 | | | 57 | | | |
| Old workings (Coal) | 20.10 | 0.90 | | | 32 | | A100 | Sndhcl. |
| Solid Drilling | 22.00 | 1.90 | | | 79 | 6 | | |
| 6.00m Casing Dry. | | | | | | | | A |
| move over 8.00m. | | | | | | | | |
| Dry Inserted 18.90. 1/2 P/S | | | | | | | | |
| Rig capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | 63 |
|---|---|---|---|
| | OPEN HOLE | HF | 22.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | 1/2 |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | plug | | 1 |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Wed: 10-6-82. SHEET 1 OF 6

Contractor Amco Area Lancs.

TYPE & No. of Drill Creyton 72. WORKS ORDER No. 7749.

DRILLER H. Sanders. 2nd MAN E. Connell. 3rd MAN R. Hammerton.

M 2746R

BH. No. 62. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.70 | 2.20 | | | | 5 | | |
| Mudstone | 3.80 | 1.10. | | | | | | |
| Dark mudstone | 4.70 | 0.90 | | | | | | |
| Sandy mudstone | 8.90 | 4.20 | | | 58 | | | |
| Dark mudstone | 10.10 | 1.20 | | | | | | |
| Coal. | 10.30 | 0.20 | | | 20 | | A150 | 6" |
| Hard Sandy mudstone | 13.90 | 3.60 | | | 57 | | | |
| Old workings (Caving) | 16.90 | 1.00 | | | 32 | | A100 | Sndrk |
| Solid Drilling | 19.00 | 2.10. | | | 79 | 6 | | |
| Boom raising. Dry. Moved over Boom. | | | | | | | | F1 |
| Plug Inserted 16.00. claim ½ p/s. | | | | | | | | |
| R/H capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE 62 | | |
|---|---|---|---|
| 2½ | OPEN HOLE | HF | 14.00 |
| | | PF | |
| | | SF | |
| 1 | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 3 | MOVING | | 1 move |
| | Extra Wheels | | |
| | Standing Rig in use | | 1½ |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| 1½ | plugs. | | 1 |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 021703.
DATE Tues. 9-6-82.
SHEET 3 OF 3.

TYPE & No. of Drill Ingersoll 72. 7749
WORKS ORDER No.
DRILLER H. Bonson.
2nd MAN J. Connell.
3rd MAN Q. Herrmann.

Contractor Amco
Area Lancs.

M 2746R

BH. No. 61 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.70 | 2.20 | | | | 5 | | |
| Lgt Brown Sandstone | 4.20 | 1.50 | | | | | | |
| Sandstone | 6.60 | 2.40 | | | | | | |
| Dark sandstone | 7.85 | 1.25. | | | | | | |
| Coal. | 8.00 | 0.15. | | | 20 | | A150 | 6" |
| Hard Sandy sandstone | 10.20 | 2.20 | | | 57 | | | |
| Brown Sandstone | 11.10 | 0.90 | | | 50 | | | |
| Brown Sandy sandstone | 13.20 | 2.10. | | | 58 | | | |
| Coal. | 13.95 | 0.75. | | | 20 | | A100 | Sandrock |
| Clay Sandstone | 19.00 | 5.05 | | | 50 | 6 | | |
| 6.00 m Casing Dry. | | | | | | | | |
| Move over Loam. | | | | | | | | |
| R/H capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 19.8 |
| | | PF | |
| | | SF | |
| | CORE | 412/HF | |
| | | PF | |
| | REC. | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed A.I. Bonson Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Tue: 9-6-82.
SHEET 4 OF 5.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryphon 72. 7749.
WORKS ORDER No.
DRILLER H. Rowson.
2nd MAN D. Sowell.
3rd MAN G. Hennessey.

M 2746R

BH. No. 60 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay Made up Ground (mudstone mix with clay) | 1.40 | 0.90 | | | | | | |
| Dark mudstone | 9.80 | 4.10 | | | 16 | 5 | | |
| Sandy mudstone | 13.70 | 3.90. | | | 58 | | | |
| Dark mudstone | 14.90 | 1.20 | | | | | | |
| Coal. | 15.00 | 0.10 | | | 20 | | A150 | 6" |
| Hard Sandy mudstone | 20.70 | 5.70 | | | 57 | | | |
| Soft Coal. Mynydmaith NS | 21.70 | 1.00. | | | 28 | | A100 | Sandrock |
| Grey Sandstone (poor Roadways) | 24.00 | 2.30. | | | 50 | 6 | | |
| 9.00m casing Dry. Move over 8.00m. | | | | | | | | A |
| Inserted plug 20.00m. P/S 1/2hr. | | | | | | | | |
| B/H capped & filled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | 66 |
|---|---|---|---|
| | OPEN HOLE | HF | 24.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 3 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | 1/2 |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | plug | | 1 |

MATERIALS USED

Signed [signature] Contractors Rep

Signed M. Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Tue: 9-6-82.
SHEET 3 OF 8.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Gopher. 72.
WORKS ORDER No. 7749.

DRILLER H. Rogers
2nd MAN D. Conwell.
3rd MAN G. Hennessey.

M 2746R

| BH. No. / Field No. 59 DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay | 7.65 | 7.15 | | | | 5 | | |
| Dark mudstone | 8.60 | 0.95. | | | | | | |
| Sandy mudstone | 11.20 | 2.60 | | | 58 | | | |
| Dark mudstone | 12.35 | 1.15. | | | | | | |
| Coal. | 12.55 | 0.20 | | | 20 | | A150 | 6" |
| Hard Sandy mudstone | 18.50 | 5.95. | | | 57 | | | |
| Soft loose drilling. Coal. MS/mix. no loss of flush | 19.50 | 1.00. | | | 28 | | A100 | Sndstn |
| Grey Sandstone | 28.00 | 8.50 | | | 50 | 6 | | |
| 9.00m casing. Dry. move over 8.00m | | | | | | | | |
| R/H capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE HF | 25.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | 3 |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 move |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractors Rep

Signed M Bonton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 231703
DATE Tue: 9-6-82.
SHEET 2 OF 5

Contractor Amco
Area Lancs.

TYPE & No. of Drill Ergyham. 72.
WORKS ORDER No. 7749.
DRILLER H. Gordon.
2nd MAN P. Connell.
3rd MAN G. Herrmann.

M 2746R

BH. No. 58. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 4.10. | 3.30 | | | | 5 | | |
| Sandy mudstone | 8.40 | 4.30 | | | 58 | | | |
| Dark mudstone | 9.70 | 1.30 | | | | | | |
| Coal. | 9.85 | 0.15. | | | 20 | | A150 | 6" |
| Sandy mudstone | 14.30 | 4.45. | | | 58 | | | |
| Old working. Cavity. | 15.70 | 1.40 | | | 32 | | A100 | Sndstn |
| Solid Drilling | 18.00 | 2.30 | | | 79 | 6 | | |
| 6.00 secs Dry | | | | | | | | |
| move over 5 secs | | | | | | | | |
| Inserted plug. 14.00 m. | | | | | | | | |
| claim 1/2 p/s. | | | | | | | | |
| B/H capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE 58 | |
|---|---|---|
| | OPEN HOLE HF | 18.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | 1move |
| | Extra Wheels | |
| | Standing Rig in use | 1/2 hr |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | plug | 1 |

MATERIALS USED

Signed [signature] Contractors Rep.
Signed M Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No 031703
DATE Tue. 9-6-82
SHEET 1 OF 2

Contractor Amco
Area Lancs

TYPE & No. of Drill Cryphon 72.
WORKS ORDER No. 7749.
DRILLER H. Rowson.
2nd MAN D. Connell
3rd MAN S. Redmond

M 2746R

BH. No. 57 | Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 3.60 | 3.10 | | | | 5 | | |
| Dark Mudstone | 4.10 | 0.80 | | | | | | |
| Sandy mudstone | 7.60 | 3.80 | | | 58 | | | |
| Dark mudstone | 8.65 | 1.05 | | | | | | |
| Coal. | 8.85 | 0.20 | | | 20 | | A150 | 6" Mine |
| Hard Sandy mudstone | 13.40 | 4.55 | | | 57 | | | |
| Old workings Sandy | 14.80 | 1.60 | | | 32 | | A100 | Sandrock Mine. |
| Solid Drilling | 17.00 | 2.20 | | | 79 | 6 | | |
| 6.00 cas. Dry. | | | | | | | | |
| move over 6.00m | | | | | | | | |
| Inverting plug 13.00m. | | | | | | | | |
| 1/2 P/S. | | | | | | | | |
| B/H. capped & backfilled | | | | | | | | |

GEOLOGISTS NOTES

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 57 |
| 5 | OPEN HOLE | HF | 17.00 |
| | | PF | |
| | | SF | |
| | 412/HF | | |
| | CORE REC. | PF | |
| | | SF | |
| | | D4 | |
| 2½ | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| 2½ | MOVING | | 1 move |
| | Extra Wheels | | |
| | Standing Rig in use | | ½ hr. |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| 1½ | plugs | | 1 plug |

MATERIALS USED

Signed ..... Contractors Rep.

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Ailsworth. SITE No. 031703. DATE Mond. 8-6-62. SHEET 5 OF 5

Contractor Amec Area Cranes.

TYPE & No. of Drill Reydon 72. 7749

WORKS ORDER No.

DRILLER H. Rondeau.

2nd MAN P. Connell

3rd MAN G. Herrmann.

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Sec 41 Cont'd | | | | | | | | |
| | 17.97 | | | | | | | RT. |
| Sandstone pale grey, bored broken stick, plant remains | 18.80 | 083 | 083 | | 50 | 6 | | 6x13·00 = 78<br>3x18·80 = 56·4<br>134·4 |
| | | 1.00 | 1.57 | | | | | |
| 9 coom casing | | | | | | | | |
| move over 9 coom. | | | | | | | | |
| R/H capped & backfilled | | | | | | | | |

HRS

AMOUNTS PAYABLE 56

| | | |
|---|---|---|
| OPEN | HF | 18·80 |
| | PF | |
| HOLE | SF | |
| | 412/HF | 2.71 |
| CORE | PF | |
| REC | SF | |
| | D4 | |
| | HX | 6 |
| CASING | PX | 3 |
| | SX | |
| | GEOLOG | |
| ROUND | | 134.4 |
| TRIPPING | | |
| MOVING | | 1 move |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No 031703
DATE Mon: 8-6-82
SHEET 4 OF 4

Contractor Hmco
Area Lancs.

TYPE & No. of Drill Creyton No. 7749
WORKS ORDER No.
DRILLER H. Gonnop.
2nd MAN D. Connell
3rd MAN G. Hewerdine

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| S6 on 41 | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 7.80 | 7.30 | | | | 5 | | |
| Sandy mudstone | 10.10 | 2.30 | | | 58 | | | |
| Dark mudstone | 11.40 | 1.30 | | | | | | |
| Core) 11-40 — 13.00. | | | | | | | | |
| mudstone black soft friable | | | | | | | | |
| Stich | 11.55 | 0.15 | 0.15 | | | | | |
| Coal. & friable pyrite nodules | | | | | | | | |
| Soft | 11.65 | 0.10 | 0.10 | | 23 | 2 | A150 | 6" Hmo N/S |
| clay pale grey soft Stich | 11.71 | 0.06 | 0.06 | | | | | |
| mudstone soft/firm grey | | | | | | | | |
| clayey S/F broken Stich | 12.84 | 0.83 | 0.83 | | | | | |
| Lost Core | 13.00 | 0.16 | | | | | | |
| | | 1.60 | 1.14 | | | | | |
| O/H) Hard Sandy mudstone | 16.80 | 3.80 | | | 57 | | | |
| Core) 16.80 — 18.80 | | | | | | | | |
| Lost Core | 17.23 | 0.43 | | | | | | |
| mudstone, dark grey/firm | | | | | | | | |
| badly broken Stich | 17.48 | 0.25 | 0.25 | | | | | |
| Coal badly broken at top | | | | | | | | |
| Stich to base incline stain on | | | | | | | | |
| chalk | 17.97 | 0.49 | 0.49 | | 20 | 2 | A100 | Sandrock Mine |
| Contd Sheet 5 | | | | | | | | S No 4 |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HF | |
| | PF | |
| | HOLE SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | HX | |
| | CASING PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | | |
| | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed M Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Aldsworth
SITE No 031703.
DATE Mon. 8-6-82.
SHEET 3 OF 4

Contractor Amco
Area Cams

TYPE & No. of Drill Gryphon 72.
WORKS ORDER No. 7749

DRILLER H. Gordon.
2nd MAN P. Connell.
3rd MAN G. Hemmerman.

M 2746R

| BH. No. / Field No. SS — DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: O/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 9.50 | 9.00 | | | | 5 | | |
| Mudstone / Dark mudstone | 12.90 | 3.40 | | | | | | |
| Coal | 13.05 | 0.15 | | | 20 | | A150 | 6" |
| Hard Sandy mudstone | 18.30 | 5.25 | | | 57 | | | |
| Cook Drilling Coaly mixed | | | | | | | | |
| no logged this | 19.60 | 1.30 | | | 38 | | A100 | Sreen. DW |
| Grey Sandstone | 25.00 | 5.60 | | | 50 | 6 | | |
| | | | | | | | | F1 |
| 9.00m casing Dry | | | | | | | | |
| move over Room. | | | | | | | | |
| B/H capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE HF | 25.00 | |
| | PF | | |
| | SF | | |
| | 412/HF | | |
| | CORE PF | | |
| | REC SF | | |
| | D4 | | |
| | CASING HX | 6 | |
| | PX | 3 | |
| | SX | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | 1 move | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Mon. 8-6-82.
SHEET 2 OF 4

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryphon 72. 7749
WORKS ORDER No.
DRILLER H. Gordon.
2nd MAN P. Connell.
3rd MAN G. Herrmann.

M 2746R

| BH. No. / Field No. DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| SH | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 7.30 | 6.80 | | | | 5 | | |
| mudstone | 8.80 | 1.20 | | | | | | |
| Coal. | 8.68 | 0.18 | | | 20 | | A150 | 5" H A150 Index |
| mudstone / Dark mudstone | 12.38 | 3.70 | | | | | | |
| Coal | 12.50 | 0.18 | | | 20 | | | [illegible] |
| Hard Sandy mudstone | 17.50 | 5.00 | | | 57 | | | |
| Old workings Cavity | 18.70 | 1.20 | | | 32 | | A100 | Sandrock Ows |
| Solid Drilling | 20.50 | 1.80 | | | | 6 | | |
| 9.00m casing Dry | | | | | | | FA | |
| move over 8.00m | | | | | | | | |
| plug inserted 18.00m 1/2 p/s. | | | | | | | | |

| HRS | AMOUNTS PAYABLE SH | |
|---|---|---|
| | OPEN HF | 20.50 |
| | HOLE PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | 3 |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 move |
| | Extra Wheels | |
| | Standing Rig in use | ½ |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | plug | 1.00 |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No 031703. DATE Mon. 8-6-82. SHEET 1 OF 4

Contractor Amco Area Lancs

TYPE & No. of Drill Cryston 72. WORKS ORDER No. 7749

DRILLER H. Borrows. 2nd MAN P. Connell. 3rd MAN G. B. [redacted] Hermiston

M 2746R

BH. No. 53 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Ramsey clay (wet) | 9.00 | 8.20 | | | | 5 | | |
| Dark mudstone | 11.35 | 2.35 | | | | | | |
| Coal. | 11.50 | 0.15 | | | 20 | | Also | Six" |
| Hard Ramsey mudstone | 16.20 | 4.70 | | | 57 | | | |
| Old Workings Cavity | 17.90 | 1.70 | | | 32 | | A100 | |
| Solid Drilling. | 20.00 | 2.10 | | | | 6 | | |
| 9.00m casing Dry. | | | | | | | | 5) |
| Move over 2.00m. | | | | | | | | |
| plug inserted 18.50. 1/2 p/s. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 53 |
| 8 4 | OPEN HOLE | HF | 20.00 |
| | | PF | |
| | | DF | |
| 1 | 412/HF CORE REC. | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 6 |
| | | PX | 3 |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| 2 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | ½ |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| 1 | plug. | | 1 |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Fri 8-6-82.
SHEET 3 OF 3

Contractor Anco
Area Lancs.

TYPE & No. of Drill Rogdon '72.
WORKS ORDER No. 7749
DRILLER H. Rowson
2nd MAN P. Connell
3rd MAN D. Ross

M 2746R

BH. No. S2. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay (wet) | 10.40 | 9.90 | | | | 5 | | |
| Dark mudstone | 11.50 | 1.10 | | | | | | |
| Coal. | 11.70 | 0.20 | | | 20 | | A150 | Six" |
| Hard Sandy mudstone | 17.30 | 5.60 | | | 57 | | | |
| Loose Soft Coaly mix P.O.W | 18.00 | 0.70 | | | 38 | | A100 | Sandrock ob |
| Grey Sandstone | 22.00 | 4.00 | | | 50 | 6 | | |
| 12.00m cas. Dry. | | | | | | | | B |
| move over 5.00m | | | | | | | | |
| Plug inserted 17.00m | 1/2 p/s. | | | | | | | |
| RIH capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE 52 | |
|---|---|---|
| | OPEN HF | 23.00 |
| | HOLE PF | |
| | HOLE SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | 6 |
| | CASING PX | 6 |
| | CASING SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | 1/2 |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | plug | 1 |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703
DATE Fri 5-6-82.
SHEET 2 OF 3

Contractor Amco
Area Lancs.

TYPE & No. of Drill Gopher 72.
WORKS ORDER No. 7749.
DRILLER K. Gordon.
2nd MAN P. Connell.
3rd MAN P. Ross

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| S1 | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. (wet) | 12.00 | 11.80 | | | | 5 | | |
| Hard Sandy Mudstone | 14.80 | 2.80 | | | 57 | | | |
| Old Workings Cavity | 16.80 | 1.70 | | | 32 | | A100 | Sandrock OWs |
| Solid Drilling | 19.00 | 2.80 | | | | 6 | | |
| 12.00m Cas. Dry (when Cased) | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| plug Inserted 14.00m 1/2 p/s. | | | | | | | | |
| B/H Capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE S1 | |
|---|---|---|
| | OPEN HOLE HF | 19.00 |
| | PF | |
| | F | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | 6 |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1mve |
| | Extra Wheels | |
| | Standing Rig in use | 1/2 |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| | plug | 1 |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME P. Isworth.
SITE No 031703.
DATE Fri 5-6-82.
SHEET 1 OF 3

TYPE & No. of Drill Reyphon 72.
WORKS ORDER No. 7749.
Contractor Amco
Area Lynes.

DRILLER H. Barclay
2nd MAN P. Connell.
3rd MAN P. Ross.

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| So. | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay (wet) | 10.80 | 10.30 | | | | 5 | | |
| Dark mudstone (Reading Difficult) | 11.00 | 0.20 | | | | | | |
| Coal. | 11.05 | 0.05 | | | 20 | | A150 | |
| Hard Sandy mudstone | 16.00 | 4.95 | | | 57 | | | |
| Ow workings county. | 17.80 | 1.00 | | | 32 | | A100 | Sandrock Mine OW |
| Solid Drilling | 20.00 | 2.80 | | | | 6 | | |
| 12.00m Casing dry when eased move over 8.00m | | | | | | | | LF |
| plug inserted 15.50 ½ p/s. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | 50 |
|---|---|---|
| 9 | OPEN HF | 20.00 |
| | HOLE PF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| 2 | CASING HX | 6 |
| | CASING PX | 6 |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| 1½ | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | ½ |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |
| 1½ | plug. | 1 |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703
DATE Th 4-6-82.
SHEET 4 OF 4

Contractor Amco
Area Lancs.

TYPE & No. of Drill Eyphon 72.
WORKS ORDER No. 7749
DRILLER H. Gordon
2nd MAN P. Connell
3rd MAN P. Ross

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 69. | | | | | | | | |
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay (wet) | 10.15 | 9.65 | | | | 5 | | |
| Dark Sandy ~~clay~~ Mudstone | 11.00 | 0.85 | | | | | | |
| Soft coal | 11.20 | 0.20 | | | 20 | | A150 | Sandhurst Mine. |
| Sandy mudstone | 16.05 | 4.85 | | | 58 | | | |
| Old workings (Cavity) | 17.50 | 1.45 | | | 32 | | A100 | Sandhurst Mine OWs |
| Solid Drilling | 20.00 | 2.50 | | | | 6 | | |
| Room casing Dry- move over 69. | | | | | | | | |
| Plug inserted 18.50m 1/2 p/s. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 20.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 6 |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| | MOVING | | |
| | Extra Wheels | | |
| | Standing Rig in use | | 1/2 |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| 1/2 | plug. | | 1 |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Plsworth.
SITE No. 031703
DATE Fri 4-6-82
SHEET 3 OF 4

Contractor Amec
Area Lanes.

TYPE & No. of Drill Cryphon 72.
WORKS ORDER No. 7749.
DRILLER H. Gordon.
2nd MAN P. Connell.
3rd MAN P. Ross.

M 2746R

BH. No. 48 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 9.80 | 9.30 | | | | 5 | | |
| Dark mudstone | 14.55 | 15.75 | | | | | | |
| Coal. | 14.90 | 0.35 | | | 20 | | | |
| Hard Sandy mudstone | 16.20 | 15.30 | | | 57 | | | |
| Grey Sandstone | 30.00 | 13.80 | | | 50 | 6 | | |
| Room casing Dry move over Room | | | | | | | | |
| Interfus. to seal coal seam. | | | | | | | | |
| RH capped & backfilled | | | | | | | | |

14.90 16.20
15.30 16.90
30.20 1.30

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE HF | 30.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | 9 |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thur 4-6-82.
SHEET 2 OF 4

TYPE & No. of Drill Cryphon 72.
WORKS ORDER No. 7749.
DRILLER H. Gordon.
2nd MAN P. Connell.
3rd MAN P. Rose.

Contractor Amco
Area Lancs.

M 2746R

BH. No. 47. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 7.80 | 7.30 | | | | 5 | | |
| Dark mudstone | 8.05 | 0.25. | | | | | | |
| Coal. | 10.50 | 2.45. | | | 20 | | | Faulted coal |
| Dark mudstone | 12.70 | 2.20 | | | | | | |
| Coal. | 18.60 | 5.90 | | | 20 | | | Faulted coal vertical. |
| Dark mudstone | 21.20 | 2.60 | | | | | | |
| Hard Grey Sandstone | 32.00 | 0.80 | | | 50 | 6 | | |
| 12.00m casing Dry. | | | | | | | | |
| move over 2.00m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

F1

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 32.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 6 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed J.W. Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Aldworth.
SITE No. 031703.
DATE Thur 4-6-82.
SHEET 1 OF 4.

Contractor Amco
Area Lynes.

TYPE & No. of Drill Cryston 72.
WORKS ORDER No. 7749.
DRILLER H. Gordon.
2nd MAN P. Connell.
3rd MAN P. Ross.

M 2746R

BH. No. 46. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 4.70 | 3.80 | | | | 5 | | |
| Dark mudstone | 16.40 | 11.70 | | | | | | |
| Sandy mudstone | 21.90 | 5.50 | | | 58 | | | |
| Dark Sandy mudstone | 23.90 | 2.00 | | | 58 | | | |
| Hard Sandy mudstone | 26.40 | 2.50 | | | 57 | | | |
| Hard Grey Sandstone | 30.00 | 3.60 | | | 58 | 6 | | |
| 6.00m casing dry move over 8.00m | | | | | | | | FL |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | 46 | |
| 6 | OPEN HOLE HF | 30.00 | |
| | PF | | |
| | SF | | |
| | 412/HF CORE PF | | |
| | REC SF | | |
| | D4 | | |
| 2 | CASING HX | 6 | |
| | PX | | |
| | SX | | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 2 | MOVING | 1 move | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | MATERIALS USED | | |

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Wed. 2-6-82.
SHEET 3 OF 3

Contractor Amco
Area Lyncs.

TYPE & No. of Drill Rayphen 72
WORKS ORDER No. 7749.
DRILLER H. Bonsors.
2nd MAN D. Connell.
3rd MAN P. Ross.

M 2746R

BH. No. 4S. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 7.80 | 7.30 | | | | 5 | | |
| Dark mudstone | 9.50 | 1.70 | | | | | | |
| Coal. | 9.65 | 0.15. | | | 20 | | A150 | Six Inch Mine |
| Dark mudstone | 10.70 | 1.05. | | | ~~30~~ | | | |
| Coal. | 10.80 | 0.10 | | | 20 | | A100 | faulted. Sandrock |
| Hard Sandy mudstone | 16.00 | 5.20 | | | 58 | | | } Rough Rock Grit. |
| Brown Sandstone | 19.40 | 3.40 | | | 50 | | | |
| Grey Sandstone | 30.00 | 10.60 | | | 50 | 6 | | |
| 9.00m cas. Dry | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| BH capped & backfilled. | | | | | | | | |

GEOLOGIST'S NOTES

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | 45 | |
| OPEN HOLE | HF | 30:00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 3 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | 1 move |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed J Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Wed. 2-6-82.
SHEET 2 OF 3.

Contractor Anco.
Area Lancs.

TYPE & No. of Drill Gryphon 72.
WORKS ORDER No. 7749.
DRILLER H. Barrow.
2nd MAN P. Connell.
3rd MAN D. Ross.

M 2746R

BH. No. 44. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 9.40 | 8.90 | | | | 5 | | |
| mudstone | 11.50 | 2.10 | | | | | | |
| Dark mudstone | 13.10 | 1.60 | | | | | | |
| Coal. | 13.30 | 0.20 | | | 20 | | A150 | Six Inch Mine |
| Hard Sandy mudstone | 18.00 | 4.70 | | | 58 | | | |
| Old Workings (cavity) | 18.90 | 0.90 | | | 32 | | A150 | Sandrock Mine OW |
| Solid Drilling | 21.00 | 2.10 | | | | 6 | | |
| 12.00m casing Dry. move over 8.00m. | | | | | | | | (5) |
| plug inserted at 17.30. ~~move over 8.00m~~ | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

HRS

AMOUNTS PAYABLE

| | | |
|---|---|---|
| OPEN HOLE | HF | 21.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 6 |
| | SX | |
| GEOLOG | | |
| ROUND TRIPPING | | |
| MOVING | | 1 |
| Extra Wheels | | |
| Standing Rig in use | | 1/2 hr |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |
| ½ plug | | 1 |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703.
DATE Wed: 2-6-82.
SHEET 1 OF 3

Contractor Amco
Area Lancs.

TYPE & No. of Drill Creyphon 72.
WORKS ORDER No. 7749
DRILLER H. Bordero.
2nd MAN P. Connell.
3rd MAN P. Ross.

M 2746R

BH. No. 43. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay (wet) | 10.15. | 9.65 | | | | 5 | | |
| Dark mudstone | 10.35 | 0.20 | | | | | | |
| Coal. | 10.50 | 0.15. | | | 20 | | A150 | Six inch Nine |
| Hard Sandy mudstone | 15.00 | 4.50 | | | 58 | | | |
| Old workings (cavity) | 16.00 | 1.00 | | | 32 | | A100 | Sandrock OWs |
| Solid Drilling | 18.50 | 2.50 | | | | 6 | | |
| 12.00m casing. Dry move over 8.00m. | | | | | | | | |
| plug inserted at 14.50m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | 43 |
|---|---|---|---|
| 6½ | OPEN HOLE | HF | 18.50 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 6 |
| | | PX | 6 |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| 1½ | MOVING | | 1 move |
| | Extra Wheels | | |
| | Standing Rig in use | | ½ hr. |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| ½ | plug | | 1 |

MATERIALS USED

Signed [signature] Contractor's Rep.
Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No 031703. DATE Tues. 1-6-82. SHEET 3rd OF 3

Contractor Amco

Area Lancs

TYPE & No. of Drill Cryphon 72.

WORKS ORDER No. 7749.

DRILLER H. Rowson

2nd MAN P. Connell.

3rd MAN D Ross.

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 42 | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay (wet) | 8.00 | 7.20 | | | | 5 | | |
| Dark mudstone | 9.80 | 1.80 | | | | | | |
| Coal. | 9.88 | 0.08. | | | 20 | | | |
| Sandy mudstone | 10.68 | 1.80 | | | 58 | | | |
| Coal. | 10.88 | 0.20 | | | 20 | | A150 | Six inch Mine |
| Hard Sandy mudstone | 15.80 | 4.92. | | | 58 | | | |
| Cavity. old workings | 17.40 | 1.60 | | | 32 | | A100 | Sandrock Mine OW |
| Core Drilling | 18.00 | 0.60 | | | | 6 | | |
| 9.00m water. pulled out Rods & casing. Re-Drilled to 18.00m with 6 3/4" Bit. 18.00m ecs inserted. o/H). Brown Sandstone | 30.90 | 12.90 | | | 50 | | | |
| Grey Sandstone | 32.00 | 1.10 | | | 50 | | | |
| Hard Sandy mudstone | 40.30 | 8.30 | | | 58 | | | |
| Dark Sandy mudstone | 50.00 | 9.70 | | | 58 | 6 | | |
| 18.00m ecs. Wet to Dry from 32.00m. Move over 2.00m. | | | | | | | | |
| Inserted plug to 17.00m. (6 3/4) clean. 1/2 p/s. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 42 |
| | OPEN HOLE | HF | 50 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 12 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 move |
| | Extra Wheels | | |
| | Standing Rig in use | | 1/2 hr. |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Tue 1-6-82. SHEET 2 OF 3

Contractor Amco

Area Lancs

TYPE & No. of Drill Greyphen 72. WORKS ORDER No. 7749.

DRILLER H. Gordon.

2nd MAN P. Connell.

3rd MAN P. Ross.

M 2746R

BH. No. 41 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 7.80 | 7.30 | | | | 5 | | |
| Sandy mudstone | 10.10. | 2.30 | | | 58 | | | |
| Dark mudstone | 11.90 | 1.80 | | | | | | |
| Coal. | 12.00 | 0.10 | | | 20 | | A150 | Six inch Mine |
| Hard Sandy mudstone | 17.30 | 5.30 | | | 58 | | | |
| Coal. | 17.88 | 0.88. | | | 20 | | A100 | Sandrock Mine |
| Grey Sandstone | 19.90 | 2.08. | | | 50 | | | Rough Rock Grit. |
| Brown Sandstone | 27.30 | 7.40 | | | 50 | | | |
| Grey Sandstone | 41.80 | 14.80 | | | 50 | | | |
| Hard Sandy mudstone | 50.00 | 8.20 | | | 58 | 6 | | |
| 9.00— eom. Water @ 700— | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| B/H capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE HF | 56 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | 3 |
| | SX | |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | 1 move |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031703. DATE Tue. 1-6-82. SHEET 1 OF 3

Contractor Amco

Area Lancs

TYPE & No. of Drill Keyplan 72. WORKS ORDER No. 7749

DRILLER H. Gordon

2nd MAN P. Connell

3rd MAN P. Ross

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 40m | | | | | | | | |
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 4.90 | 4.90 | | | | 5 | | |
| Dark mudstone | 8.70 | 3.80 | | | | | | |
| Coal. | 8.95 | 0.25 | | | 20 | | | |
| Sandy mudstone | 11.00 | 1.05 | | | 58 | | | |
| Brown Sandstone | 11.90 | 0.90 | | | 50 | | | |
| Sandy mudstone | 13.60 | 1.70 | | | 58 | | | |
| Dark mudstone | 14.25 | 0.65 | | | | | | |
| Sandy mudstone | 15.00 | 0.75 | | | 58 | | | |
| Brown Sandstone | 17.40 | 2.40 | | | 50 | | | |
| Grey/Brown Sandstone | 21.30 | 3.90 | | | 50 | | | |
| Wavy bed Brown Sandstone | 33.20 | 11.90 | | | 50 | | | |
| Sandy mudstone | 39.60 | 6.40 | | | 58 | | | |
| Grey Sandstone | 40.30 | 0.70 | | | 50 | | | |
| Mudstone / Dark Sands. | 46.50 | 6.20 | | | | | | |
| Hard Grey Sandstone | 48.60 | 2.10 | | | 50 | | | |
| Hard Sandy mudstone | 50.00 | 1.40 | | | 58 | 6 | | |
| 600m casing Watching from 40.00m. move over 8.00m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 40 |
| 5 | OPEN HOLE | HF | 50.0 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1½ | MOVING | | Move |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| 1½ | Cont HD | | |
| ½ | dwg. | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth

SITE No. 031703

DATE Mon. 31-5-82

SHEET 1 OF 1

Contractor Amco

Area Lancs.

TYPE & No. of Drill Cryphon 72

WORKS ORDER No. 7749

DRILLER H. Gordon

2nd MAN D. Connell

3rd MAN D. Rose

M 2746R

BH. No. Field No

DESCRIPTION OF STRATA

| Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

100 Drilling Topsy.

Boreh Holiway

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE | HF |
| | | PF |
| | | SF |
| | CORE REC. | 412/HF |
| | | PF |
| | | SF |
| | | D4 |
| | CASING | HX |
| | | PX |
| | | SX |
| | GEOLOG | |
| | ROUND TRIPPING | |
| | MOVING | |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractor's Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Fri. 28-8-82.
SHEET 2 OF 2

Contractor Amco
Area Lancs.

TYPE & No. of Drill Reyphan 72. #749
WORKS ORDER No.
DRILLER H. Bowden.
2nd MAN P. Connell.
3rd MAN P. Ross.

M 2746R

BH. No. 39 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 3.60 | 3.10 | | | | 5 | | |
| mudstone | 6.40 | 2.80 | | | | | | |
| Dark mudstone | 8.30 | 1.90 | | | | | | |
| mudstone | 9.70 | 1.40 | | | | | | |
| Dark mudstone | 11.10 | 1.40 | | | | | | |
| Sandy mudstone | 12.70 | 1.60 | | | 58 | | | |
| Dark mudstone | 14.20 | 1.50 | | | | | | |
| Sandy mudstone | 17.00 | 2.80 | | | 58 | | | |
| Grey Sandstone | 21.80 | 4.80 | | | 50 | | | |
| mudstone | 25.10 | 3.30 | | | | | | |
| Hard Sandy mudstone | 26.40 | 1.30 | | | 58 | | | |
| mudstone | 28.20 | 1.80 | | | | | | |
| Sandy mudstone | 29.50 | 1.30 | | | 58 | | | |
| Grey Sandstone | 40.90 | 11.40 | | | 50 | | | |
| Dark Sandy mudstone | 41.90 | 1.00 | | | 58 | | | |
| Very Hard Grey Sandstone | 50.00 | 8.10 | | | 50 | 6 | | |
| 6.00m casing water 30.00m | | | | | | | | |
| move over 8.00m | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | | 39 |
| | OPEN HF | 50.0 |
| | HOLE PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| | HX | 6 |
| | CASING PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 move |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractor's Rep.

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Fri. 28-8-82.
SHEET 1 OF 2

Contractor Amco
Area Lancs

TYPE & No. of Drill Cyphon 72.
WORKS ORDER No. 7749.
DRILLER H. Bonson.
2nd MAN P. Connell.
3rd MAN P. Ross.

M 2746R

| BH. No. / Field No. 38. DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 3.20 | 2.70 | | | | 5 | | |
| Sandy mudstone | 13.20 | 10.00 | | | 58 | | | |
| Dark mudstone | 19.40 | 6.20 | | | | | | |
| Coal. | 19.55 | 0.15 | | | 20 | | | |
| Grey Sandstone | 25.90 | 6.35 | | | 50 | | | |
| Dark Sandy mudstone | 30.00 | 4.10 | | | 58 | | | |
| Grey Sandstone | 32.90 | 2.90 | | | 50 | | | |
| Dark Sandy mudstone | 50.00 | 17.10 | | | 58 | 6 | | |
| 600.m casing - work. 19.00m move over 8.00m. | | | | | | | | ✓ |
| B/H capped & backfilled | | | | | | | | |
| Moving out of Field into another. erected fence across Gas pipe. As Farmer was putting cows in the Field ½ p/s. | | | | | | | | |

| HRS | AMOUNTS PAYABLE 38 | | |
|---|---|---|---|
| 7 | OPEN HOLE | HF | 50.0 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | 1 move |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | ½ hr. |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| ½ | Fencing | | |

MATERIALS USED

Signed [signature] Contractors Rep

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 031 703 DATE thru 27-8-82. SHEET 3 OF 3

Contractor Amco

Area Lancs.

TYPE & No. of Drill Reydon 72. WORKS ORDER No. 7749.

DRILLER H. Bonson. 2nd MAN P. Connell. 3rd MAN P. Ross

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 37.00 - 36 | | | | | | | | |
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay | 3.50 | 3.00 | | | | 5 | | |
| Dark mudstone | 12.00 | 8.50 | | | | | | |
| Core) 12.00 - 14.00 | | | | | | | | |
| Lost Core | 12.60 | 0.60 | | | | | | |
| Coal mainly bright Shattered | 12.70 | 0.10 | 0.10 | | 20 | 2 | | Unknown Coal |
| mudstone grey Sandy weathered | 12.84 | 0.14 | 0.14 | | 58 | | | Seam. |
| Sandstone weathered pale grey brown broken stick hard. | 14.00 | 1.16 | 1.16 | | 51 | 6 | | 3 x 14.00 RG. |
| | | 2.10 | 1.50 | | | | | |
| 6.00m casing Dry. | | | | | | | | |
| Move 1.00m. | | | | | | | | |
| B/H capped & filled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 37 |
| | OPEN HOLE | HF | 14.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | 1.50 |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | 42. |
| | TRIPPING | | |
| | MOVING | | — |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703.
DATE Thur 26-5-82
SHEET 2 OF 3

Contractor Amco.
Area Lancs

TYPE & No. of Drill Gryphon 72.
WORKS ORDER No. 7749.
DRILLER H. Spencer.
2nd MAN P. Connell
3rd MAN P. Ross.

M 2746R

BH. No. 36 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 3.80 | 3.00 | | | | 5 | | |
| Dark mudstone | 12.85 | 9.05 | | | | | | |
| Coal. | 12.80 | 0.25 | | | 20 | | | |
| Hard Sandy mudstone | 13.70 | 0.90 | | | 58 | | | |
| Grey Sandstone. | 14.40 | 0.70 | | | 50 | | | |
| Dark Sandy mudstone | 21.90 | 7.50 | | | 58 | | | |
| Grey Sandstone. | 27.10 | 5.20 | | | 50 | | | |
| Dark Sandy mudstone | 50.00 | 22.90 | | | 58 | 6 | | |
| 6.00 m. Water 22.00m | | | | | | | | |
| move over 8.00m | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

HRS 36

AMOUNTS PAYABLE

| | | |
|---|---|---|
| OPEN HOLE | HF | 50.00 |
| | PF | |
| | SF | |
| CORE | 412/HF | |
| | PF | |
| REC | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | |
| | SX | |
| GEOLOG | | |
| ROUND | | |
| TRIPPING | | |
| MOVING | | 1 move |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ..... Contractor's Rep

Signed R Banton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thurs. 27-5-82
SHEET 1 OF 3

Contractor Amco
Area Lancs.

TYPE & No of Drill Gryphon 72.
WORKS ORDER No. 7749.
DRILLER H. Rordan.
2nd MAN P. Connell.
3rd MAN P. Ross.

M 2746R

| BH. No. / Field No. 38 DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 3.50 | 3.00 | | | | 5 | | |
| Dark mudstone | 15.25 | 11.75 | | | | | | |
| Coal | 15.45 | 0.20 | | | 20 | | | |
| Grey Sandstone | 21.10 | ~~6.75~~ | 5.65 | | 50 | | | |
| Dark Sandy mudstone | 24.20 | 3.10 | | | 58 | | | |
| Grey Sandstone | 28.90 | 4.70 | | | 50 | | | |
| Dark Sandy mudstone | 50.00 | 21.10. | | | 58 | 6 | | |
| 6.00 cas. water 18.00m. | | | | | | | | fy |
| move over 8.00m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |
| Difficult Set up. Rig slipped. claim 1/2 p/s. | | | | | | | | |

| HRS. | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 35 |
| 6 | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| ½ | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| 1½ | MOVING | | 1 move |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | ½ hr. |
| | Standing Contractor | | |
| | Grouting | | |
| ½ | setting-up. | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Plymouth.
SITE No. 031703.
DATE Wed. 26-8-82.
SHEET 3 OF 3

Contractor Amco
Area Lancs.

TYPE & No. of Drill Reydon 72.
WORKS ORDER No. 7749.
DRILLER H. Gordon.
2nd MAN P. Connell.
3rd MAN P. Ross.

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 34. | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay (wet) | 3.50 | 3.00 | | | | 5 | | |
| Dark mudstone | 20.70 | 17.20 | | | | | | |
| Grey Sandstone | 24.50 | 3.80 | | | 50 | | | |
| Dark Sandy mudstone | 27.80 | 3.30 | | | 58 | | | |
| Grey Sandstone | 31.40 | 3.60 | | | 50 | | | |
| Dark Sandy mudstone | 42.50 | 11.10 | | | 58 | | | |
| Grey Sandstone | 44.80 | 2.30 | | | 50 | | | |
| Dark Sandy mudstone | 50.00 | 5.20 | | | 58 | 6 | | |
| 9.00m ecs. (1½ hrs ecs. to seal water). | | | | | | | | |
| Water 15.00m - | | | | | | | | |
| move over 8.00m - | | | | | | | | |
| B/H capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 50.0 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | NX | 6 |
| | | PX | 3 |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | | Cave |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703.
DATE Wed. 26-5-82.
SHEET 2 OF 3

Contractor Amco
Area Lancs.

TYPE & No. of Drill Gryphon 72.
WORKS ORDER No. 7749.
DRILLER H. Gordon.
2nd MAN D. Connell.
3rd MAN P. Ross.

M 2746R

BH No. 33 | Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Sands & Gravel | 1.30 | 0.70 | | | 15 | | | |
| Brown Sandy clay | 3.70 | 2.40 | | | | 5 | | |
| Dark mudstone (wet) | 6.00 | 2.30 | | | | | | |
| Sandy mudstone | 6.80 | 0.80 | | | 58 | | | |
| Dark mudstone | 30.48 | 23.98 | | | | | | |
| Coal. | 30.60 | 0.18. | | | 20 | | | |
| Grey Sandstone | 36.40 | 5.80 | | | 50 | | | |
| Dark mudstone | 39.48 | 3.08 | | | | | | |
| Grey Sandstone | 43.80 | 4.32. | | | 50 | | | |
| Dark Sandy mudstone | 80.00 | 6.20 | | | 58 | 6 | | dy |
| 9.00m Cas. (1xtra cas, to seal water) | | | | | | | | |
| water entry. 30.00m. | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| BIH capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 33 |
| | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | 412/HF | | |
| | CORE | PF | |
| | REC | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 3 |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | | 1 move |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Wed. 26-5-82.
SHEET 1 OF 3
Contractor Amco.
Area Lancs.

TYPE & No. of Drill Geyphen 72.
WORKS ORDER No. 7749.
DRILLER H. Bonson.
2nd MAN P. Powell.
3rd MAN P. Ross.

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 32. | | | | | | | | |
| Top Soil | | | | | | | | |
| Brown Sandy clay/sand Bands | 4.20 | 3.70 | | | | 5 | | |
| Dark ~~Grey~~ mudstone | 25.90 | 21.70 | | | | | | |
| Grey Sandstone | 32.10 | 6.20 | | | 50 | | | |
| Dark Sandy mudstone | 34.60 | 2.50 | | | 58 | | | |
| Hard Grey Sandstone | 40.40 | 5.80 | | | 50 | | | |
| Dark Sandy mudstone | 50.00 | 9.60 | | | 58 | 6 | | |
| 6 oom casing water-H. 18.00m | | | | | | | | |
| move over 32oom. | | | | | | | | |
| B/H capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| 7 | OPEN HOLE | HF | 50-0 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | Move |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No 031703.
DATE Tue: 25-3-82.
SHEET 3 OF 3

Contractor Hamco
Area Lunes.

TYPE & No. of Drill Creighton 72.
WORKS ORDER No 7749.
DRILLER H. Rowson.
2nd MAN P. Connell.
3rd MAN P. Ross.

M 2746R

BH. No. 31 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 8.80 | 8.00 | | | | 5 | | |
| Dark mudstone | 8.70 | 3.20 | | | | | | |
| Sandy mudstone | 12.60 | 3.90 | | | 58 | | | |
| Dark Sandy mudstone | 23.60 | 11.00 | | | 58 | | | |
| Coal. | 23.80 | 0.20 | | | 20 | | | |
| Grey Sandstone | 26.40 | 2.60 | | | 50 | | | |
| Dark Sandy mudstone | 31.38 | 4.98 | | | 58 | | | |
| Coal. | 31.80 | 0.18 | | | 20 | | | |
| Dark Sandy mudstone | 32.20 | 0.70 | | | 58 | | | |
| Grey Sandstone | 36.60 | 4.40 | | | 50 | | | |
| Dark Sandy mudstone | 50.00 | 13.40 | | | 58 | 6 | | |
| 6.00m Ses. Water 23.00m | | | | | | | | |
| move over 8-00m. | | | | | | | | |
| R/H capped & backfilled. | | | | | | | | |

GEOLOGISTS NOTES

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 31 |
| | OPEN HOLE | HF | 50-00 |
| | | PF | |
| | | SF | |
| | CORE | 412/HF | |
| | | PF | |
| | REC | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | | Move |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No. 021703. DATE Tue: 25-8-82. SHEET 2 OF 3

Contractor Amco

Area Lancs.

TYPE & No. of Drill Cryphon 72.

WORKS ORDER No. 7749.

DRILLER H. Rowden.

2nd MAN P. Connell.

3rd MAN P. Rose.

M 2746R

BH. No. 30 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 4.20 | 3.70 | | | | 5 | | |
| Dark mudstone | 10.25 | 6.05 | | | | | | |
| Coal. | 10.55 | 0.30 | | | 20 | | | |
| Hard Sandy mudstone | 12.10. | 1.55 | | | 58 | | | |
| Grey Sandstone | 15.80 | 3.70 | | | 50 | | | |
| Dark Sandy mudstone | 16.90 | 1.10 | | | 58 | | | |
| Grey Sandstone | 18.50 | 1.60 | | | 50 | | | |
| Dark Sandy mudstone | 27.20 | 8.70 | | | 58 | | | |
| Brown to Grey Sandstone | 39.70 | 12.50 | | | 50 | | | |
| Dark Sandy mudstone | 50.00 | 10.30 | | | 58 | 6 | | |
| Coal | | | | | | | | |
| 600 m casing weld = 18.00 m. | | | | | | | | |
| Move over 2.00m. | | | | | | | | |
| R/H capped & locked/ll. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 30 |
| | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 move |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed J Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No 031703.
DATE Tue. 25-8-82.
SHEET 1 OF 3

Contractor Amco
Area Lancs.

TYPE & No. of Drill Greyhon 72.
WORKS ORDER No. 7749.
DRILLER H. Bowden.
2nd MAN P. Connell.
3rd MAN P. Ross.

M 2746R

BH. No. 29 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown Sandy clay. | 2.80 | 2.00 | | | | 5 | | |
| Dark mudstone | 4.90 | 2.40 | | | | | | |
| Coal. | 8.50 | 0.60 | | | 20 | | | |
| Grey Sandstone | 13.80 | 8.30 | | | 50 | | | |
| Dark Sandy mudstone | 30.40 | 12.60 | | | 58 | | | |
| Coal. | 31.00 | 0.60 | | | 20 | | | |
| Sandy mudstone | 33.20 | 2.20 | | | 58 | | | |
| H. Grey Sandstone | 34.90 | 1.70 | | | 50 | | | |
| Dark mudstone | 48.30 | 5.40 | | | | | | |
| Grey Sandstone | 57.00 | 9.70 | | | 50 | | | |
| Dark Sandy mudstone | 58.10 | 1.10. | | | 58 | | | |
| Grey Sandstone | 70.00 | 11.90 | | | 50 | 6 | | |
| 2.00 cum. water 33.00 cum. | | | | | | | | |
| move over 2.00 cum. | | | | | | | | |
| R/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 29 |
| 7 | OPEN HOLE | HF | 70.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| 1 | MOVING | | 1 move |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Mon: 24-5-82.
SHEET 2 OF 2

Contractor Amco
Area Lancs.

TYPE & No. of Drill Gryphon 72.
WORKS ORDER No. 7749.
DRILLER H. Gordon.
2nd MAN P. Connell.
3rd MAN P. Ross.

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 28 - 20 Cont'd | 46.80 | | | | | | | |
| Core) 46.80 — 48.90 | | | | | | | | |
| Sandstone, micaceous flaggy | | | | | | | | |
| Steep dip 1in1. badly broken | | | | | | | | |
| Stick | 47.60 | 0.80 | 0.80 | | 50 | | | R1. |
| mudstone dk grey soft broken | | | | | | | | |
| Stick | 48.70 | 0.10 | 0.10 | | | | | 6x4.30 = 25.8 |
| Lost core. | 48.90 | 1.20 | | | | 6 | | 3x48.90 = 14.7 |
| | | 2.10 | 0.90 | | | | | 40.5 |
| Core barrel jamed due to | | | | | | | | |
| B/H collapsing. | | | | | | | | |
| 9.00m casing. | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE HF | 48.90 |
| | PF | |
| | SF | |
| | 412/HF | 2.05 |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | 3 |
| | SX | |
| | GEOLOG | |
| | ROUND | 40.5 |
| | TRIPPING | |
| | MOVING | 1 mov |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No 031703.
DATE Mon. 24-5-82.
SHEET 1 OF 2.
Contractor Ameo.
Area Lancs.
TYPE & No. of Drill Gryphon 72.
WORKS ORDER No. 7749.
DRILLER H. Rowson.
2nd MAN P. Cornell.
3rd MAN L. McP. Ross.

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 28 on 20. | | | | | | | | |
| Top Soil | 0.50 | 0.30 | | | | | | |
| Brown Sandy clay. | 4.10 | 3.60 | | | | 5 | | |
| Brown Sandstone | 6.50 | 2.40 | | | 50 | | | |
| Dark mudstone | 8.50 | 2.00 | | | | | | |
| Hard Sandy mudstone | 9.00 | 0.80 | | | 58 | | | |
| Dark mudstone | 10.30 | 1.30 | | | | | | |
| Grey to Brown Sandstone | 13.50 | 3.20 | | | 50 | | | Coal level |
| Dark Sandy mudstone | 37.60 | 24.10 | | | 58 | | | different from O/H |
| Coal. | 38.20 | 0.60 | | | 20 | | | plot. |
| Very hard Grey Sandstone | 41.00 | 2.80 | | | 50 | | | |
| Core) 41.00 — 43.00 | | | | | | | | |
| Sandstone, fault, slickensided | | | | | | | | |
| veinlets, and joint faces. | 42.15 | 1.15 | 1.15 | | 50 | | | |
| Lost core | 43.00 | 0.85 | | | | | | |
| | | 2.00 | 1.15 | | | | | |
| 1½ to core. Tungsten Crown | | | | | | | | |
| Shattered. | | | | | | | | |
| ~~Barrel emptied~~ | | | | | | | | |
| V. Hard Grey Sandstone | 46.80 | 3.80 | | | 50 | | | |
| Barrel inverted for core run | | | | | | | | |
| B/H Collapse. Inverted Rods | | | | | | | | |
| to clean B/H. | | | | | | | | |
| Cont'd Sheet II | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| 4 | OPEN HOLE | HF |
| | | PF |
| | | SF |
| 4 | CORE REC. | 412/HF |
| | | PF |
| | | SF |
| | | D4 |
| 1 | CASING | HX |
| | | PX |
| | | SX |
| | | GEOLOG |
| | ROUND TRIPPING | |
| 1 | MOVING | |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Fri 21-5-82
SHEET 2 OF 2

Contractor Amec
Area Lancs.

TYPE & No. of Drill Ingersoll 72.
WORKS ORDER No. 7749
DRILLER H. Rondeau.
2nd MAN P. Connell.
3rd MAN R. Herrmann.

M 2746R

BH No. 27 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 7.10 | 6.60 | | | | 5 | | |
| Dark mudstone | 11.10 | 4.00 | | | | | | |
| Grey Sandstone | 19.98 | 8.88 | | | 50 | | | |
| Dark Sandy mudstone | 20.30 | 0.32. | | | | | | |
| Coal. | 20.50 | 0.20 | | | 20 | | | |
| Grey Sandstone | 26.50 | 6.00 | | | 50 | | | |
| Dark Sandy mudstone | 36.15 | 9.65. | | | | | | |
| Grey Sandstone | 38.55 | 2.40 | | | 50 | | | |
| Dark Sandy mudstone | 60.40 | 21.85 | | | | | | |
| Coal. | 63.55 | 0.15 | | | 20 | | | |
| Grey Sandstone | 68.70 | 5.15 | | | 50 | | | |
| Hard Dark Sandy mudstone | 70.00 | 1.30 | | | 58 | 6 | | |
| 9.00m cas. Water 38.00m | | | | | | | | |
| move over 2.00m | | | | | | | | |
| RH repair & Lock/Weld | | | | | | | | |

HRS

AMOUNTS PAYABLE 27

| | | |
|---|---|---|
| OPEN HOLE | HF | 70.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 3 |
| | SX | |
| | GEOLOG | |
| ROUND | | |
| TRIPPING | | |
| MOVING | | 1 move |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ... Contractors Rep

Signed P Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No 031703.
DATE Fri 21-5-82.
SHEET 1 OF 2.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Reydrun 72
WORKS ORDER No. 7749.
DRILLER H. Bowden.
2nd MAN P. Connell.
3rd MAN Q. Herrmann.

M 2746R

BH. No. 26 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 4.20 | 3.70 | | | | 5 | | |
| Soft mudstone (wet). | 4.80 | 0.60 | | | | | | |
| Dark mudstone (coal) | 5.20 | 0.40 | | | | | | |
| Sandy mudstone | 10.90 | 5.70 | | | | | | |
| Dark mudstone | 28.10 | 17.20 | | | | | | |
| Dark Sandy mudstone | 35.90 | 7.80 | | | | | | |
| Coal. | 36.05 | 0.15. | | | 20 | | | |
| Clay Sandstone | 44.00 | 7.95. | | | 50 | | | |
| Dark Sandy mudstone | 45.00 | 1.00 | | | | | | |
| Clay Sandstone | 51.25 | 6.25. | | | 50 | | | |
| Dark Sandy mudstone | 70.00 | 18.75 | | | | 6 | | |
| 9.00m cas. Water 31.00m move over 8.00m. | | | | | | | | |
| R/H capped & backfilled. | | | | | | | | |

GEOLOGISTS NOTES

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 26 |
| 7 | OPEN HOLE | HF | 70.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 6 |
| | | PX | 3 |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | Move |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | MATERIALS USED | | |

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE Thurs 20-8-82.
SHEET 2 OF 2

Contractor Hmco.
Area Lancs.

TYPE & No. of Drill Cheetah 72
WORKS ORDER No. 4749
DRILLER H. Bonson
2nd MAN P. Connell
3rd MAN G. Herrmann

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 25 | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.00 | 1.30 | | | | | | |
| Sand & Gravel | 3.00 | 1.00 | | | 15 | | | |
| Brown Sandy clay. | 3.80 | 0.80 | | | | 5 | | |
| Dante mudstone (Casing set, 1 extra casing) | 7.80 | 4.00 | | | | | | |
| Brown soft Sandstone | 9.40 | 1.60 | | | 51 | | | |
| Dante mudstone | 26.70 | 17.30 | | | | | | |
| Dante Sandy mudstone | 35.90 | 9.20 | | | | | | |
| Dante mudstone | 38.40 | 2.50 | | | | | | |
| Dante Sandy mudstone | 40.40 | 2.00 | | | | | | |
| Coal. | 40.58 | 0.18. | | | 20 | | | |
| Grey Sandstone | 44.30 | 3.75. | | | 50 | | | |
| Dante Sandy mudstone | 49.10 | 4.80 | | | | | | |
| Grey Sandstone | 54.10 | 5.00 | | | 50 | | | |
| Dante Sandy mudstone | 70.00 | 15.90 | | | | 6 | | |
| 9.00cm. Water 26.00m | | | | | | | | |
| Mixed over 8.0cm | | | | | | | | |
| RIH capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 70-00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 3 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| | MOVING | | 1 move |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | MATERIALS USED | | |

Signed ____ Contractors Rep.

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703
DATE 11th 20-8-82.
SHEET 1 OF 32.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryphon 72
WORKS ORDER No. 7749.
DRILLER H. Gordon.
2nd MAN P. Connell.
3rd MAN R. Herrmann.

M 2746R

| BH. No. / Field No. DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 24. | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 3.80 | 3.30 | | | | 5 | | |
| mudstone | 4.20 | 0.40 | | | | | | |
| Sandy mudstone | 4.90 | 0.70 | | | | | | |
| Dark Mudstone | 9.50 | 4.60 | | | | | | |
| Brown Sandstone | 11.90 | 2.40 | | | 50 | | | |
| Dark mudstone | 23.40 | 12.50 | | | | | | |
| Dark Sandy mudstone | 42.13 | 18.68 | | | | | | |
| Coal. | 42.30 | 0.15. | | | 20 | | | |
| Dark mudstone | 42.50 | 0.20 | | | | | | |
| Grey Sandstone | 49.40 | 6.90 | | | 50 | | | |
| Dark Sandy mudstone | 70.00 | 20.60 | | | | 6 | | |
| 9.00 m csg. H.water 9.50. | | | | | | | | |
| Move over 2.00m | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 24 |
| 7 | OPEN HOLE | HF | 70 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 6 |
| | | PX | 3 |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | Incl |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed [signature] Contractors Rep
Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Wed. 19-5-82.
SHEET 2 OF 2

Contractor Amco
Area Lancs.

TYPE & No. of Drill Gryphon 72
WORKS ORDER No. 7749.
DRILLER H. Borders.
2nd MAN P. Connell.
3rd MAN B. Herrmann.

M 2746R

BH. No. 23 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 3.80 | 3.30 | | | | 5 | | |
| Brown Sandstone | 5.53. | 1.73. | | | 50 | | | |
| Sandy mudstone | 8.50 | 2.93 | | | 58 | | | |
| Dark mudstone | 21.80 | 13.30 | | | | | | |
| Dark Sandy mudstone/SSTBs | 35.90 | 14.10 | | | 57 | | | |
| Grey Sandstone | 41.40 | 5.50 | | | 50 | | | |
| Dark Sandy mudstone | 45.00 | 3.60 | | | 58 | | | |
| Grey Sandstone | 50.60 | 5.60 | | | 50 | | | |
| Dark Sandy mudstone | 70.00 | 19.40 | | | 58 | 6 | | |
| 9.00m cas. Heavy Water | | | | | | | | |
| move over 2.00m | | | | | | | | |
| R/H Capped & backfilled. | | | | | | | | |
| | | | | | | | | F. / |

HRS

AMOUNTS PAYABLE 23

| | | |
|---|---|---|
| OPEN HOLE | HF | 70.00 |
| | PF | |
| | SF | |
| CORE REC. | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 3 |
| | SX | |
| | GEOLOG | |
| ROUND | | |
| TRIPPING | | |
| MOVING | | 1 move |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilworth.
SITE No. 031703
DATE Wed. 19-8-82.
SHEET 1 OF 2

Contractor Amco.
Area Lancs

TYPE & No. of Drill Ingersoll 72-
WORKS ORDER No. 7749.
DRILLER H. Gordon.
2nd MAN D. Connell.
3rd MAN S. Herrmann.

M 2746R

BH. No. 22. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 7.70 | 7.20 | | | | 5 | | |
| mudstone | 9.00 | 1.30 | | | | | | |
| Dark mudstone | 18.20 | 9.20 | | | | | | |
| Dark Sandy mudstone | 35.00 | 16.80 | | | 58 | | | |
| Hard Sandy mudstone SST/Bs. | 42.30 | 7.30 | | | 57 | | | |
| Hard Dark Sandy mudstone | 45.80 | 3.50 | | | 58 | | | |
| Hard Grey Sandstone | 50.20 | 4.40 | | | 50 | | | |
| Sandy mudstone | 57.10 | 6.90 | | | 58 | | | |
| Dark Sandy mudstone | 70.00 | 12.90 | | | 58 | 6 | | |
| 9.00am cons. water 35.00m | | | | | | | | |
| move over 8.00am | | | | | | | | |
| B/H Capped & backfilled. | | | | | | | | |

GEOLOGIST'S NOTES

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 82 |
| 7 | OPEN HOLE | HF | 70.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 6 |
| | | PX | 3 |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed M Barton Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Tue: 18-8-82.
SHEET 1 OF 1
M 2746R

Contractor Amco.
Area Lancs.

TYPE & No. of Drill Gryphon 72.
WORKS ORDER No. 7749.
DRILLER H. Gordon.
2nd MAN P. Connell.
3rd MAN G. Herrmann.

BH. No. 21 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 4.20 | 3.70 | | | | | | |
| Sand & Gravel. | 5.80 | 1.30 | | | 15 | | | |
| Brown Sandy clay. | 6.60 | 1.10 | | | | 5 | | |
| Dark mudstone | 11.20 | 4.60 | | | | | | |
| Hard Dark Sandy mudstone | 14.20 | 3.00 | | | 58 | | | |
| Dark mudstone | 29.28 | 15.08 | | | | | | |
| Coal. | 29.50 | 0.25. | | | 20 | | | |
| Grey Sandstone | 30.90 | 1.40 | | | 50 | | | |
| Hard Sandy mudstone | 33.70 | 2.80 | | | 58 | | | |
| Hard Grey Sandstone | 36.20 | 2.50 | | | 50 | | | |
| Hard Dark Sandy mudstone | 39.10 | 2.90 | | | 58 | | | |
| Hard Grey Sandstone | 43.50 | 4.40 | | | 50 | | | |
| Sandy mudstone | 49.70 | 6.20 | | | 58 | | | |
| Dark Sandy mudstone | 70.00 | 20.30 | | | 58 | C | | |
| Room ran Wait 29.00. | | | | | | | | |
| Move over Loon. | | | | | | | | |
| | | | | | | | | F. / |
| RIH Casing & Locked Work. | | | | | | | | |

HRS AMOUNTS PAYABLE 21

| HRS | | | AMOUNTS PAYABLE |
|---|---|---|---|
| 7 | OPEN HOLE | HF | 70.00 |
| | | PF | |
| | | SF | |
| | 412/HF CORE REC | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 6 |
| | | PX | 3 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| 1 | MOVING | | 1 move |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep
Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703
DATE Mon. 17-8-82.
SHEET 2 OF 2.

Contractor Amcos.
Area Lagues.

TYPE & No. of Drill Creyphon 72.
WORKS ORDER No. 7749
DRILLER H. Gorsuch.
2nd MAN P. Connell.
3rd MAN G. Herrmann.

M 2746R

BH. No. 20 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 4.10 | 3.60 | | | | 5 | | |
| Brown Sandstone | 6.50 | 2.40 | | | 50 | | | |
| Dark mudstone | 8.50 | 2.00 | | | | | | |
| Hard Sandy mudstone | 9.00 | 0.50 | | | 58 | | | |
| Dark mudstone | 10.30 | 1.30 | | | | | | |
| Reg to Brown Sandstone | 13.50 | 3.20 | | | 50 | | | |
| Dark Sandy mudstone | 38.03 | 24.53 | | | 58 | | | |
| Coal. | 38.63 | 0.60 | | | 20 | | | |
| Hard Sandy mudstone | 43.53 | 4.90 | | | 58 | | | |
| Coal / Bandcol. | 44.23 | 0.70 | | | 24 | | | |
| Dark mudstone | 45.00 | 0.75 | | | | | | |
| mudstone | 48.93 | 3.93 | | | | | | |
| Coal / Bandcol. | 49.20 | 0.25. | | | 24 | | | |
| Dark mudstone | 50.90 | 1.70 | | | | | | |
| Coal. | 51.45. | 0.55. | | | 20 | | | |
| Grey Sandstone | 52.70 | 1.25. | | | 50 | | | |
| Dark Sandy mudstone | 70.00 | 17.30 | | | 58 | 6 | | |
| 6.00m cas. with 43.00m | | | | | | | | |
| move over 8.00m - | | | | | | | | |
| B/H capped & backfilled | | | | | | | | |

| HRS | AMOUNTS PAYABLE 20 | |
|---|---|---|
| | OPEN HOLE HF | 70.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 move |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed [signature] Contractors Rep.

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Mon. 17-5-82.
SHEET 1 OF 2

Contractor Amco.
Area Lancs.

TYPE & No. of Drill Reyphon 72.
WORKS ORDER No. 7749.
DRILLER H. Gowans.
2nd MAN D. Connell.
3rd MAN G. Hammann.

M 2746R

BH No. 19 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 4.80 | 4.30 | | | | 5 | | |
| mudstone | 5.90 | 1.10 | | | | | | |
| Brown Sandstone | 9.40 | 3.50 | | | 50 | | | } as 1 unit |
| Grey Sandstone | 25.40 | 16.00 | | | 50 | | | |
| Dark Sandy mudstone | 28.40 | 3.00 | | | 58 | | | |
| Grey Sandstone | 29.50 | 1.10 | | | 50 | | | |
| Dark Sandy mudstone | 55.80 | 26.30 | | | 58 | | | |
| Grey Sandstone | 62.90 | 7.10 | | | 50 | | | |
| Dark Sandy mudstone | 70.00 | 8.00 | | | 58 | 6 | | |
| 9.00 m cas. Water 28.00 move over 2.00m. | | | | | | | | |
| B/H capped & backfilled | | | | | | | | |
| 1½ p/s. Ground collapsed crossing peat Bogs | | | | | | | | |

F1 ✓

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| 6 | OPEN HOLE | HF | 70.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 1¼ | CASING | HX | 6 |
| | | PX | 3 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| 1 | MOVING | | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | 1½ hrs. |
| | Standing Contractor | | |
| | Grouting | | |
| 1½ | Bogged. | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No 031703
DATE Fri 14-5-82.
SHEET 2 OF 2

Contractor Amco
Area Canes.

TYPE & No. of Drill Greyhound 72.
WORKS ORDER No. 7749.
DRILLER H. Bonsall
2nd MAN P. Connell.
3rd MAN G. Hammond.

M 2746R

BH. No. 18. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.60 | 2.10 | | | | 5 | | |
| Brown Sandstone | 4.50 | 1.90 | | | 50 | | | |
| Dark Sandy Mudstone | 7.00 | 2.50 | | | 58 | | | |
| Grey Sandstone | 13.80 | 6.80 | | | 50 | | | |
| Dark Sandy mudstone | 26.70 | 12.90 | | | 58 | | | |
| Hard Sandy mudstone | 39.00 | 11.30 | | | 58 | | | |
| Dark Sandy mudstone | 39.90 | 0.90 | | | 58 | | | |
| Dark to Grey H. Sandy mudstone, SSTB | 53.10 | 13.20 | | | 57 | | | |
| Hard Grey Sandstone | 59.20 | 6.10 | | | 50 | | | |
| Dark Sandy mudstone | 70.00 | 10.80. | | | 58 | 6 | | |
| 6.00m ecm Water 30.0cm. | | | | | | | | |
| Move over 8.00m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

F1

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 18 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| | MOVING | | -1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed M Bonsall Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703
DATE Fri: 14-8-82.
SHEET 1 OF

Contractor Amco
Area Lancs.

TYPE & No. of Drill Greyhen 72.
WORKS ORDER No. 7749.
DRILLER H. Rowson.
2nd MAN P. Connell.
3rd MAN R. Hennessey.

M 2746R

| BH. No. / Field No. — DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 17 | | | | | | | | |
| Top Soil | 0.50 | .50 | | | | 5 | | |
| Brown Sandy clay. | 1.80 | 1.30 | | | | | | |
| Broken Brown Sandstone | 7.20 | 5.40 | | | 51 | | | |
| Dark Sandy mudstone | 47.25 | 40.05 | | | 58 | | | |
| Coal. | 47.30 | 0.05. | | | 20 | | | |
| Dark Sandy mudstone | 48.50 | 1.20 | | | 58 | | | |
| Grey Sandstone | 49.90 | 1.40 | | | 50 | | | |
| Dark Sandy mudstone | 53.90 | 4.00 | | | 58 | | | |
| Hard Grey Sandstone | 54.80 | 0.90 | | | 50 | | | |
| Dark Sandy mudstone | 55.20 | 0.40 | | | 58 | | | |
| Hard Grey Sandstone | 60.10 | 4.90 | | | 50 | | | |
| Dark mudstone | 70.00 | 9.90 | | | | 6 | | |
| 9.00m cem. Extra casing through Broken SST | | | | | | | | |
| Water 48.00m | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| RIH capped & backfilled | | | | | | | | |
| 1hr p/s Ground collapsed past Beg. | | | | | | | | |

GEOLOGIST'S NOTES

| HRS | AMOUNTS PAYABLE 17 | | |
|---|---|---|---|
| 17 | OPEN HOLE | HF | 70.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PP | |
| | | SF | |
| | | D4 | |
| 1 | CASING | HX | 6 |
| | | PX | 3 |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | 1 Move |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | 1 hr. |
| | Standing Contractor | | |
| | Grouting | | |
| 1 | Bogged. | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth
SITE No. 031703.
DATE Thurs. 13.8.82.
SHEET 3 OF 3

Contractor Amco
Area Lancs.

TYPE & No. of Drill Greyhen 72.
WORKS ORDER No. 7749.
DRILLER H. Bondon.
2nd MAN D. Conwell.
3rd MAN G. Hemmann.

M 2746R

BH. No. 16 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 4.80 | 4.00 | | | | 5 | | |
| Brown to Grey mudstone | 5.90 | 1.40 | | | | | | |
| Brown Sandstone | 8.40 | 2.50 | | | 50 | | | |
| Dark mudstone | 18.00 | 9.60 | | | | | | |
| Dark Sandy mudstone | 18.70 | 0.70 | | | 58 | | | |
| Grey Sandstone | 23.10 | 4.40. | | | 50 | | | |
| Dark Sandy mudstone | 55.15. | 32.05 | | | 58 | | | |
| Coal. | 55.30 | 0.15 | | | 20 | | | |
| Hard Dark Sandy mudstone | 59.60 | 4.30 | | | 57 | | | |
| Grey Sandstone | 62.30 | 2.70 | | | 50 | | | |
| Dark Sandy mudstone | 70.00 | 7.70 | | | 58 | C | | |
| 6.00m casing. Water @ 8.00m | | | | | | | | |
| Move over 8.00m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | |

HRS

AMOUNTS PAYABLE 16

| | | |
|---|---|---|
| OPEN HOLE | HF | 70.0 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6 |
| | PX | 8 |
| | SX | |
| | GEOLOG | |
| ROUND | | |
| TRIPPING | | |
| MOVING | | 1 move |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth - | SITE No 031703 - | DATE Thur. 13-8-82. | SHEET 2 OF 3.

Contractor Amco

Area Lancs -

TYPE & No. of Drill Cryopha '72 '7749.

WORKS ORDER No.

DRILLER H. Gowson.

2nd MAN P. Connell.

3rd MAN R. Herrmann

M 2746R

BH. No. 15. | Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 2.70 | 2.20 | | | | 5 | | |
| Mudstone | 5.50 | 3.80 | | | | | | |
| Brown Sandstone | 6.70 | 1.20 | | | 50 | | | |
| Sandy mudstone | 7.20 | 0.50 | | | 58 | | | |
| Brown Sandstone | 7.70 | 0.50 | | | 50 | | | |
| Brown Sandy mudstone | 10.50 | 2.80 | | | 58 | | | |
| Hard Sandy mudstone | 11.60 | 1.10 | | | 57 | | | |
| (H.W) Dark Sandy mudstone | 16.80 | 5.20 | | | 58 | | | |
| Grey Sandstone | 18.20 | 1.40 | | | 50 | | | |
| Dark mudstone | 25.40 | 7.20. | | | | | | |
| Dark Sandy mudstone | 43.65 | 8.25 | | | 58 | | | |
| Coal. | 43.80 | 0.15 | | | 20 | | | |
| Sandy mudstone | 44.20 | 0.40. | | | 58 | | | |
| Grey Sandstone | 47.30 | 3.10. | | | 50 | | | |
| Dark mudstone | 50.00 | 2.70 | | | | | | |
| Hard Grey Sandstone | 54.10 | 4.10 | | | 50 | | | |
| Hard Dark Sandy mudstone | 70.00 | 15.90 | | | 57 | 6 | | |
| 6.00m casing (H. Water 16.00m) | | | | | | | | F1 |
| move over 5.00m. | | | | | | | | |
| BH capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | | 15 |
| | OPEN HOLE HF | 70.0 |
| | PF | |
| | SF | |
| | 612/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | 3 |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 move |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed ____ Contractors Rep

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thurs - 13-8-82.
SHEET 1 OF 3.

Contractor Amco.
Area Lancs.

TYPE & No. of Drill Gryphon 72.
WORKS ORDER No. 7749.
DRILLER H. Gordon.
2nd MAN P. Connell.
3rd MAN Q. Herrmann.

M 2746R

BH. No. 14 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | G/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 1.20 | 0.70 | | | | 5 | | |
| Weathered Green Sandstone | 2.60 | 1.40 | | | 51 | | | |
| Brown Sandstone | 2.80 | 0.20 | | | 50 | | | |
| Soft mudstone | 7.40 | 4.60 | | | | | | |
| Sandy mudstone | 17.00 | 9.60 | | | | | | |
| Dark mudstone | 18.40 | 1.40 | | | | | | |
| Dark Sandy mudstone | 20.60 | 2.20 | | | 58 | | | |
| Dark mudstone | 27.80 | 07.20 | | | | | | |
| Dark Sandy mudstone | 43.20 | 15.40 | | | 58 | | | |
| Coal | 43.40 | 0.20 | | | 20 | | | |
| Sandy mudstone | 45.70 | 2.30 | | | 58 | | | |
| Grey Sandstone | 48.90 | 3.20 | | | 50 | | | |
| Sandy mudstone | 49.80 | 0.90 | | | 58 | | | |
| Dark Sandy mudstone | 52.10 | 2.30 | | | 58 | | | |
| Hard Grey Sandstone | 59.40 | 7.30 | | | 50 | | | |
| Dark mudstone | 70.00 | 10.60 | | | | 6 | | |
| 3.00m Cas. Wet & Dry. | | | | | | | | |
| Move over 800m. | | | | | | | | |
| B/H Capped & backfilled. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| 7 | OPEN HOLE | HF | 70.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 3 |
| | | PX | |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep

Signed M Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Ailsworth.
SITE No. 031703.
DATE Wed. 12-5-82.
SHEET 2 OF 2

Contractor Amco
Area Lancs.

TYPE & No. of Drill Rotaphon 72.
WORKS ORDER No. 7749.
DRILLER H. Gordon.
2nd MAN D. Connell.
3rd MAN G. Hermanson.

M 2746R

BH. No. Field No.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | C/RF & Level | GEOLOGISTS NOTES A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 13. | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 6.00 | 5.20 | | | | | | |
| Sand. | 7.80 | 1.80 | | | 13 | | | |
| Brown Sandy clay | 13.20 | 5.70 | | | | 5 | | |
| Dark mudstone Coal traces | 13.65 | 0.45 | | | 21 | | | |
| Brown to Grey Hard Sandstone | 37.20 | 23.55 | | | 50 | | | |
| Dark Sandy mudstone | 38.30 | 1.10 | | | 58 | | | |
| Grey Sandstone | 50.00 | 11.70 | | | 50 | 6 | | |
| 15.00m Cas. Dry. | | | | | | | | |
| Move over 8.00m. | | | | | | | | |
| B/H capped & backfilled. | | | | | | | | F1 |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6 |
| | | PX | 9 |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | | 1 move |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep.

Signed M Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No 031703.
DATE Wed. 12-8-82.
SHEET 1 OF 2.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Greyphan 72.
WORKS ORDER No. 7749
DRILLER H. Gordon.
2nd MAN P. Connell.
3rd MAN B. Hennessy.

M 2746R

BH. No. 12. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 6.00 | 5.20 | | | | | | |
| Sand. | 7.00 | 1.00 | | | 13 | | | |
| Brown Sandy clay. | 12.70 | 5.70 | | | | 5 | | |
| Hard White Sandstone | 13.00 | 0.30 | | | 50 | | | code on limit |
| Grey Sandstone | 17.15 | 4.15 | | | 50 | | | |
| Dark sandstone coal. traces | 17.65 | 0.50 | | | 21 | | | |
| Hard Grey Sandstone | 20.40 | 2.75 | | | 50 | | | |
| Hard Brown Sandstone | 31.80 | 11.40 | | | 50 | | | code on limit |
| Grey Sandstone | 39.70 | 7.90 | | | 50 | | | |
| Dark Sandy sandstone | 40.90 | 1.20 | | | 58 | | | |
| Grey Sandstone | 43.00 | 2.10 | | | 50 | | | |
| Dark Sandy sandstone | 50.00 | 7.00 | | | | 6 | | |
| 15.00cm casing water Grey. | | | | | | | | |
| Move over 5.00m. | | | | | | | | |
| BH Capped & backfilled. | | | | | | | | FC |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | | | 12 |
| 7 | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 6 |
| | | PX | 9 |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| 1 | MOVING | | 1 |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | MATERIALS USED | | |

Signed [signature] Contractors Rep

Signed M J Barton. Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Tue. 11-8-82.
SHEET 2 OF 2

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryphon 72.
WORKS ORDER No. 7749.
DRILLER H. Gordon.
2nd MAN P. Connell.
3rd MAN R. Hermann.

M 2746R

| BH. No. / Field No. DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 11 | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 8.50 | 8.00 | | | | | | Exploratory B.H. |
| Sands. | 6.20 | 0.70 | | | 13 | | | |
| Brown Sandy clay. | 7.50 | 1.30 | | | | 5 | | |
| Broken Brown Sandstone | 9.00 | 1.50 | | | 51 | | | |
| Brown Sandstone | 13.80 | 4.80 | | | 50 | | | |
| Grey Hard Sandstone (Hw) | 33.80 | 20.00 | | | 50 | | | |
| Dark mudstone | 39.00 | 5.20 | | | | | | |
| Dark Sandy mudstone | 46.70 | 7.70 | | | | | | |
| Soft Dark mudstone | 56.20 | 9.50 | | | | | | |
| Sandy mudstone | 58.60 | 2.40 | | | | | | |
| Dark mudstone | 59.10 | 0.50 | | | | | | |
| Sandy mudstone | 60.00 | 0.90 | | | | 6 | | |
| 9.00am cas. H-water 30.00m. | | | | | | | | |
| Move over 8.00am. | | | | | | | | |
| B.H. Capped & backfilled. | | | | | | | | |

f/l

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE HF | 60.00 |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC. SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | 3 |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed M. Robinson
Contractors Rep

Signed J. Barton
Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Tue. 11-8-82.
SHEET 1 OF 2.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Cryptra 72.
WORKS ORDER No. 7749.
DRILLER H. Condon.
2nd MAN P. Connell.
3rd MAN B. Hennessey.

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 10. | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay. | 3.70 | 3.20 | | | | | | |
| Sand & Gravel. | 4.50 | 0.80 | | | 15 | | | |
| Brown Sandy clay. | 7.70 | 3.20 | | | | 5 | | |
| Dark mudstone | 24.33 | 16.63 | | | | | | |
| Dark mudstone & Coal bands | 24.90 | 0.55. | | | 21 | | | |
| mudstone | 26.40 | 1.50 | | | | | | |
| Grey Sandstone | 31.10 | 3.70 | | | 50 | | | |
| Dark Sandy mudstone | 34.80 | 3.70 | | | | | | |
| Dark mudstone | 51.80 | 17.00 | | | | | | |
| Sandstone | 65.00 | 13.20 | | | 50 | 6 | | |
| 9.00m Cas. Water 26.00m. | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| B/H Capped & backfilled | | | | | | | | |

F.C.

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| 7 | OPEN HOLE | HF | 65.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 6 |
| | | PX | 3 |
| | | SX | |
| | | GEOLOG | |
| | ROUND TRIPPING | | |
| 1 | MOVING | | Move |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | MATERIALS USED | | |

Signed ____ Contractors Rep.

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Ellsworth
SITE No. CS/703
DATE Week to 5-12-
SHEET 1 OF 1

TYPE & No. of Drill Cooper 72
WORKS ORDER No. 1749
DRILLER H. Gorman
2nd MAN P. Cowell
3rd MAN G. Hetherington

Contractor Hunt
Area Lower

M 2746R

BH. No. Core 45.50 → 47.70. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Grass / Soil | 0.30 | | | | | | | |
| Mixed gravel, boulder clay | 45.50 | | | | | | | |
| Sandy gravel, wet | | | | | | | | Rd Tripping |
| Peat | 46.41 | 0.91 | 0.91 | | | | | |
| Mixed silty/sandy clay with | | | | | | | | 9.70 × 25.70 |
| bands of peat | 46.44 | 0.03 | 0.03 | | | | | = 249.3 |
| Mixed gravel, sandy clay with | 46.54 | 0.10 | 0.10 | | | | | |
| bands of peat/wood | | | | | | | | 3 × 47.70 |
| Gravel, coarse grained, brown | 47.33 | 0.79 | 0.51 | | 50 | | | = 143.1 |
| Mixed gravel with silty clay | 47.43 | 0.10 | 0.10 | | 50 | 6 | | 392.6 |
| Coal seam | 47.70 | 0.27 | | | | | | |
| | | 2.20 | 1.95 | | | | | |
| Fine grained sand | | | | | | | | |
| Coal seam | | | | | | | | |
| | | | | | | | | |
| R/H sandy/silty clay | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE HF | 47.70 |
| | PF | |
| | SF | |
| | 412/HF | 6.94 |
| | CORE PF | 5.83 |
| | REC SF | |
| | D4 | |
| | CASING HX | 6 |
| | PX | 3 |
| | SX | |
| | GEOLOG | |
| | ROUND | 392. |
| | TRIPPING | |
| | MOVING | 1 move |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Ellsworth
SITE No. 03178
DATE March 10 - 82
SHEET 2 OF 3

Contractor Wimpey
Area Leeds

TYPE & No. of Drill Gopher 12
WORKS ORDER No. JT 7749
DRILLER H. Cowell
2nd MAN J. Cowell
3rd MAN B. Hedgemanson

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery 0.19 | GEOLOGISTS NOTES: CRF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| No 7 Coal | 23.19 | | | | | | | |
| Coal, dull, soft, wet, with pyrite nodules | 23.38 | | | | | | | Sample 3 |
| Coal, hard, pyritic bands | 23.38 | 0.19 | 0.19 | | 20 | 2 | | |
| Silt, dark grey, slightly sandy | | | | | | | | |
| Sandstone, fine, micaceous | 23.66 | 0.28 | 0.28 | | 50 | | | |
| Silt, grey, with abundant micaceous sand, hard, fine grained | 23.78 | 0.12 | 0.12 | | 50 | | | |
| Sandstone, fine grained | 23.90 | 0.12 | 0.12 | | 50 | | | |
| Silt, dark, slightly sandy, with fine grained sand, clay | 23.97 | 0.07 | 0.07 | | 50 | | | |
| Sandstone, fine grained, micaceous, hard, with silt bands | 24.33 | 0.36 | 0.36 | | 50 | | | |
| Mudstone, dark grey, hard, pyritic, micaceous, with pyritic bands | 24.95 | 0.62 | 0.62 | | | | | |
| Coal, Core | 25.10 | 0.15 | | | | | | |
| | | 2.20 | 1.95 | | | | | |
| Coal | 26.00 | 0.90 | | | | | | |
| Dark Grey Mudstone | 30.60 | 4.60 | | | 50 | | | |
| Dark Mudstone | 40.00 | 9.40 | | | | | | |
| Coal | 60.15 | 0.15 | | | 20 | | | |
| Dark Grey mudstone | 42.90 | 2.75 | | | | | | |
| Hard Grey mudstone | 43.50 | 0.60 | | | | | | |
| Dark mudstone | 45.50 | 2.00 | | | | | | |
| Coal Shale III | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE HF | |
| | PF | |
| | SF | |
| | 412/HF CORE PF | |
| | REC SF | |
| | D4 | |
| | CASING HX | |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractors Rep

Signed _____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Mon. 10-5-82.
SHEET 1 OF 3

Contractor Amco
Area Lancs.

TYPE & No. of Drill Gryphon 72
WORKS ORDER No. 11749
DRILLER H. Rondon.
2nd MAN P. Connell.
3rd MAN [redacted]

M 2746R

BH. No. Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 9cm 7. | | | | | | | | |
| Top soil | 0.50 | 0.50 | | | | | | |
| Brown boxy clay. | 3.20 | 2.70 | | | | 5 | | |
| Mudstone. | 11.40 | 8.20 | | | | | | |
| Dark mudstone/Pyroxenite | 19.00 | 7.60 | | | | | | |
| (core) 19.00 - 19.90 | | | | | | | | |
| Lost Core | 19.10 | 0.10 | | | | | | |
| mdst gy, mod hd like subfiss weak fracs, pocket mets, many flaked sub vertical/horizontal surfaces (faulted) | 19.90 | 0.80 | 0.80 | | | | | |
| (core) 19.90 - 23.00 | | | | | | | | |
| mdst gy mod hd like sub fiss weak fract steeply inclined lost mets 0.03 | | | | | | | | |
| 0.03. Hole 0.20 x 0.02/section | 20.53 | 0.63 | 0.63 | | | | | |
| Dark dull highly fract Str. | | | | | | | | Sample 2. |
| steeply inclined | 21.01 | 0.48 | 0.48 | | | 20 | 2 | |
| mdst/SL/coal thin | 21.03 | 0.02 | 0.02 | | | | | |
| Lost core | 23.00 | 1.97 | | | | | | |
| | | 3.10 | 1.93 | | | | | |
| (core) 23.00 - 25.70 | | | | | | | | |
| mdst gy mod hd like subfiss weak fract | 23.19 | 0.19 | 0.19 | | | | | |

cont'd. II

HRS AM

17 OPEN HF PF SF
HOLE

412/HF
CORE PF
REC. SF
D4

2 CASING HX PX SX
GEOLOG

ROUND
TRIPPING

1 MOVING
Extra Wheels
Standing Rig in use
Standing Rig not in use
Immobilised
Standing Contractor
Grouting

MATERIALS USED

Signed [redacted] Contractors Rep

Signed [redacted] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No 031703.
DATE Mon-3-5-82.
SHEET 1 OF 1

Contractor Amco
Area Lancs.

TYPE & No. of Drill Keyphon 72.
WORKS ORDER No 7744
DRILLER H. Borden.
2nd MAN G. Herrmann.
3rd MAN D. Gibson.

M 2746R

| BH. No. / Field No. DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Bank Holiday. | | | | | | | | |
| No Drilling. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | |
| | | PX | |
| | | SX | |
| | GEOLOG | | |
| | ROUND TRIPPING | | |
| | MOVING | | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |
| | | | |
| | | | |

MATERIALS USED

Signed ..... Contractor's Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Fri 6-8-82.
SHEET 2 OF 2.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Creyphan 72
WORKS ORDER No.
DRILLER H. Bonsor.
2nd MAN G. Herrman
3rd MAN D. Gibson.

M 2746R

BH. No. 8 Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown clay. Sandy Bands | 6.80 | 6.30 | | | | 5 | | |
| Dark mudstone | 31.90 | 25.10. | | | | | | |
| mudstone/Dark mudstone | 38.68 | 3.75. | | | | | | |
| Coal. | 38.90 | 0.25 | | | 20 | | | |
| Sandy mudstone | 37.08 | 1.18. | | | | | | |
| Grey Sandstone | 39.20 | 2.18. | | | 50 | | | |
| Hard Sandy mudstone | 45.80 | 6.60 | | | 57 | | | |
| Dark mudstone | 59.55 | 13.75. | | | | | | |
| Coal. | 59.65 | 0.10. | | | 20 | | | |
| Dark Sandy mudstone | 62.15. | 2.50 | | | | | | |
| Coal. | 62.30 | 0.15. | | | 20 | | | |
| Grey Sandstone | 65.75 | 3.45 | | | 50 | | | |
| Dark mudstone. | 67.00 | 1.75. | | | | | | |
| Soft Dark mudstone (slight Loss of Wtr) | 68.50 | 1.50 | | | | | | ? OWs/FAULT? |
| Sandy mudstone | 70.00 | 1.50 | | | | 6 | | |
| | 59.00 | | | | 92 | | | |
| 9.00 ecs. Wait 59.00 | | | | | | | | |
| Move over 8-0en. | | | | | | | | |

HRS

AMOUNTS PAYABLE

| | | |
|---|---|---|
| OPEN HOLE | HF | 70.00 |
| | PF | |
| | SF | |
| CORE REC | 412/HF | |
| | PF | |
| | SF | |
| | D4 | |
| CASING | HX | 6.00 |
| | PX | 3.00 |
| | SX | |
| | GEOLOG | |
| ROUND TRIPPING | | |
| MOVING | | GTR 5m |
| Extra Wheels | | |
| Standing Rig in use | | |
| Standing Rig not in use | | |
| Immobilised | | |
| Standing Contractor | | |
| Grouting | | |

MATERIALS USED

Signed ____ Contractors Rep.

Signed ____ Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth. SITE No 031703 DATE Fri 6-8-82. SHEET 1 OF 2

TYPE & No. of Drill Creypher 72. WORKS ORDER No.

DRILLER H. Bonsen 2nd MAN G. Herrmann. 3rd MAN D. Gibson.

Contractor Amco Area Lancs.

M 2746R

| BH. No. 7. Field No | DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| | Top Soil | 0.50 | 0.50 | | | | | | |
| | Brown clay. Sandy Lands | 8.20 | 7.70 | | | | 5 | | |
| | mudstone | 11.40 | 3.20. | | | | | | |
| | Dark mudstone / mudstone | 20.65. | 9.20 | | | | | | |
| | Coal | 21.35 | 0.70 | | | 20 | | | |
| | mudstone | 22.60 | 1.25. | | | | | | |
| | Grey Sandstone | 23.20 | 0.60 | | | 50 | | | |
| | Dark mudstone | 24.00 | 0.80 | | | | | | |
| | Coal & Dark mudstone | 24.35 | 0.35 | | | 24 | | | |
| | Grey Sandstone | 26.00 | 1.65. | | | 50 | | | |
| | Dark Sandy mudstone | 29.40 | 3.40 | | | | | | |
| | Dark mudstone | 39.00 | 9.60 | | | | | | |
| | Coal. | 39.15 | 0.15 | | | 20 | | | |
| | Dark mudstone | 41.90 | 2.75. | | | | | | |
| | Hards Sandy mudstone | 42.50 | 0.60 | | | 57 | | | |
| | Dark mudstone | 46.50 | 4.00 | | | | | | |
| | Coal & Dark mudstone | 47.05 | 0.55 | | | 24 | | | |
| | Dark mudstone | 50.20 | 3.15 | | | | | | |
| | Grey Sandstone | 65.00 | 14.80 | | | 50 | 6 | | |
| | 9.00 am. Water 46.00. | 46.00 | | | | 92 | | | |
| | move over 8.00 | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| 7 | OPEN HOLE | HF | 65.0 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| 2 | CASING | HX | 6.00 |
| | | PX | 3.00 |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | GPR Sm. |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep.

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Thurs 6-8-82.
SHEET 2 OF 2.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Greyhen "72.
WORKS ORDER No.
DRILLER H. Rowson.
2nd MAN R. Herrmann.
3rd MAN D. Gibson.

M 2746R

BH. No. 6. Field No.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.50 | 0.50 | | | | | | |
| Brown sandy clay. | 2.40 | 1.90 | | | | | | |
| Sand. | 3.50 | 1.10. | | | 13 | | | |
| Brown sandy clay. | 10.25 | 6.75. | | | | 5 | | |
| mudstone | 12.15 | 1.90 | | | | | | |
| Dark mudstone | 12.85 | 0.70 | | | | | | |
| Dark mudstone coal trace | 13.30 | 0.45. | | | 21 | | | |
| mudstone | 17.50 | 4.20 | | | | | | |
| Sandy mudstone | 19.80 | 2.30 | | | 58 | | | |
| Hard Sandy mudstone | 27.25 | 7.45. | | | 57 | | | |
| Grey Sandstone | 40.00 | 12.75. | | | 50 | 6 | | |
| | 26.50 | | | | 92 | | | |
| 12.00 ccs. water 26.50. | | | | | | | | |
| Move over 8.00m. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 40.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6.00 |
| | | PX | 6.00 |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | | 8TR 5m. |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep.

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703
DATE Thurs 6-8-82.
SHEET 1 OF 2

Contractor Amco
Area Canes.

TYPE & No. of Drill Reyphon 72.
WORKS ORDER No.
DRILLER H. Gordon.
2nd MAN Q. Herrmann.
3rd MAN D. Gibson.

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES: G/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| S. | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown clay. | 2.40 | 1.90 | | | | | | |
| Sand. | 3.90 | 1.80 | | | 13 | | | |
| Brown Sandy clay. | 10.70 | 6.60 | | | | 5 | | |
| Dark mudstone Coal | 10.90 | 0.20 | | | 21 | | | |
| mudstone | 13.88. | 4.65. | | | | | | |
| Dark mudstone | 19.80 | 4.25 | | | | | | |
| mudstone | 41-25 | 22.48 | | | | | | |
| Sandy mudstone | 46.38 | 5.10 | | | | | | |
| Grey Sandstone | 50.00 | 3.68 | | | 50 | 6 | | |
| R.00 casing Dry | | | | | | | | |
| move over R.00m. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 50.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6.00 |
| | | PX | 6.00 |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | | |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep.

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Wed. 8-8-82
SHEET 2 OF 2.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Reyphan 72
WORKS ORDER No.
DRILLER H. Bonson.
2nd MAN G. Hermann.
3rd MAN D. B. Gom.

M 2746R

| BH. No. / Field No. / DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES: C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 4 | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown Sandy clay | 9.80 | 9.00 | | | | 5 | | 10 |
| mudstone | 10.10 | 060 | | | | | | |
| Soft Coal mixed with Dmst | | | | | | | | |
| mudstone. P.O.60. (cases off) | 11.80 | 1.40 | | | 31 | | | OWS IN 20 |
| mudstone | 16.00 | 4.80 | | | | | | |
| Sandy mudstone | 22.80 | 6.80 | | | | | | |
| Dmst mudstone - Coal Seams | 22.93 | 0.45. | | | 21 | | | 30 |
| Fairly Soft mudstone | 47.80 | 24.88. | | | | | | |
| Hard Grey Sandstone | 59.60 | 11.90 | | | 50 | | | 40 |
| Hard Sandy mudstone | 70.00 | 10.60 | | | 57 | 6 | | 50 |
| | | | | | | | | 60 |
| 12.00 casing. Water 47.00. | | | | | | | | |
| move over 8.00m. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 70.00 |
| | | PF | |
| | | SF | |
| | CORE REC | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6.00 |
| | | PX | 6.00 |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | | 6YR 5m |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractors Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Wed. 8-8-82
SHEET 1 OF 2.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Ingersoll 72.
WORKS ORDER No.
DRILLER H. Rowland.
2nd MAN A. Hennessy.
3rd MAN D. Gibson.

M 2746R

BH No. 3 | Field No

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown clay. sandy. | 8.40 | 7.90 | | | | 5 | | 15 |
| Dark mudstone | 11.50 | 3.10 | | | | | | |
| mudstone | 18.70 | 7.20 | | | | | | |
| Grey Sandstone | 20.95 | 2.25 | | | 50 | | | 20 |
| mudstone | 21.80 | 1.85. | | | | | | |
| Grey Sandstone | 22.20 | 0.40 | | | 50 | | | 130 |
| Sandy mudstone | 23.95 | 1.65. | | | | | | |
| Coal. | 24.10 | 0.15. | | | 20 | | | 40 |
| mudstone Inst/B | 26.40 | 2.30 | | | | | | |
| Sandy mudstone | 27.60 | 1.20 | | | | | | |
| Hard Grey Sandstone 9ft/Bs. | 7000 | 42.40 | | | 50 | 6 | | 50 |
| | 22.80 | | | | 92 | | | 60 |
| 9.000 cus. water 22.80. | | | | | | | | |
| move over 8.00m. | | | | | | | | |
| | | | | | | | | Submitted |
| | | | | | | | | Up 53. |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| 7 | OPEN HOLE | HF | 70. |
| | | PF | |
| | | SF | |
| 2 | CASING | 412/HF | |
| | | CORE PF | |
| | | REC SF | |
| | | D4 | |
| | | HX | 6.00 |
| | | PX | 3.00 |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | 6TRSm. |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractor's Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Pilsworth.
SITE No. 031703.
DATE Tue: 4-8-82.
SHEET 2 OF 2

Contractor Amco
Area Lancs.

TYPE & No. of Drill Gryphon 72.
WORKS ORDER No.
DRILLER H. Gordon.
2nd MAN G. Herrmann.
3rd MAN D. Gibson

M 2746R

BH. No. Field No

2.

| DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGIST'S NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Top Soil | 0.80 | 0.80. | | | | | | |
| Brown clay with Sand Band | 7.60 | 7.10. | | | | 5 | | ✓ 10 |
| Yellow mudstone | 10.80 | 3.20. | | | | | | |
| mudstone | 11.00 | 0.20 | | | | | | |
| Coal. | 11.43 | 0.43. | | | 20 | | | 20 |
| Brown Sandstone | 15.70 | 4.25. | | | 50 | | | 30 |
| Sandy mudstone | 19.30 | 3.60 | | | | | | |
| Dark Sandy mudstone | 33.45 | 14.15. | | | | | | |
| Coal. | 33.80 | 0.35. | | | 20 | | | 40 |
| Sandy mudstone | 34.25 | 0.45. | | | | | | |
| Dark mudstone | 36.50 | 2.25. | | | | | | |
| Coal. | 36.60 | 0.10 | | | 20 | | | 50 |
| Sandy mudstone | 37.20 | 0.60 | | | | | | |
| Grey Sandstone | 37.70 | 0.50 | | | 50 | | | 60 |
| Dark mudstone | 51.00 | 13.30 | | | | | | |
| Hard Black mudstone | 54.30 | 3.30 | | | | | | |
| Dark mudstone | 52.70 | 6.50 | | | | | | |
| Hard Sandy mudstone | 56.50 | 3.80 | | | | | | |
| Dark mudstone | 61.10 | 5.60 | | | | | | |
| Dark Sandy Mudstone. SST/Bs | 63.50 | 2.40 | | | | | | |
| Grey Sandstone | 70.00 | 6.50 | | | 60 | 6 | | 70 |
| 9.00m cas. water 36.00. | | | | | | | | 80 |
| move over 2.00m. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| | OPEN HOLE | HF | 70.00 |
| | | PF | |
| | | SF | |
| | CORE REC. | 412/HF | |
| | | PF | |
| | | SF | |
| | | D4 | |
| | CASING | HX | 6.00 |
| | | (PX) | 3.00 |
| | | SX | |
| | GEOLOG | | |
| | ROUND | | |
| | TRIPPING | | |
| | MOVING | | 6TR 5m. |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed ..... Contractor's Rep

Signed ..... Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No 3 NORTH WEST

SITE NAME Pilsworth.
SITE No 031703.
DATE Tue. 4-5-82.
SHEET 1 OF 2.

Contractor Amco
Area Lancs.

TYPE & No. of Drill Greypher 72
WORKS ORDER No. [redacted]
DRILLER H. Bowden.
2nd MAN G. Hewitson.
3rd MAN D. Gibson.

M 2746R

| BH. No. / Field No. DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| I | | | | | | | | |
| Top Soil | 0.80 | 0.80 | | | | | | |
| Brown clay, with Sandy Bands. | 5.80 | 5.00 | | | | 5 | | 10 |
| Yellow mudstone | 6.80 | 1.00 | | | | | | |
| Dark mudstone | 7.20 | 0.70 | | | | | | |
| Brown mudstone | 7.90 | 0.70 | | | | | | |
| Brown Sandstone | 11.25 | 3.30 | | | 50 | | | 20 |
| Sandy mudstone | 13.20 | 1.95. | | | | | | |
| Brown Sandstone | 16.15. | 2.95. | | | 50 | | | 30 |
| Dark Sandy mudstone | 19.70 | 3.55. | | | | | | |
| Dark mudstone | 37.10 | 17.40 | | | | | | |
| mudstone | 39.05 | 1.90 | | | | | | |
| Coal. | 39.15 | 0.10. | | | 20 | | | 40 |
| Sandy mudstone | 44.80 | 5.65. | | | | | | |
| mudstone | 65.20 | 20.40. | | | | | | |
| coal. | 65.40 | 0.20 | | | 20 | | | 50 |
| Hard Sandy mudstone | 68.75 | 3.35. | | | 57 | | | 60 |
| coal. | 68.85 | 0.10 | | | 20 | | | 70 |
| Grey Sandstone | 70.00 | 1.15. | | | 50 | | | 80 |
| Sandy mudstone | 73.00 | 3.00 | | | | 6 | | 90 |
| | 45.00 | | | | 92 | | | |
| 9.00m cam Water 45.0cm | | | | | | | | |
| move over 8.00m. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | | |
|---|---|---|---|
| 7 | OPEN HOLE | HF | 73.0 |
| | | PF | |
| | | SF | |
| 2 | CASING | 412/HF | |
| | | CORE PF | |
| | | REC SF | |
| | | D4 | |
| | | HX | 6.00 |
| | | PX | 3.00 |
| | | SX | |
| | | GEOLOG | |
| | ROUND | | |
| | TRIPPING | | |
| 1 | MOVING | | ETR 5m. |
| | Extra Wheels | | |
| | Standing Rig in use | | |
| | Standing Rig not in use | | |
| | Immobilised | | |
| | Standing Contractor | | |
| | Grouting | | |

MATERIALS USED

Signed [signature] Contractor's Rep.

Signed [signature] Geologist

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

SITE NAME Elton Head.
SITE No. 031698.
DATE Fri 30-4-82.
SHEET 1 OF 1

Contractor Amco.
Area Lanes.

TYPE & No. of Drill Cryphon 72
WORKS ORDER No. 7744
DRILLER H. Bowden.
2nd MAN S. Hennwann.
3rd MAN D. Gibson.

M 2746R

| BH. No. / Field No. DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Site move. To Pilsworth | | | | | | | | |
| Bury. | | | | | | | | |
| All day move. | | | | | | | | |
| 30. miles. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HOLE HF | |
| | PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| | CASING HX | |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| 10 | MOVING | 30 MILES |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

Signed _____ Contractor's Rep

Signed _____ Geologist

# SUBCROP GEOLOGICAL MAP OF THE NCB OPENCAST PILSWORTH SURVEY (PL 224)

SCALE 0 200m

1/2500

Fault Position from BP Seismic and IGS Mapping.

ROUGH ROCK

WOODHEAD HILL ROCK

HEYWOOD-A SITE

HW-81-02

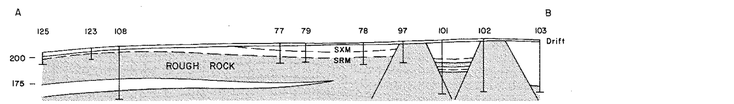
HW-81-03

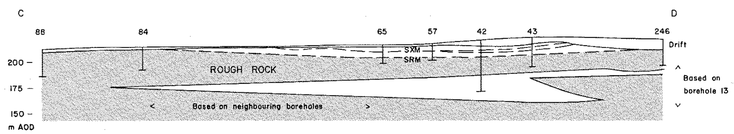
SRM

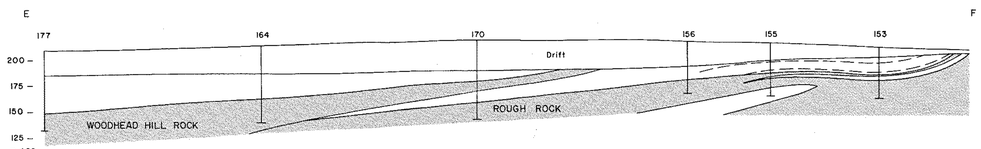
SXM

LMM

## CROSS-SECTIONS




Ordnance Datum = 100m below Sea Level.

## LEGEND

- Sandstone
- Sandy mudstone
- Coal
- LMM — Lower mountain mine
- SXM — Six inch mine
- SRM — Sand rock mine
- Anticlinal axis
- Synclinal axis
- Normal fault
- NCB borehole
- Line of section
- 1981 seismic

| | |
|---|---|
| BP PETROLEUM DEVELOPMENT LTD | |
| GEOLOGICAL DIVISION, EAKRING | |
| AREA - WEST MIDLANDS | |
| File Note 30/112 | E/GL/84/37 |
| FEBRUARY 1984 | S. HALL |

SITE:- PILSWORTH

TAG 16-6/82

Form 2(MP)

OPENCAST PROSPECTING
BOREHOLE LOCATIONS
AND SURFACE LEVELS

REGION: NORTH WEST

SITE: PILSWORTH

| COL | R | SITE |
|---|---|---|
| 1 3 | 4 5 | 1 0 |
| P I L S W O R T H | | |

***PUNCH 0 AS ZERO***
PUNCH 1-10 ON ALL CARDS
LEAVE COLS 73-79 BLANK

| No | East | North | Level | I |
|---|---|---|---|---|
| 1 1 / 1 4 | 1 2 / 5 0 | 2 2 / 1 6 | 2 3 / 7 2 | 8 / 0 |
| 40 | 38392 | 40864 | 22470 | |
| 50 | 38267 | 40359 | 22411 | |
| 51 | 38387 | 40858 | 22557 | |
| 52 | 38358 | 40862 | 22370 | |
| 53 | 38378 | 40861 | 22220 | |
| 54 | 38329 | 40866 | 22234 | |
| 55 | 38337 | 40370 | 22088 | |
| 70 | 38272 | 40899 | 21293 | |
| 71 | 38369 | 40896 | 21121 | |
| 72 | 38276 | 40892 | 21180 | |
| 73 | 38372 | 40893 | 21308 | |
| 74 | 38372 | 40896 | 21316 | |
| 76 | 38274 | 40892 | 21364 | |
| 77 | 38738 | 40889 | 21214 | |
| 78 | 38381 | 40892 | 21339 | |
| 79 | 38376 | 40890 | 21268 | |
| 82 | 38730 | 40893 | 21313 | |
| 83 | 38773 | 40892 | 21364 | |

Form 2(HP)

OPENCAST PROSPECTING
BOREHOLE LOCATIONS
AND SURFACE LEVELS

REGION NORTH WEST

SITE: PILSWORTH

| COLR | SITE |
|---|---|
| 1 3 4 5 | 1 0 |
| P 1 5 3 0 2 1 7 0 3 | |

***PUNCH 0 AS ZERO***
PUNCH 1-10 ON ALL CARDS
LEAVE COLS 33-79 BLANK

| No | East | North | Level | I |
|---|---|---|---|---|
| 1 4 | 1 5 2 0 | 2 1 3 6 | 2 7 3 2 | 8 0 |
| 1 | 3 9 4 1 2 7 | 4 0 8 6 5 8 | 2 2 6 1 6 | 1 |
| 2 | 3 8 4 0 3 4 | 4 0 8 6 2 4 | 2 2 7 2 9 | 1 |
| 3 | 3 8 4 0 4 8 | 4 0 8 5 8 5 | 2 2 8 1 6 | 1 |
| 4 | 3 8 4 0 1 0 | 4 0 8 5 4 9 | 2 2 7 2 1 | 1 |
| 5 | 3 8 3 9 9 4 | 4 0 8 6 0 9 | 2 2 7 7 9 | 1 |
| 6 | 3 8 4 0 2 6 | 4 0 8 6 4 3 | 2 2 7 5 7 | 1 |
| 7 | 3 8 4 0 6 2 | 4 0 8 6 3 2 | 2 2 7 2 2 | 1 |
| 8 | 3 8 4 0 9 3 | 4 0 8 7 1 8 | 2 2 7 1 0 | 1 |
| 9 | 3 8 4 0 6 1 | 4 0 8 6 8 0 | 2 2 7 2 4 | 1 |
| 10 | 3 8 4 0 7 5 | 4 0 8 7 5 7 | 2 2 6 5 4 | 1 |
| 11 | 3 8 3 9 9 2 | 4 0 8 7 0 0 | 2 2 6 3 1 | 1 |
| 12 | 3 8 3 9 4 2 | 4 0 8 6 0 3 | 2 2 6 8 6 | 1 |
| 13 | 3 8 3 9 4 1 | 4 0 8 5 2 8 | 2 2 7 5 9 | 1 |
| 14 | 3 8 4 2 1 6 | 4 0 8 6 4 8 | 2 2 4 9 8 | 1 |
| 15 | 3 8 4 2 3 1 | 4 0 8 7 3 6 | 2 2 4 2 3 | 1 |
| 16 | 3 8 4 3 2 6 | 4 0 8 6 5 7 | 2 2 0 7 3 | 1 |
| 17 | 3 8 4 3 9 8 | 4 0 8 7 3 5 | 2 2 2 2 9 | 1 |
| 18 | 3 8 4 3 3 4 | 4 0 8 8 1 1 | 2 2 2 2 7 | 1 |

.Form 3(HP)

# OPENCAST PROSPECTING
# BOREHOLE LOCATIONS AND SURFACE LEVELS

REGION: NORTH WEST

SITE: PILSWORTH

| COL | R | SITE |
|---|---|---|
| 1 3 | 4 | 5 10 |
| P1 | 5 | 303170Ø3 |

***PUNCH Ø AS ZERO***

PUNCH 1-1Ø ON ALL CARDS

LEAVE COLS 33-79 BLANK

| No | East | North | Level | I |
|---|---|---|---|---|
| 19 | 384466 | 408798 | 21886 | 1 |
| 2Ø | 384087 | 408826 | 22578 | 1 |
| 21 | 384164 | 408866 | 2258Ø | 1 |
| 22 | 384229 | 408898 | 225Ø5 | 1 |
| 23 | 384282 | 408925 | 22365 | 1 |
| 24 | 384327 | 408873 | 2227Ø | 1 |
| 25 | 384271 | 408845 | 22475 | 1 |
| 26 | 3842Ø3 | 4088Ø9 | 22597 | 1 |
| 27 | 384144 | 408774 | 2268Ø | 1 |
| 28 | 384Ø86 | 408825 | 22582 | 1 |
| 29 | 384Ø3Ø | 408861 | 22248 | 1 |
| 3Ø | 3841ØØ | 408894 | 22287 | 1 |

# [illegible]SEISMIC PROSPECTING

## BOREHOLE LOCATIONS AND SURFACE LEVELS

SECTION NORTH WEST

SITE PILSWORTH

| COLR | SITE |
|---|---|
| 1 3 4 5 | 1 0 |
| P I S 3 0 3 1 7 0 3 | |

***PUNCH 0 AS ZERO***

PUNCH 1-10 ON ALL CARDS

LEAVE COLS 33-79 BLANK

| No | East | North | Level | I |
|---|---|---|---|---|
| 1 1 4 5 | 1 2 0 | 2 2 0 1 | 2 3 0 7 | 8 0 |
| 31 | 3 8 4 1 5 3 | 4 0 8 8 1 7 | 2 2 2 3 7 | 1 |
| 32 | 3 8 4 1 9 2 | 4 0 8 8 3 4 | 2 2 2 3 1 | 1 |
| 33 | 3 8 4 2 5 1 | 4 0 8 8 5 3 | 2 2 2 1 0 | 1 |
| 34 | 3 8 4 2 0 8 | 4 0 8 8 9 2 | 2 1 8 5 6 | 1 |
| 35 | 3 8 4 1 5 6 | 4 0 8 9 6 9 | 2 1 7 5 0 | 0 |
| 36 | 3 8 4 1 0 7 | 4 0 8 9 4 6 | 2 1 6 5 0 | 1 |
| 37 | 3 8 4 1 0 5 | 4 0 8 8 4 5 | 2 1 8 6 3 | 1 |
| 38 | 3 8 4 0 2 8 | 4 0 8 9 2 1 | 2 1 9 0 9 | 1 |
| 39 | 3 8 3 9 3 1 | 4 0 8 7 8 3 | 2 2 1 5 9 | 1 |
| 40 | 3 8 3 9 0 4 | 4 0 8 7 4 8 | 2 2 0 9 8 | 1 |
| 41 | 3 8 3 8 3 9 | 4 0 8 7 0 5 | 2 2 0 8 9 | 1 |
| 42 | 3 8 3 7 9 6 | 4 0 8 6 6 0 | 2 2 0 2 5 | 1 |
| 43 | 3 8 3 8 2 7 | 4 0 8 6 2 1 | 2 2 2 1 5 | 1 |
| 44 | 3 8 3 8 7 5 | 4 0 8 6 7 2 | 2 2 3 3 1 | 1 |
| 45 | 3 8 3 9 1 1 | 4 0 8 7 0 6 | 2 2 3 8 2 | 1 |
| 46 | 3 8 3 9 4 7 | 4 0 8 7 4 0 | 2 2 4 0 5 | 1 |
| 47 | 3 8 3 9 4 3 | 4 0 8 6 9 8 | 2 2 5 1 5 | 1 |
| 48 | 3 8 3 9 1 9 | 4 0 8 6 6 3 | 2 2 4 9 5 | 1 |

Form G.M.P.1

# OPENING PROSPECTING
# BOREHOLE LOCATIONS
# AND SURFACE LEVELS

REGION NORTH WEST

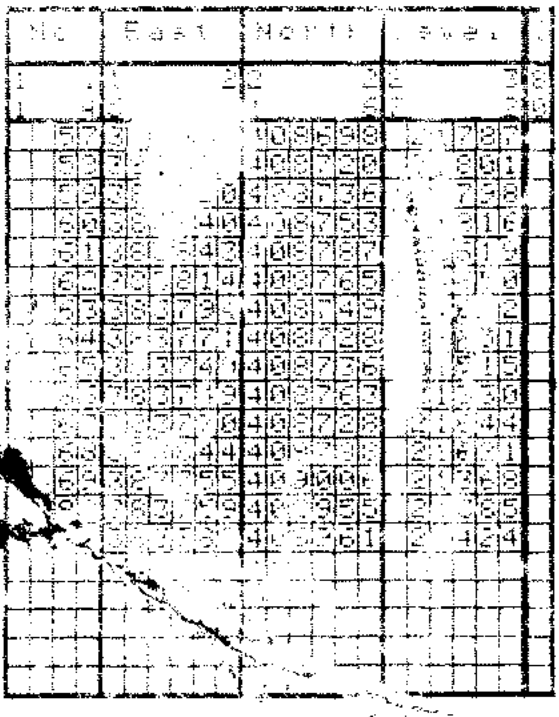
SITE PILSWORTH

| COL | 2 | SITE | |
|---|---|---|---|
| 1 3 | 4 | 5 | 1 |
| | | | 0 |
| P 1 | 5 | 0 0 1 | 7 0 3 |

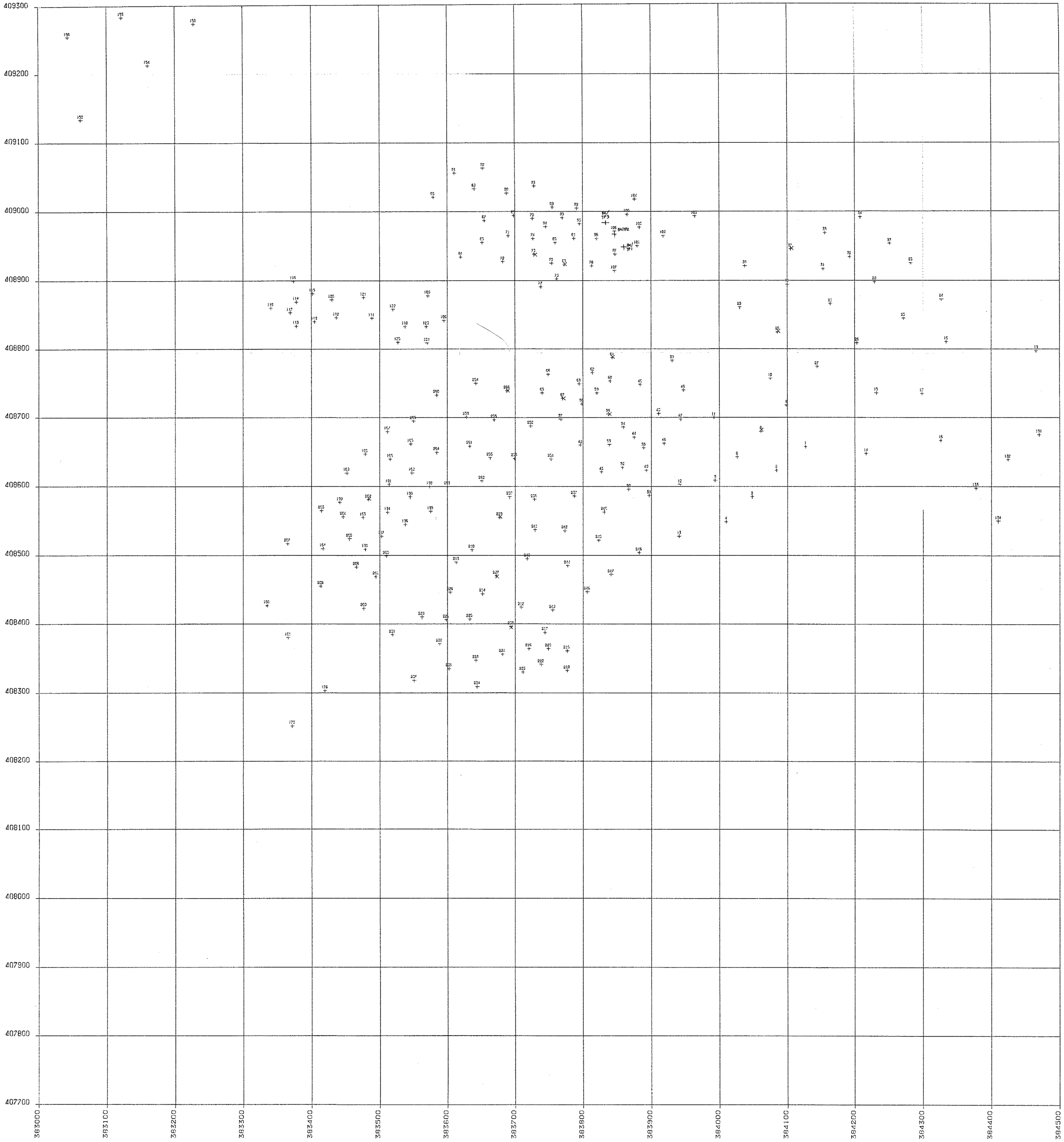
***PUNCH 0 AS ZERO***

PUNCH 1-10 ON ALL CARDS

LEAVE COLS 77-78 BLANK



Plan Incomplete




PILSWORTH BOREHOLE LOCATIONS

030 1703

Mike Barton

OPENCAST PROSPECTING

# BOREHOLE LOCATIONS AND SURFACE LEVELS

REGION NORTH WEST

SITE PILSWORTH.

To be sent to Capita.

| CARD CLASS (1 – 3) | R (4) | SITE NUMBER (5 – 10) |
|---|---|---|
| P15 | 3 | 0 3 1 7 0 3 |

PUNCH COL. 1 – 10 IN ALL CASES.

| BOREHOLE NUMBER (11 – 14) | EASTING (15 – 20) | NORTHING (21 – 26) | SURFACE LEVEL (27 – 32) | (33 – 79) | IND (80) |
|---|---|---|---|---|---|
| 256 | 353699 | 408641 | 21784 | | |
| 257 | 383692 | 408585 | 21894 | | |
| 258 | 383663 | 408642 | 21638 | | |
| 259 | 383628 | 408701 | 21182 | | |
| 260 | 383584 | 408133 | 20862 | | |
| 262 | 383633 | 408355 | 21476 | | |
| 263 | 383651 | 408608 | 21665 | | |
| 264 | 383600 | 408600 | 21632 | | |
| 265 | 383584 | 408650 | 21472 | | |
| 266 | 383550 | 408695 | 21113 | | |

Mike
24-9-82

Form 2(HP)

OPENCAST PROSPECTING
BOREHOLE LOCATIONS
AND SURFACE LEVELS

REGION: NORTH WEST

SITE: PILSWORTH

| C | C | L | R | SITE |
|---|---|---|---|---|
| 1 | | 3 | 4 | 5 1 |
| | | | | 0 |
| P | 1 | 5 | 0 | 0 2 4 0 0 2 |

***PUNCH 0 AS ZERO***
PUNCH 1-10 ON ALL CARDS
LEAVE COLS 33-79 BLANK

| No | East | North | Level | I |
|---|---|---|---|---|
| 1 1 | 1 2 | 2 2 | 2 3 | S |
| 1 4 | 5 0 | 1 6 | 7 2 | 0 |
| 2 37 | 3 8 3 7 0 7 | 4 0 8 5 3 6 | 2 2 1 8 6 | |
| 2 38 | 3 8 3 7 2 8 | 4 0 8 5 8 1 | 2 1 9 8 3 | |
| 2 39 | 3 8 3 6 7 7 | 4 0 8 5 5 5 | 2 1 9 0 6 | |
| 2 40 | 3 8 3 8 3 1 | 4 0 8 5 6 3 | 2 2 3 7 3 | |
| 2 41 | 3 8 3 7 2 9 | 4 0 0 5 3 7 | 2 2 0 9 4 | |
| 2 42 | 3 8 3 7 7 3 | 4 0 8 5 3 6 | 2 2 2 3 7 | |
| 2 43 | 3 8 3 7 1 8 | 4 0 8 4 9 5 | 2 2 1 9 2 | |
| 2 44 | 3 8 3 7 7 7 | 4 0 8 4 8 5 | 2 2 3 3 2 | |
| 2 45 | 3 8 3 8 2 3 | 4 0 8 5 2 2 | 2 2 3 8 6 | |
| 2 46 | 3 8 3 8 3 2 | 4 0 8 5 0 4 | 2 2 3 5 7 | |
| 2 47 | 3 8 3 8 4 1 | 4 0 8 4 7 2 | 2 2 4 6 7 | |
| 2 48 | 3 8 3 8 0 6 | 4 0 8 4 4 7 | 2 2 3 9 0 | |
| 2 49 | 3 8 3 7 5 5 | 4 0 8 4 2 0 | 2 2 2 5 4 | |
| 2 50 | 3 8 3 6 7 8 | 4 0 8 5 5 6 | 2 1 9 0 6 | |
| 2 51 | 3 8 3 7 5 3 | 4 0 8 6 4 0 | 2 1 9 8 2 | |
| 2 52 | 3 8 3 7 2 3 | 4 0 8 6 8 8 | 2 1 7 3 3 | |
| 2 53 | 3 8 3 6 8 9 | 4 0 8 7 3 9 | 2 1 2 0 6 | |
| 2 54 | 3 8 3 6 4 2 | 4 0 8 7 5 0 | 2 0 9 7 6 | |
| 2 55 | 3 8 3 6 6 9 | 4 0 8 6 9 7 | 2 1 5 0 8 | |

FORM 2(NEW)

# OPENCAST PROSPECTING BOREHOLE LOCATIONS AND SURFACE LEVELS

REGION: NORTH WEST

SITE: PILSWORTH

| C | C | L | R | SITE |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| | | | | 1 |
| | | | | 8 |
| P | 1 | 5 | 8 | 1 7 8 |

***PUNCH 0 AS ZERO***
PUNCH 1-10 ON ALL CARDS
LEAVE COLS 32-79 BLANK

Input to comput. 15/09/82

| No | East | North | Level | |
|---|---|---|---|---|
| 1 1 | 1 8 | 2 2 | 2 3 | 8 |
| 1 4 | 5 0 | 1 6 | 7 2 | 8 |

Mike Barton

Form 2(HP)

OPENCAST PROSPECTING
BOREHOLE LOCATIONS
AND SURFACE LEVELS

REGION NORTH WEST

SITE PILSWORTH

| COL | R | SITE |
|---|---|---|
| 1 3 | 4 5 | 1 0 |
| F 1 5 | 3 0 | 3 1 7 8 3 |

***PUNCH 0 AS ZERO***
PUNCH 1-10 ON ALL CARDS
LEAVE COLS 33-79 BLANK

Input to Computer 09/9/82

| No | East | North | Level | I |
|---|---|---|---|---|
| 2 1 0 | 3 0 7 6 3 8 | 4 0 8 5 0 8 | 2 1 9 8 9 | |
| 2 1 1 | 3 0 3 8 7 3 | 4 0 8 4 6 9 | 2 2 1 2 8 | |
| 2 1 2 | 3 0 3 7 0 9 | 4 0 8 4 2 4 | 2 2 2 3 0 | |
| 2 1 3 | 3 0 3 6 1 3 | 4 0 8 4 9 0 | 2 2 0 2 2 | |
| 2 1 4 | 3 0 3 6 5 2 | 4 0 8 4 4 4 | 2 2 1 0 0 | |
| 2 1 5 | 3 0 3 6 9 4 | 4 0 8 3 9 5 | 2 2 0 1 9 | |
| 2 1 6 | 3 0 3 7 2 0 | 4 0 8 3 6 4 | 2 1 9 3 8 | |
| 2 1 7 | 3 0 3 7 4 4 | 4 0 8 3 3 8 | 2 2 1 4 2 | |
| 2 1 8 | 3 0 3 7 7 6 | 4 0 8 3 6 1 | 2 2 1 4 5 | |
| 2 1 9 | 3 0 3 7 7 6 | 4 0 8 3 3 2 | 2 2 2 5 1 | |
| 2 2 0 | 3 0 3 7 4 9 | 4 0 8 3 0 4 | 2 2 0 1 9 | |
| 2 2 2 | 3 0 3 7 3 8 | 4 0 8 3 4 1 | 2 1 9 9 6 | |
| 2 2 3 | 3 0 3 7 1 1 | 4 0 8 3 3 0 | 2 1 9 9 0 | |
| 2 2 4 | 3 0 3 6 8 1 | 4 0 8 2 [illegible] | 2 1 8 2 3 | |
| 2 2 5 | 3 0 3 6 3 3 | 4 0 8 4 3 [illegible] | 2 1 8 4 5 | |

Mike Barton

Form 2(HP)

OPENCAST PROSPECTING

BOREHOLE LOCATIONS
AND SURFACE LEVELS

REGION NORTH WEST

SITE PILSWORTH

| DCL | R | SITE |
|---|---|---|
| 1 3 | 4 | 5 1 0 |
| P | 1 | 5 7 0 3 1 7 9 3 |

***PUNCH 0 AS ZERO***

PUNCH 1-10 ON ALL CARDS

LEAVE COLS 33-79 BLANK

Input to Comput. 09/9/82

| No | East | North | Level | |
|---|---|---|---|---|
| 1 1<br>1 4 | 1 3<br>5 0 | 2 2<br>1 5 | 2 3<br>7 2 | 3<br>0 |
| 201 | 383495 | 4038469 | 21436 | |
| 206 | 383466 | 4038483 | 21556 | |
| 207 | 383365 | 4038517 | 20796 | |
| 208 | 383411 | 4038455 | 21016 | |
| 209 | 383477 | 4038423 | 21120 | |

Form 2(HP)

# OPENCAST PROSPECTING
## BOREHOLE LOCATIONS AND SURFACE LEVELS

REGION NORTH WEST

SITE PILSWORTH




***FUNCH 0 AS ZERO***

PUNCH 1-10 ON ALL CARDS

LEAVE COLS 33-79 BLANK

| No | East | North | Level | I |
|---|---|---|---|---|
| 1 | 1 | 2 | 2 | 0 |
| 1 4 | 5 | 2 | 3 | 0 |
| 1 | 2 3 0 1 2 7 | 4 0 3 5 9 0 | 2 2 6 1 6 | 1 |
| 2 | 2 3 0 1 2 5 4 | 4 0 3 5 5 4 | 2 2 6 1 5 | 1 |
| 3 | 2 3 0 1 2 3 1 | 4 0 3 5 4 2 | 2 2 6 1 4 | 1 |
| 4 | 2 3 0 1 2 0 1 0 | 4 0 3 5 4 5 | 2 2 6 1 2 | 1 |
| 5 | 2 3 0 1 2 0 8 4 | 4 0 3 5 4 0 | 2 2 6 1 2 | 1 |
| 6 | 2 3 0 1 2 0 5 6 | 4 0 3 5 4 3 | 2 2 6 1 2 | 1 |
| | 2 3 0 1 2 0 5 6 | 4 0 3 5 4 5 | 2 2 6 1 2 | 1 |
| 7 | 2 3 0 1 2 0 5 5 | 4 0 3 5 7 1 0 | 2 2 6 1 0 | 1 |
| 8 | 2 3 0 4 0 5 1 | 4 0 3 6 8 0 | 2 2 7 2 4 | 1 |
| 10 | 2 3 0 4 0 7 5 | 4 0 3 7 5 7 | 2 2 6 5 4 | 1 |
| 11 | 2 3 0 3 9 3 | 4 0 3 7 0 0 | 2 2 6 3 1 | 1 |
| 12 | 2 3 0 3 9 4 2 | 4 0 3 6 0 7 | 2 2 6 6 2 | 1 |
| 13 | 2 3 0 3 9 4 1 | 4 0 3 5 2 0 | 2 2 6 5 9 | 1 |
| 14 | 2 3 0 4 2 1 6 | 4 0 3 6 4 0 | 2 2 6 4 3 6 | 1 |
| 15 | 2 3 0 4 2 3 1 | 4 0 3 7 3 5 | 2 2 6 4 2 5 | 1 |
| 16 | 2 3 0 4 3 2 6 | 4 0 3 8 0 7 | 2 2 6 0 7 2 | 1 |
| 17 | 2 3 0 4 3 0 8 | 4 0 3 7 3 5 | 2 2 6 2 2 9 | 1 |
| 18 | 2 3 0 4 2 7 4 | 4 0 3 8 1 1 | 2 2 6 2 2 7 | 1 |

Form 2(HP)

# OPENCAST PROSPECTING
## BOREHOLE LOCATIONS AND SURFACE LEVELS

REGION: NORTH WEST

SITE: PILSWORTH

| C | L | P | SITE |
|---|---|---|---|
| 1 | 3 | 4 | 5 1 0 |
| P | 1 | 5 | 3 0 3 1 7 0 3 |

***PUNCH 0 AS ZERO***
PUNCH 1-10 ON ALL CARDS
LEAVE COLS 33-79 BLANK

| No | East | North | Level | I |
|---|---|---|---|---|
| 1 1 1 4 | 1 3 5 0 | 2 2 1 5 | 2 3 7 3 | 8 0 |
| 1 1 9 | 3 3 4 4 5 5 | 4 0 3 7 9 8 | 0 1 8 8 6 | 1 |
| 2 0 | 3 3 4 0 8 7 | 4 0 3 8 2 F | 2 2 5 7 8 | 1 |
| 2 1 | 3 3 4 1 5 4 | 4 0 3 8 0 5 | 2 2 5 8 0 | 1 |
| 2 2 | 3 3 4 2 2 9 | 4 0 3 8 9 3 | 2 2 5 8 5 | 1 |
| 2 3 | 3 3 4 2 9 2 | 4 0 3 8 9 2 5 | 2 2 5 8 6 | 1 |
| 2 4 | 3 3 4 3 3 7 | 4 0 3 8 9 7 0 | 2 2 5 8 7 | 1 |
| 2 5 | 3 3 4 2 7 1 | 4 0 3 8 3 4 5 | 0 2 2 5 7 | 1 |
| 2 6 | 3 3 4 2 0 3 | 4 0 3 8 0 0 9 | 0 2 2 5 5 7 | 1 |
| 2 7 | 3 3 4 1 4 4 | 4 0 3 7 7 4 | 2 2 5 6 8 0 | 1 |
| 2 8 | 3 3 4 0 8 6 | 4 0 3 8 2 5 | 2 2 5 5 8 2 | 1 |
| 2 9 | 3 3 4 0 3 0 | 4 0 3 8 0 6 1 | 2 2 5 4 8 5 | 1 |
| 3 0 | 3 3 4 1 0 0 | 4 0 3 8 9 4 | 2 2 5 8 7 | 1 |

Form 2(HP)

# OPENCAST PROSPECTING

## BOREHOLE LOCATIONS AND SURFACE LEVELS

REGION: NORTH WEST

SITE: PILSWORTH

| COLR | | | | SITE | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | | 3 | 4 | 5 | | | | 10 |
| 0 | 5 | 2 | 8 | 0 | 1 | 7 | 8 | 3 |

***PUNCH 0 AS ZERO***

PUNCH 1-10 ON ALL CARDS

LEAVE COLS 73-79 BLANK

| No | East | North | Level | I |
|---|---|---|---|---|
| 1 1 | 1 2 | 2 3 | 3 | 80 |
| 4 | 5 0 | 1 7 | 2 | 80 |
| 01 | 2804115 | 4080917 | 2223 | 1 |
| 02 | 2804139 | 4080934 | 2231 | 1 |
| 03 | 2804251 | 4080955 | 2218 | 1 |
| 04 | 2804309 | 4080992 | 2185 | 1 |
| 05 | 2804156 | 4080988 | 2175 | 1 |
| 06 | 2804107 | 4080934 | 2172 | 1 |
| 07 | 2804105 | 4080917 | 2171 | 1 |
| 08 | 2804029 | 4080921 | 2199 | 1 |
| 09 | 2803931 | 4080782 | 2213 | 1 |
| 40 | 2803804 | 4080740 | 2228 | 1 |
| 41 | 2803809 | 4080795 | 2236 | 1 |
| 42 | 2803785 | 4080900 | 2201 | 1 |
| 43 | 2803927 | 4080821 | 2221 | 1 |
| 44 | 2803875 | 4080870 | 2231 | 1 |
| 45 | 2803511 | 4080785 | 2238 | 1 |
| 46 | 2803947 | 4080740 | 2204 | 1 |
| 47 | 2803943 | 4080869 | 2215 | 1 |
| 48 | 2803919 | 4080862 | 2249 | 1 |

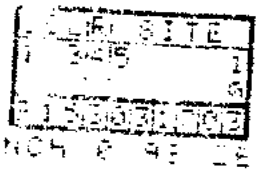
Mike
26/8/82

Form 2/HP)

OPENCAST PROSPECTING
BOREHOLE LOCATIONS
AND SURFACE LEVELS

REGION: NORTH WEST

SITE: PILSWORTH




**PUNCH 0 AT DEPOT**
PUNCH 1 IN ALL SPACES
LEAVE TITLE TO BE BLANK

| No | East | North | Level | I |
|---|---|---|---|---|
| | | | | |

Mike
26/8/82

Form CYMP1

# OPENCAST PROSPECTING
## BOREHOLE LOCATIONS AND SURFACE LEVELS

REGION: NORTH WEST

SITE: PILSWORTH

| COLR | SITE |
|---|---|
| 1 2 3 4 5 | 1 0 |
| P I L S W O R T H | |

***PUNCH 0 AS ZERO***
PUNCH 1-10 ON ALL CARDS
LEAVE COLS 77-78 BLANK

| NO | East | North | Level |
|---|---|---|---|
| 1 | 1 | 1 | 1 |
| 1 | 5 | 5 | 5 |

M. Baston.

Form 2(HP)

# OPENCAST PROSPECTING
## BOREHOLE LOCATIONS AND SURFACE LEVELS

REGION: NORTH WEST

SITE: PILSWORTH

| COLR | SITE |
|---|---|
| 1 3 4 5 | 1 0 |
| F: 5 3 0 3 1 7 0 3 | |

***PUNCH 0 AS ZERO***

PUNCH 1-10 ON ALL CARDS

LEAVE COLS 33-79 BLANK

| No | East | North | Level | I |
|---|---|---|---|---|
| 1 1 / 1 4 | 1 2 / 5 0 | 2 2 / 1 5 | 2 3 / 7 2 | 8 / 0 |
| ✓ 1 0 8 | 3 8 3 5 9 5 | 4 0 0 8 4 2 | 2 0 8 4 7 | |
| ✓ 1 0 9 | 3 8 3 5 7 1 | 4 0 0 8 7 8 | 2 0 9 1 9 | |
| ✓ 1 1 0 | 3 8 3 5 3 9 | 4 0 0 8 3 3 | 2 0 7 3 3 | |
| ✓ 1 1 1 | 3 8 3 4 8 9 | 4 0 0 8 3 4 5 | 2 0 7 7 7 | |
| ✓ 1 1 2 | 3 8 3 4 3 7 | 4 0 0 8 4 6 | 2 0 7 6 6 | |
| ✓ 1 1 3 | 3 8 3 3 7 8 | 4 0 0 8 3 4 | 2 0 6 6 5 | |
| ✓ 1 1 4 | 3 8 3 3 7 8 | 4 0 0 8 6 9 | 2 0 5 2 5 | |
| ✓ 1 1 5 | 3 8 3 4 0 2 | 4 0 0 8 8 1 | 2 0 5 9 8 | |
| ✓ 1 1 6 | 3 8 3 3 7 4 | 4 0 0 8 4 9 | 2 0 4 1 3 | |
| ✓ 1 1 7 | 3 8 3 3 6 9 | 4 0 0 8 5 3 | 2 0 5 2 7 | |
| ✓ 1 1 8 | 3 8 3 3 4 1 | 4 0 0 8 6 0 | 2 0 4 1 1 | |
| ✓ 1 1 9 | 3 8 3 4 0 5 | 4 0 0 8 4 0 | 2 0 6 8 1 | |
| 1 2 0 | 3 8 3 8 3 0 | 4 0 0 8 7 2 | 2 0 7 3 0 | |
| ✓ 1 2 1 | 3 8 3 4 7 7 | 4 0 0 8 7 5 | 2 0 8 5 3 | |
| ✓ 1 2 2 | 3 8 3 5 2 0 | 4 0 0 8 5 0 | 2 0 8 3 6 | |
| ✓ 1 2 3 | 3 8 3 5 6 9 | 4 0 0 8 3 3 | 2 0 7 9 4 | |
| ✓ 1 2 4 | 3 8 3 5 7 0 | 4 0 0 8 0 9 | 2 0 4 0 9 | |
| ✓ 1 2 5 | 3 8 3 5 3 7 | 4 0 0 8 1 0 | 2 0 2 7 6 | |

Input to Computer.

SAK 21.7.82

23-7-82

M. Barton

Form 2(HP)

# OPENCAST PROSPECTING
## BOREHOLE LOCATIONS AND SURFACE LEVELS

REGION: NORTH WEST

SITE: PILSWORTH

| CCL | R | SITE |
|---|---|---|
| 1 3 | 4 | 5 1 0 |
| P | 1 | 5 3 0 3 1 7 0 3 |

***PUNCH 0 AS ZERO***

PUNCH 1-10 ON ALL CARDS

LEAVE COLS 33-79 BLANK

| | No | East | North | Level | I |
|---|---|---|---|---|---|
| | 1 1 1 4 | 1 3 5 0 | 2 2 1 6 | 2 3 7 2 | 8 0 |
| ✓ | 1 2 9 | 3 8 4 5 5 8 | 4 0 8 5 4 0 | 2 1 6 8 5 | |
| ✓ | 1 3 0 | 3 8 4 5 1 5 | 4 0 8 6 0 7 | 2 1 7 1 7 | |
| ✓ | 1 3 1 | 3 8 4 4 7 0 | 4 0 8 6 7 5 | 2 1 6 9 6 | |
| ✓ | 1 3 2 | 3 8 4 4 2 4 | 4 0 8 6 3 9 | 2 1 7 6 5 | |
| ✓ | 1 3 3 | 3 8 4 3 7 7 | 4 0 8 5 9 8 | 2 1 8 7 7 | |
| ✓ | 1 3 4 | 3 8 4 4 1 0 | 4 0 8 5 5 0 | 2 1 8 8 5 | |
| ✓ | 1 3 5 | 3 8 4 7 3 5 | 4 0 8 7 1 7 | 2 1 6 8 4 | |
| ✓ | 1 3 6 | 3 8 4 6 8 8 | 4 0 8 7 8 1 | 2 1 7 5 9 | |
| ✓ | 1 3 7 | 3 8 4 6 3 7 | 4 0 8 8 3 1 | 2 1 9 0 1 | |
| ✓ | 1 3 8 | 3 8 4 5 9 8 | 4 0 8 7 5 2 | 2 1 8 1 9 | |
| ✓ | 1 3 9 | 3 8 4 5 3 5 | 4 0 8 7 1 4 | 2 1 7 0 3 | |
| ✓ | 1 4 0 | 3 8 4 5 8 7 | 4 0 8 6 4 0 | 2 1 7 1 2 | |
| ✓ | 1 4 1 | 3 8 4 6 4 4 | 4 0 8 6 7 9 | 2 1 6 3 0 | |
| ✓ | 1 4 2 | 3 8 4 6 6 4 | 4 0 8 5 7 7 | 2 1 6 4 7 | |
| ✓ | 1 4 3 | 3 8 4 7 1 8 | 4 0 8 5 1 1 | 2 1 4 8 9 | |
| ✓ | 1 4 4 | 3 8 4 6 3 8 | 4 0 8 4 6 1 | 2 1 7 7 4 | |
| | 1 4 5 | 3 8 4 5 8 4 | 4 0 8 5 1 9 | 2 1 7 4 7 | |

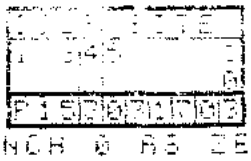
Input to Computer 23-7-82

Form 2/WPA

# OPENCAST PROSPECTING
## BOREHOLE LOCATIONS AND SURFACE LEVELS

REGION NORTH WEST

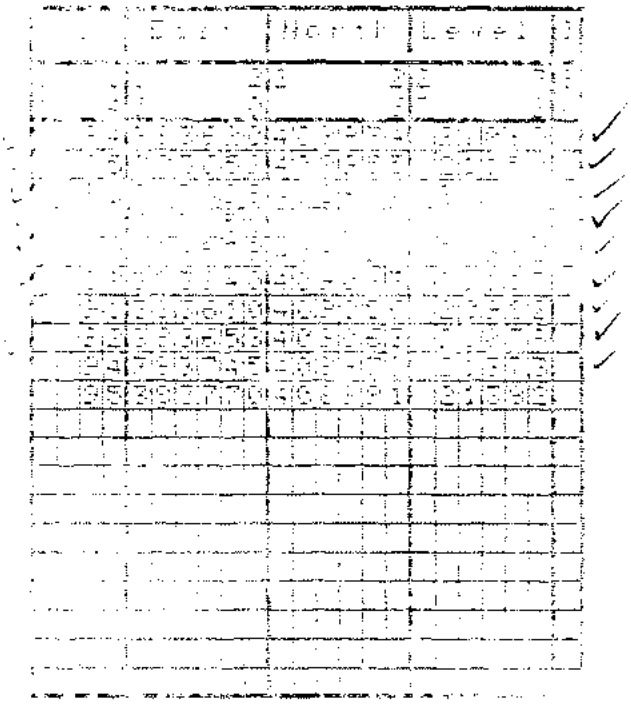
SITE PILSWORTH



***PUNCH 0 AS ZERO***

PUNCH 1-10 ON ALL CARDS

LEAVE COLS 32-75 BLANK



draft 25/6/82
WF

Form 2(WP)

# OPENCAST PROSPECTING
## BOREHOLE LOCATIONS AND SURFACE LEVELS

REGION: NORTH WEST

SITE: PILSWORTH

| CC | P | SITE |
|---|---|---|
| 1 | 3 | 5 1 |

PUNCH 1-10 ON ALL CARDS
LEAVE COLS 11-79 BLANK

| No | East | North | Level | I |
|---|---|---|---|---|

M. Barton

Form 2(HP)

OPENCAST PROSPECTING
BOREHOLE LOCATIONS
AND SURFACE LEVELS

REGION: NORTH WEST

SITE: PILSWORTH

| COL | R | SITE |
|---|---|---|
| 1 3 | 4 | 5 1 0 |
| P | 1 | 5 3 0 3 1 7 0 3 |

***PUNCH 0 AS ZERO***
PUNCH 1-10 ON ALL CARDS
LEAVE COLS 33-79 BLANK

| No | East | North | Level | I |
|---|---|---|---|---|
| 1 1 / 1 4 | 1 2 / 5 0 | 2 2 / 1 6 | 2 3 / 7 2 | 8 / 0 |
| 145 | 382701 | 4090665 | 21882 | |
| 147 | 382666 | 4089093 | 21463 | |
| 148 | 382423 | 4088857 | 20331 | |
| 149 | 382452 | 4087186 | 20238 | |
| 150 | 382360 | 4086755 | 20088 | |
| 151 | 382384 | 4087669 | 19919 | |

Input to Computer

22/7/37

Form 2(HP)

# OPENCAST PROSPECTING
## BOREHOLE LOCATIONS AND SURFACE LEVELS

REGION: NORTH WEST

SITE: PILSWORTH

| COLR | SITE |
|---|---|
| 1 3 4 5 | 1 0 |
| P 1 5 3 0 3 1 7 0 3 | |

***PUNCH 0 AS ZERO***

PUNCH 1-10 ON ALL CARDS

LEAVE COLS 33-79 BLANK

INPUT TO COMPUTER 26-7-82.

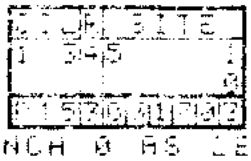
| No | East | North | Level | I |
|---|---|---|---|---|
| 1 1 1 4 | 1 2 5 0 | 2 2 1 0 | 2 3 7 2 | 8 0 |
| 1 5 2 | 3 9 3 0 6 3 | 4 0 9 1 3 4 | 2 2 2 8 4 | |
| 1 5 3 | 3 8 3 2 3 8 | 4 0 9 2 7 4 | 2 1 5 6 0 | |
| 1 5 4 | 3 8 3 1 6 0 | 4 0 9 2 1 3 | 2 1 8 8 9 | |
| 1 5 5 | 3 8 3 1 2 2 | 4 0 9 2 8 4 | 2 1 7 3 6 | |
| 1 5 6 | 3 8 3 0 4 3 | 4 0 9 2 5 5 | 2 2 0 2 6 | |
| 1 5 7 | 3 8 2 9 2 9 | 4 0 9 2 1 7 | 2 3 2 5 0 | |

Mike Barton

# OPENCAST PROSPECTING
## BOREHOLE LOCATIONS AND SURFACE LEVELS

REGION: NORTH WEST

SITE: PILENORTH




***PUNCH 0 AS ZERO***

PUNCH 1-10 ON ALL CARDS

LEAVE COLS 72-79 BLANK

| No | East | North | Level | I |
|---|---|---|---|---|
| 1 1<br>1 4 | 1 2<br>5 8 | 3 2<br>1 5 | 3 3<br>2 3 | 3 3<br>3 3 |
| 1 5 8 | 3 9 2 8 3 7 | 4 0 9 1 6 4 | 2 2 0 8 0 | |
| 1 6 2 | 3 9 2 [illegible] 5 0 | 4 0 8 3 1 3 1 | 2 1 9 0 2 | |
| 1 6 3 | 3 9 2 [illegible] 3 0 | 4 0 8 9 4 0 | 2 3 0 [illegible] 2 | |
| 1 6 [illegible] | 3 9 2 [illegible] 5 [illegible] | 4 0 8 [illegible] 2 6 4 | 2 1 3 [illegible] 1 0 | |
| 1 6 [illegible] | 3 9 2 [illegible] 1 0 | 4 0 8 [illegible] 3 4 7 | 2 1 4 [illegible] 3 0 | |
| 1 6 7 | 3 9 2 [illegible] 3 8 | 4 0 8 3 9 9 4 | 2 1 9 4 6 | |
| 1 6 8 | 3 9 2 [illegible] 4 | 4 0 8 [illegible] 1 | 2 [illegible] 4 [illegible] 3 | |
| 1 6 [illegible] | 3 9 2 [illegible] 3 | 4 0 8 [illegible] 3 0 | 2 [illegible] 2 4 | |
| 1 6 [illegible] | 3 9 2 [illegible] 2 | 4 0 8 [illegible] 2 9 | 2 1 [illegible] 2 6 | |
| 1 7 3 | 3 9 2 [illegible] 4 | 4 0 8 4 4 0 1 | 2 2 0 [illegible] 0 | |
| 1 7 4 | 3 9 2 [illegible] 7 | 4 0 8 [illegible] 3 | 2 2 [illegible] 3 | |
| 1 7 9 | 3 9 2 4 4 0 | 4 0 8 1 2 9 7 | 2 2 0 4 9 | |
| 1 8 1 | 3 8 2 8 2 3 | 4 0 8 3 2 3 | 2 1 2 5 0 | |
| 1 8 2 | 3 8 2 5 7 5 | 4 0 9 4 0 7 | 2 0 2 9 2 | |
| 1 8 3 | 3 8 2 5 4 7 | 4 0 8 5 2 5 7 | 2 0 7 4 1 | |
| 1 7 8 | 3 8 3 4 2 0 | 4 0 8 2 3 0 3 | 2 1 5 2 0 | |
| 1 7 9 | 3 8 3 3 7 0 | 4 0 8 2 5 2 | 2 1 2 8 3 | |
| 1 8 9 | 3 8 2 3 3 5 | 4 0 8 3 4 2 7 | 2 1 1 6 9 | |
| 1 9 1 | 3 8 3 3 0 6 | 4 0 8 3 0 0 | 2 1 3 0 7 | |

Mike Barton

# OPENCAST PROSPECTING

## BOREHOLE LOCATIONS AND SURFACE LEVELS

REGION: NORTH WEST

SITE: PILSWORTH

| COLRI SITE |
|---|
| 1 345 10 |
| [illegible] |

***PUNCH 0 AS ZERO***

PUNCH 1-10 ON ALL CARDS

LEAVE COLS 33-79 BLANK

| No | East | North | Level | I |
|---|---|---|---|---|
| 11 14 | 12 56 | 13 14 | 13 72 | 8 0 |
| [illegible] | [illegible] | [illegible] | 128942 | |
| [illegible] | [illegible] | [illegible] | [illegible] | |
| [illegible] | [illegible] | [illegible] | 119230 | |
| [illegible] | [illegible] | [illegible] | [illegible] | |
| [illegible] | [illegible] | [illegible] | [illegible] | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

OPTICAST PROSPECTING

# BOREHOLE LOCATIONS AND SURFACE LEVELS

REGION NORTH WEST

SITE PILSWORTH

TO BE INPUT TO COMPUTER.

| CARD CLASS (1–3) | R (4) | SITE NUMBER (5–10) | | | | | |
|---|---|---|---|---|---|---|---|
| P15 | 3 | 0 | 3 | 1 | 7 | 0 | 3 |

PUNCH COL. 1 10
IN ALL CASES.

| BOREHOLE NUMBER (11–14) | EASTING (15–20) | NORTHING (21–26) | SURFACE LEVEL (27–32) | (33–79) | IND (80) |
|---|---|---|---|---|---|
| 256 | 383699 | 408641 | 21784 | | |
| 257 | 383692 | 408585 | 21894 | | |
| 258 | 383663 | 408642 | 21638 | | |
| 259 | 383628 | 408701 | 21182 | | |
| 260 | 383584 | 408733 | 20862 | | |
| 261 | 383633 | 408659 | 21476 | | |
| 262 | 383651 | 408606 | 21665 | | |
| 263 | 383600 | 408600 | 21632 | | |
| 264 | 383584 | 408650 | 21472 | | |
| 265 | 383550 | 408695 | 21113 | | |
| 266 | 383688 | 408739 | 21274 | | |
| 267 | 382597 | 409622 | 21574 | | |
| 268 | 382707 | 409585 | 21589 | | |
| 269 | 382799 | 409536 | 21831 | | |
| 270 | 382871 | 409579 | 22428 | | |
| 271 | 382611 | 409520 | 21542 | | |
| 272 | 382702 | 409688 | 21619 | | |
| 273 | 382670 | 409740 | 21547 | | |
| 274 | 382588 | 409694 | 21505 | | |
| 275 | 382468 | 409585 | 20873 | | |
| 276 | 382532 | 409583 | 21271 | | |
| 277 | 382462 | 409623 | 21035 | | |
| 278 | 382884 | 409586 | 22196 | | |
| 279 | 382926 | 409626 | 22257 | | |
| 280 | 382888 | 409731 | 21801 | | |
| 281 | 382819 | 409662 | 21959 | | |
| 282 | 382772 | 409762 | 21511 | | |
| 283 | 382542 | 409717 | 21212 | | |

19 OCT 1982

NATIONAL COAL BOARD - OPENCAST EXECUTIVE - NO. 4 CENTRAL (WEST) REGION

1703/009

BOREHOLE SAMPLE SHEET

AREA LANCS

BOREHOLE 202 on 190

DATE SAMPLED 26/8/82

SITE NAME PILSWORTH

GRID REF.

GEOLOGIST M. BARTON

SITE NO. 031703

SEAM NAME Six Inch

SHEET 1 OF 1

| Sample No. | Base Depth (m) | Thickness (m) | Leaf | Physical Description | F/N | Analyses Air-Dried Moist % | Ash % | Sul. % | Chl. % | V.M. % | C.V. BTU/lb | Dry Ash V.M. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | | 0.17 | A150 | Coal Shattered | N | 6.4 | 35.3 | 4.59 | 0.07 | | | |

| Sample No. | Leaf | Free Moist | S.G. | S.W. No. | Gray King | | Ash Fusion °C D | H | F | Silica Ratio | Remarks | Floats % at 1.6 | Floats S.G. | Sinks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | |

ECU 1032

Laboratory _____ Reported By _____ Report No. _____ Date _____

NATIONAL COAL BOARD - OPENCAST EXECUTIVE - NO. 4 CENTRAL (WEST) REGION

BOREHOLE SAMPLE SHEET

RT 9 OCT 1982

AREA LINCS | SITE NAME PILSWORTH | SITE NO. 031703 (

BOREHOLE 266 on 253 | GRID REF. | SEAM NAME SANDROCK

DATE SAMPLED SEPT 82 | GEOLOGIST M. BARTON | SHEET 1 OF 1

| Sample No. | Base Depth (m) | Thickness (m) | Leaf | Physical Description | F/N | Analyses Air-Dried: Moist % | Ash % | Sul. % | Chl. % | V.M. % | C.V. BTU/lb | Dry Ash Free: V.M. % | C.V. BTU/lb |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.51 | A103 | Coal banded dull & bright good stick, friable inferior band top 0.1cm. | F/N | 2.6 | 11.3 | 1.69 | 0.11 | 33.5 | 30200 | 38.9 | 35080 |
| | | 0.03 | | Mudstone grey f/f. | | | | | | | | | |
| | | 0.17 | A101 | Coal dull & bright good stick. | N | 3.6 | 15.4 | 3.53 | 0.09 | 30.5 | 28120 | 37.7 | 34720 |

| Sample No. | Leaf | Free Moist | S.G. | S.W. No. | Gray King | | Ash Fusion °C: D | H | F | Silica Ratio | Remarks | Floats % at 1.6 | Floats S.G. | Sinks S.G. | Sinks Ash % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

Laboratory _____ Reported By _____ Report No. _____ Report Date _____

BRITISH COAL RECEIVED 10 NOV 1982 AREA OFFICE KIRKLESS OPENCAST EXECUTIVE

-2 AUG 1982

NATIONAL COAL BOARD - OPENCAST EXECUTIVE - NO. 4 CENTRAL (WEST) REGION

BOREHOLE SAMPLE SHEET

AREA Lancs & N. Wales | SITE NAME PILSWORTH | SITE NO. 031703

BOREHOLE 9 | GRID REF. 384061E 408680N | SEAM NAME Not known

DATE SAMPLED 11/5/82 | GEOLOGIST N. Barton | SHEET 1 OF 1

| Sample No. | Base Depth (m) | Thickness (m) | Leaf | Physical Description | F/N | Analyses Air-Dried: Moist % | Ash % | Sul. % | Chl. % | V.M. % | C.V. BTU/lb | Dry Ash Free: V.M. % | C.V. BTU/lb |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20.53 | 0.63 | | Mudstone, grey, mod hd, blky, sub fiss, uneven fract, silicified surfaces, lost rods 0.03 and 0.05 thick 0.20 and 0.42 from top. | | | | | | | | | |
| 2 | 21.01 | 0.48 | — | COAL, dull, high ash fract str Sheared throughout | N | 2.7 | 7.4 | 0.71 | 0.02 | 32.1 | 31420 | 35.7 | 34940 |
| | 23.03 | 0.02 | | Mdst/Seatearth/Core broken | | | | | | | | | |
| | 23.00 | 1.97 | | Lost Core | | | | | | | | | |
| | 23.19 | 0.19 | | Mudst, grey, mod hd, blky, sub fissile uneven fract. | | | | | | | | | |
| 3 | 23.38 | 0.19 | | COAL, dull, small pyrite nods, occ fus/pyrite bands. | N | 2.5 | 13.2 | 2.88 | 0.04 | 34.7 | 28980 | 41.2 | 34380 |
| | 23.66 | 0.28 | | Sandstone, pale grey, strong, fine grained, parall, micaceous. | | | | | | | | | |

| Sample No. | Leaf | Fine Moist | S.G. | S.W. No. | Gray King | | Ash Fusion °C: D | H | F | Silica Ratio | Remarks | Floats % at 1.8 | Floats S.G. | Sinks S.G. | Sinks Ash % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

Laboratory _____ Reported By _____ Report No. _____ Report Date _____

NATIONAL COAL BOARD - OPENCAST EXECUTIVE - NO. 4 CENTRAL (WEST) REGION

BOREHOLE SAMPLE SHEET

AREA LANCS | SITE NAME PILSWORTH | SITE NO. 031703

BOREHOLE 266 on 253 | GRID REF. | SEAM NAME SANDROCK

DATE SAMPLED SEPT 82 | GEOLOGIST M. BARTON | SHEET 1 OF 1

| Sample No. | Base Depth (m) | Thickness (m) | Leaf | Physical Description | F/N | Analyses Air-Dried | | | | | | Dry Ash Free | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Moist % | Ash % | Sul. % | Chl. % | V.M. % | C.V. BTU/1b | V.M. % | C.V. BTU/1b |
| 5 | | 0.51 | A103 | Coal banded dull bright good stick, fissile inferior band top 0.1cm. | F-N | | | | | | | | |
| | | 0.03 | | Mudstone grey soft. | | | | | | | | | |
| 6 | | 0.17 | A101 | Coal dull bright good stick. | N | | | | | | | | |

| Sample No. | Leaf | Free Moist | S.G. | S.W. No. | Gray King | | Ash Fusion °C D | H | F | Silica Ratio | Remarks | Floats % at 1.6 | Floats S.G. | Sinks S.G. | Sinks Ash % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

KPU 1032

Laboratory _____ Reported By _____ Report No. _____ Report Date _____

NATIONAL COAL BOARD - OPENCAST EXECUTIVE - NO. 4 CENTRAL (WEST) REGION

BOREHOLE SAMPLE SHEET

AREA LANCS

BOREHOLE 202 on 190

DATE SAMPLED 26/8/82

SITE NAME PILSWORTH

GRID REF.

GEOLOGIST M. BARTON

SITE NO. 031703

SEAM NAME Six Inch?

SHEET 1 OF 1

| Sample No. | Base Depth (m) | Thickness (m) | Leaf | Physical Description | F/N | Analyses Air-Dried | | | | | | Dry Ash Free | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Moist % | Ash % | Sul. % | Chl. % | V.M. % | C.V. BTU/1b | V.M. % | C.V. BTU/1b |
| 4 | | 0.17 | A150 | Coal Shattered | N | | | | | | | | |

| Sample No. | Leaf | Free Moist | S.G. | S.W. No. | Gray King | | Ash Fusion °C | | | Silica Ratio | Remarks | Floats % at 1.6 | Floats S.G. | Sinks S.G. | Sinks Ash % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | D | H | F | | | | | | |

KPU 1032

Laboratory _____ Reported By _____ Report No. _____ Report Date _____

NATIONAL COAL BOARD - OPENCAST EXECUTIVE - NO. 4 CENTRAL (WEST) REGION

BOREHOLE SAMPLE SHEET

AREA Lancs & N. Wales | SITE NAME PILSWORTH | SITE NO. 031703

BOREHOLE 9 | GRID REF. 384061E 408680N | SEAM NAME Not known

DATE SAMPLED 11/5/82 | GEOLOGIST N. Barton | SHEET 1 OF 1

| | Base Depth (m) | Thickness (m) | Leaf | Physical Description | F/N | Analyses Air-Dried: Moist % | Ash % | Sul. % | Chl. % | V.M. % | C.V. BTU/lb | Dry Ash Free: V.M. % | C.V. BTU/lb |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 20.53 | 0.63 | | Mudstone, grey, mod hd, blky, sub fiss, uneven fract, slickensided surfaces, lost rods 0.03 and 0.05 thick 0.20 and 0.42 from top. | | | | | | | | | |
| 2 | 21.01 | 0.48 | — | COAL, dull, high ash fract str sheared throughout | N | | | | | | | | |
| | 23.03 | 0.02 | | Mash/Seatearth/Core broken | | | | | | | | | |
| | 23.00 | 1.97 | | Lost Core | | | | | | | | | |
| | 23.19 | 0.19 | | Mudst, grey, mod hd, blky, sub fissile uneven fract. | | | | | | | | | |
| 3 | 23.38 | 0.19 | | COAL, dull, small pyrite nods, occ fus/pyrite lenses. | N | | | | | | | | |
| | 23.66 | 0.28 | | Sandstone, pale grey, strong, fine grained, porous, micaceous. | | | | | | | | | |

| Leaf | Free Moist | S.G. | S.W. No. | Gray King | | Ash Fusion °C: D | H | F | Silica Ratio | Remarks | Floats % at 1.8 | Floats S.G. | Sinks S.G. | Sinks Ash % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | |

Library ____ Reported By ____ Report No. ____ Report Date ____

## LEGEND

PROSPECTING BOUNDARY
(Inside edge of symbol to be taken as boundary)

Overhead Electricity Line
Voltage as indicated — E — E —

Underground Electricity Cable
Voltage as indicated — UE — UE —

Overhead Telephone Line — T — T —

Underground Telephone Cable — UT — UT —

Water Pipeline
Diameter as indicated — W — W —

Public Footpath — Footpath No. 103

Disused Shaft

Adopted Highway by Bury M.B.C. (A) (B)

NATIONAL COAL BOARD OPENCAST EXECUTIVE
No 3 NORTH WEST REGION
Anderton House, Lowton

# Site No. 031703
# PILSWORTH

## Composite Prospecting Information

| | | | |
|---|---|---|---|
| Location | 2 Kilometres South East of Bury | | |
| N.G. Ref. | SD 835 090 | Drawn by M.E.A. | Checked by Date 9.3.1982 |

Based upon Ordnance Survey Maps with the sanction of the Controller of H.M. Stationery Office. Crown Copyright Reserved.

Scale 1/2500

Drwg. No. 031703/03


3,500
400
300
200
100
383,000
900
800
700
600
2,500
400
300
200
008659



1703/012

# Norwest Holst Soil Engineering Ltd.

PJK/SLH/F5855 **Site Investigation Report** 5th April, 1984

GROUND INVESTIGATION

HIGHER BARN FARM

BURY

In December, 1983 we were requested to investigate the repeated localised collapses of the ground at the above site. These areas of disturbance were all associated with previously drilled rotary boreholes. It was postulated at this time that the collapses were due to the sand in the drift materials being washed or falling into the bedrock via the rotary hole which was not sealed or on a larger scale by the movement of the drift materials through the rock and rotary borehole into the underlying coal workings.

In order to obtain further information of the ground which was being affected, it was agreed with yourselves in January, 1984 that we should carry out eight standard shell and auger boreholes at representative positions around the whole site. The findings of this work would be taken into account in attempting to assess the type of treatment that may be required.

A complete record of the strata encountered is given on the attached borehole logs, from inspection of these it can be seen that in general an upper layer of clay was encountered, which formed a general cap across the site.

Beneath this sand with bands of clay was observed extending down to either stiff sandy gravelly clay or bedrock.

It was considered likely that if the sand was removed or disturbed that the firm to stiff clay would bridge over the area of disturbance for a short time but would eventually give way and form dperessions, as have been observed. This would also conform to observations made by the farmer who feels that open cavities exist at depth below the upper capping layer at a number of locations.

From these findings it is considered that grout injection techniques could provide a solution to the problem. It was considered that a 4:1 cement/bentonite mix emplaced under pressure would be used.

Due to the urgency of the work, particularly in one critical area (the potato field), a number of trial grout holes were then carried out in order to further assess the best method of workings.

At this stage three sets of conditions were envisaged. (1), where it was possible for us to follow the old rotary borehole and to actually locate the hole in the bedrock, (2), where it was not possible to locate the existing hole in the bedrock and (3), relating to either of the above conditions, but where coal workings were encountered and a high grout take was likely unless the rotary borehole could be located and blocked.

These trial grouting holes were formed as instructed by the use of a shell and auger rig supported on a drilling platform. This rig bored down the position of the old borehole, (as indicated by the National Coal Board and marked by a wooden stake). A set of grouting and pumping equipment along with a water supply bowser and four wheeled drive tractor were in full attendance.

Two of these trial holes located the original rotary hole and followed the hole into the bedrock, however the others did not encounter the original borehole in the rock, although considerable care was taken by ourselves in the vertical alignment of our hole. Clearly, however, a deviation of only 50 - 100 mm from the vertical would result in the non location of the hole in the bedrock, with the method of rotary drilling, likely to have been employed previously, deviations from the vertical of greater than this were quite likely. Each of these boreholes was pressure grouted, approximately half a tonne of grout being injected into each of the three positions. At the time of boring no open voids were recorded although the lower layers of sand were disturbed and very loose.

One additional borehole was then formed approximately 1.00 m away from one of the original grouted holes in order to determine the penetration of the grout. This hole encountered grout throughout the majority of its depth, the sand being much more difficult to penetrate and being lightly cemented and the fissures in the layers of clay being clearly grout filled.

From the observations made to date two mechanisms for formation of the depressions are suggested.

As discussed previously, one associated with the movement of the sand into the bedrock/working and the second that severe disturbance of the ground (sand) has occured associated with the rotary drilling flush method, and that the subsequent collapses are due to the settlement and readjustment of the sand. Rotary drilling using either air of water flush can cause major cavities and disturbance in drift materials of this nature, these are often observed at the time of boring, although in this case the substantial clay cap could clearly delay this collapse. The action of the boring and movement of groundwater through the sand could also result in self collapse and settlement of the sand.

On the basis of the information it was suggested, for your consideration, that the methods adopted in the trial grouting were applied to the remaining (aproximately 90) boreholes, although clearly depending on the programme indicated by yourselves, additional rigs and grouting equipment would be required in order to speed the completion of the works.

Attention is also drawn to the presence of the old coal workings and voids which are present beneath parts of the site. In a number of the boreholes it is likely that the grout may penetrate these workings and as such unless the old borehole is located and blocked a large quantity of grout may be required. Where this is

encountered a review of the proceedures and possibly the equipment required to seal these areas may be needed.

P. J. Kirkpatrick
SENIOR SOILS ENGINEER.

I. F. Rodger
TECHNICAL DIRECTOR.

# Memorandum

From ADG

Our Ref 1703/012

To NOTE FOR FILE

Your Ref

Subject Reliability of the Drilling Carried out by AMCO Drilling Ltd. on Pilsworth Prospecting Site.

Date 5th Feb. 1985

Drilling has been carried out by Contractors for Lancashire County Council and BP Petroleum Developments Ltd in and adjacent to Pilsworth Prospecting Site.

1) Lancashire County Council. The boreholes record wellhead levels that roughly correlate with those produced by AMCO Drilling Ltd. although the wellhead level is lower than AMCO's. The M66 boreholes are not in the same area so wellhead may in fact rise to the east where the AMCO BHs were drilled.

Telephone ext.

P.T.O.

2) BP Petroleum Developments Ltd. 3 Trial Pits were dug and 3 site investigation boreholes were drilled adjacent or in the trial pits. One oil exploration well was drilled. Trial Pit 2 was drilled very close to AMOCO's BH 106 and recorded 3 coals, whereas BH 106 recorded sandstone and sandy mudstone down to 30·00 m. This lack of correlation casts doubt on the accuracy of the AMOCO BH. The rockhead depths for the BP BHs & Trial Pits corresponded with the rockhead depths recorded by AMOCO (attached plan) The levels for the Sandrock Mine do not produce a coherent structure (attached plans). There are known to be large faults in the area, the lack of coal in BH 106 and the irregular coal levels for the Sandrock Mine could be a result of faulting. BP have assumed this are produced an acceptable structure from the NCB results. However there is not conclusive evidence either way on the reliability of AMOCO's drilling. The difference between Trial Pit 2 & BH 106 and in the knowledge of AMOCO's subsequent record does cast some doubts.

Rosalind Tomlin

NATIONAL COAL BOARD OPENCAST EXECUTIVE

# DAILY DRILL LOG

REGION No. 3 NORTH WEST

TE NAME Pikeloth

SITE No. 1321703

DATE Tue 22-6-82.

SHEET 2 OF 3

Contractor Hamco

Area Lancs.

TYPE & No of Drill Ox Typhoon 72

WORKS ORDER No. 7749.

DRILLER H. Rowbotham

2nd MAN D. Connell

3rd MAN M. Costello

| Bm No | Field No | DESCRIPTION OF STRATA | Depth of Base Metres | Thickness Metres | Core Recovery | GEOLOGISTS NOTES C/RF & Level | A | B | Seam | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Loc. | | | | | | | | |
| | | Top Soil | 0.20 | 0.20 | | | | | | BP. Borehole & Trial Pit No. 2 |
| | | Recent Sandy clay | 2.00 | 1.80 | | | | 5 | 0.20 | 0.20 Clayey TOPSOIL |
| | | Permian Sandstone | 17.00 | 15.00 | | | 50 | | 0.70 | 0.50 Silty sandy CLAY frags SST |
| | | Grey Brown Sandstone | 24.70 | 7.70 | | | 50 | | 1.20 | 0.50 stiff CLAY some coal smearing |
| | | Dark Grey Sandstone | 29.00 | 4.30 | | | 50 | | 3.50 | 2.30 F/Lam. SST |
| | | Dark Grey Mudstone | 33.30 | 3.30 | | | 58 | | 3.80 | 0.30 COAL |
| | | Grey Sandstone | 40.80 | 4.80 | | | 50 | | 12.00 | 8.20 SST |
| | | Dark Grey Mudstone | 43.68 | 2.88 | | | 58 | | 13.00 | 6.00 MST |
| | | Coarse Grey Sandstone | 50.00 | 6.32 | | | 50 | 6 | 18.80 | 0.80 COAL |
| | | | | | | | | | 20.00 | 1.20 SST |
| | | Coal Seam with | 32.00 | | | | | | 21.00 | 1.00 COAL |
| | | Mudstone Seam | | | | | | | 31.50 | 10.50 MST |
| | | Hit coupled a backfill tool. | | | | | | | | |

| HRS | AMOUNTS PAYABLE | |
|---|---|---|
| | OPEN HF | 50.00 |
| | HOLE PF | |
| | SF | |
| | 412/HF | |
| | CORE PF | |
| | REC SF | |
| | D4 | |
| | CASING HX | 3 |
| | PX | |
| | SX | |
| | GEOLOG | |
| | ROUND | |
| | TRIPPING | |
| | MOVING | 1 |
| | Extra Wheels | |
| | Standing Rig in use | |
| | Standing Rig not in use | |
| | Immobilised | |
| | Standing Contractor | |
| | Grouting | |

MATERIALS USED

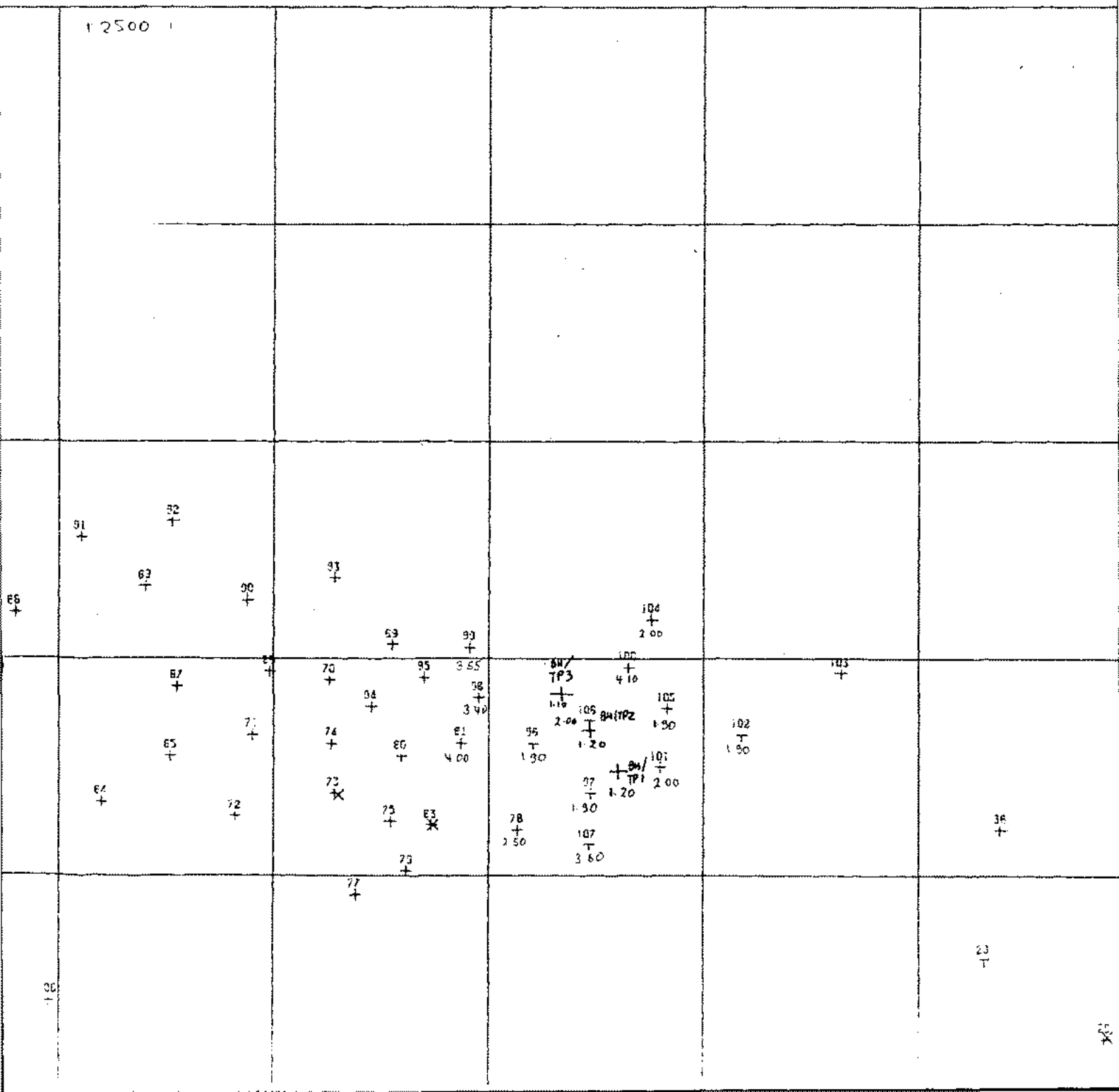
Signed _____ Contractors Rep

Signed N Baxter Geologist

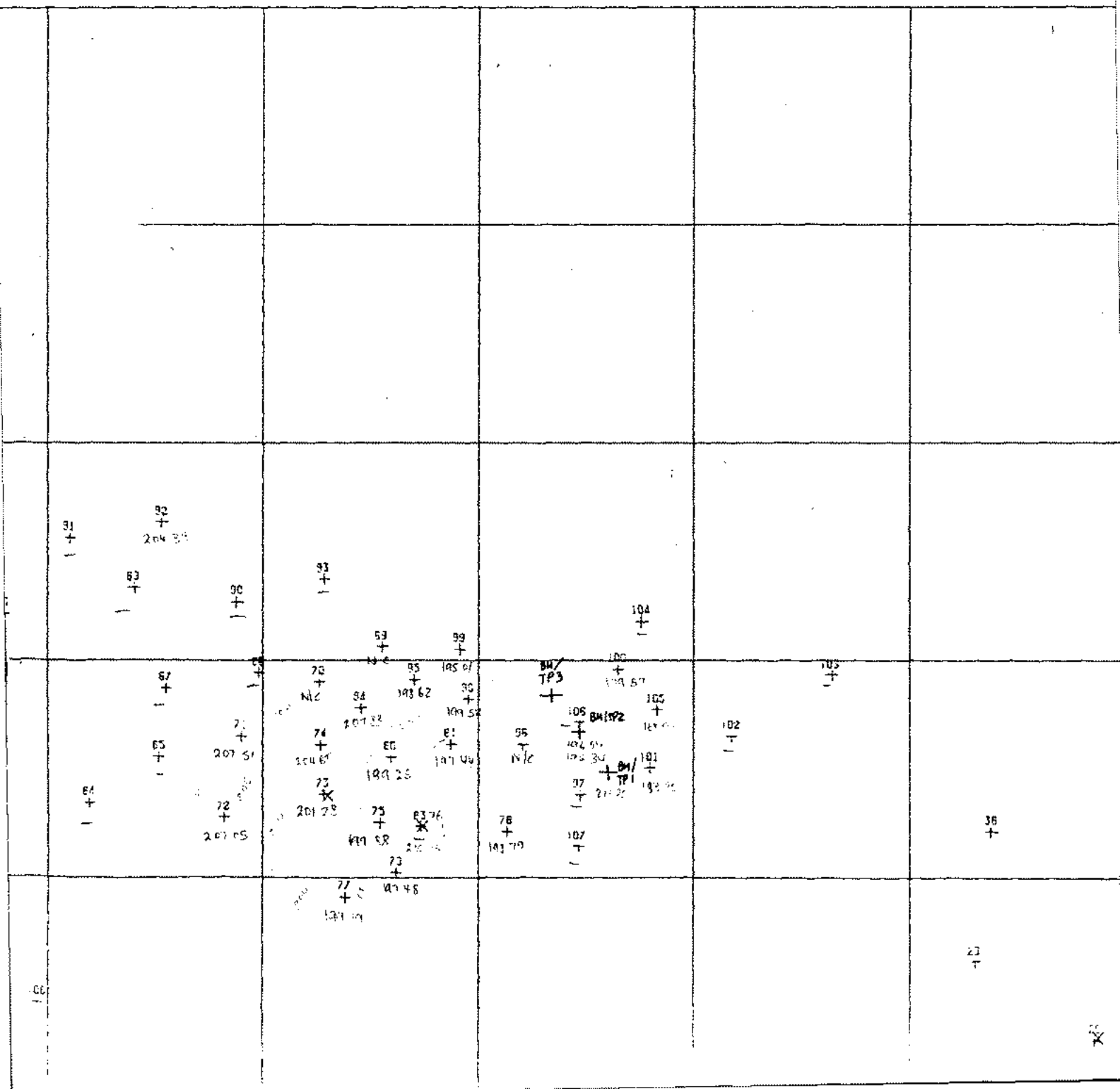
PILSWORTH

DRIFT THICKNESS

1:2500



PILSWORTH Level of Sandrock Mine



BP Oil Boreholes at Coal Pith Farm, near Heyhead, Lancs

Site Investigation BHS

BH 1. Trial Pit 1 Ground Level 215.35

| | | |
|---|---|---|
| 1.20 | Rockhead | |
| 3.20 | 2.00 | SST |
| 4.10 | 0.90 | Coal |
| 10.00 | 5.90 | SST |

BH 2 Trial Pit 2 Ground Level 215.34)

| | | | |
|---|---|---|---|
| 1.20 | Rockhead | | |
| 3.50 | 2.30 | Laminated sst | |
| 3.80 | 0.30 | Coal | ? 6 Inch Mine (211.54) |
| 12.00 | 8.20 | SST | |
| 18.00 | 6.00 | MST | |
| 18.80 | 0.80 | Coal | ? Sandrock Mine (196.54) |
| 20.00 | 1.20 | SST | |
| 21.00 | 1.00 | Coal | |
| 31.00 | 10.50 | MST | |

BH 3 Trial Pit 3

| | | |
|---|---|---|
| 1.10 | Rockhead | |
| 10.00 | 8.90 | SST |

Oil Exploration BH Ground Level 215 near BH/TP 3

| | | |
|---|---|---|
| Coal | c 16.00 to 17.00m | (198.00) |
| Coal | c 25.00 to 25.50m | (190.00) |
| Coal | c 76.00 to 77.00 | (138.00) |
| Coal | c 79.00 to 80.00 | |
| Coal | c 87.00 to 87.50 | |
| Coal | c 96 | |
| Coal | c 97 | |

| Remarks | Gas |
|---|---|
| | |
| | NIL |
| 7.00 am 22nd June DAY 1 — 48m<br>DAY 2 | |
| | |
| | NIL |
| BIT NO'S 1 AND 2 12¼" PILOT HOLE | |
| 3 17½" HOLE OPENING — Change at 61m to SND, cemented and | NIL |
| 4 22½" " " — predom clks but occ m gy and mica. | |
| 5 17½" DRILL CEMENT + SHOE | |
| | NIL |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | 42 | 50 | 69 | 60 | 50 | 70 | 51 | 60 | 24 | 92 | 31 | 100 |
| 1 | 46 | 1 | 97 | 1 | 47 | 1 | 40 | 1 | 26 | 1 | 29 | |
| 2 | 43 | 2 | 131 | 2 | 43 | 2 | 38 | 2 | 29 | 2 | 31 | |
| 3 | 51 | 3 | 61 | 3 | 51 | 3 | 36 | 3 | 21 | 3 | 27 | |
| 4 | 48 | 4 | 40 | 4 | 47 | 4 | 37 | 4 | 33 | 4 | 26 | |
| 5 | 50 | 5 | 38 | 5 | 48 | 5 | 28 | 5 | 30 | 5 | 20 | |
| 6 | 44 | 6 | 34 | 6 | 40 | 6 | 21 | 6 | 33 | 6 | 17 | |
| 7 | 36 | 7 | 47 | 7 | 32 | 7 | 24 | 7 | 26 | 7 | 11 | |
| 8 | 38 | 8 | 42 | 8 | 50 | 8 | 28 | 8 | 34 | 8 | 14 | |
| 9 | 38 | 9 | 59 | 9 | 38 | 9 | 20 | 9 | 50 | 9 | 13 | |

NIL

7.00 a.m. 23rd June DAY 3 POOH — 100m. Widen hole to 22" and run 18⅝ casing.
26th June DAY 8 RIH

NIL

BIT NO 6

Drill ahead with 12¼" bit - drill pilot hole RIH SMITH SVH 2x18 1x16 12¼"

NIL

| | Remarks | Gas |
|---|---|---|
| ROP | | NIL |
| 101 | 11 9·6 21 14⁵ 31 12·9 41 9·8 51 10 61 10·2 71 4·2 81 8·1 | |
| 2 | 12 23·9 22 12 32 10·2 42 10·3 52 9·8 62 12·2 72 6·6 82 6·9 | |
| 3 | 13 22·3 23 7 33 14·5 43 17·4 53 10·1 63 14·2 73 6·4 83 6·4 | |
| 4 | 9·9 14 16·2 24 8 34 12·7 44 17·8 54 13·7 64 12·1 74 4·3 84 12·7 | €0·07 |
| 5 | 11 14·4 15 23 25 12·9 35 9·4 45 13 55 16·5 65 9·2 75 6·1 85 4·0 | all $C_1$ |
| 6 | 15·4 16 19 26 29·7 36 20·1 46 11·2 56 14·9 66 6·2 76 6·4 86 5·0 | |
| 7 | 25·5 17 22 27 36·5 37 10·1 47 5·1 57 12 67 5·2 77 7·9 87 4·9 | €0·06 |
| 8 | 21·2 18 8 28 16·5 38 16·3 48 6·6 58 12·8 68 5·4 78 7·5 88 4·2 | all $C_1$ |
| 9 | 14·8 19 30 29 11·7 39 7·7 49 9·2 59 23·8 69 6·2 79 7·0 89 4·7 | |
| 10 | 16·9 20 19·1 30 11·3 40 7·4 50 13·4 60 14·1 70 5·3 80 7·9 90 4·5 | NIL |
| | | NIL |
| 7:00 A.M. 29 JUNE DAY 9 — 172 m | | |
| | | NIL |
| 191 5·7 | 201 4·0 211 4·7 | |
| 92 5·4 | 2 4·6 12 4·4 | |
| 93 6·0 | 3 4·5 13 5·0 | NIL |
| 94 3·5 | 4 4·4 14 5·3 | |
| 95 3·8 | 5 3·9 15 5·1 | |
| 96 4·4 | 6 4·9 16 6·8 | NIL |
| 97 3·2 | 7 4·2 17 7·2 | |
| 98 4·8 | 8 4·3 18 7·9 | NIL |
| 99 6·2 | 9 5·1 19 8·7 | |
| 200 4·9 | 0 5·2 20 7·9 | NIL |
| | | NIL |

| Depth | % | Lithology |
|---|---|---|
| 50 | 50 | SND: qtz, clss, transp to transl, f to m gr, angular, p sort, p spher, lse, occ cem w wh argill material. |
| | 10 | COAL: blk, hd, brittle. |
| | 40 | L.C.M.: mica, cellophane. |
| 60 | 100 | SND: a/a |
| 70 | 100 | SND: a/a, lse. |
| | Tr | COAL: a/a |
| 80 | 80 | SND: a/a |
| | 20 | COAL: a/a |
| 90 | 100 | COAL: a/a |
| | Tr | SND: a/a |
| 100 | 90 | COAL: a/a |
| | 10 | SND: a/a |

HOLE OPENING + RUNNING CASING.

| | | |
|---|---|---|
| 110 | 100 | SND: a/a but f to m gr, occ f and mica, sl calc, sl fluor, predom cemented. |
| | Tr | PYRITE |
| 120 | 70 | SND: a/a |
| | 30 | SND: qtz, clss, transp to transl, f to m gr, ang, p sort, p sher, v mica, cem, m gy. |
| | Tr | MUDST: Dk gy, blky, f cm, silty. |
| | Tr | PYRITE |

| Depth | % | Lithology |
|---|---|---|
| 130 | 95 | SND: qtz, clss, transp to transl, m to c gr, ang, p sort, p spher, lse, occ cem, sl calc, occ w argill mat. |
| | 5 | MDST: m to dk gy, frm, blky, mica, slty, sl calc. |
| | Tr | PYRITE |
| 140 | 70 | MDST: a/a |
| | 30 | SND: a/a |
| 150 | 100 | MDST. lt to m gy, a/a but less mica, grdng to slts. |
| | Tr | SND: a/a |
| 160 | 90 | SND: a/a but f to m gr, occ m gy. |
| | 10 | MDST: a/a grdng to slts |
| | Tr | COAL: black, hd, brittle. |
| 170 | 70 | MDST: a/a grading to sltst. |
| | 30 | SND: a/a |
| 180 | 100 | MDST: lt to m gy a/a, less mica, grdng to slts, occ carb. |
| | Tr | SND: a/a |
| 190 | 100 | MDST: a/a, occ lam. |
| | Tr | SND: a/a |
| 200 | 100 | MDST. a/a, lam, occ grdng to slts. |
| 205 | 100 | MDST: a/a, occ bm gy |
| 210 | 100 | MDST: a/a |
| 215 | 100 | MDST: a/a, homog. |

LEGEND

PROTECTIVE BOUNDARY

Locomotive Facility Limited Boundaries thicked for Site Investigations for M66.
(Enclosed Levels reduced on )

NATIONAL COAL BOARD OPENCAST EXECUTIVE
NO 3 NORTH WEST REGION
Anderton House, Leyton

Site No. 031703
PILSWORTH

BOROUGH PLAN

Location: 2 Kilometres South East of Bury

O.S. Ref. SD 80 10 Drawn by [illegible] Checked by [illegible] Date [illegible]

Reproduced from Ordnance Survey Maps with the permission of the Controller of H.M. Stationery Office. Crown Copyright Reserved.

Scale 1/2500

Drwg. No.

GEMC/PB.

24th May 1984.

Mr. K. Senior,
Contracts Manager,
Norwest Holst Soil Engineering Ltd.,
Parkside Lane,
Dewsbury Road,
Leeds,
LS11 5SX.

Dear Sir,

Pilsworth Site

I enclose a copy of a letter from E.G. Hothersall & Sons Ltd., who act for W.T. Butterfield of Higher Barn Farm, Heywood. I think it refers to the area in which you used to store cement and bentonite materials used on site.

Yours faithfully,

G.E.M. Clayburn

G.E.M. Clayburn
Geologist - Lancs. & N. Wales

NCB 4056
**ENCLOSURE SLIP**

Date 16/4/85

FROM

AOG

005

TO Eddie

| | | | |
|---|---|---|---|
| | For approval and return | | Insufficient information |
| | For your attention | | Please note and return to sender |
| | For your information | | Returned as requested |
| | Please note and pass to | | |
| ✓ | For comments and return | | |

REMARKS :

Pilsworth,

Report of the first phase of trial boreholes.

KPU 2078

NCB 4056
**ENCLOSURE SLIP**

Date 10/4/84

FROM

A/RDM

TO

AOM Kirkless

| | | | |
|---|---|---|---|
| | For approval and return | | Insufficient information |
| ✓ | For your attention | | Please note and return to sender |
| ✓ | For your information | | Returned as requested |
| | Please note and pass to | | |
| | For comments and return | | |

REMARKS :

Please forward to - Ros.

KPU 2078

# Norwest Holst Soil Engineering Ltd.

## Site Investigation Report

PJK/SLH/F5855

5th April, 1984

GROUND INVESTIGATION

HIGHER BARN FARM

BURY

for

NATIONAL COAL BOARD

## FOREWORD

### Notes on Site Investigation Procedure

The following notes should be read in conjunction with the report. Any modifications to the procedures outlined below are indicated in the main text.

### GENERAL

The recommendations made and opinions expressed in the Report are based on the Boring Records, an examination of samples and the results of the site and laboratory tests. Whilst the Report may express an opinion on a possible configuration of strata, both between borehole positions and below the maximum depth of the investigation this is for guidance only being an estimation, and its accuracy cannot be guaranteed.

### BORING TECHNIQUE

Unless otherwise stated the light cable percussion technique of soft ground boring has been employed. Whilst this particular drilling technique allows the maximum data to be obtained on strata conditions, a degree of mixing of somelayered soils (e.g. thin layers of coarse and fine granular material) is inevitable. Specific attention is drawn to this factor where evidence of such a condition is available.

## GROUNDWATER

The groundwater conditions entered on the Boring Records are those encountered at the time of the investigation. These, however, may not represent the actual conditions of those which may apply in large excavations. The normal rate of boring does not always permit the recording of an equilibrium water level for any one water strike particularly because the entry of water into a borehole may be reduced or even eliminated due to casing off a water bearing layer or due to a skin being formed on the borehole wall by the drilling tools. It is also pointed out that groundwater conditions may vary seasonally and/or tidally and that the water levels as shown at the time of drilling should not necessarily be taken as being constant as they may be subject to fluctuations.

## ROUTINE SAMPLING

Undisturbed samples of predominantly cohesive soils are obtained in a 100 mm diameter open drive sampler, complying with the requirements of the British Standard Code of Practice BS5930, although it must be appreciated that no sample of this nature can be truly undisturbed. Unless otherwise stated in the main text disturbed soil samples may not be at their natural water content.

## IN-SITU DYNAMIC PENETRATION TESTS

These tests are employed where undisturbed samples cannot be obtained e.g. in granular soils, fills, rock etc. in order to gain an indication of the compaction of hardness. Inherent difficulties are present in obtaining true 'N' values in water bearing granular deposits, and in lieu of other more expensive forms of testing, these must be regarded as useful guides and not as absolute values.

## ROTARY DRILLING

Where open hole rotary drilling is employed, descriptions of strata are the result of examination of small particles ejected from the borehole and in consequence, no indication of fissuring, bedding, consistency or degree of weathering can be obtained. Examination of rock cores generally enables bedding planes to be observed but does not necessarily reveal the presence of vertical fissures or joints.

## TOPSOIL

The term "TOPSOIL" is used to describe the upper usually organic layer, including turf, subsoil, organic filling, weathered material with roots etc, and should not be taken to imply agricultural soils suitable for re-use.

# Norwest Holst Soil Engineering Ltd.

PJK/SLH/F5855 **Site Investigation Report** 5th April, 1984

GROUND INVESTIGATION

HIGHER BARN FARM

BURY

In December, 1983 we were requested to investigate the repeated localised collapses of the ground at the above site. These areas of disturbance were all associated with previously drilled rotary boreholes. It was postulated at this time that the collapses were due to the sand in the drift materials being washed or falling into the bedrock via the rotary hole which was not sealed or on a larger scale by the movement of the drift materials through the rock and rotary borehole into the underlying coal workings.

In order to obtain further information of the ground which was being affected, it was agreed with yourselves in January, 1984 that we should carry out eight standard sbell and auger boreholes at representative positions around the whole site. The findings of this work would be taken into account in attempting to assess the type of treatment that may be required.

A complete record of the strata encountered is given on the attached borehole logs, from inspection of these it can be seen that in general an upper layer of clay was encountered, which formed a general cap across the site.

Beneath this sand with bands of clay was observed extending down to either stiff sandy gravelly clay or bedrock.

It was considered likely that if the sand was removed or disturbed that the firm to stiff clay would bridge over the area of disturbance for a short time but would eventually give way and form dperessions, as have been observed. This would also conform to observations made by the farmer who feels that open cavities exist at depth below the upper capping layer at a number of locations.

From these findings it is considered that grout injection techniques could provide a solution to the problem. It was considered that a 4:1 cement/bentonite mix emplaced under pressure would be used.

Due to the urgency of the work, particularly in one critical area (the potato field), a number of trial grout holes were then carried out in order to further assess the best method of workings.

At this stage three sets of conditions were envisaged. (1), where it was possible for us to follow the old rotary borehole and to actually locate the hole in the bedrock, (2), where it was not possible to locate the existing hole in the bedrock and (3), relating to either of the above conditions, but where coal workings were encountered and a high grout take was likely unless the rotary borehole could be located and blocked.

These trial grouting holes were formed as instructed, by the use of a shell and auger rig supported on a drilling platform. This rig bored down the position of the old borehole, (as indicated by the National Coal Board and marked by a wooden stake). A set of grouting and pumping equipment along with a water supply bowser and four wheeled drive tractor were in full attendance.

Two of these trial holes located the original rotary hole and followed the hole into the bedrock, however the others did not encounter the original borehole in the rock, although considerable care was taken by ourselves in the vertical alignment of our hole. Clearly, however, a deviation of only 50 - 100 mm from the vertical would result in the non location of the hole in the bedrock, with the method of rotary drilling, likely to have been employed previously, deviations from the vertical of greater than this were quite likely. Each of these boreholes was pressure grouted, approximately half a tonne of grout being injected into each of the three positions. At the time of boring no open voids were recorded although the lower layers of sand were disturbed and very loose.

One additional borehole was then formed approximately 1.00 m away from one of the original grouted holes in order to determine the penetration of the grout. This hole encountered grout throughout the majority of its depth, the sand being much more difficult to penetrate and being lightly cemented and the fissures in the layers of clay being clearly grout filled.

From the observations made to date two mechanisms for formation of the depressions are suggested.

As discussed previously, one associated with the movement of the sand into the bedrock/working and the second that severe disturbance of the ground (sand) has occured associated with the rotary drilling flush method, and that the subsequent collapses are due to the settlement and readjustment of the sand. Rotary drilling using either air of water flush can cause major cavities and disturbance in drift materials of this nature, these are often observed at the time of boring, although in this case the substantial clay cap could clearly delay this collapse. The action of the boring and movement of groundwater through the sand could also result in self collapse and settlement of the sand.

On the basis of the information it was suggested, for your consideration, that the methods adopted in the trial grouting were applied to the remaining (approximately 90) boreholes, although clearly depending on the programme indicated by yourselves, additional rigs and grouting equipment would be required in order to speed the completion of the works.

Attention is also drawn to the presence of the old coal workings and voids which are present beneath parts of the site. In a number of the boreholes it is likely that the grout may penetrate these workings and as such unless the old borehole is located and blocked a large quantity of grout may be required. Where this is

encountered a review of the proceedures and possibly the equipment required to seal these areas may be needed.

P. J. Kirkpatrick
SENIOR SOILS ENGINEER.

I. R. Rodger
TECHNICAL DIRECTOR.

# Norwest Holst Soil Engineering Ltd.

Contract No. F5855 Client N.C.B. Location Pilsworth, Bury

| SAMPLE DETAILS | | | CLASSIFICATION | | | | | | | | | | CHEMICAL | | | DENSITY | | COMPACTION | | | C.B.R. | STRENGTH | | | CONSOLIDATION | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. & Type | Depth m | Description | w % | L.L. % | P.L. % | P.I. % | <425μ % | S.G. | Particle size distribution Clay % | Silt % | Sand % | Grvl. % | $SO_3$ % | pH | Org % | Bulk ρ Mg/m³ | Dry ρd Mg/m³ | Ram kg | Max. ρd Mg/m³ | O.M.C % | Mean % | Type | c kN/m² | ϕ degrees | $\rho_o \rightarrow \rho_o + 100KN/m^2$ $m_v$ m²/MN | $c_v$ m²/yr |
| BH248 B | 4.95 | Brown silty CLAY. | | | | | | | 45 | 47 | 8 | 0 | | | | | | | | | | | | | | |
| B | 8.50 | Brown sandy SILT with some clay. | | | | | | | 9 | 76 | 15 | 0 | | | | | | | | | | | | | | |
| B | 12.50 | Brown clayey SAND and GRAVEL. | | | | | | | 3 | 12 | 32 | 53 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BH256 B | 5.05 | Brown clayey SAND and GRAVEL. | | | | | | | 3 | 13 | 30 | 54 | | | | | | | | | | | | | | |
| U | 5.50 | Stiff brown very sandy gravelly CLAY. | 13 | | | | | | 9 | 32 | 54 | 5 | | | | | | | | | | TU | Disturbed | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BH259 U | 1.50 | Firm brown and grey mottled laminated CLAY. | 14 | | | | | | | | | | | | | 2.15 | | | | | | TU | 59 | R | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BH263 U | 1.50 | Firm brown mottled grey sandy CLAY. | 14 | | | | | | | | | | | | | 2.20 | | | | | | TU | 110 | 18 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |

NOTES

U — Undisturbed
B — Bulk
D — Disturbed

N.P. — Non Plastic

T — Triaxial compression
E — Effective stress
R — Remoulded

U — Undrained
W — Unconfined
S — Shear Box

## Summary of Laboratory Test Results

## Borehole No.

# Norwest Holst Soil Engineering Ltd.

Contract No. F5855 Client N.C.B. Location Pilsworth, Bury

| SAMPLE DETAILS | | | CLASSIFICATION | | | | | | | | | | CHEMICAL | | | DENSITY | | COMPACTION | | | C.B.R. | STRENGTH | | | CONSOLIDATION | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. & Type | Depth m | Description | w % | L.L. % | P.L. % | P.I. % | <426μ % | S.G. | Particle size distribution Clay % | Silt % | Sand % | Grvl. % | $SO_3$ % | pH | Org % | Bulk g Mg/m³ | Dry gd Mg/m³ | Ram kg | Max. gd Mg/m³ | O.M.C % | Mean % | Type | c kN/m² | ø degrees | $p_o \rightarrow p_o + 100KN/m^2$ $m_v$ m²/MN | $c_v$ m²/yr |
| BH200 U | 1.50 | Soft brown and grey, mottled sandy CLAY with sand pockets. | 17 | | | | | | | | | | | | | 2.02 | | | | | | TU | 13 | 8 | | |
| B | 4.00 | Light brown, silty fine to medium SAND. | | | | | | | | 12 | 88 | 0 | | | | | | | | | | | | | | |
| B | 5.00 | Brown very silty fine SAND. | | | | | | | 2 | 34 | 64 | 0 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BH216 B | 2.50 | Light brown silty fine to medium SAND. | | | | | | | 4 | 33 | 62 | 1 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BH234 B | 1.45 | Brown silty fine to medium SAND. | | | | | | | | 18 | 81 | 1 | | | | | | | | | | | | | | |
| U | 18.00 | Stiff brown CLAY with occasional gravel(sample disturbed). | 16 | | | | | | 21 | 37 | 17 | 25 | | | | 2.21 | | | | | | TU | 34 | 0 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BH237 U | 1.50 | Firm grey and brown mottled very sandy CLAY. | 17 | | | | | | | | | | | | | 2.16 | | | | | | TU | 50 | 8 | | |
| U | 4.00 | Stiff brown sandy CLAY with some gravel. | 14 | | | | | | | | | | | | | 2.25 | | | | | | TU | 185 | 16 | | |
| U | 7.00 | Firm brown very sandy CLAY. | 12 | | | | | | 11 | 34 | 54 | 1 | | | | 2.25 | | | | | | TU | 29 | 6 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |

NOTES

U — Undisturbed
B — Bulk
D — Disturbed

N.P. — Non Plastic

T — Triaxial compression
E — Effective stress
R — Remoulded
U — Undrained
W — Unconfined
S — Shear Box

## Summary of Laboratory Test Results

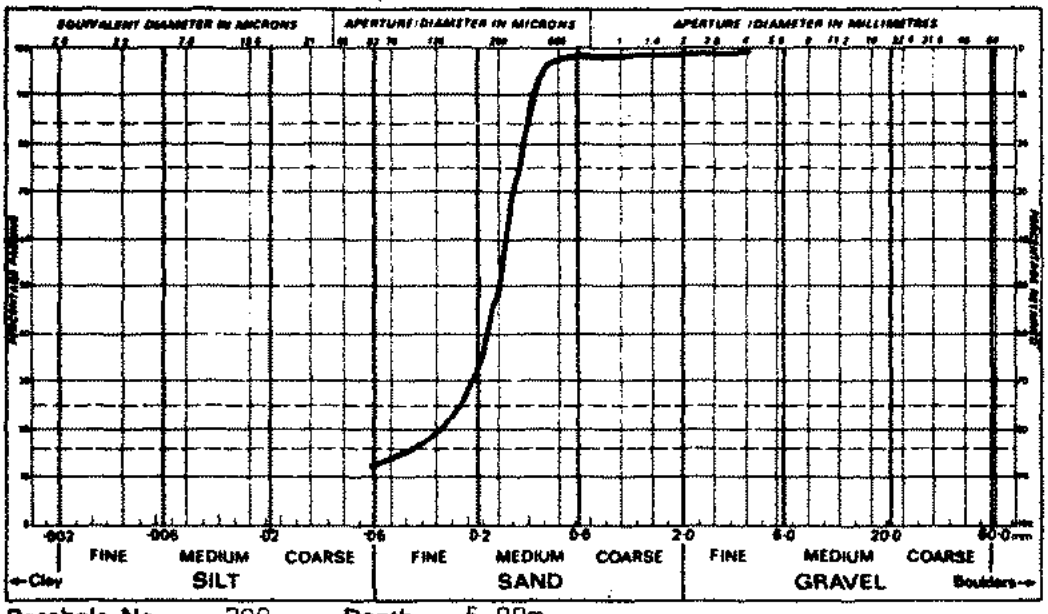
## Borehole No.

# Norwest Holst Soil Engineering Ltd.

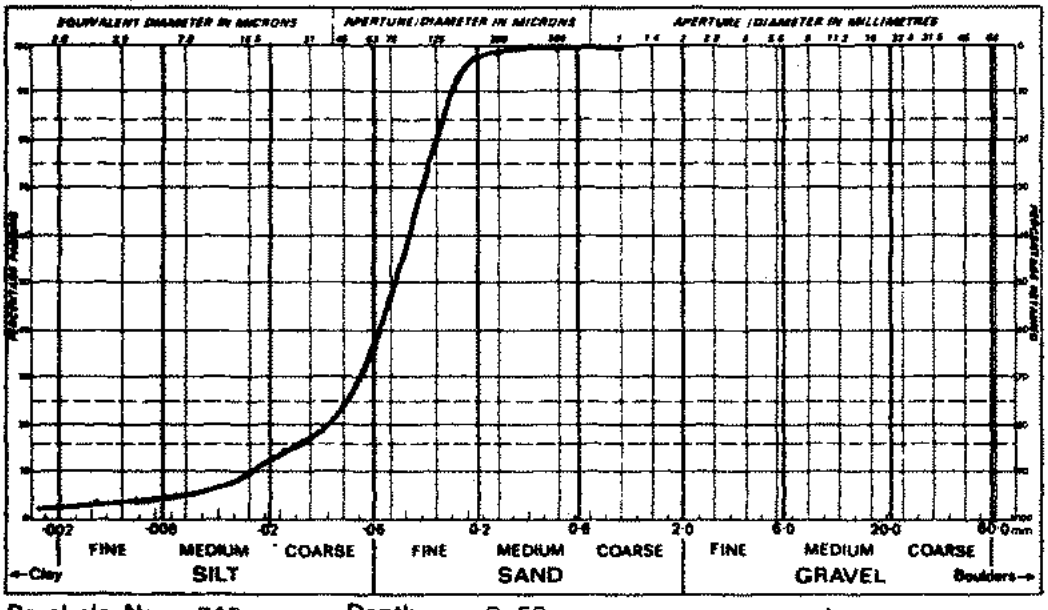
## PARTICLE SIZE DISTRIBUTION

**Location** Pilsworth, Bury **Contract No** P5855

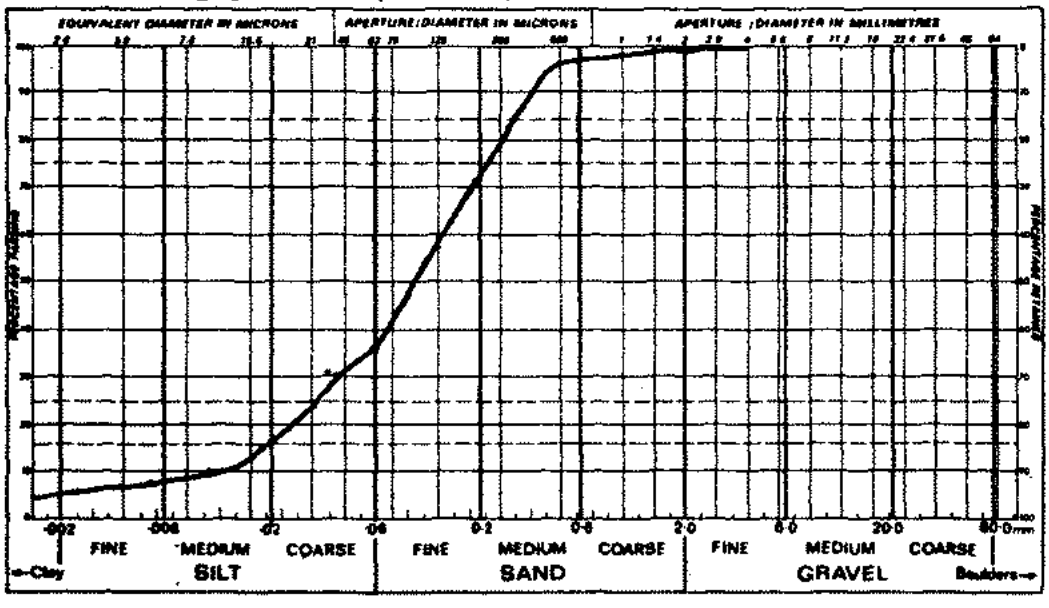
Borehole No. 209 Depth 4.00m




Borehole No. 200 Depth 5.00m




Borehole No. 216 Depth 2.50m

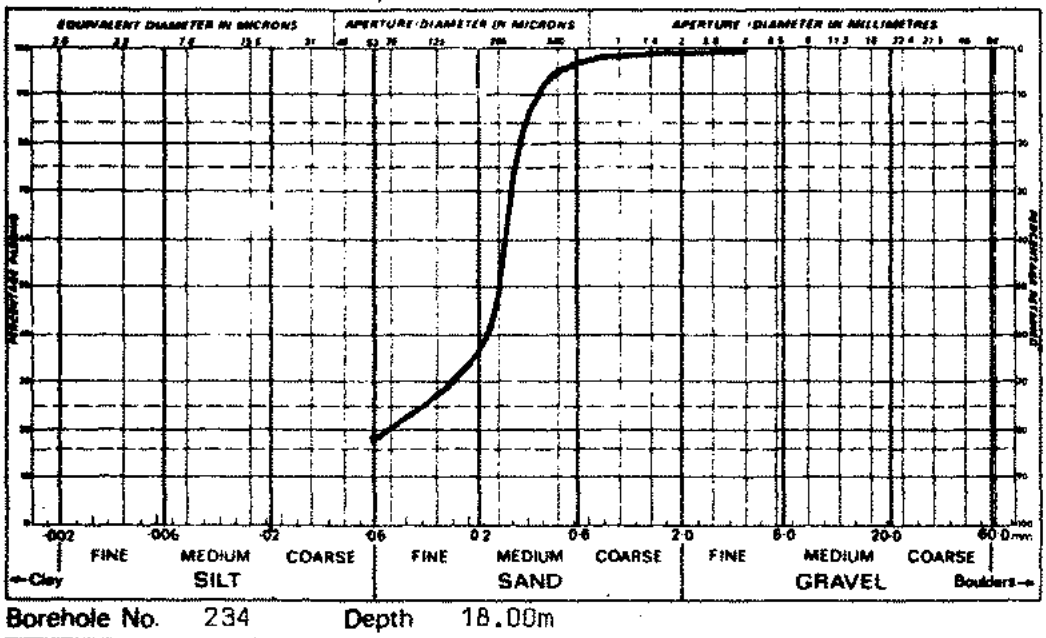


# Norwest Holst Soil Engineering Ltd.

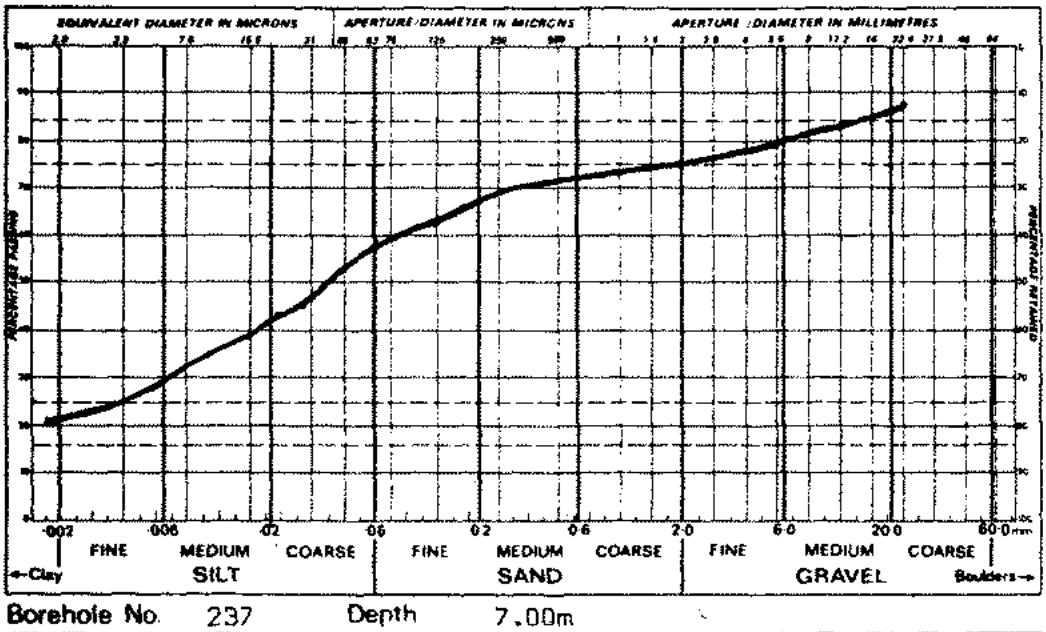
## PARTICLE SIZE DISTRIBUTION

**Location** Pilsworth, Bury **Contract No** F5855

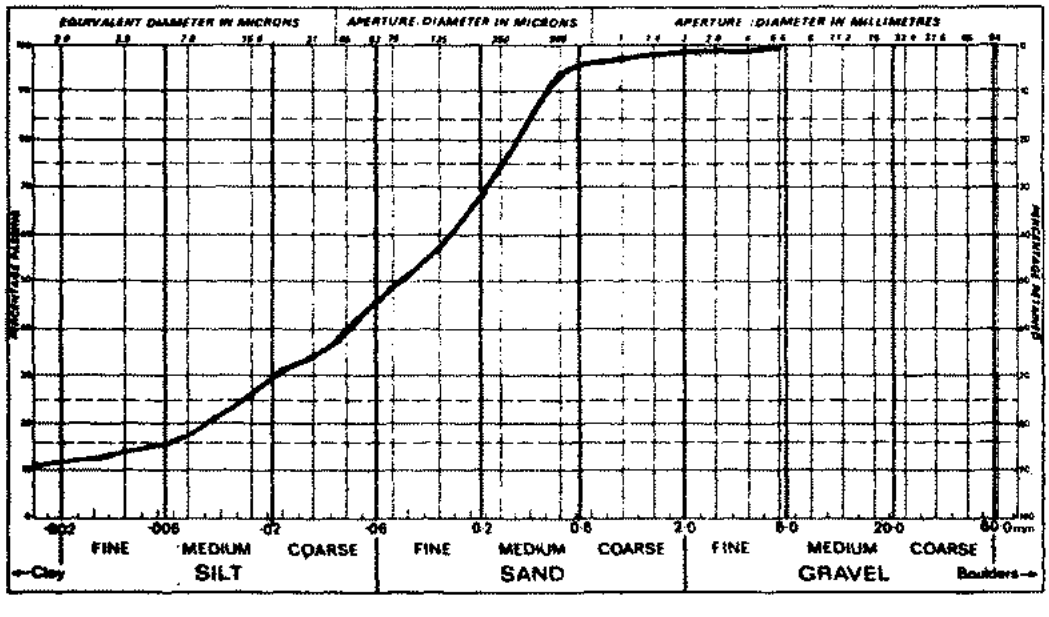
Borehole No. 234 Depth 1.45m




Borehole No. 234 Depth 18.00m




Borehole No. 237 Depth 7.00m

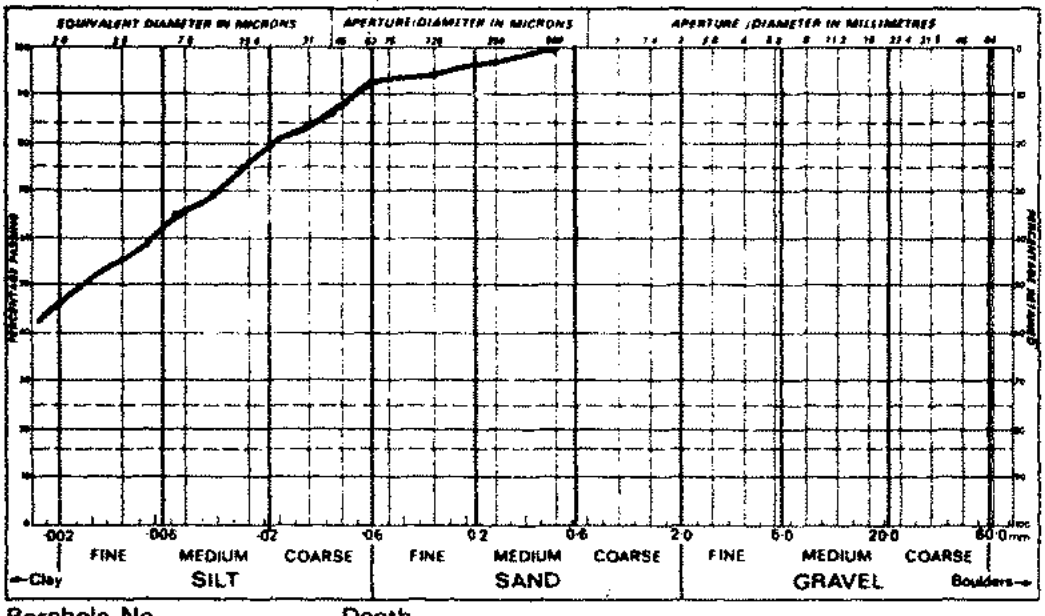


# Norwest Holst Soil Engineering Ltd.

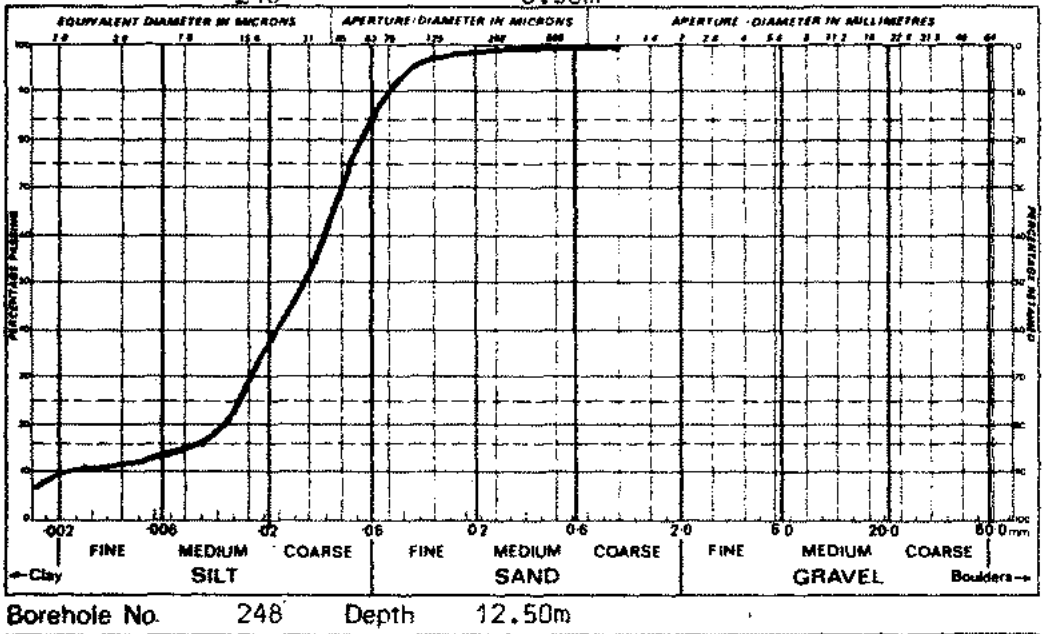
## PARTICLE SIZE DISTRIBUTION

**Location** Pilsworth, Bury **Contract No** F5855

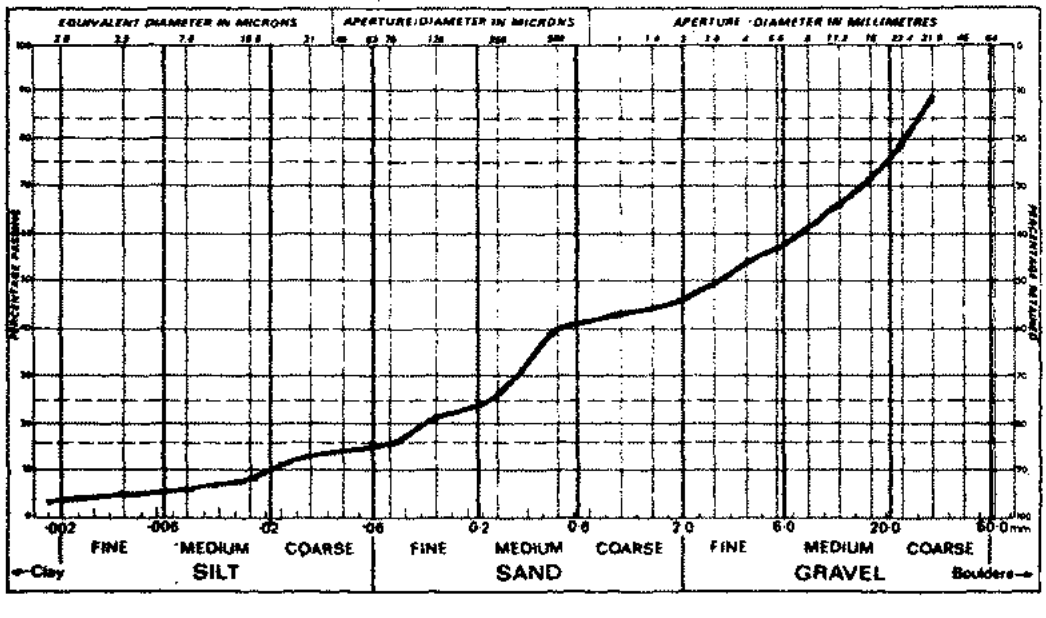
Borehole No. 248 Depth 4.95m




Borehole No. 248 Depth 8.50m




Borehole No. 248 Depth 12.50m

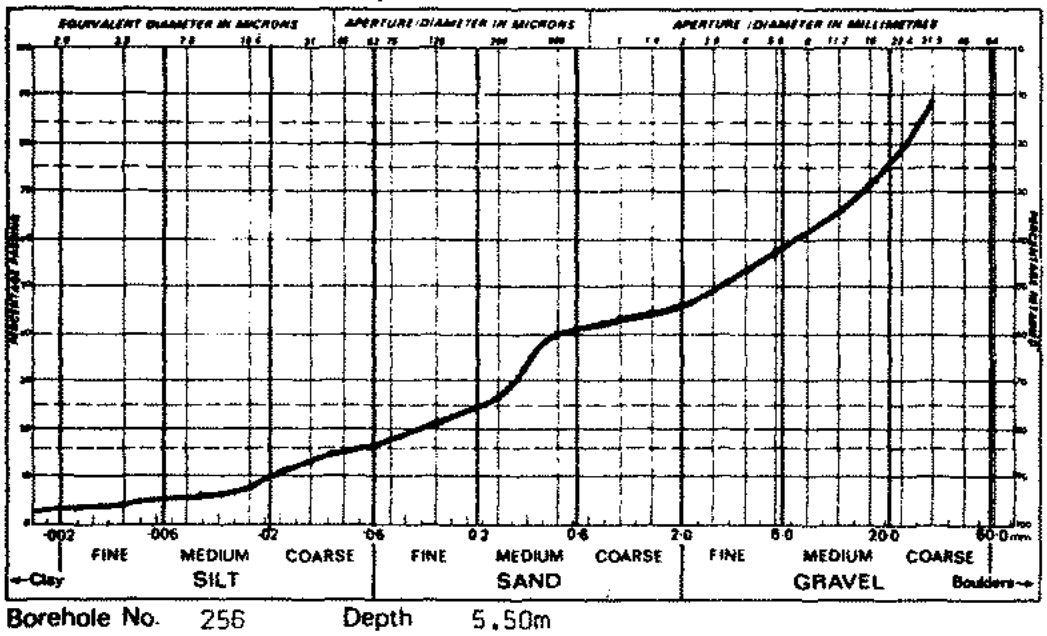


# Norwest Holst Soil Engineering Ltd.

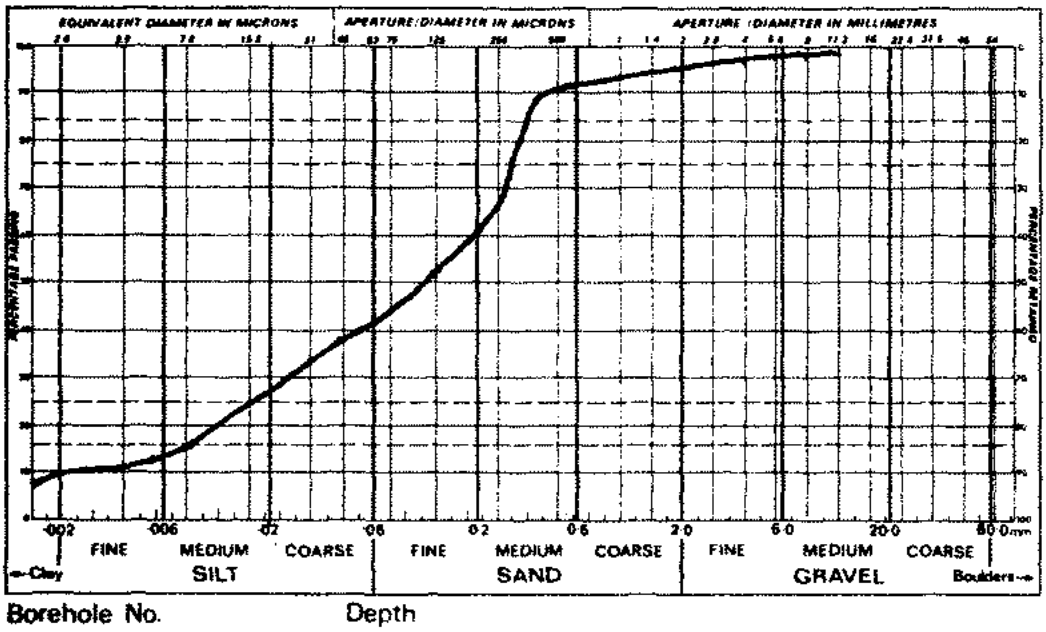
## PARTICLE SIZE DISTRIBUTION

**Location** Pilsworth, Bury **Contract No** F5855

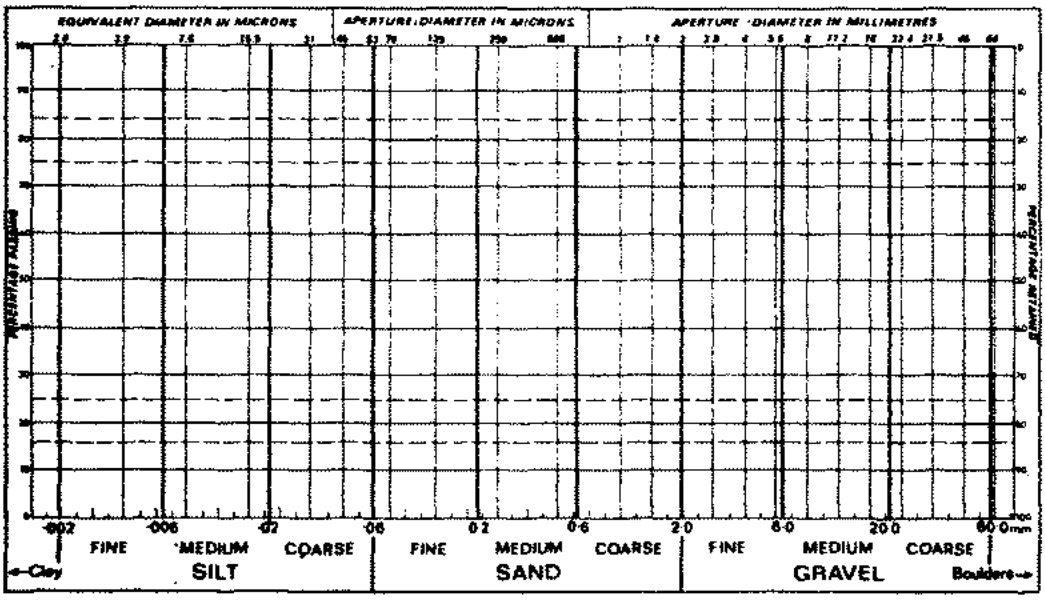
Borehole No. 256 Depth 5.05m




Borehole No. 256 Depth 5.50m




Borehole No. Depth



# Norwest Holst Soil Engineering Ltd.

**Borehole No. 200**

## BOREHOLE LOG

Contract No. F5855
Location Pilsworth-Bury
Client N.C.B.
Method of Boring Percussion
Diameter of Borehole 200mm

Sheet 1 of 1
Chainage
Ground Level ..... m.A.O.D.
Date 17/1/84

| Description of Strata | Legend | Depth Below G.L.(m) | O.D. Level (m) | Casing Depth at Sampling | Sampling and Coring | "N"/ R.Q.D.% | Daily Progress |
|---|---|---|---|---|---|---|---|
| TOPSOIL | | 0.40 | | | | | |
| Soft brown and grey mottled sandy CLAY with sand pockets | | 2.80 | | | 0.50<br>1.50<br>2.50 | | |
| Medium dense light brown, silty fine to medium SAND with occasional clay lenses with depth | | 5.00 | | | 3.00 s<br>4.00 s<br>5.00 s | 23<br>31<br>16 | |
| Medium dense brown silty, fine to medium SAND with occasional clay lenses | | 5.55 | | 200mm to 6.00m | 5.55 s | 50 for 125mm * | |
| Light brown, fine to medium grained highly weathered SANDSTONE weak | | 6.50 | | | 6.50 s | 50 for 65mm | |

**Type of Sample**

- S.P.T. — Undisturbed
- C.P.T. — Vane
- Jar — Water
- Bulk — Piezometer

**Remarks (Observations of Ground Water etc.)** *Seating blows

17/1/84 Seepage of water at 5.00m casing at 5.00m
Rising to 4.80m after 20 mins
Water sealed off at 5.90m
Chiselling 1hour from 5.70m to 6.50m

Water levels are subject to seasonal or tidal variations and should not be taken as constant

# Norwest Holst Soil Engineering Ltd.

Borehole No. **216**

## BOREHOLE LOG

Contract No. F5855
Location Pilsworth-Bury
Client N.C.B.
Method of Boring Percussion
Diameter of Borehole 200mm

Sheet 1 of 2
Chainage
Ground Level m.A.O.D.
Date 18/1/84

| Description of Strata | Legend | Depth Below G.L.(m) | O.D. Level (m) | Casing Depth at Sampling | Sampling and Coring | "N"/ R.Q.D.% | Daily Progress |
|---|---|---|---|---|---|---|---|
| TOPSOIL | | 0.35 | | | | | |
| Firm light brown and brown mottled sandy CLAY | | 1.70 | | | 0.50<br>1.50 | | |
| Medium dense light brown fine to medium SAND | | 2.50 | | | 2.00<br>S | 23 | |
| Medium dense, light brown silty fine SAND | | 2.95 | | | 3.00 | | |
| Soft to firm brown silty CLAY, with bands of sand. | | 5.40 | | | 4.50 | | |
| Stiff dark brown silty CLAY with occasional fine gravel and sand bands. | | | | 200mm to 7.50m | 6.00<br>7.50<br>9.00 | | |

**Type of Sample**

- S.P.T. — Undisturbed
- C.P.T. — Vane
- Jar — Water
- Bulk — Piezometer

**Remarks (Observations of Ground Water etc.)**

18/1/84 Water struck at 2.20m casing at 2.00m
Rising to 1.10m after 20 mins
Water sealed off at 4.10m
Chiselling 1 hours from 16.40m to 17.35m

Water levels are subject to seasonal or tidal variations and should not be taken as constant

# Norwest Holst Soil Engineering Ltd.

Borehole No. 216

## BOREHOLE LOG

Contract No. F5855
Location Pilsworth-Bury
Client N.C.B.
Method of Boring Percussion
Diameter of Borehole 200mm

Sheet 2 of 2
Chainage
Ground Level m.A.O.D.
Date 18/1/84

| Description of Strata | Legend | Depth Below G.L.(m) | O.D. Level (m) | Casing Depth at Sampling | Sampling and Coring | "N"/ R.Q.D.% | Daily Progress |
|---|---|---|---|---|---|---|---|
| Stiff dark brown, silty, CLAY with occasional fine gravel | | | | | 10.50<br>12.00<br>13.50 | | |
| | | 14.30 | | | | | |
| Stiff dark brown silty gravelly CLAY | | | | | 15.00 | | |
| | | 16.10 | | | 16.10 | | |
| Dark grey, thinly laminated, completely to highly weathered, MUDSTONE weak | | | | | s | 62 for 150mm | |
| | | | | | 17.35 | 50 for | * |
| | | 17.50 | | | s | 75mm | |

Type of Sample

- S.P.T. — Undisturbed
- C.P.T. — Vane
- Jar — Water
- Bulk — Piezometer

Remarks (Observations of Ground Water etc.) * Seating blows

Water levels are subject to seasonal or tidal variations and should not be taken as constant

# Norwest Holst Soil Engineering Ltd.

Borehole No. **234**

## BOREHOLE LOG

Contract No. F5855
Location Pilsworth - Bury
Client N.C.B.
Method of Boring Percussion
Diameter of Borehole 200 mm

Sheet 1 of 3
Chainage
Ground Level m.A.O.D.
Date 19/1/84 - 20/1/84

| Description of Strata | Legend | Depth Below G.L.(m) | O.D. Level (m) | Casing Depth at Sampling | Sampling and Coring | "N"/ R.Q.D.% | Daily Progress |
|---|---|---|---|---|---|---|---|
| TOPSOIL. | | 0.50 | | | 0.50 | | |
| Soft light brown very sandy CLAY. | | 0.95 | | | 1.00 | | |
| Medium dense, fine to medium very clayey SAND. Becomes a sandy clay in places. | | 3.05 | | | 2.00 s<br>2.00 s | 13<br>17 | |
| Firm to stiff brown CLAY, laminated in places. | | 9.00 | | | 3.10<br>4.50<br>6.00<br>7.50 | | |
| Stiff brown CLAY with occasional gravel, laminated in places. | | | | | 9.00 | | |

**Type of Sample**

- S.P.T. — Undisturbed
- C.P.T. — Vane
- Jar — Water
- Bulk — Piezometer

**Remarks (Observations of Ground Water etc.)**

19/1/84 Water struck at 2.05 m, casing at 2.00 m.
Rising to 1.60 m after 20 mins.
Water sealed off at 3.10 m.
20/1/84 Borehole dry during drilling.

Chiselling 1 hr from 21.00 m to 22.00 m.

Water levels are subject to seasonal or tidal variations and should not be taken as constant

# Norwest Holst Soil Engineering Ltd.

Borehole No. **234**

## BOREHOLE LOG

Contract No. F5855
Location Pilsworth - Bury
Client N.C.B.
Method of Boring Percussion
Diameter of Borehole 200 mm

Sheet 2 of 3
Chainage
Ground Level m.A.O.D.
Date 19/1/84 - 20/1/84

| Description of Strata | Legend | Depth Below G.L.(m) | O.D. Level (m) | Casing Depth at Sampling | Sampling and Coring | "N"/ R.Q.D.% | Daily Progress |
|---|---|---|---|---|---|---|---|
| Stiff brown CLAY with occasional gravel, laminated in places. | | | | | 10.50<br>12.00<br>13.50<br>15.00<br>16.50<br>18.00<br>200mm to 20.00<br>19.55<br>S | 14 | |

Type of Sample

S.P.T. Undisturbed
C.P.T. Vane
Jar Water
Bulk Piezometer

Remarks (Observations of Ground Water etc.)

Water levels are subject to seasonal or tidal variations and should not be taken as constant

# Norwest Holst Soil Engineering Ltd.

Borehole No. 234

## BOREHOLE LOG

Contract No. F5855
Location Pilsworth - Bury
Client N.C.B.
Method of Boring Percussion
Diameter of Borehole 200 mm

Sheet 3 of 3
Chainage
Ground Level m.A.O.D.
Date 19/1/84 - 20/1/84

| Description of Strata | Legend | Depth Below G.L.(m) | O.D. Level (m) | Casing Depth at Sampling | Sampling and Coring | "N"/ R.Q.D.% | Daily Progress |
|---|---|---|---|---|---|---|---|
| Stiff brown CLAY with occasional gravel, in places. | | 20.20 | | | 20.00 | | |
| | | | | | 20.50 | 42 | |
| Dark grey, thinly laminated completely weathered, carbonaceous MUDSTONE, weak. | | 21.00 | | | s | | |
| Dark grey, thinly laminated highly weathered carbonaceous MUDSTONE, weak. | | 22.00 | | | 21.70 | 50for 20mm | |
| | | | | | s | | |

Type of Sample

- S.P.T.
- Undisturbed
- C.P.T.
- Vane
- Jar
- Water
- Bulk
- Piezometer

Remarks (Observations of Ground Water etc.)

Water levels are subject to seasonal or tidal variations and should not be taken as constant

# Norwest Holst Soil Engineering Ltd.

Borehole No. **237**

## BOREHOLE LOG

Contract No. F5855
Location Pilsworth - Bury
Client N.C.B.
Method of Boring Percussion
Diameter of Borehole 200mm

Sheet 1 of 2
Chainage
Ground Level m.A.O.D.
Date 10/1/84

| Description of Strata | Legend | Depth Below G.L. (m) | O.D. Level (m) | Casing Depth at Sampling | Sampling and Coring | "N"/ R.Q.D.% | Daily Progress |
|---|---|---|---|---|---|---|---|
| TOPSOIL | | 0.30 | | | | | |
| Firm orange-brown and grey mottled silty CLAY. | | 1.20 | | | 0.50 | | |
| Firm grey and brown mottled very sandy CLAY. | | 2.10 | | | 1.50 | | |
| Firm to stiff brown sandy CLAY. | | 5.90 | | | 2.50<br>4.00<br>5.50 | | |
| Firm to stiff brown very sandy CLAY. | | 7.60 | | | 7.00 | | |
| Medium dense, brown, fine to medium clayey SAND. | | 8.20 | | | 7.60 | 16 | |
| Stiff brown sandy gravelly CLAY, with sand bands. | | 8.85 | | | s<br>8.50 | | |
| Dense, brown clayey SILT, with sand bands. | | 9.75 | | | 9.20 | 32 | |
| Stiff brown sandy gravelly CLAY. | | | | | s | | |

**Type of Sample**

- S.P.T. — Undisturbed
- C.P.T. — Vane
- Jar — Water
- Bulk — Piezometer

**Remarks (Observations of Ground Water etc.)**

10/1/84 Water struck at 7.70m, casing at 7.50m.
Rising to 8.50m after 20mins.
Water sealed off at 8.80m.

Water levels are subject to seasonal or tidal variations and should not be taken as constant

# Norwest Holst Soil Engineering Ltd.

Borehole No. 237

## BOREHOLE LOG

Contract No. F5855
Location Pilsworth - Bury
Client N.C.B.
Method of Boring Percussion
Diameter of Borehole 200mm

Sheet 2 of 2
Chainage
Ground Level m.A.O.D.
Date 10/1/84

| Description of Strata | Legend | Depth Below G.L.(m) | O.D. Level (m) | Casing Depth at Sampling | Sampling and Coring | "N"/ R.Q.D.% | Daily Progress |
|---|---|---|---|---|---|---|---|
| Stiff brown sandy gravelly CLAY. | | 10.50 | | 200mm to 10.50m | 10.30 | | |
| Dark grey thinly laminated completely to highly weathered MUDSTONE weak. | | 12.00 | | | 11.70 s | 83for 95mm | |

Type of Sample

S.P.T. Undisturbed
C.P.T. Vane
Jar Water
Bulk Piezometer

Remarks (Observations of Ground Water etc.)

Water levels are subject to seasonal or tidal variations and should not be taken as constant

# Norwest Holst Soil Engineering Ltd.

Borehole No. **248**

## BOREHOLE LOG

Contract No. F5855
Location Pilsworth-Bury
Client N.C.B.
Method of Boring Percussion
Diameter of Borehole 200mm

Sheet 1 of 2
Chainage
Ground Level m.A.O.D.
Date 11/1/84

| Description of Strata | Legend | Depth Below G.L.(m) | O.D. Level (m) | Casing Depth at Sampling | Sampling and Coring | "N"/ R.Q.D.% | Daily Progress |
|---|---|---|---|---|---|---|---|
| TOPSOIL | | 0.35 | | | | | |
| Firm dark and light brown mottled sandy CLAY | | 1.65 | | | 0.50 | | |
| Firm to stiff brown silty CLAY with some gravel | | 4.45 | | | 1.50<br>2.50<br>4.00 | | |
| Medium dense brown fine and medium SAND with laminations of brown silty clay | | 5.65 | | | 4.50<br>s | 26 | |
| Stiff brown very silty CLAY | | 6.60 | | | 6.00<br>6.60 | | |
| Medium dense to dense brown silty fine to medium SAND with occasional lenses of silty clay and silt | | | | | s | 28 | |
| | | | | | 8.05<br>s | 33 | |
| | | | | | 9.05<br>s | 29 | |

**Type of Sample**

| | | | |
|---|---|---|---|
| S.P.T. | | Undisturbed | |
| C.P.T. | | Vane | |
| Jar | | Water | |
| Bulk | | Piezometer | |

**Remarks (Observations of Ground Water etc.)**

11/1/84 Water struck at 4.80m casing at 4.70m
Rising to 4.50m after 20 mins
Water sealed off at 5.30m
Water struck at 12.10m casing at 12.00m
Rising to 11.70m after 20 mins
Water sealed off at 14.60m

Chiselling 1 hour from 15.40m to 16.00m

Water levels are subject to seasonal or tidal variations and should not be taken as constant

# Norwest Holst Soil Engineering Ltd.

Borehole No. 248

## BOREHOLE LOG

Contract No. F5855
Location Pilsworth - Bury
Client N.C.B.
Method of Boring Percussion
Diameter of Borehole 200mm

Sheet 2 of 2
Chainage
Ground Level m.A.O.D.
Date 11/1/84

| Description of Strata | Legend | Depth Below G.L.(m) | O.D. Level (m) | Casing Depth at Sampling | Sampling and Coring | "N"/ R.Q.D.% | Daily Progress |
|---|---|---|---|---|---|---|---|
| Medium dense to dense brown silty fine to medium SAND with occasional lenses of silty clay. | | 12.00 | | | 10.50 s | 34 | |
| Medium dense brown fine to medium clayey SAND and GRAVEL. | | 13.25 | | | 12.00 s | 12 | |
| Stiff brown silty CLAY. | | 14.40 | | | 13.50 | | |
| Stiff brown silty sandy CLAY with some gravel. | | 15.10 | | 200mm to 15.00m | 15.10 s | 65for 150mm | |
| Light brown, laminated to thinly bedded, fine to medium grained highly weathered SANDSTONE, weak. | | 16.00 | | | 16.00 s | 50for 45mm* | |

Type of Sample

- S.P.T. — Undisturbed
- C.P.T. — Vane
- Jar — Water
- Bulk — Piezometer

Remarks (Observations of Ground Water etc.)

*Seating blows.

Water levels are subject to seasonal or tidal variations and should not be taken as constant

# Norwest Holst Soil Engineering Ltd.

Borehole No. **256**

## BOREHOLE LOG

Contract No. F5855
Location Pilsworth, Bury
Client N.C.B.
Method of Boring Percussion
Diameter of Borehole 150mm

Sheet 1 of 1
Chainage
Ground Level m.A.O.D.
Date 16/1/84

| Description of Strata | Legend | Depth Below G.L.(m) | O.D. Level (m) | Casing Depth at Sampling | Sampling and Coring | "N"/ R.Q.D.% | Daily Progress |
|---|---|---|---|---|---|---|---|
| TOPSOIL | | 0.50 | | | | | |
| Firm brown silty CLAY with occasional silt pockets. | | 0.95 | | | | | |
| Firm to stiff brown and grey mottled sandy CLAY. | | 3.00 | | | | | |
| Firm to stiff brown sandy CLAY, with sand bands. | | 5.05 | | | 4.00 | | |
| Medium dense fine to medium SAND and GRAVEL. | | 5.50 | | | 5.05 S<br>5.50 | 33 | |
| Stiff brown very sandy gravelly CLAY with sand bands. | | 6.60 | | | | | |
| Grey, laminated, completely weathered MUDSTONE weak becomes highly weathered with depth. | | 8.00 | | | 6.80 S<br>7.75 S | 87 for 105mm<br>50 for 60mm | |

**Type of Sample**

- S.P.T. — Undisturbed
- C.P.T. — Vane
- Jar — Water
- Bulk — Piezometer

**Remarks (Observations of Ground Water etc.)**

Water levels are subject to seasonal or tidal variations and should not be taken as constant

# Norwest Holst Soil Engineering Ltd.

Borehole No. **259**

## BOREHOLE LOG

Contract No. F5855
Location Pilsworth - Bury
Client N.C.B.
Method of Boring Percussion
Diameter of Borehole 200mm

Sheet 1 of 1
Chainage
Ground Level m.A.O.D.
Date 2/1/84

| Description of Strata | Legend | Depth Below G.L.(m) | O.D. Level (m) | Casing Depth at Sampling | Sampling and Coring | "N"/ R.Q.D.% | Daily Progress |
|---|---|---|---|---|---|---|---|
| TOPSOIL | | 0.35 | | | | | |
| Firm dark and light brown mottled silty CLAY. | | 0.90 | | | 0.50 | | |
| Firm dark grey and orange-brown laminated CLAY with numerous mudstone lithorelicts (completely weathered mudstone). | | 1.85 | | | 1.50 | | |
| Dark grey, thinly laminated, highly weathered, MUDSTONE weak. | | | | 200mm to 3.00m | 2.50 s | 71for 150mm | |
| | | 4.00 | | | 3.85 s | 50for 100mm* | |

**Type of Sample**

S.P.T. Undisturbed
C.P.T. Vane
Jar Water
Bulk Piezometer

**Remarks (Observations of Ground Water etc.)** *Seating blows only.

12/1/84 Borehole dry during drilling.

Water levels are subject to seasonal or tidal variations and should not be taken as constant

# Norwest Holst Soil Engineering Ltd.

Borehole No. **263**

## BOREHOLE LOG

Contract No. F5855
Location Pilsworth - Bury
Client N.C.B.
Method of Boring Percussion
Diameter of Borehole 200mm

Sheet 1 of 1
Chainage
Ground Level m.A.O.D.
Date 12/1/84

| Description of Strata | Legend | Depth Below G.L.(m) | O.D. Level (m) | Casing Depth at Sampling | Sampling and Coring | "N"/ R.Q.D.% | Daily Progress |
|---|---|---|---|---|---|---|---|
| TOPSOIL | | 0.30 | | | | | |
| Firm brown mottled grey in places sandy CLAY. | | 2.70 | | | 0.50<br>1.50<br>2.50 | | |
| Light brown silty fine to medium SAND. | | 2.90<br>3.15<br>3.30 | | 200mm to 3.50m | 3.15<br>3.40 | 50for 125mm | |
| Firm brown sandy CLAY, with sand bands. | | | | | | | |
| Light brown, fine to medium grained highly weathered SANDSTONE. | | | | | | | |
| Grey, laminated, highly weathered, silty MUDSTONE, weak. | | 5.00 | | | 4.80 s | 50for 40mm | |

**Type of Sample**

| | | | |
|---|---|---|---|
| S | S.P.T. | ■ | Undisturbed |
| C | C.P.T. | × | Vane |
| O | Jar | Δ | Water |
| | Bulk | | Piezometer |

**Remarks (Observations of Ground Water etc.)**

*Seating blows.

12/1/84 Water struck at 2.65m. casing at 2.50m.
Rising to 2.40m after 20mins.
Water sealed off at 3.10m.

Water levels are subject to seasonal or tidal variations and should not be taken as constant

# REPORT

Site Investigation carried out for:
BP Petroleum Development Ltd
for Oil Exploration in
Weighted Area, Laws
on PILSWORTH Prospecting Site

**MACARTHY, HUGHES & PARTNERS LTD.**

MATERIALS TESTING & CONSULTING ENGINEERS

Martin-Forster House, 10 Appletongate,
Newark-on-Trent, Nottinghamshire,
England, NG24 1JY
Tel: (0636) 704814/704910

TELEPHONE: NEWARK 704814/704910 (STD 0636)

B.P. PETROLEUM DEVELOPMENTS (U.K.) LTD.

KIRKLINGTON ROAD

EAKRING - NEWARK

NOTTS.

# REPORT INTO FINDINGS OF SITE INVESTIGATION

AT PROPOSED DRILLING SITE

HEYWOOD, LANCASHIRE

MTC 112/84-6008/TJB/EA

March 1984

Directors: R. A. MACARTHY, R. HUGHES M.Phil., C.Eng., M.I.C.E., M.I.H.E., ~~B. HUDSON, C.Eng., M.I.C.E., M.I.Struct.E.~~, R. GASCOIGNE, B.Eng., C.Eng., M.I.C.E.
Consultants: R. N. JONES Phd., C.Eng., M.I.C.E., F.G.S., M.A.S.C.E., D. BRENTNALL, B.Eng., Phd., M.I.M.M. F.I.Q., F.G.S.

# N O T E

## GENERAL

The comments given in this report and the opinions expressed are based upon the ground conditions encountered during the site work and on the results of tests made both in the field and in the laboratory. There may, however, be certain special conditions obtaining at the site, which may not have been disclosed during the investigation and which have not been taken into account in this report. In particular, it should be noted that ground water conditions are based upon observations made at the time site work was carried out. It must be noted that ground water levels frequently vary, due to seasonal and other effects.

## INTRODUCTION

A.1 B.P. Petroleum Developments (U.K.) Ltd. (BPDL) required that a site investigation be carried out at Coal Pits Farm near Heywood, Lancashire, and commissioned the following work by Order Number ES/PE/6475 dated 17th February, 1984.

The order titled Heywood, required us to "Carry out three borehole surveys using rotary air flush drilling, to ascertain sub-soil conditions and provide detailed report of conditions encountered. Drill one hole to a minimum depth of 30 metres and two to 10 metres. P.B. representatitive to mark out position of boreholes".

The layout of the proposed drilling site is shown on B.P. drawing Number SP810, with temporary access for this drilling operation being via Coal Pits Farm, whose tenant is T. Walstenholme Esq.

A.2 The proposed site of some two acres is presently open grazing land, contained within the 5.66 acre Lot 8895. A disused shallow stone quarry intrudes into the site, this quarry being overgrown,

probably used in the past for the mining of walling stone and possibly extraction of shallow coal seams.

A.3 The geology of the site is shown on Sheet 85 - (Solid) Manchester and indicates that the site is situated in a geologically confused area, with the dominant material being Rough Rock, Millstone Grit, with the deeper Coal Measures of the Westphalien series.

The presence of two faults is shown running approximately North West/South East, these appearing to be situated on either side of the line of boreholes. The presence of outcropping coal seams is also recorded, which fact is confirmed by the drilling investigation.

FIELDWORK

B.1 For this investigation two types of investigative work were carried out, namely:

(a) Shallow trial pitting, completed by the mechanical excavator, attending the drilling rig.

(b) Rock drilling, incorporating rotary percussive air flush lorry mounted equipment.

B.2 During trial pitting, such in-situ testing and sampling as was possible, was completed. During open hole drilling, disintegrated particle samples were regularly examined, details of drilling rates recorded and incidence of ground water noted.

COMMENTS ON GROUND CONDITIONS FOUND

C.1 The geological conditions across the site appear very similar, with the exception of some apparent discontinuity in the shallow coal seam, found in boreholes 1 and 2, but not in borehole 3.

C.2 Dealing firstly with the shallow ground conditions indicated by the trial pit findings.

In the three trial pits, some 0.2 to 0.3 metres of heavy clay bound topsoil, passes down to either weathered laminated SANDSTONE or stiff BOULDER CLAY. However, in all three trial pits a more permanent strata of SANDSTONE occurs at some 1 to 1.5 metres below existing ground level, this material becoming harder and more massive with depth. In all the trial pits, refusal was met between 1.8 and 2.4 metres below ground level.

C.3 Where CLAY or BOULDER CLAY was present in sufficient

quantity, in-situ hand held Shear Vane testing was completed, and in this and certain other materials, bulk and core samples were taken.

C.4 To the North East of the line of boreholes, the surface of the site was very wet, and semi-water logged, suggesting some inadequate land drainage and a perched water table on top of the clay capping to the sandstone. It is likely that the slight seepages into the trial pits through the sandstone emanates from this source.

C.5 The open hole drilling was completed using a lorry mounted rotary air flush with a 360 Diamond drill head, with the boreholes being complimentary to the adjacent trial pits. In the case of borehole 2, trial pit 2 was used as a drilling sump-hole to contain ground water coming up the borehole during drilling.

Borehole 1 showed ground conditions as in trial pit 1, to 2.2 metres, the borehole continued thereafter to 3.2 metres in a yellow grey SANDSTONE.

Between 3.2 and 4.1 metres, COAL was found, and from 4.1 metres to 10.0 metres the borehole continued in yellow grey and brown SANDSTONE, the borehole was dry.

Borehole 2 showed fragmented, laminated, shallow conditions until COAL was found between 3.5 and 3.8 metres. Between 3.8 and 5.0 metres a grey SANDSTONE becoming grey and yellow in colour occurred, between 5.0 and 5.5 metres a layer of hard, dark, grey SANDSTONE occurs, thereafter the borehole continued in buff SANDSTONE to 12.0 metres, between 12.0 and 13.0 metres occurs a band of SHALE with clay partings which passes down to a more finely grained material to 18.0 metres, between 18.0 and 18.8 metres occurs COAL which overlies buff SANDSTONE to 20.0 metres and COAL between 20.0 and 21.0 metres.

With the incidence of the twin coal seams at depth, considerable volumes of water flowed into the borehole and were forced up the open hole during drilling.

Between 21.0 and 31.5 metres, the borehole was in laminated SHALE with intermittant thin CLAY and COAL partings, with the SHALE becoming more predominant from 27.0 metres.

Drilling rates for each successive length of drill rod extension were consistant throughout the borehole, as indicated below:-

| Depth (m) | Drill Conditions | Drilling Time (mins) |
|---|---|---|
| 4.0 - 7.0 | Dry - Sandstone | 8 |
| 7.0 - 10.0 | Dry - Sandstone | 10 |
| 10.0 - 13.0 | Dry - Sandstone + Clay Partings | 15 |
| 13.0 - 16.0 | Dry - Sandstone + Silt-stone Layer | 16 |
| 16.0 - 19.0 | Pt. Dry - Sandstone and thin Coal | 17 |
| 19.0 - 22.0 | Wet - Sandstone, Coal and Laminated Shale | 14 |
| 22.0 - 25.0 | Wet - Shales + Coal Partings | 15 |
| 25.0 - 28.0 | Wet - Mainly heavy Shales | 14 |

Study of both the drilling progress and drilling rates per extension run, indicates solid formations to total depth of borehole. Examination of rock fines blowing up the hole, show clearly defined levels and thicknesses of different quality rocks, with blocking laminations and possible some faulting to be expected, however, to the best of our knowledge and experience, no voids or collapsed workings were encountered to the depth drilled.

Borehole 3 was drilled through the floor of trial pit 3, therefore the 1.8 metres ground conditions are as

found in that trial pit. From 1.8 to 10.0 metres the borehole continued in a buff alternating with a yellow, grey SANDSTONE to its completion at 10.0 metres. The borehole was dry.

Unlike boreholes 1 and 2, there was no evidence of any shallow coal seam.

C.6 Deep ground conditions appear comparatively uncomplicated with no evidence of any voids.

Shallow conditions are straight forward, with either stiff to very stiff clay, or very dense clay-sandstone mixtures, overlying sandstone. Allowable Bearing Values at shallow depths, of say up to 1.2 metres, should not exceed 200 KN/$m^2$, at depths greater than this where the laminated or thinly bedded sandstones occur, reference to C.P.2004:1972, Table 1, Group 1, Class 7 and 8 should be made.

Excavation in-situ should be comparatively un-complicated up to a maximum depth of 2.0 metres, thereafter at greater depths traditional mechanical excavators will face difficulties.

METHOD OF EXCAVATION: Mechanical

DATE OF EXCAVATION: 1 March 1984

GROUND LEVEL (M):

RECORD OF TRIAL HOLE: ONE

| SCALE (M) | SAMPLING: THICKNESS OF STRATUM (M) | SAMPLING: TYPE * | STRATA: LEGEND | STRATA: TOTAL DEPTH FROM SURFACE (M) | STRATA: LEVEL O.D. (M) | STRATA: DESCRIPTION |
|---|---|---|---|---|---|---|
| | 0.3 | | | 0.3 | | Clayey TOPSOIL |
| 1.0 M. | 0.9 | | | 1.2 | | Stiff, red brown CLAY with lenses of SILT and some small COBBLES (Boulder Clay).<br><br>Shear Vane =>120 KN/m² |
| 2.0 M. | 1.0 | | | 2.2 | | Yellow brown, thinly laminated and weathered SANDSTONE with thin partings of clay and silty sand. |
| 3.0 M. | | | | | | J.C.B. unable to proceed further, trial pit complete |

REMARKS:

1. Very slight, slow seepage of ground water through sandstone

* D = DISTURBED U = UNDISTURBED

CLIENT: B.P. Petroleum Developments (U.K.)Ltd.

LOCATION: Coal Pits Farm HEYWOOD

PROJECT: Heywood Drill Site

MACARTHY HUGHES & PARTNERS LIMITED
TELEPHONE: NEWARK 704814 - 704910

AL183

METHOD OF EXCAVATION: Mechanical

DATE OF EXCAVATION: 1 March 1984

GROUND LEVEL (M):

RECORD OF TRIAL HOLE: TWO

| SCALE (M) | SAMPLING: THICKNESS OF STRATUM (M) | SAMPLING: TYPE * | STRATA: LEGEND | STRATA: TOTAL DEPTH FROM SURFACE (M) | STRATA: LEVEL O.D. (M) | STRATA: DESCRIPTION |
|---|---|---|---|---|---|---|
| | 0.2 | | | 0.2 | | Clayey TOPSOIL |
| | 0.5 | | | 0.7 | | Mixture of stiff silty sandy CLAY and fragments of SANDSTONE |
| 1.0 M. | 0.5 | | | 1.2 | | Stiff red brown CLAY with some COAL smearing.<br>Shear Vane = >120 KN/m² |
| 2.0 M. | 1.2 | | | 2.4 | | Yellow brown and grey weathered SANDSTONE thinly laminated, becoming slabby and harder with depth. |
| 3.0 M. | | | | | | J.C.B. unable to proceed further, trial pit complete |

REMARKS:

1. Slight seepage of ground wather through sandstone

* D = DISTURBED U = UNDISTURBED

CLIENT: B.P. Petroleum Developments (U.K.)Ltd.

LOCATION: Coal Pits Farm HEYWOOD

PROJECT: Heywood Drill Site

MACARTHY HUGHES & PARTNERS LIMITED
TELEPHONE: NEWARK 704814 · 704910

A1/83

| METHOD OF EXCAVATION: | Mechanical | RECORD OF TRIAL HOLE |
|---|---|---|
| DATE OF EXCAVATION: | 1 March 1984 | THREE |
| GROUND LEVEL (M): | | |

| SCALE (M) | SAMPLING: THICKNESS OF STRATUM (M) | SAMPLING: TYPE * | STRATA: LEGEND | TOTAL DEPTH FROM SURFACE (M) | LEVEL O.D. (M) | DESCRIPTION |
|---|---|---|---|---|---|---|
| | 0.2 | | | 0.2 | | Clayey TOPSOIL |
| | 0.4 | | | 0.6 | | Yellow brown sandy weathered laminated SANDSTONE |
| 1.0 M. | 0.5 | | | 1.1 | | Stiff red brown and grey CLAY with some isolated gobbles and gravel. Shear Vane = > 120 KN/m² |
| | 0.7 | | | 1.8 | | Hard yellow and grey SANDSTONE becoming harder with depth |
| 2.0 M. | | | | | | J.C.B. unable to proceed further, trial pit complete |
| 3.0 M. | | | | | | |

REMARKS:

1. Slight seepage of ground water through sandstone

* D = DISTURBED U = UNDISTURBED

| CLIENT: B.P. Petroleum Developments (U.K.)Ltd | LOCATION: Coal Pits Farm HEYWOOD |
|---|---|
| PROJECT: Heywood Drill Site | MACARTHY HUGHES & PARTNERS LIMITED TELEPHONE: NEWARK 704814 · 704910 |

AL167

TABLE 1

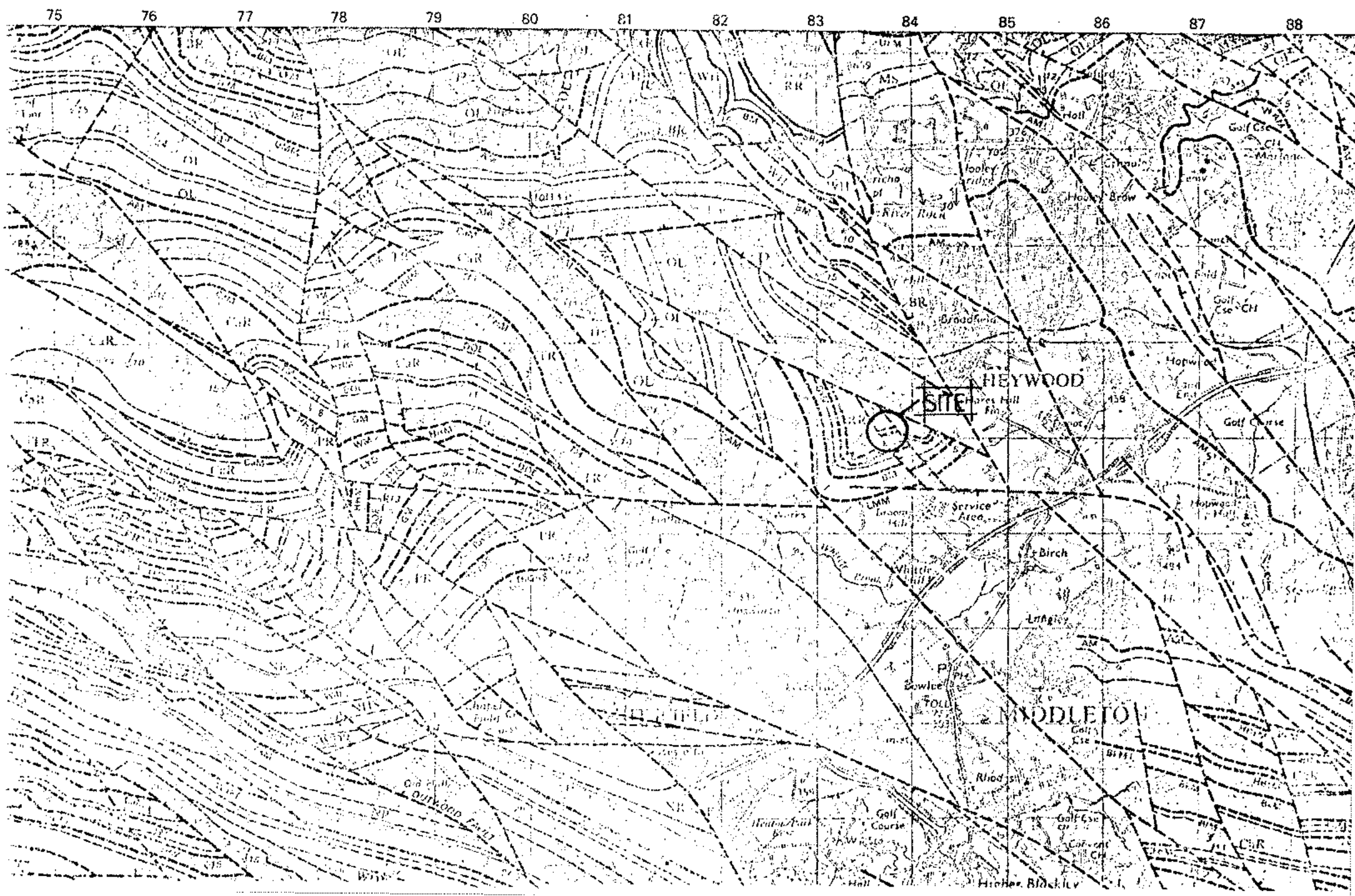
SUMMARY OF LABORATORY TEST RESULTS

| bore hole Number | SAMPLE Depth (metres) | Type | DESCRIPTION OF SAMPLE | Natural Moisture Content w % | Natural Wet Density ρ (Mg/m³) | Natural Dry Density ρd (Mg/m³) | ATTERBERG LIMITS Liquid Limit wL % | Plastic Limit wP % | Plasticity Index Ip % | Specific Gravity | SOIL STRENGTH TESTS Type of Test | Cell Pressure σ3 (kN/m²) | Maximum Deviator Stress (σ1-σ3) (kN/m²) | Undrained Shear Strength cu (kN/m²) | OTHER TESTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TP 1 | 1.25 | CORE | Red brown stiff sandy CLAY | 17.6 | 1979 | 1683 | 29.0 | zero | | | | | | > 120.0 | |
| TP 2 | 0.7 | BULK | " " " " " | 12.4 | - | - | - | - | | | | | | > 120.0 | |
| TP 2 | 2.0 | BULK | Yellow brown weathered Sandstone | 8.8 | - | - | - | - | | | | | | > 120.0 | |
| TP 3 | 1.8 | BULK | Red brown stiff sandy Clay | 12.5 | - | - | 23.0 | 14.0 | 9.0 | | | | | > 120.0 | |
| TP 3 | 1.3 | BULK | Hard yellow and grey SANDSTONE | 7.9 | - | - | - | - | | | | | | > 120.0 | |

KEY D - denotes disturbed sample
U50 - denotes sample 50mm diameter in shelby tube
U75 - denotes sample 75mm diameter in shelby tube
* - denotes tests made on board

U denotes an unconfined compression test
CU denotes a quick undrained compression test
UU denotes an unconsolidated undrained triaxial test
CU denotes consolidated undrained triaxial test
CD denotes a consolidated drained triaxial test
CUC denotes consolidated undrained cyclic triaxial test

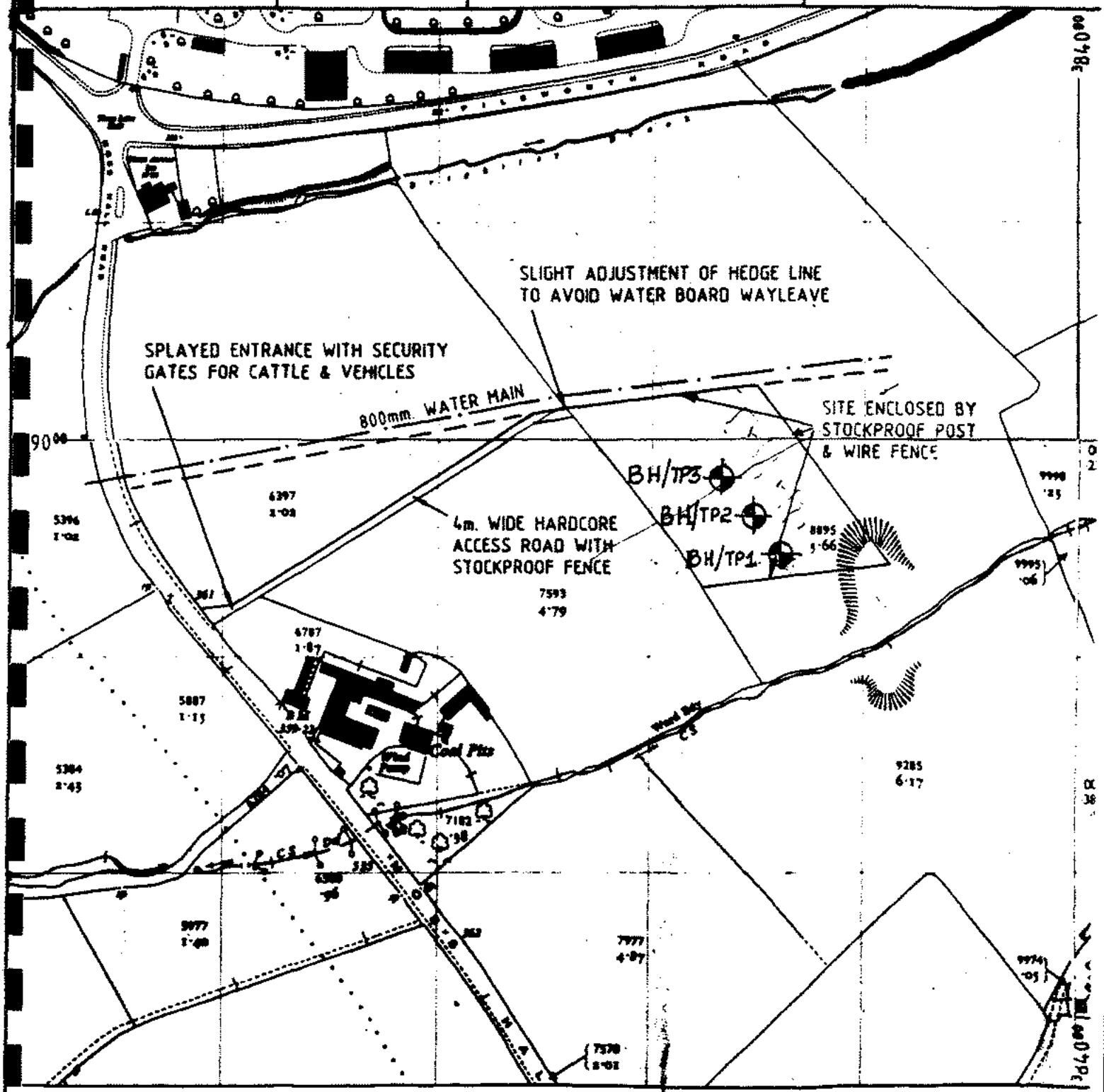
(38) - denotes specimen diameter in mm
R - denotes remoulded sample
PSD - denotes particle size distribution


75
76
77
78
79
80
81
82
83
84
85
86
87
88
HEYWOOD
Site
MIDDLETON




PART OF 1:50,000 O.S. SHEET 109

AREA : HEYWOOD | WELL No. 'A' | LICENCE AREA : PL 224 | SITE AREA : 2 ACRE




**OWNER**

EARL OF WILTON SETTLED ESTATES,
C/O T. G. MYERSCOUGH ESQ.,
6 SCHOOL STREET,
RADCLIFFE,
MANCHESTER.

**OCCUPIER**

T. WOLSTENHOLME,
COAL PITS FARM,
PILSWORTH,
HEYWOOD,
LANCS.

Pilsworth:

- Molesti Jobsworth x 45

//

Pilsworth

NORWEST HOLST

DRILLING

384,000
900
800
700
600
2,500
400
300
200
100
383,000
900
800
700

# Pilsworth - Quantities

Enc. 7551

| Depth drilled: (m) | Borehole | Cement | | top up | Bentonite | | top up | Materials delivered |
|---|---|---|---|---|---|---|---|---|
| 14.5 | 243 | 5 | } 4 | 2 | 4 | } 2 | 1 | (35) bags cement from N'west |
| 16.5 | 243 A | 2 | | 2 | 1 | | 1 | |
| 12.6 | 244 | 5 | | | 4 | | | (15) by driller. |
| 15.0 | 247 | 3 | | | 5 | | | |
| 14.7 | 246 | 4 | | 4 | 2 | | 2 | |
| 15.0 | 245 | 4 | | 2 | 2 | | 1 | |
| 16.0 | 248 | 6 | } 2 | 2 | 3 | } 1 | 1 | |
| 18.0 | 249 | 6 | | | 3 | | | |
| 13.0 | 242 | 10 | | 2 | 5 | | 1 | (40) - 6.2.84 |
| 11.5 | 241 | 4 | | | 2 | | | |
| 12.0 | 240 | 6 | | 2 | 3 | | 1 | |
| 11.0 | 237 | 6 | | | 3 | | | |
| 7.5 | 238 | 4 | | | 2 | | | |
| 7.5 | 250 | 4 | | | 2 | | | |
| 7.5 | 239 | 3 | | | 1½ | | | |
| 190.3 | | 94 | | | 53½ | | | |

# Pilsworth - Quantities

Enc. 6565

Materials Delivered.

| Depth. | Borehole | Cement | top up | Bentonite | top up |
|---|---|---|---|---|---|
| 9.0 | 257 A | 4 | | 2 | |
| 4.0 | 263 | 2 | | 1 | |
| 9.5 | 257 | 3 | 2 | 1 1/2 | 1 |
| 4.0 | 262 | 2 | | 1 | |
| 8.0 | 264 | 4 | | 2 | |
| 5.5 | 265 | 2 | | 1 | |
| open pipe 4m | 260 | 1 | | 1/2 | |
| 2.5 | 259 | 2 | | 1 | |
| 3.5 | 261 | 1 | | 1/2 | 2 |
| 4.0 | 258 | 2 | 4 | 1 | |
| 2.5 | 266 | 1 | | 1/2 | |
| 2.8 | TRIAL HOLE | 2 | | | |
| 7.0 | 256 | 2 | | 1 | |
| 3.0 | 255 | 1 | | 1/2 | |
| open pipe 4m | 254 | 1 | | 1/2 | |
| 2.5 | 253 | 1 | | 1/2 | |
| 4.5 | 252 | 2 | | 1 | |
| 6.0 | 251. | 2 | | 1 | |
| 79.3 ✓ | | 41 | | 19 1/2 | |

(60) - 14.2.84 ✓

# Pilsworth – Quantities

Enc. 4446

| Depth | Borehole | Cement | top up | Bentonite | top up | Materials delivered |
|---|---|---|---|---|---|---|
| 4.5 | 195 | 1½ | | ¾ | | |
| 5.0 | 192 | 1½ | | ¾ | | (60) 20.2.84 |
| 4.5 | 193 | 2 | | 1 | | |
| 4.0 | 196 | 3 | | 1½ | | |
| 4.0 | 194 | 7 | | 1½ | | |
| 6.5 | 197 | 4 | | 2 | | |
| 2.5 | 191 | 2 | | 1 | | |
| 3.5 | 182 | 2 | | 1 | | |
| 3.0 | 186 | 2 | | 1 | | |
| 3.0 | 185 | 4 | 1 | 2 | 1 | |
| 5.0 | 187 | 2 | | 1 | | |
| 6.0 | 188 | 2 | | 1 | | |
| 8.5 | 189 | 4 | 1 | 1 | | |
| 3.5 | 190 | } 3 | | } 1½ | | |
| 3.5 | 202 | | | | | |
| open pipe 4m | 199 | 2 | | 1 | | |
| 4.0 | 203 | 4 | | 2 | | |
| 5.0 | 204 | 2 | | 1 | | |
| 5.0 | 183 | 2 | | 1 | | |
| 9.5 | 205 | 4 | 2 | 1 | 1 | |
| 9.0 | 184 | 6 | | 3 | | |
| 8.0 | 198 | 4 | | 1 | | (60) 21.2.84 |
| 10.0 | 206 | 6 | | 3 | | |
| 7.5 | 201 | 4 | 2 | 2 | 1 | (60) 28.2.84 |
| 9.5 | 208 | 6 | | 3 | | |
| 6.0 | 209 | 4 | | 2 | | |
| 7.5 | 207 | 4 | | 2 | | |
| 20.0 | 180 | 22 | 2 | 11 | 1 | |
| 22.0 | 181 | 14 | 4 | 7 | 2 | |
| 7.0 | 200 | 4 | | 2 | | |
| 6.0 | 200A | 140 | | 65 | | |

203.00

# Pilsworth Quantities

Enc. 6240'

| Depth | Borehole | Cement | top up | Bentonite | top up | Material delivered |
|---|---|---|---|---|---|---|
| | Trial hole (234) | 4 | | 2 | | |
| 18.5 | 236A | 6 | | 3 | | |
| 21.0 | 236 | 20 | 14 | 10 | 7 | |
| 12.0 | 231 | 4 | | 2 | | |
| 15.5 | 232 | 10 | | 5 | | |
| 19.0 | 235 | 10 | | 5 | | (100) 5-3-84 ✓ |
| 18.0 | 233 | 8 | | 4 | | |
| 20.5 | 234 | 8 | | 4 | | |
| 20.5 | 234 A | 8 | | 4 | | |
| 18.5 | 224 | 8 | | 4 | | |
| 18.0 | 223 | 12 | | 6 | | |
| 17.5 | 216 | 8 | | 4 | | |
| 16.5 | 216 A | 6 | | 3 | | |
| 18.0 | 222 | 12 | | 6 | | |
| 16.5 | 220 | 10 | | 5 | | |
| 20.0 | 219 | 10 | | 5 | | |
| 18.5 | 218 | 10 | | 5 | | |
| 18.0 | 218 A | 8 | | 4 | | |
| 18.0 | 218 B | 8 | | 4 | | |
| 18.0 | 217 | 8 | | 4 | | 100 13.3.84 |
| 18.0 | 221 | 6 | | 3 | | |
| 19.0 | 215 | 8 | | 4 | | |
| 18.5 | 230 | 8 | | 4 | | |
| 18.5 | 212 A | 8 | | 4 | | |
| 18.5 | 212 | 8 | | 4 | | 100 21-3 84. |
| 15.0 | 225 | 8 | | 4 | | |
| 12.0 | 228 | 6 | | 3 | | |
| 8.0 | 229 | 4 | | 2 | | |
| 15.5 | 214 | 8 | | 4 | | |
| 10.5 | 226 | 6 | | 3 | | |
| 14.5 | 227 (+ 211) | 16 | | 8 | | |
| | grout run this | cf 278 | | cf 140 | | |

Enc 6240 cont:-

| Depth | Borehole | Cement top up of 278 | Bentonite top up 140 | Material delivered |
|---|---|---|---|---|
| open | 211 (grouted with 227) | | | |
| 14.5 | 211 A | 8 | 4 | |
| 9.5 | 213 | 4 | 2 | |
| 10.0 | 210 | 4 | 1 | |
| 546.5 ✓ | | 294 | 147 | |

Enc 3725.

| | | | | |
|---|---|---|---|---|
| 25.0 | 178 | 16 | 8 | |
| 29.5 | 179 | 12 | 6 | |
| 54.5 ✓ | | | | |
| | | 2 | 1 | |

| Totals: used | | Cement | Bentonite | |
|---|---|---|---|---|
| Enc | 7551 | 94 | 53½ | |
| | 6565 | 41 | 19½ | |
| | 6666 | 140 | 65 | |
| | 6240 | 294 | 147 | |
| | 3725 | 30 | 15 | |
| | | 599 | 300 | 630 Bags delivered |
| | | | (approx 2 bags : tonne) | |
| Unused | | 11 | | |
| | | 610 | | |

# Pilsworth - Quantities of Materials used.

## Enclosure - 7551.

| | Borehole | Cement | topping up | Bentonite | top up | Materials delivered |
|---|---|---|---|---|---|---|
| | 243 | 5 | 2 | 4 | 1 | 35 cement from Newst |
| | 243 A | 2 | 2 | 1 | 1 | 15 by dillon |
| | 244 | 5 | | 4 | | |
| | 247 | 3 | 4 ✓ | 5 | 2 ✓ | |
| | 246 | 4 | 4 | 2 | 2 | |
| | 245 | 4 | 2 | 2 | 1 | |
| | 248 | 6 | 2 | 3 | 1 | |
| 15 | 249 | 6 | | 3 | | |
| | 242 | 10 | 2 | 5 | 1 | 40 - 6.2.84 ✓ |
| | 241 | 4 | | 2 | | |
| | 240 | 6 | 2 | 3 | 1 | |
| | 237 | 6 | | 3 | | |
| | 238 | 4 | | 2 | | |
| | 250 | 4 | | 2 | | |
| | 239 | 3 | | 1 ½ | | |
| | | (94) | | (53½) | | |

## Enclosure 6565.

| | | | | | | |
|---|---|---|---|---|---|---|
| | 257 A | 4 | | 2 | | |
| | 263 | 2 | | 1 | | |
| | 257 | 3 | 2 | 1½ | 1 | |
| | 262 | 2 | | 1 | | |
| | 264 | 4 | | 2 | | 60 - 14.2.84 ✓ |
| | 265 | 2 | | 1 | | |
| | 260 | 1 | | ½ | | |
| | 259 | 2 | | 1 | | |
| 16 | 261 | 1 | | ½ | | |
| | 258 | 2 | 4 | 1 | 2 | |
| | 266 | 1 | | ½ | | |
| | 256 Trial Hole - | 2 (2) | | 1 (1) | | |
| | 255 | 1 | | ½ | | |
| | 254 | 1 | | ½ | | |
| | 253 | 1 | | ½ | | |
| | 252 | 2 | | 1 | | |
| | 251 | 2 | | 1 | | |
| | | (29) | | (20½) | | |

Pilsworth cont:-

Enclosure 4446.

| Borehole | | Cement top up | Bentonite top up | Materials delivered |
|---|---|---|---|---|
| 195 | | 1½ | ¾ | 60 bags 20·2·84 ✓ |
| 192 | | 1½ | ¾ | |
| 193 | | 2 | 1 | |
| 196 | | 3 ✓ | 1½ | |
| 194 | | 4 (or 7) | 1½ | |
| 197 | | 4 | 2 | |
| 191 | | 2 | 1 | |
| 182 | | 2 | 1 | |
| 186 | | 2 | 1 | |
| 185 | | 4 + 1 | 2 + 1 | |
| 187 | | 2 | 1 | |
| 188 | | 2 | 1 | |
| 189 | | 4 + 1 | 1 | |
| 190 | * | } | } | |
| 202 | | 3 ✓ | 1½ ✓ | |
| 199 | | 2 | 1 | |
| 203 | | 4 | 2 | |
| 204 | | 2 | 1 | |
| 183 | | 2 | 1 | |
| 205 | | 4 ⌐ 2 | 1 ⌐ 1 | |
| 184 | | 6 ⌙ | 3 ⌙ | |
| 198 | | 4 | 1 | |
| 206 | | 6 | 3 | |
| 201 | | 4 ⌐ 2 | 2 ⌐ 1 | |
| 208 | | 6 | 3 | |
| 209 | | 4 ⌙ | 2 ⌙ | 60 bags 27·2·84 ✓ |
| 207 | | 4 | 2 | 60 bags 28·2·84 ✓ |
| 180 | | 22 (+2 H) | 11 (+1 H) | |
| 181 | | 14 | 7 | |
| 200 | * 4 | 253 (130) | 2 136 (62) | |

Enclosure 6240.

| | | | |
|---|---|---|---|
| (nr. 234 (boal hole) | | 4 | 2 |
| 236 | | 20 + 14 | 10 + 7 |
| 231 | | 4 | 2 |
| 232 | | 10 | 5 |
| 235 | | 10 | 5 |
| 233 | | 8 | 4 |
| 234 | | 8 | 4 |
| 224 | | 8 | 4 |
| 234(A) | | 8 | 4 |

100 - 53·84 ✓

30

31

Enc 6240 cont:-

| | Borehole | Cement | top up | Bentonite | top up | Materials delivered |
|---|---|---|---|---|---|---|
| ? | 223 | 12 | | 6 | | |
| drilled to check? | 216 (A) | 6 | | 3 | 100 | 13.3.84 ✓ |
| | 222 | 12 | | 6 | | |
| | 220 | 10 | | 5 | | |
| | 219 | 10 | | 5 | | |
| Dished? | 218 (B) A — | 10 8 | 2 | 5 4 | 1 | |
| | 217 | 8 | | 4 | | |
| | 221 | 6 | | 3 | 100 | 21.3.84 ✓ |
| | 215 | 8 | | 4 | | |
| | 230 | 8 | | 4 | | |
| | 212 | | | | | |
| | 225 | 8 | | 4 | | |
| | 228 | 6 | | 3 | | |
| | 229 | 4 | | 2 | | |
| | 214 | 8 | | 4 | | |
| | 226 | 6 | | 3 | | |
| | 227 | 16 | | 8 | | |
| | 211 | | | | | |
| | 211A | 8 | | 4 | | |
| | 213 | 4 | | 2 | | |
| | 210 | | | | | |
| | 218 (B) | 8 | | 4 | | |

Enc 3725

| | | | |
|---|---|---|---|
| 2 | 178 | 16 | 8 |
| | 179 | | |

TOTAL 944

**DELIVERY NOTE**

008476 **/021**

# JOHN KAY GROUP LTD.

Builders and Plumbers Merchants

*Originating Depot:*
HIGHER MILLS BRIDGE STREET
BURY GREATER MANCHESTER BL9 6HH
Telephone 061-764 6011

INVOICE TO:
Norwest Holst Soil Eng
Dewsbury Rd
Leeds

DELIVER TO:
Higher Dam Farm
Bond

*Accounts Queries and Cheques payable to:*
JOHN KAY GROUP LTD.
HURST STREET
BURY
GREATER MANCHESTER
BL9 7EZ
Telephone 061-764 6011

| ORDER No. | CONSIGNMENT NOTE No. | TYPE OF SUPPLY | VAT REG. No. | DATE AND TAX POINT |
|---|---|---|---|---|
| 9094 | E16494 | CREDIT SALE | 145 0716 85 | 21-3-84 |

| DESCRIPTION | QUANTITY | PRICE £ | UNIT | PLUS/AGE/ DISCOUNT | |
|---|---|---|---|---|---|
| Cement | 5 Tonne | | | | |

| | |
|---|---|
| TOTAL GOODS | |
| VAT @ 15 % | |
| AMOUNT DUE | |

Received in good condition by (For conditions of sale see over)

Received in good condition by (For conditions of sale see over)

JOHN KAY GROUP LTD. Depots and Telephone Numbers
Bury 061-764 6011 · Blackburn 675331 · Bolton 21261 · Burnley 0282 50381
Cheadle 061-486 9117 · Clitheroe 22311 · Colne 0282 862101 · Hyde 061-369 2030 & 4301
Kendal 21351 · Nelson 0282 692815 · Newton Heath 061-205 8812 · Preston 0772 796123
Radcliffe 061-723 2368 · Rochdale 40117 · Southport-Birkdale 0704 67066 · Southport-Ainsdale 0704 79424
Walkden 061-799 6611 · Warrington 50511 · Wigan 214741

DELIVERY NOTE

008476 /021

# JOHN KAY GROUP LTD.

Builders and Plumbers Merchants

*Originating Depot:*
HIGHER MILLS BRIDGE STREET
BURY GREATER MANCHESTER BL9 6HH
Telephone 061-764 6011

| INVOICE TO | DELIVER TO | *Accounts Queries and Cheques payable to:* |
|---|---|---|
| Norwest Holst Soil Eng<br>Dewsbury Rd<br>Leeds | Higher Town Farm<br>Ford | JOHN KAY GROUP LTD.<br>HURST STREET<br>BURY<br>GREATER MANCHESTER<br>BL9 7EZ<br>Telephone 061-764 6011 |

| ORDER NO. | CONSIGNMENT NOTE NO. | TYPE OF SUPPLY | VAT REG. NO. | DATE AND TAX POINT |
|---|---|---|---|---|
| 9694 | E16494 | CREDIT SALE | 145 0716 85 | 21-3-84 |

| DESCRIPTION | QUANTITY | PRICE £ | UNIT | PLUS AGE DISCOUNT | |
|---|---|---|---|---|---|
| Cement | 5 Tonne | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Received in good condition by (For conditions of sale see over)

| | |
|---|---|
| TOTAL GOODS | |
| VAT @ 15 % | |
| AMOUNT DUE | |

Received in good condition by (For conditions of sale see over)

JOHN KAY GROUP LTD. Depots and Telephone Numbers

Bury 061-764 6011
Blackburn 675331
Bolton 21261
Chadle 061-486 9117
Clitheroe 22311
Colne 0282 862101
Kendal 21351
Nelson 0282 692815
Newton Heath 061-205 8812
Preston 0772 796123
Radcliffe 061-723 2369
Rochdale 40117
Southport-Birkdale 0704 67066
Southport-Ainsdale 0704 79424
Walkden 061-799 6611
Warrington 50511
Wigan 21474

**DELIVERY NOTE**

008306 **/021**

# JOHN KAY GROUP LTD.

Builders and Plumbers Merchants

*Originating Depot:*
HIGHER MILLS BRIDGE STREET
BURY GREATER MANCHESTER BL9 6HH
Telephone 061-764 6011

INVOICE TO:
Norwest Holst Soil Eng
Dewsbury Rd
Leeds

DELIVER TO:
HR Barn farm
Birch
Heywood

*Accounts Queries and Cheques payable to:*
**JOHN KAY GROUP LTD.**
**HURST STREET**
**BURY**
**GREATER MANCHESTER**
**BL9 7EZ**
**Telephone 061-764 6011**

| ORDER No. | CONSIGNMENT NOTE No. | TYPE OF SUPPLY | VAT REG. No. | DATE AND TAX POINT |
|---|---|---|---|---|
| 9006 | Clb437. | CREDIT SALE | 145 0716 85 | 5.3.84 |

| DESCRIPTION | QUANTITY | PRICE £ | UNIT | PLUS/AGE/ DISCOUNT | |
|---|---|---|---|---|---|
| Cement | 5 Tonne | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Received in good condition by (For conditions of sale see over)

| | |
|---|---|
| TOTAL GOODS | |
| VAT @ 15 % | |
| AMOUNT DUE | |

Received in good condition by (For conditions of sale see over)


**JOHN KAY GROUP LTD. Depots and Telephone Numbers**

Bury 061-764 6011
Blackburn 675331
Bolton 21261
Burnley 0282 50721
Cheadle 061-486 9117
Clitheroe 22311
Colne 0282 862101
Hyde 061-368 2030 & 4301
Kendal 21351
Nelson 0282 692815
Newton Heath 061-205 8812
Preston 0772 796123
Radcliffe 061-723 2368
Rochdale 40117
Southport-Birkdale 0704 67066
Southport-Ainsdale 0704 79424
Walkden 061-799 6611
Warrington 50511
Wigan 214741

DELIVERY NOTE

008264 /021

# JOHN KAY GROUP LTD.

Builders and Plumbers Merchants

*Originating Depot:*
HIGHER MILLS BRIDGE STREET
BURY GREATER MANCHESTER BL9 6H
Telephone 061-764 6011

INVOICE TO:
Norwest Holst Soil Eng
Dewsbury Rd
Leeds

DELIVER TO:
Higher Barn Farm
Brock

*Accounts Queries and Cheques payable to:*
JOHN KAY GROUP LTD.
HURST STREET
BURY
GREATER MANCHESTER
BL9 7EZ
Telephone 061-764 6011

| ORDER No. | CONSIGNMENT NOTE No. | TYPE OF SUPPLY | VAT REG. No. | DATE AND TAX POINT |
|---|---|---|---|---|
| 8986 | D16 v 84 | CREDIT SALE | 145 0716 85 | 28. v 84 |

| DESCRIPTION | QUANTITY | PRICE £ | UNIT | PLUS/AGE/ DISCOUNT | |
|---|---|---|---|---|---|
| Cement | 3 Tons | | | | |

Received in good condition by (For conditions of sale see over)

| | |
|---|---|
| TOTAL GOODS | |
| VAT @ 15% | |
| AMOUNT DUE | |

(For conditions of sale see over) Received in good condition by

JOHN KAY GROUP LTD. Depots and Telephone Numbers

Bury 061-764 6011
Blackburn 675331
Bolton 21261
Burnley 0282 50721

Cheadle 061-486 8117
Clitheroe 22311
Colne 0282 862101
Hyde 061-368 2030 & 4301

Kendal 21351
Nelson 0282 692815
Newton Heath 061-205 8812
Preston 0772 796123

Radcliffe 061-723 2368
Rochdale 40117
Southport-Birkdale 0704 67066
Southport-Ainsdale 0704 79424

Walkden 061-799 6611
Warrington 50611
Wigan 214741

**DELIVERY NOTE**

008245/021

# JOHN KAY GROUP LTD.

Builders and Plumbers Merchants

*Originating Depot:*
HIGHER MILLS BRIDGE STREET
BURY GREATER MANCHESTER BL9 6HH
Telephone 061-764 6011

INVOICE TO:
Norwest Holst Building
Dewsbury Rd
Leeds

DELIVER TO:
J. Hyde Bromley Farm
Birch

*Accounts Queries and Cheques payable to:*
**JOHN KAY GROUP LTD.**
**HURST STREET**
**BURY**
**GREATER MANCHESTER**
**BL9 7EZ**
**Telephone 061-764 6011**

| ORDER No. | CONSIGNMENT NOTE No. | TYPE OF SUPPLY | VAT REG. No. | DATE AND TAX POINT |
|---|---|---|---|---|
| 008983 | F16051 | CREDIT SALE | 145 0716 85 | 27. V-84. |

| DESCRIPTION | QUANTITY | PRICE £ | UNIT | PLUSAGE/ DISCOUNT | |
|---|---|---|---|---|---|
| Cement | 3 Tonne | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Received in good condition by (For conditions of sale see over)

(For conditions of sale see over) Received in good condition by

| | |
|---|---|
| TOTAL GOODS | |
| VAT @ 15 % | |
| AMOUNT DUE | |

JOHN KAY GROUP LTD. Depots and Telephone Numbers

Bury 061-764 6011
Blackburn 675331
Bolton 21261
Burnley 0282 50721
Cheadle 061-486 9117
Clitheroe 22311
Colne 0282 862101
Hyde 061-368 2030 & 4301
Kendal 21351
Nelson 0282 692815
Newton Heath 061-205 8812
Preston 0772 796123
Radcliffe 061-723 2368
Rochdale 40117
Southport-Birkdale 0704 67066
Southport-Ainsdale 0704 79424
Walkden 061-799 6611
Warrington 50511
Wigan 214741

35 cl/Le order
cleared
15-IV onwards

DELIVERY NOTE

008175/021

# JOHN KAY GROUP LTD.

Builders and Plumbers Merchants

*Originating Depot:*
HIGHER MILLS BRIDGE STREET
BURY GREATER MANCHESTER BL9 6HH
Telephone 061-764 6011

INVOICE TO:
Norwest Holst Soil Eng.
Dursley Gl
heedo.

DELIVER TO:
Higher Barn farm
Birch

*Accounts Queries and Cheques payable to:*
**JOHN KAY GROUP LTD.**
**HURST STREET**
**BURY**
**GREATER MANCHESTER**
**BL9 7EZ**
**Telephone 061-764 6011**

| ORDER No. | CONSIGNMENT NOTE No. | TYPE OF SUPPLY | VAT REG. No. | DATE AND TAX POINT |
|---|---|---|---|---|
| ~~H6540~~ | E16340 | CREDIT SALE | 145 0716 85 | 20 V 84 |

| QN 8944 DESCRIPTION | QUANTITY | PRICE £ | UNIT | PLUS/AGE/ DISCOUNT | |
|---|---|---|---|---|---|
| Cement | 3 Tonne | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Received in good condition by (For conditions of sale see over)

| | |
|---|---|
| TOTAL GOODS | |
| VAT @ 15 % | |
| AMOUNT DUE | |

DELIVERY NOTE

008111/021

# JOHN KAY GROUP LTD.

Builders and Plumbers Merchants

*Originating Depot:*
HIGHER MILLS BRIDGE STREET
BURY GREATER MANCHESTER BL9 6HH
Telephone 061-764 6011

INVOICE TO:
Norwest Holst Soil &
Parkside Lane
Dewsbury Rd
Leeds

DELIVER TO:
Higher Lom Farm
Bury.

*Accounts Queries and Cheques payable to:*
**JOHN KAY GROUP LTD.**
**HURST STREET**
**BURY**
**GREATER MANCHESTER**
**BL9 7EZ**
**Telephone 061-764 6011**

| ORDER NO. | CONSIGNMENT NOTE No. | TYPE OF SUPPLY | VAT REG. No. | DATE AND TAX POINT |
|---|---|---|---|---|
| 891 | C16318 | CREDIT SALE | 145 0716 85 | 14.V.84 |

| DESCRIPTION | QUANTITY | PRICE £ | UNIT | PLUS/AGE/ DISCOUNT | |
|---|---|---|---|---|---|
| Cement | 3 Tonne | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Received in good condition by (For conditions of sale see over)

| | |
|---|---|
| TOTAL GOODS | |
| VAT @ 15% | |
| AMOUNT DUE | |

Received in good condition by (For conditions of sale see over)

JOHN KAY GROUP LTD. Depots and Telephone Numbers

Bury 061-764 6011
Blackburn 675331
Bolton 21261
Burnley 0282 50721
Cheadle 061-486 9117
Clitheroe 22311
Colne 0282 862101
Hyde 061-368 2030 & 4301
Kendal 21351
Nelson 0282 692815
Newton Heath 061-205 8812
Preston 0772 796123
Radcliffe 061-723 2368
Rochdale 40117
Southport-Birkdale 0704 67066
Southport-Ainsdale 0704 78424
Walkden 061-799 6611
Warrington 50511
Wigan 214741

DELIVERY NOTE

008022 /021

# JOHN KAY GROUP LTD.

Builders and Plumbers Merchants

*Originating Depot:*
HIGHER MILLS BRIDGE STREET
BURY GREATER MANCHESTER BL9 6H
Telephone 061-764 6011

| INVOICE TO: | DELIVER TO: | *Accounts Queries and Cheques payable to:* |
|---|---|---|
| Norwest Holst Soil C<br>Dewsbury &<br>Leeds 11 | Higher Farm Farm<br>Birch. | JOHN KAY GROUP LTD.<br>HURST STREET<br>BURY<br>GREATER MANCHESTER<br>BL9 7EZ<br>Telephone 061-764 6011 |

| ORDER No. | CONSIGNMENT NOTE No. | TYPE OF SUPPLY | VAT REG. No. | DATE AND TAX POINT |
|---|---|---|---|---|
| 8669 | A1631V | CREDIT SALE | 145 0716 85 | 6.V.86 |

| DESCRIPTION | QUANTITY | PRICE £ | UNIT | PLUS/AGE/ DISCOUNT | |
|---|---|---|---|---|---|
| Cement | 2 Tonne | | | | |

| | |
|---|---|
| TOTAL GOODS | |
| VAT @ 15 % | |
| AMOUNT DUE | |

Received in good condition by (For conditions of sale see over)

(For conditions of sale see over) Received in good condition by

JOHN KAY GROUP LTD. Depots and Telephone Numbers
Bury 061-764 6011 Blackburn 675331 Bolton 21261 Burnley 0282 50721
Cheadle 061-486 9117 Clitheroe 22311 Colne 0282 862101 Hyde 061-368 2030 & 4301
Kendal 21351 Nelson 0282 692815 Newton Heath 061-205 8812 Preston 0772 796123
Radcliffe 061-723 2358 Rochdale 40117 Southport-Birkdale 0704 67066 Southport-Ainsdale 0704 79424
Walkden 061-799 6611 Warrington 50511 Wigan 214741

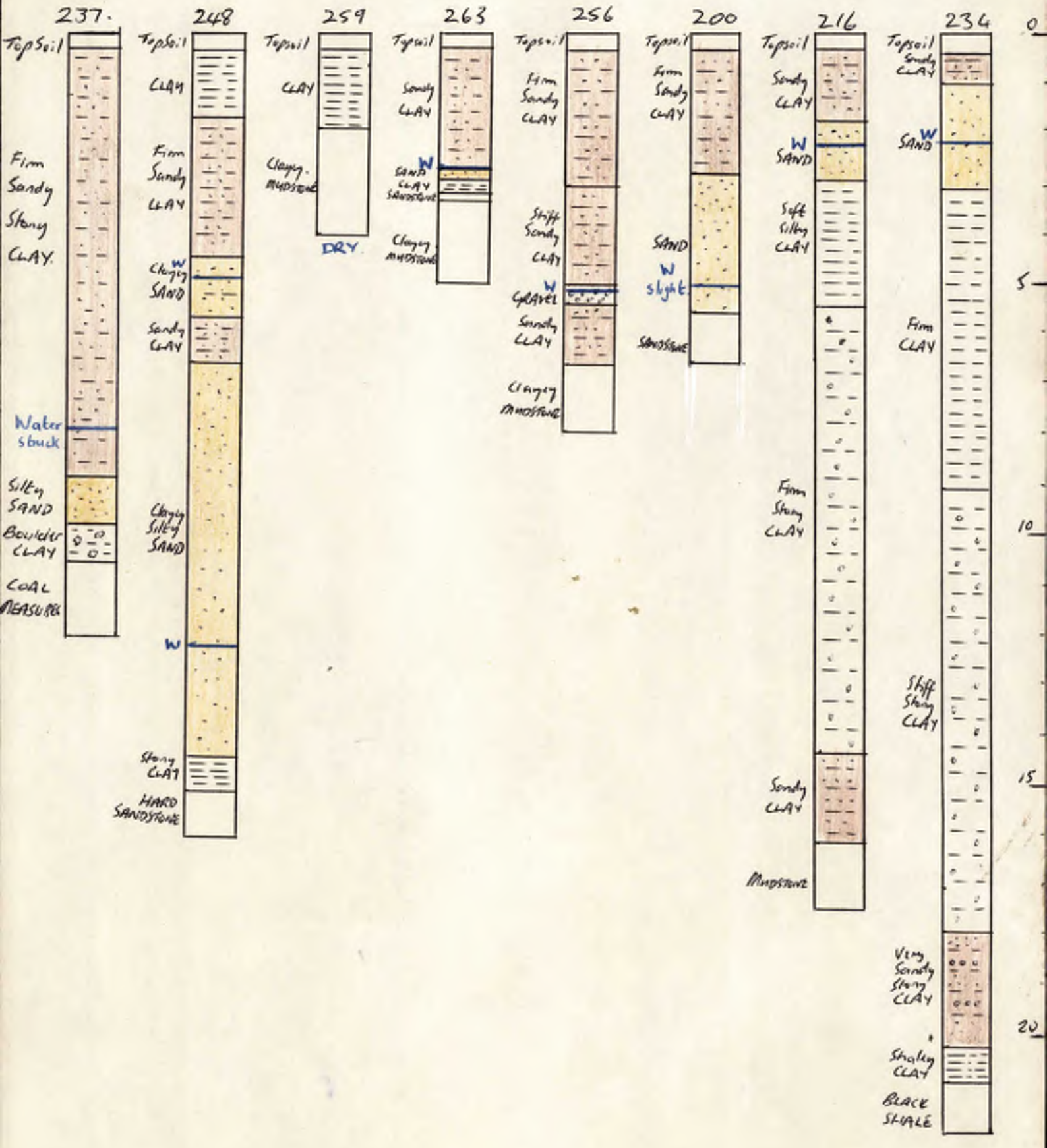
Materials delivered to site.

Cement. 35 bags ordered by dealer personally to start job off - he will claim from Norwest Holst.

15. bags from Norwest Holst.

| | | |
|---|---|---|
| 40 bags. | John Kay. | 6.2.84. |
| 60 bags. | John Kay. | 14.2.84. |
| 60 bags. | John Kay | 20.2.84. |

Investigation Boreholes: PILSWORTH Scale 1:100.



D.103; 1703/012. RT/PB.

25th March 1983.

Mr. J. O'Connor,
Drilling Manager,
AMCO Drilling Ltd.,
P.O. Box 1,
Whaley Road,
Barugh,
Barnsley.

Dear Sir,

Pilsworth : Backfilling of Boreholes

A considerable number of boreholes have collapsed and continue to collapse on Pilsworth Site. AMCO Drilling has rectified some of these collapsed boreholes.

The S.O. inspected the latest collapsed boreholes on 23.3.83 and reported his observations as follows :

1. In all the boreholes that have collapsed the water table is near the surface and there appears to be a high rate of ground water flow as the ground surface is firm and dry.
2. Drilling operations and the use of the large compressor have disturbed the structure of the sub-surface material.
3. On one borehole position excavated to a depth of 1.5 m., the backfill material and surrounding drift had drained down the open borehole, resulting in the borehole cap subsiding from a depth of 0.60 m. to 1.50 m.
4. As the site was drilled a considerable amount of borehole spoil was taken from each borehole location and therefore not available for backfilling.
5. Collapse has occurred where the ground surface above the borehole has been disturbed subsequent to drilling, e.g. by ploughing.

From the above observations I conclude that the ground conditions are susceptible to some collapse wherd the subsurface material is disturbed; however, this situation has been worsened by inadequately backfilled boreholes, some partially open or loosely backfilled. This has encouraged an increase in ground water movement leading to collapse.

Cont'd.

I therefore do not consider it justified for the N.C.B. to pay for all the remedial work. As indicated on the returned Daily Drill Log, the cost of the imported materials used by AMCO to backfill the collapsed boreholes will be paid for.

Yours faithfully,

Rosalind Todhunter
p.p. Igor B. Cusack
Area Opencast Manager
Lancashire & N. Wales

Ref. No. WW/SOC/LW/SS

1703/012

6th October, 1982

Mr. O. Gregory,
Mine Surveyor & Minerals Manager,
National Coal Board,
Staffordshire House,
Barry Hill Road,
Stoke-on-Trent.

Dear Mr. Gregory,

Fillworth Prospecting Site

In the course of drilling Borehole No. 257 at the above site at co-ordinates 383692E, 408185N very soft fill was encountered to a depth of 14 metres. Solid ground was not found and the drilling rig was moved for safety reasons. The nearest recorded shaft position is approximately 30 metres away at location 383664E, 408580N.

This information has already been passed verbally to Mr. R. Sheard your Senior Surveyor here at Anderton House but I am also sending him a copy of this letter.

Your clearance for prospecting at this site was given per unreferenced letter dated 4th January 1982.

Yours sincerely,

W. OWEN,
Regional Planning Manager.

c.c. R. Sheard, Senior Sueveyor, Anderton House.
A.O.G. (Lancs & N. Wales). Via. A.O.M.

NATIONAL COAL BOARD
RECEIVED
7 OCT 1982
AREA OFFICE

KPU 17

# N.C.B. OPENCAST EXECUTIVE

| SENDER | Send both white AND yellow copies, RETAIN pink for file. | WRITE OR TYPE - CARBON NOT REQUIRED | RECIPIENT | Reply on white copy but retain this, Despatch YELLOW copy to sender. |
|---|---|---|---|---|

**MEMORANDUM**

TO [illegible] Johnstones A06

**MEMORANDUM**

FROM [illegible]

SUBJECT Unrecorded Shaft at Pilsworth

FILE REF

**MESSAGE**

Pilsworth 031703

BH 257 383692E
408585N

encountered very soft fill to a depth of 14M. Solid ground was not found and the rig removed for safety reasons. The nearest recorded Shaft position is approx 30M away at :-

383661E
408580N.

Signed: [illegible]

Date: 30 Sept 1982.

**REPLY**

Signed: .....

Date : .....

# Memorandum

From F Pennington, Western Area Laboratory, Chatterley Whitfield

To Mrs R Todhunter, Area Opencast Geologist, Kirkless

Our Ref W/Sc/G4a

Your Ref 1703/012

Subject PILSWORTH SITE
STREAM SUPPLYING A PAPER MILL

Date 20 September 1982

At your request four samples of water were taken from streams supplying water to a local paper mill to enable the quality of the water to be established, before drilling on this site commences.

Results expressed in mg/l except pH value.

| | No 1 031703 | No. 2 031703 | Stream behind Three Arrows | Stream feeding Wiggin Teope Res. |
|---|---|---|---|---|
| Date sampled | 2.6.82 | 2.6.82 | 2.6.82 | 2.6.82 |
| pH value | 9.5 | 10.4 | 8.7 | 8.9 |
| Total dissolved solids | 150 | 170 | 320 | 320 |
| Total hardness $CaCO_3$ | 140 | 150 | 220 | 250 |
| Calcium hardness $CaCO_3$ | 30 | 60 | 120 | 160 |
| Magnesium hardness $CaCO_3$ | 110 | 90 | 100 | 90 |
| Total Alkalinity $CaCO_3$ | 40 | 50 | 90 | 120 |
| Chloride Cl | 30 | 30 | 80 | 50 |
| Sulphate $SO_4$ | 20 | 30 | 40 | 10 |
| Total Iron Fe | 1.0 | 1.5 | 1.0 | 4.0 |
| Manganese Mn | 1.6 | 0.5 | 0.2 | 0.7 |
| Zinc Zn | 0.3 | 0.3 | 0.3 | 0.3 |
| Copper Cu | $<0.1$ | $<0.1$ | $<0.1$ | $<0.1$ |
| Lead Pb | $<0.1$ | $<0.1$ | $<0.1$ | $<0.1$ |
| Cadmium Cd | $<0.1$ | $<0.1$ | $<0.1$ | $<0.1$ |
| Nickel Ni | $<0.1$ | $<0.1$ | $<0.1$ | $<0.1$ |
| Chromium Cr | $<0.1$ | $<0.1$ | $<0.1$ | $<0.1$ |

Comment

The quality of this water supply is far from ideal for use in paper making. The very high pH value suggests contamination. Manganese in very small quantities can cause staining on paper.

Repeat samples should be taken to check these results.

F PENNINGTON.

NATIONAL COAL BOARD RECEIVED 21 SEP 1982 AREA OFFICE KIRKLESS OPENCAST EXECUTIVE

cc Mr F Pennington
File
/JH

KPU 1784

# N.C.B. OPENCAST EXECUTIVE

| SENDER | Send both white AND yellow copies, RETAIN pink for file. | WRITE OR TYPE - CARBON NOT REQUIRED | RECIPIENT | Reply on white copy but retain this. Despatch YELLOW copy to sender. |
|---|---|---|---|---|

## MEMORANDUM

TO

SUBJECT

MESSAGE

Signed: .....

Date: .....

## MEMORANDUM

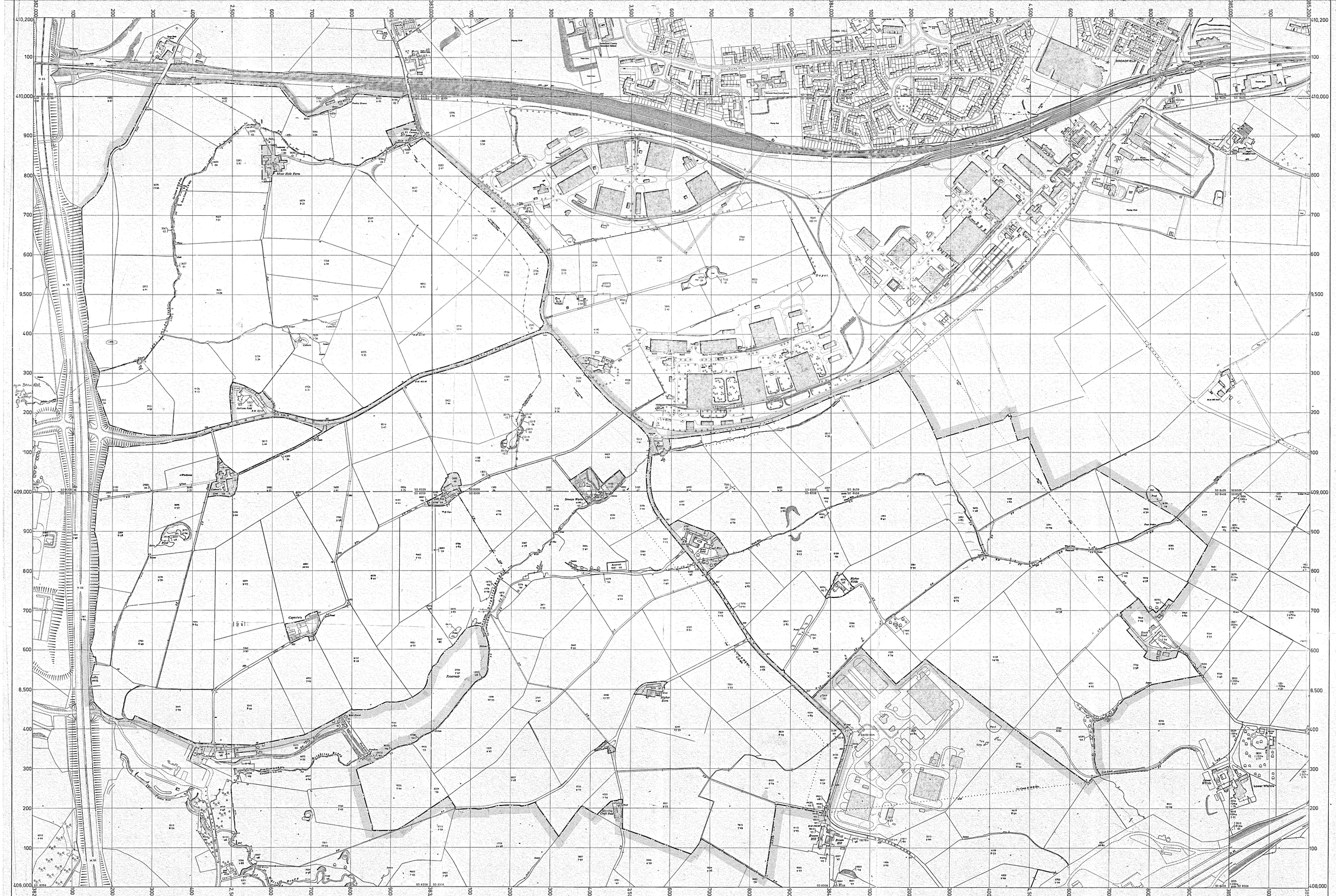
FROM

FILE REF 3

REPLY

Signed: .....

Date: .....




## LEGEND

PROSPECTING BOUNDARY
(inside edge of symbol to be taken as boundary)

NATIONAL COAL BOARD OPENCAST EXECUTIVE
No 3 NORTH WEST REGION
Anderton House, Lowton

**Site No. 031703**
**PILSWORTH**

SURFACE WATER SAMPLES 1ST COLLECTED 2/6/82.
(i - sample position and No.

# Prospecting Boundary Plan

| | | | |
|---|---|---|---|
| Location | 2 Kilometres South East of "Bury | | |
| N.G. Ref. | SD 835 090 | Drawn by JRH | Checked by RDL Date 22.9.1981 |

Based upon Ordnance Survey Maps with the sanction of the Controller of H.M. Stationery Office. Crown Copyright Reserved.

Scale 1/2500
Drwg. No. 03/1703/02

Partners:
F.G. POTTER, F.R.I.C.S., C.A.A.V.
D.V. ROSSITER, F.R.I.C.S., C.A.A.V.
R.A.R. LADES, F.R.I.C.S., F.S.V.A.
J.R. RICKARD, F.R.I.C.S., C.A.A.V.
A.N. LANE, A.R.I.C.S., C.A.A.V.

FRANK R. MARSHALL & CO

CHARTERED VALUATION SURVEYORS & ESTATE AGENTS

AUCTIONEERS & LAND AGENTS

MEMBERS OF THE CENTRAL ASSOCIATION OF AGRICULTURAL VALUERS

121 BILLINGE ROAD, GARSWOOD, ASHTON-IN-MAKERFIELD, WN4 0XD TEL: BILLINGE 893371 2

National Coal Board,
Cale Lane,
New Springs,
WIGAN, Lancashire, WN2 1JR.

Your Ref: 1703/004
Ours: FAEJ/GDS
25th May, 1982

Dear Sirs,

Re: Wilfred Greenwood & Sons
Hares Hill Farm, Heywood,
Prospecting for Opencast coal at Hilsworth.

We write to advise you that Messrs. Greenwood and Sons have instructed us to act on thier behalves in this matter.

?? Can you please advise us when you would like to carry out the work, how many boreholes you wish to take and the length of time you expect to be on our clients' land.

Yours faithfully,

Frank R Marshall & Co

Phil / Mike

A rough approximation please, of the info. req'd so that I may reply.

Tony Stubbs. 27/5

NATIONAL COAL BOARD
27 MAY 1982
27 MAY 1982

Chartered Surveyors:
N.C.D. MARSH, A.R.I.C.S., C.A.A.V.
I.B. BATTERBEE, B.Sc., A.R.I.C.S.

Consultant
FRANK R. MARSHALL

COUNTRY LAND AGENTS INVESTMENT GROUP

Head Office: Knutsford (0565) 53461 (6 lines)
Also at: Northwich (0606) 41318/9
Nantwich (0270) 628415
Buxton, Derbyshire (0298) 3038/4618
Furniture Salerooms (0565) 53461 (6 lines)
Chelford Livestock and Produce Market (0625) 861122

Sales, Valuations for Fire Policy and Statutory Purposes of all types of Property, Valuations for Mortgage, Probate, Capital Taxation, Rating, Compulsory Purchase, Tenantright, etc. Arbitrations and Claims for Compensation, Claims, Sales of Live and Dead Farming Stock, Market Garden Effects, Furniture and Fine Arts

File

Area Office - Lancashire & N. Wales

D.241/3; 1703/012.

19th May 1982.

Mr. J. Smith,
Safety Officer,
AMCO Drilling Limited,
Whaley Road,
Barugh,
Barnsley S75 1HG.

Dear Mr. Smith,

Enclosed for your information is a copy of the British Gas Engineering Standard BGC/PS/SSW2 Code of Practice. A 12 inch gas main occurs on Pilsworth Site and precautions as set out in the above Code of Practice should be taken when working in the vicinity of the gas main.

The accompanying plans show the verified position of the gas main in the area of current drilling operations.

Yours sincerely,

RT

Rosalind Todhunter
Area Opencast Geologist
Lancashire & N. Wales

Circulate to AOG/ALL/MOG-

012

From R.P.M.

Our Ref 1703/~~[illegible]~~

To A.O.M., Lancs. & N.Wales.

Your Ref

Subject PILSWORTH PROSPECTING SITE 031703

Date 14th May, 1982.

I enclose 1/2500 scale plan showing registered footpaths across the site. Information as provided by G.M.C.

Comment from the County Engineer was as follows:

".... the M66 motorway forms the western boundary of the site and prospecting should not encroach on the motorway emabnkments or cutting edge".

AOG note. RBC 19/5.

There were no other comments from G.M.C.

D.W. OWEN

Encls:
DJO/SA

Telephone ext.

LEGEND

PROTECTIVE BOUNDARY

Locomotive Facility Limited Boundaries thicked for Site Investigations for M66.
(Enclosed Levels reduced on )

NATIONAL COAL BOARD OPENCAST EXECUTIVE
NO 3 NORTH WEST REGION
Anderton House, Leyton

Site No. 031703
PILSWORTH

BOROUGH PLAN

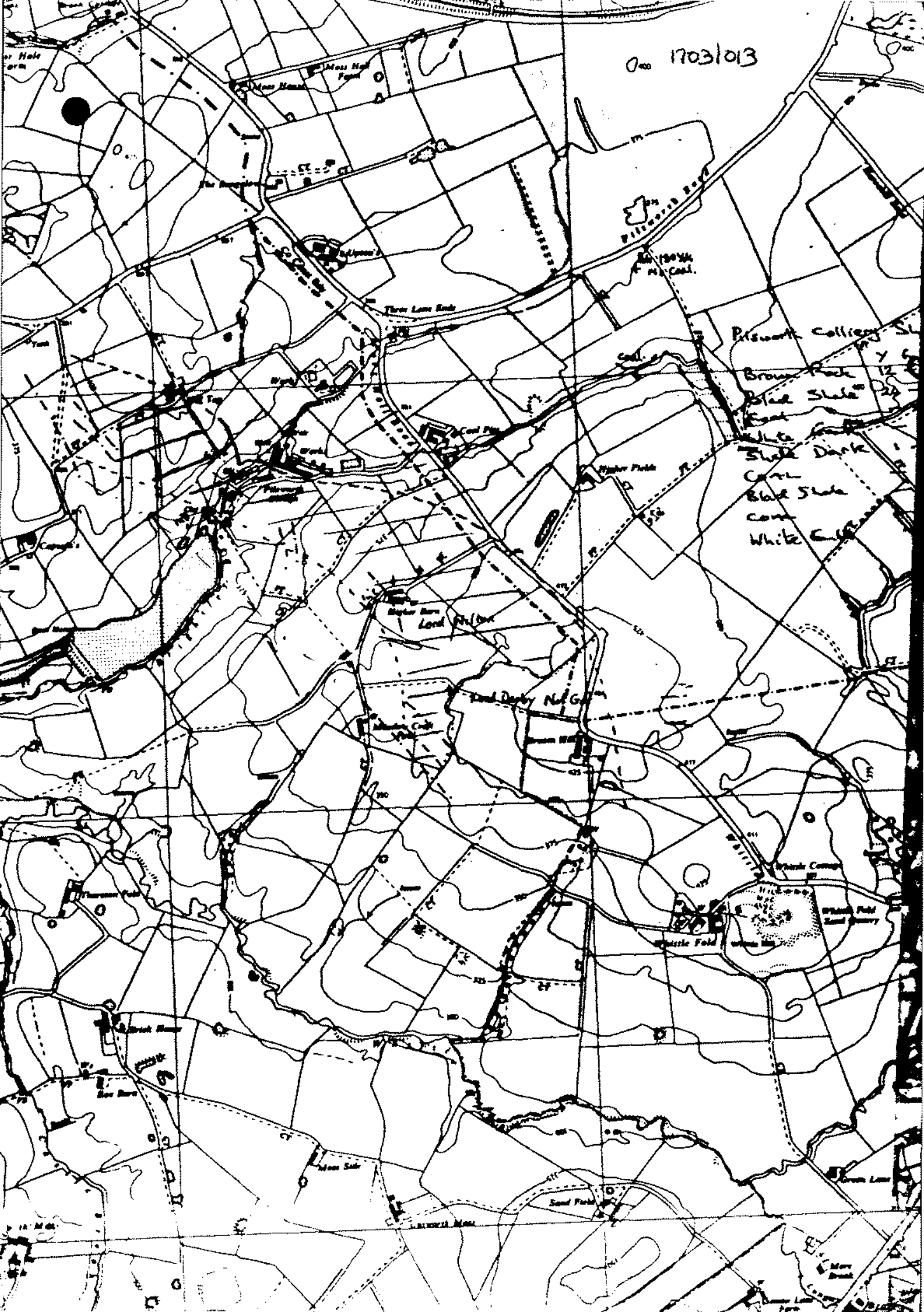
Location: 2 Kilometres South East of Bury

O.S. Ref. SD 80 10 Drawn by [illegible] Checked by [illegible] Date [illegible]

Reproduced from Ordnance Survey Maps with the permission of the Controller of H.M. Stationery Office. Crown Copyright Reserved.

Scale 1/2500

Drwg. No.


0m 1703/013
Three Lane Ends
Pilsworth Colliery
Brown Rock
Blue Slate
Dark
Coal
Blue Slate
Coal
White
Coal
Higher Fields
Higher Barn
Level
Coal Pit
Coal Pit
Three Lane Ends

700

600

500

400

Proposed Fault

15m

A100 Sandrock Lands

383100 383200 383300 383400 383500 383600 383700 383800 383900 384000 384100 384200 384300

384500
384400
384300
384200
384100
384000
383900
383800
383700
383600
383500
383400
383300

SITE 031703
REGION NORTH WEST
SITE NAME PILSWORTH

OPENCAST PROSPECTING SYSTEM
BOREHOLE SCHEDULE

DATE 31/10/83
PAGE 2

| BH. NO. | GRID REF. | LEVEL | COAL SEAM BASE DEPTH | COAL SEAM THICKNESS | CODE | OTHER DEPOSITS BASE DEPTH | OTHER DEPOSITS THICKNESS | |
|---|---|---|---|---|---|---|---|---|
| 1 | 384127E 408658N | 226.16S | | | | 5.50 | | |
| | | 220.66R | | | | | | |
| | | 214.91 | | | | 11.25 | 3.30 | SST |
| | | 210.01 | | | | 16.15 | 2.95 | SST |
| | | 187.01 | 39.15 | 00.10 | | | | |
| | | 160.76 | 65.40 | 00.20 | | | | |
| | | 157.41 | | | | 68.75 | 3.35 | ARN7 |
| | | 157.31 | 68.85 | 00.10 | | | | |
| | | 156.16 | | | | 70.00 | 1.15 | SST |
| | | 153.16B | | | | 73.00 | | |
| 2 | 384084E 408624N | 227.29S | | | | 7.60 | | |
| | | 219.69R | | | | | | |
| | | 215.84 | 11.45 | 00.45 | | | | |
| | | 211.59 | | | | 15.70 | 4.25 | SST |
| | | 193.49 | 33.80 | 00.35 | | | | |
| | | 190.69 | 36.60 | 00.10 | | | | |
| | | 189.59 | | | | 37.70 | 0.50 | SST |
| | | 157.29 | | | | 70.00 | 6.50 | SST |
| | | 157.29B | | | | 70.00 | | |
| 3 | 384048E 408585N | 228.16S | | | | 8.40 | | |
| | | 219.76R | | | | | | |
| | | 207.21 | | | | 20.95 | 2.25 | SST |
| | | 205.96 | | | | 22.20 | 0.40 | SST |
| | | 158.16 | | | | 70.00 | 42.40 | SST |
| | | 158.16B | | | | 70.00 | | |
| 4 | 384010E 408549N | 227.21S | | | | 9.50 | | |
| | | 217.71R | | | | | | |
| | | 215.71 | 11.50 | 01.40 | SLA | | | |
| | | 204.26 | 22.95 | 00.45 | TRS | | | |
| | | 167.81 | | | | 59.40 | 11.90 | SST |
| | | 157.21 | | | | 70.00 | 10.60 | ARN7 |
| | | 157.21B | | | | 70.00 | | |
| 5 | 383994E 408609N | 227.79S | | | | 3.90 | 1.50 | SAND |
| | | 223.89 | | | | 10.70 | | |
| | | 217.09R | | | | | | |
| | | 216.89 | 10.90 | 00.00 | TRS | | | |
| | | 177.79 | | | | 50.00 | 3.65 | SST |
| | | 177.79B | | | | 50.00 | | |
| 6 | 384026E 408643N | 227.57S | | | | 3.50 | 1.10 | SAND |
| | | 224.07 | | | | 10.25 | | |
| | | 217.32R | | | | | | |
| | | 214.27 | 13.30 | 00.45 | TRS | | | |
| | | 207.77 | | | | 19.80 | 2.30 | ARN8 |
| | | 200.32 | | | | 27.25 | 7.45 | ARN7 |
| | | 187.57 | | | | 40.00 | 12.75 | SST |
| | | 187.57B | | | | 40.00 | | |
| 7 | 384062E 408682N | 227.22S | | | | 8.20 | | |
| | | 219.02R | | | | | | |
| | | 205.87 | 21.35 | 00.70 | | | | |
| | | 204.02 | | | | 23.20 | 0.60 | SST |
| | | 202.87 | 24.35 | 00.35 | PTG | | | |
| | | 201.22 | | | | 26.00 | 1.65 | SST |
| | | 188.07 | 39.15 | 00.15 | | | | |
| | | 184.72 | | | | 42.50 | 0.60 | ARN7 |
| | | 180.17 | 47.05 | 00.55 | PTG | | | |
| | | 162.22 | | | | 65.00 | 14.80 | SST |
| | | 162.22B | | | | 65.00 | | |
| 8 | 384099E 408718N | 227.10S | | | | 6.80 | | |
| | | 220.30R | | | | | | |
| | | 191.20 | 35.90 | 00.25 | | | | |
| | | 187.90 | | | | 39.20 | 2.15 | SST |
| | | 181.30 | | | | 45.80 | 6.60 | ARN7 |
| | | 167.45 | 59.65 | 00.10 | | | | |
| | | 164.80 | 62.30 | 00.15 | | | | |

BOREHOLE CONTINUES

| BH. NO. | GRID REF. | LEVEL | COAL SEAM BASE DEPTH | COAL SEAM THICKNESS | COAL SEAM CODE | OTHER DEPOSITS BASE DEPTH | OTHER DEPOSITS THICKNESS | |
|---|---|---|---|---|---|---|---|---|
| 8 | BOREHOLE CONTINUED | | | | | | | |
| | | 161.35 | | | | 65.75 | 3.45 | SST |
| | | 158.60 | | | | 68.50 | 1.50 | OTH7 |
| | | 157.10B | | | | 70.00 | | |
| 9 | 384061E 408680N | 227.24S 219.04R | | | | 8.20 | | |
| | | 206.23 | 21.01 | 00.48 | | | | |
| | | 203.86 | 23.38 | 00.19 | | | | |
| | | 202.91 | | | | 24.33 | 0.95 | SST |
| | | 196.84 | | | | 30.40 | 4.40 | SST |
| | | 187.09 | 40.15 | 00.15 | | | | |
| | | 183.74 | | | | 43.50 | 0.60 | ARN8 |
| | | 179.89 | | | | 47.35 | 0.81 | SST |
| | | 179.54B | | | | 47.70 | | |
| 10 | 384075E 408757N | 226.54S 222.04 | | | | 4.50 | 0.80 | S/G |
| | | 218.84R | | | | 7.70 | | |
| | | 201.64 | 24.90 | 00.55 | TRS | | | |
| | | 195.44 | | | | 31.10 | 3.70 | SST |
| | | 161.54 | | | | 65.00 | 13.20 | SST |
| | | 161.54B | | | | 65.00 | | |
| 11 | 383992E 408700N | 226.31S 220.11 | | | | 6.20 | 0.70 | SAND |
| | | 218.81R | | | | 7.50 | | |
| | | 217.31 | | | | 9.00 | 1.50 | SOFT |
| | | 192.51 | | | | 33.80 | 24.80 | SST |
| | | 166.31B | | | | 60.00 | | |
| 12 | 383942E 408603N | 226.86S 219.86 | | | | 7.00 | 1.00 | SAND |
| | | 214.16R | | | | 12.70 | | |
| | | 209.71 | | | | 17.15 | 4.45 | SST |
| | | 209.21 | 17.65 | 00.50 | TRS | | | |
| | | 187.16 | | | | 39.70 | 22.00 | SST |
| | | 185.96 | | | | 40.90 | 1.20 | ARN8 |
| | | 183.86 | | | | 43.00 | 2.10 | SST |
| | | 176.86 | | | | 50.00 | 7.00 | ARN8 |
| | | 176.86B | | | | 50.00 | | |
| 13 | 383941E 408528N | 227.59S 220.09 | | | | 7.50 | 1.50 | SAND |
| | | 214.39R | | | | 13.20 | | |
| | | 213.94 | 13.65 | 00.45 | TRS | | | |
| | | 190.39 | | | | 37.20 | 23.55 | SST |
| | | 189.29 | | | | 38.30 | 1.10 | ARN8 |
| | | 177.59 | | | | 50.00 | 11.70 | SST |
| | | 177.59B | | | | 50.00 | | |
| 14 | 384216E 408648N | 224.38S 223.18R | | | | 1.20 | | |
| | | 221.58 | | | | 2.80 | 1.60 | SOFT |
| | | 203.78 | | | | 20.60 | 2.20 | ARN8 |
| | | 181.18 | | | | 43.20 | 15.40 | ARN8 |
| | | 180.98 | 43.40 | 00.20 | | | | |
| | | 178.68 | | | | 45.70 | 2.30 | ARN8 |
| | | 175.48 | | | | 48.90 | 3.20 | SST |
| | | 174.58 | | | | 49.80 | 0.90 | ARN8 |
| | | 172.28 | | | | 52.10 | 2.30 | ARN8 |
| | | 164.98 | | | | 59.40 | 7.30 | SST |
| | | 154.38B | | | | 70.00 | | |
| 15 | 384231E 408736N | 224.33S 221.63R | | | | 2.70 | | |
| | | 217.63 | | | | 6.70 | 1.20 | SST |
| | | 217.13 | | | | 7.20 | 0.50 | ARN8 |
| | | 216.63 | | | | 7.70 | 0.50 | SST |
| | | 213.83 | | | | 10.50 | 2.80 | ARN8 |
| | BOREHOLE CONTINUES | | | | | | | |

| BH. NO. | GRID REF. | LEVEL | COAL SEAM BASE DEPTH | COAL SEAM THICKNESS | CODE | OTHER DEPOSITS BASE DEPTH | OTHER DEPOSITS THICKNESS | |
|---|---|---|---|---|---|---|---|---|
| 15 | BOREHOLE CONTINUED | | | | | | | |
| | | 212.73 | | | | 11.60 | 1.10 | ARN7 |
| | | 207.53 | | | | 16.80 | 5.20 | ARN8 |
| | | 206.13 | | | | 18.20 | 1.40 | SST |
| | | 180.68 | | | | 43.65 | 8.25 | ARN8 |
| | | 180.53 | 43.80 | 00.15 | | | | |
| | | 180.13 | | | | 44.20 | 0.40 | ARN8 |
| | | 177.03 | | | | 47.30 | 3.10 | SST |
| | | 170.23 | | | | 54.10 | 4.10 | SST |
| | | 154.33 | | | | 70.00 | 15.90 | ARN7 |
| | | 154.33B | | | | 70.00 | | |
| 16 | 384326E 408667N | 220.73S 216.23R | | | | 4.50 | | |
| | | 212.33 | | | | 8.40 | 2.50 | SST |
| | | 202.03 | | | | 18.70 | 0.70 | ARN8 |
| | | 197.63 | | | | 23.10 | 4.40 | SST |
| | | 165.58 | | | | 55.15 | 32.05 | ARN8 |
| | | 165.43 | 55.30 | 00.15 | | | | |
| | | 161.13 | | | | 59.60 | 4.30 | ARN7 |
| | | 158.43 | | | | 62.30 | 2.70 | SST |
| | | 150.73 | | | | 70.00 | 7.70 | ARN8 |
| | | 150.73B | | | | 70.00 | | |
| 17 | 384298E 408735N | 222.29S 220.49R | | | | 1.80 | | |
| | | 215.09 | | | | 7.20 | 5.40 | SOFT |
| | | 175.04 | | | | 47.25 | 40.05 | ARN8 |
| | | 174.99 | 47.30 | 00.05 | | | | |
| | | 173.79 | | | | 48.50 | 1.20 | ARN8 |
| | | 172.39 | | | | 49.90 | 1.40 | SST |
| | | 168.39 | | | | 53.90 | 4.00 | ARN8 |
| | | 167.49 | | | | 54.80 | 0.90 | SST |
| | | 167.09 | | | | 55.20 | 0.40 | ARN8 |
| | | 162.19 | | | | 60.10 | 4.90 | SST |
| | | 152.29B | | | | 70.00 | | |
| 18 | 384334E 408811N | 222.27S 219.67R | | | | 2.60 | | |
| | | 217.77 | | | | 4.50 | | SST |
| | | 215.27 | | | | 7.00 | 2.50 | ARN8 |
| | | 208.47 | | | | 13.80 | 5.80 | SST |
| | | 195.57 | | | | 26.70 | 12.90 | ARN8 |
| | | 183.27 | | | | 39.00 | 11.30 | ARN7 |
| | | 182.37 | | | | 39.90 | 0.90 | ARN8 |
| | | 169.17 | | | | 53.10 | 13.20 | ARN7 |
| | | 163.07 | | | | 59.20 | 6.10 | SST |
| | | 152.27 | | | | 70.00 | 10.80 | ARN8 |
| | | 152.27B | | | | 70.00 | | |
| 19 | 384466E 408798N | 218.86S 214.06R | | | | 4.80 | | |
| | | 193.46 | | | | 25.40 | 19.50 | SST |
| | | 190.46 | | | | 28.40 | 3.00 | ARN8 |
| | | 189.36 | | | | 29.50 | 1.10 | SST |
| | | 163.06 | | | | 55.80 | 26.30 | ARN8 |
| | | 155.96 | | | | 62.90 | 7.10 | SST |
| | | 148.86 | | | | 70.00 | 7.00 | ARN8 |
| | | 148.86B | | | | 70.00 | | |
| 20 | 384087E 408826N | 225.78S 221.68R | | | | 4.10 | | |
| | | 219.28 | | | | 6.50 | 2.40 | SST |
| | | 216.78 | | | | 9.00 | 0.50 | ARN8 |
| | | 212.28 | | | | 13.50 | 3.20 | SST |
| | | 187.73 | | | | 38.05 | 24.55 | ARN8 |
| | | 187.13 | 38.65 | 00.60 | | | | |
| | | 182.23 | | | | 43.55 | 4.90 | ARN8 |
| | | 181.53 | 44.25 | 00.70 | PTG | | | |
| | | 176.58 | 49.20 | 00.25 | PTG | | | |
| | | 174.33 | 51.45 | 00.55 | | | | |
| | | 173.08 | | | | 52.78 | 1.25 | SST |
| | | 155.78 | | | | 70.00 | 17.30 | ARN8 |
| | | 155.78B | | | | 70.00 | | |

REGION NORTH WEST
SITE NAME PILSWORTH

| BH. NO. | GRID REF. | LEVEL | COAL SEAM BASE DEPTH | COAL SEAM THICKNESS | COAL SEAM CODE | OTHER DEPOSITS BASE DEPTH | OTHER DEPOSITS THICKNESS | |
|---|---|---|---|---|---|---|---|---|
| 21 | 384164E | 225.80S | | | | | | |
| | 408866N | 220.30 | | | | 5.50 | 1.30 | S/G |
| | | 219.20R | | | | 6.60 | 1.10 | |
| | | 211.60 | | | | 14.20 | 3.00 | ARN8 |
| | | 196.55 | | | | 29.25 | 15.05 | ARG7 |
| | | 196.30 | 29.50 | 00.25 | | | | |
| | | 194.90 | | | | 30.90 | 1.40 | SST |
| | | 192.10 | | | | 33.70 | 2.80 | ARN8 |
| | | 189.60 | | | | 36.20 | 2.50 | SST |
| | | 186.70 | | | | 39.10 | 2.90 | ARN8 |
| | | 182.30 | | | | 43.50 | 4.40 | SST |
| | | 155.80 | | | | 70.00 | 26.50 | ARN8 |
| | | 155.80B | | | | 70.00 | | |
| 22 | 384229E | 225.05S | | | | | | |
| | 408898N | 217.35R | | | | 7.70 | | |
| | | 198.05 | | | | 35.00 | 16.80 | ARN8 |
| | | 182.75 | | | | 42.30 | 7.30 | ARN7 |
| | | 179.25 | | | | 45.80 | 3.50 | ARN8 |
| | | 174.85 | | | | 50.20 | 4.40 | SST |
| | | 167.95 | | | | 57.10 | 6.90 | ARN8 |
| | | 155.05 | | | | 70.00 | 12.90 | ARN8 |
| | | 155.05B | | | | 70.00 | | |
| 23 | 384282E | 223.65S | | | | | | |
| | 408925N | 219.85R | | | | 3.80 | | |
| | | 218.10 | | | | 5.55 | 1.75 | SST |
| | | 215.15 | | | | 8.50 | 2.95 | ARN8 |
| | | 187.75 | | | | 35.90 | 14.10 | ARN7 |
| | | 182.25 | | | | 41.40 | 5.50 | SST |
| | | 178.65 | | | | 45.00 | 3.60 | ARN8 |
| | | 173.05 | | | | 50.60 | 5.60 | SST |
| | | 153.65 | | | | 70.00 | 19.40 | ARN8 |
| | | 153.65B | | | | 70.00 | | |
| 24 | 384327E | 222.70S | | | | | | |
| | 408873N | 218.90R | | | | 3.80 | | |
| | | 210.80 | | | | 11.90 | 2.40 | SST |
| | | 180.40 | 42.30 | 00.15 | | | | |
| | | 173.30 | | | | 49.40 | 6.90 | SST |
| | | 152.70B | | | | 70.00 | | |
| 25 | 384271E | 224.75S | | | | | | |
| | 408845N | 221.75 | | | | 3.00 | 1.00 | S/G |
| | | 220.95R | | | | 3.80 | | |
| | | 215.35 | | | | 9.40 | 1.60 | SOFT |
| | | 184.20 | 40.55 | 00.15 | | | | |
| | | 180.45 | | | | 44.30 | 3.75 | SST |
| | | 170.65 | | | | 54.10 | 5.00 | SST |
| | | 154.75B | | | | 70.00 | | |
| 26 | 384203E | 225.97S | | | | | | |
| | 408809N | 221.77R | | | | 4.20 | | |
| | | 189.92 | 36.05 | 00.15 | | | | |
| | | 181.97 | | | | 44.00 | 7.95 | SST |
| | | 174.72 | | | | 51.25 | 6.25 | SST |
| | | 155.97B | | | | 70.00 | | |
| 27 | 384144E | 226.80S | | | | | | |
| | 408774N | 219.70R | | | | 7.10 | | |
| | | 206.85 | | | | 19.95 | 8.85 | SST |
| | | 206.30 | 20.50 | 00.20 | | | | |
| | | 200.30 | | | | 26.50 | 6.00 | SST |
| | | 188.25 | | | | 38.55 | 2.40 | SST |
| | | 163.25 | 63.55 | 00.15 | | | | |
| | | 158.10 | | | | 68.70 | 5.15 | SST |
| | | 156.80 | | | | 70.00 | 1.30 | ARN8 |
| | | 156.80B | | | | 70.00 | | |
| 28 | 384086E | 225.82S | | | | | | |
| | 408825N | 221.72R | | | | 4.10 | | |

BOREHOLE CONTINUES

| BH. NO. | GRID REF. | LEVEL | COAL SEAM BASE DEPTH | COAL SEAM THICKNESS | COAL SEAM CODE | OTHER DEPOSITS BASE DEPTH | OTHER DEPOSITS THICKNESS | |
|---|---|---|---|---|---|---|---|---|
| 28 | BOREHOLE CONTINUED | | | | | | | |
| | | 219.32 | | | | 6.50 | 2.40 | SST |
| | | 216.82 | | | | 9.00 | 8.50 | ARN8 |
| | | 212.32 | | | | 13.50 | 3.20 | SST |
| | | 188.22 | | | | 37.60 | 24.10 | ARN8 |
| | | 187.62 | 38.20 | 00.60 | | | | |
| | | 184.82 | | | | 41.00 | 2.80 | SST |
| | | 183.67 | | | | 42.15 | 1.15 | SST |
| | | 179.02 | | | | 46.80 | 3.80 | SST |
| | | 178.22 | | | | 47.60 | 0.80 | SST |
| | | 176.92B | | | | 48.90 | | |
| 29 | 384030E 408861N | 222.48S 219.98R | | | | 2.50 | | |
| | | 216.98 | 5.50 | 00.60 | | | | |
| | | 208.68 | | | | 13.80 | 8.30 | SST |
| | | 192.08 | | | | 30.40 | 12.60 | ARN8 |
| | | 191.48 | 31.00 | 00.60 | | | | |
| | | 189.28 | | | | 33.20 | 2.20 | ARN8 |
| | | 187.58 | | | | 34.90 | 1.70 | SST |
| | | 165.48 | | | | 57.00 | 9.70 | SST |
| | | 164.38 | | | | 58.10 | 1.10 | ARN8 |
| | | 152.48 | | | | 70.00 | 11.90 | SST |
| | | 152.48B | | | | 70.00 | | |
| 30 | 384100E 408894N | 222.87S 218.67R | | | | 4.20 | | |
| | | 212.32 | 10.55 | 00.30 | | | | |
| | | 210.77 | | | | 12.10 | 1.55 | ARN8 |
| | | 207.07 | | | | 15.80 | 3.70 | SST |
| | | 205.97 | | | | 16.90 | 1.10 | ARN8 |
| | | 204.37 | | | | 18.50 | 1.60 | SST |
| | | 195.67 | | | | 27.20 | 8.70 | ARN8 |
| | | 183.17 | | | | 39.70 | 12.50 | SST |
| | | 172.87 | | | | 50.00 | 10.30 | ARN8 |
| | | 172.87B | | | | 50.00 | | |
| 31 | 384153E 408917N | 222.33S 216.83R | | | | 5.50 | | |
| | | 209.73 | | | | 12.60 | 3.90 | ARN8 |
| | | 198.73 | | | | 23.60 | 11.00 | ARN8 |
| | | 198.53 | 23.80 | 00.20 | | | | |
| | | 195.93 | | | | 26.40 | 2.60 | SST |
| | | 190.98 | | | | 31.35 | 4.95 | ARN8 |
| | | 190.83 | 31.50 | 00.15 | | | | |
| | | 190.13 | | | | 32.20 | 0.70 | ARN8 |
| | | 185.73 | | | | 36.60 | 4.40 | SST |
| | | 172.33 | | | | 50.00 | 13.40 | ARN8 |
| | | 172.33B | | | | 50.00 | | |
| 32 | 384192E 408934N | 222.31S 218.11R | | | | 4.20 | | |
| | | 190.21 | | | | 32.10 | 6.20 | SST |
| | | 187.71 | | | | 34.60 | 2.50 | ARN8 |
| | | 181.91 | | | | 40.40 | 5.80 | SST |
| | | 172.31 | | | | 50.00 | 9.60 | ARN8 |
| | | 172.31B | | | | 50.00 | | |
| 33 | 384251E 408953N | 222.19S 220.89 | | | | 1.30 | 0.70 | S/C |
| | | 218.49R | | | | 3.70 | | |
| | | 215.69 | | | | 6.50 | 0.50 | ARN8 |
| | | 191.59 | 30.60 | 00.15 | | | | |
| | | 185.79 | | | | 36.40 | 5.80 | SST |
| | | 178.39 | | | | 43.80 | 4.35 | SST |
| | | 172.19 | | | | 50.00 | 6.20 | ARN8 |
| | | 172.19B | | | | 50.00 | | |
| 34 | 384208E 408992N | 218.56S 215.06R | | | | 3.50 | | |
| | | 194.06 | | | | 24.50 | 3.80 | SST |
| | | 190.76 | | | | 27.80 | 3.30 | ARN8 |
| | BOREHOLE CONTINUES | | | | | | | |

| BH. NO. | GRID REF. | LEVEL | COAL SEAM BASE DEPTH | THICKNESS | CODE | OTHER DEPOSITS BASE DEPTH | THICKNESS | |
|---|---|---|---|---|---|---|---|---|
| 34 | BOREHOLE CONTINUED | | | | | | | |
| | | 187.16 | | | | 31.40 | 4.20 | SST |
| | | 176.06 | | | | 42.50 | 11.10 | ARNB |
| | | 173.76 | | | | 44.80 | 2.30 | SST |
| | | 168.56 | | | | 50.00 | 5.20 | ARNB |
| | | 168.56B | | | | 50.00 | | |
| 35 | 384156E | 217.50S | | | | | | |
| | 408969N | 214.00R | | | | 3.50 | | |
| | | 202.05 | 15.45 | 00.20 | | | | |
| | | 196.40 | | | | 21.10 | 5.65 | SST |
| | | 193.30 | | | | 24.20 | 3.10 | ARNB |
| | | 188.60 | | | | 28.90 | 4.70 | SST |
| | | 167.50 | | | | 50.00 | 21.10 | ARNB |
| | | 167.50B | | | | 50.00 | | |
| 36 | 384107E | 218.60S | | | | | | |
| | 408946N | 215.10R | | | | 3.50 | | |
| | | 205.80 | 12.80 | 00.25 | | | | |
| | | 204.90 | | | | 13.70 | 0.90 | ARNB |
| | | 204.20 | | | | 14.40 | 0.70 | SST |
| | | 196.70 | | | | 21.90 | 7.50 | ARNB |
| | | 191.50 | | | | 27.10 | 5.20 | SST |
| | | 168.60 | | | | 50.00 | 22.90 | ARNB |
| | | 168.60B | | | | 50.00 | | |
| 37 | 384105E | 218.63S | | | | | | |
| | 408945N | 215.13R | | | | 3.50 | | |
| | | 205.93 | 12.70 | 00.10 | | | | |
| | | 205.79 | | | | 12.84 | 0.14 | ARNB |
| | | 204.63 | | | | 14.00 | 1.16 | SOFT |
| | | 204.63B | | | | 14.00 | | |
| 38 | 384038E | 219.09S | | | | | | |
| | 408921N | 215.89R | | | | 3.20 | | |
| | | 205.89 | | | | 13.20 | 10.00 | ARNB |
| | | 199.54 | 19.55 | 00.15 | | | | |
| | | 193.19 | | | | 25.90 | 6.35 | SST |
| | | 189.09 | | | | 30.00 | 4.10 | ARNB |
| | | 186.19 | | | | 32.90 | 2.90 | SST |
| | | 169.09 | | | | 50.00 | 17.10 | ARNB |
| | | 169.09B | | | | 50.00 | | |
| 39 | 383931E | 221.69S | | | | | | |
| | 408783N | 218.09R | | | | 3.60 | | |
| | | 208.99 | | | | 12.70 | 1.60 | ARNB |
| | | 204.69 | | | | 17.00 | 2.80 | ARNB |
| | | 199.89 | | | | 21.80 | 4.80 | SST |
| | | 195.29 | | | | 26.40 | 1.30 | ARNB |
| | | 192.19 | | | | 29.50 | 1.30 | ARNB |
| | | 180.79 | | | | 40.90 | 11.40 | SST |
| | | 179.79 | | | | 41.90 | 1.00 | ARNB |
| | | 171.69 | | | | 50.00 | 8.10 | SST |
| | | 171.69B | | | | 50.00 | | |
| 40 | 383884E | 220.98S | | | | | | |
| | 408748N | 216.08R | | | | 4.90 | | |
| | | 212.03 | 8.95 | 00.25 | | | | |
| | | 209.98 | | | | 11.00 | 1.05 | ARNB |
| | | 209.08 | | | | 11.90 | 0.90 | SST |
| | | 207.38 | | | | 13.60 | 1.70 | ARNB |
| | | 205.98 | | | | 15.00 | 0.75 | ARNB |
| | | 203.58 | | | | 17.40 | 2.40 | SST |
| | | 199.68 | | | | 21.30 | 3.90 | SST |
| | | 187.78 | | | | 33.20 | 11.90 | SST |
| | | 181.38 | | | | 39.60 | 6.40 | ARNB |
| | | 180.68 | | | | 40.30 | 0.70 | SST |
| | | 172.38 | | | | 48.60 | 2.10 | SST |
| | | 170.98 | | | | 50.00 | 1.40 | ARNB |
| | | 170.98B | | | | 50.00 | | |

| | | |

## LEGEND

PROSPECTING BOUNDARY
(Inside edge of symbol to be taken as boundary)

Overhead Electricity Line
Voltage as indicated — E — E —

Underground Electricity Cable
Voltage as indicated — UE — UE —

Overhead Telephone Line — T — T —

Underground Telephone Cable — UT — UT —

Water Pipeline
Diameter as indicated — W — W —

Public Footpath — Footpath No. 105

Disused Shaft

Adopted Highway by Bury M.B.C. (A) (B)

NATIONAL COAL BOARD OPENCAST EXECUTIVE
No 3 NORTH WEST REGION
Anderton House, Lowton

# Site No. 031703
# PILSWORTH

## Composite Prospecting Information

| | | | | |
|---|---|---|---|---|
| Location | 2 Kilometres South East of *Bury | | | |
| N.G. Ref. | SD.835.090 | Drawn by M.E.A. | Checked by P.M.C. | Date 9.3.1982 |

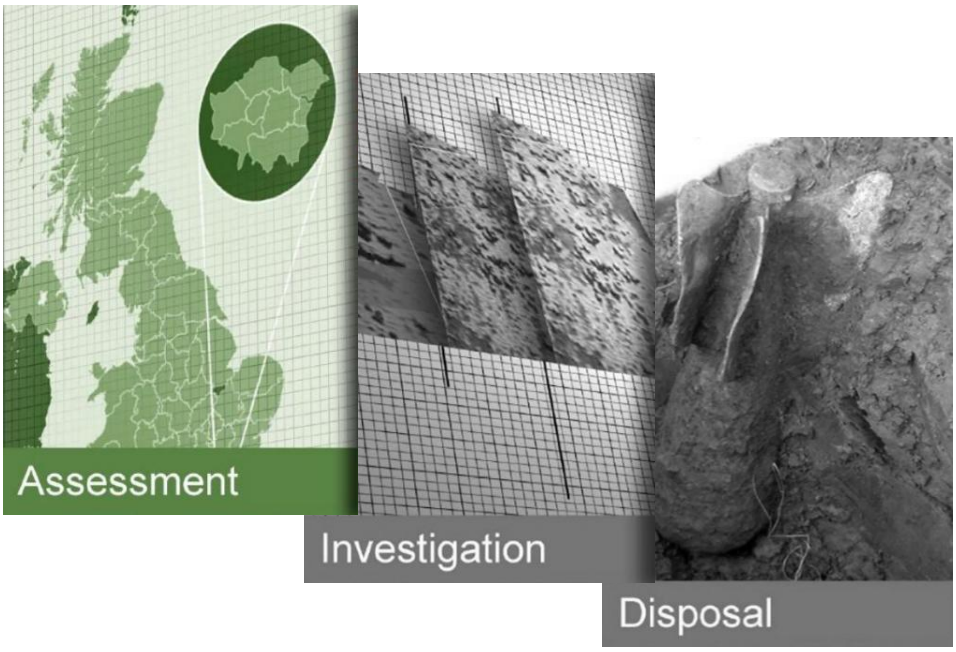
SD 8204 8304 8404 8504
SD 8203 8303 8403 8503
SD 8202 8302 8402 8502

Based upon Ordinance Survey Maps with the sanction of the Controller of H.M. Stationery Office.
Crown Copyright Reserved.

Scale 1/2500

Drwg. No. 03/1703/03

# APPENDIX F – UNEXPLODED ORDNANCE




# UXO Desk Study & Risk Assessment

| | |
|---|---|
| **Document Ref.** | **P14015-24-R1** |
| **Revision** | **B** |
| **Project Title** | **Northern Gateway** |
| **Client** | **Tetra Tech** |
| **Date** | **23rd January 2025** |

| | |
|---|---|
| **Drafted by** | **William Holford** |
| **Checked by** | **Ellie Chaston** |
| **Authorised by** | **Stefan Lang** |

# UXO DESK STUDY & RISK ASSESSMENT

## EXECUTIVE SUMMARY

**Key findings:** No significant sources of Unexploded Ordnance (UXO) hazard have been identified.

**Key actions:** A UXO awareness briefing is prudent for staff involved in excavations.

### UXO hazard assessment

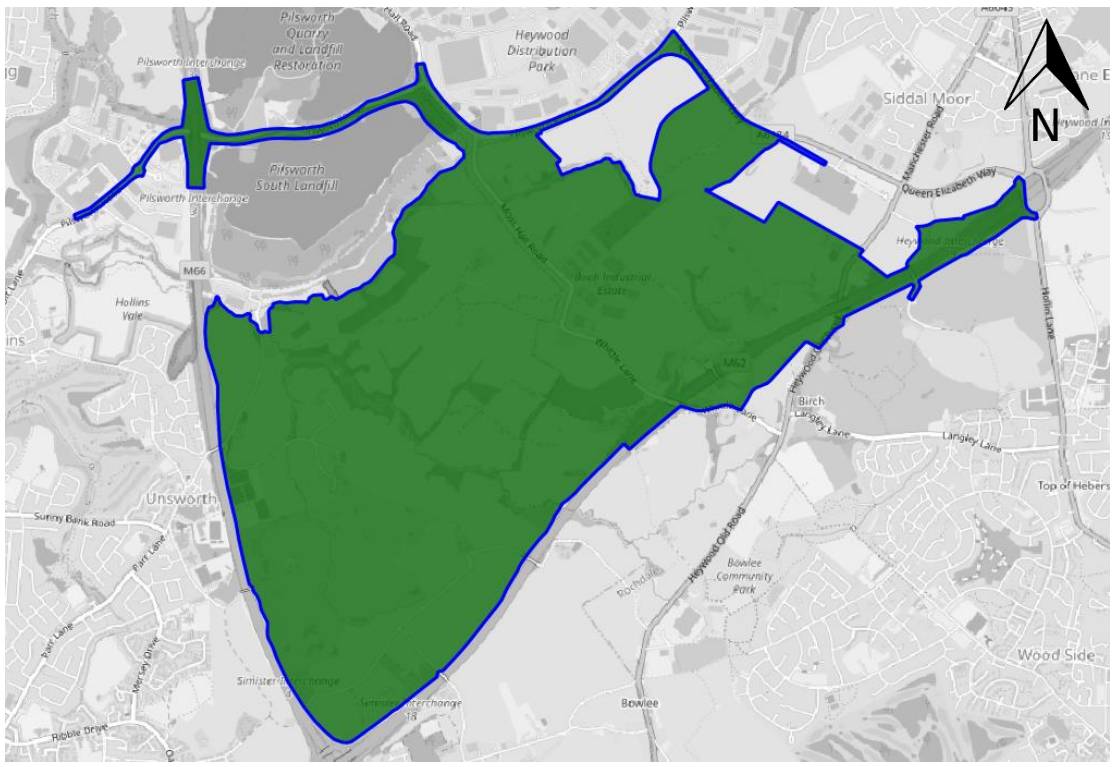
Between 1939 and 1965, Royal Air Force (RAF) Heywood was located on the Site. It stored a wide range of military equipment including airframes, propellors, gun turrets, marine craft, and oil.

No records have been found indicating that the Site was bombed and no other significant sources of UXO hazard have been identified on the Site.

Given this, it is considered that the Site has a low UXO hazard level, as shown in the following Figure, reproduced as Figure 7 in the main report.

The UXO hazard zone plan of the Site is also given in the accompanying P14015-24-R1-MAP01-B.

**UXO hazard zone plan of the Site**




*Source: OpenStreetMap* *Not to Scale*

| | | | |
|---|---|---|---|
| **Legend** | Very Low | Low | Moderate |
| | High | Very High | Site boundary |

The main findings of the report are summarised below.

- No records of military activity on the Site during World War One (WWI) have been found.
- In June 1939, a Universal Equipment Depot (UED), known as RAF Heywood, was established on land encroaching on the Site. It was assigned to No. 35 Maintenance Unit (MU). It stored

a wide range of military equipment including airframes, propellors, gun turrets, marine craft, and oil.

- After World War Two (WWII), RAF Heywood remained in use. It closed in 1965 and has since been repurposed for commercial use.
- During WWII, the main strategic targets in the vicinity of the Site included RAF Heywood, RAF Bowlee, aircraft manufacturing, chemical, engineering, and metal works, and Heaton Park Reservoir.
- No records have been found indicating that the Site was bombed during WWII. Records indicate that the nearest High Explosive (HE) bomb fell within approximately 0.1km west of the Site on the 2nd October 1940.
- There were 17No. Heavy Anti-Aircraft (HAA) and Rocket AA (ZAA) batteries within 10km of the Site during WWII. The potential for an Unexploded AA (UXAA) shell to have fallen on the Site cannot be discounted.

## Proposed works

It is understood that the Site will be developed as commercial sheds. Initial works will comprise intrusive ground investigations, including boreholes and trial pits, and excavations.

It is assumed that future works on the Site may also include piling.

## Risk assessment

The Table below, reproduced as Table 3 in the main report, provides a UXO risk assessment for the proposed works on the Site.

Further details on the risk assessment methodology are given in Section 7.2 of the main report.

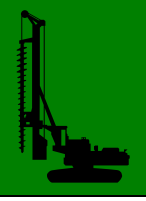
**UXO risk assessment for the Site**

| Potential UXO Hazard | Anticipated Works | PE | PD | P = PE x PD | Likelihood | Severity | Risk Rating | UXO Risk |
|---|---|---|---|---|---|---|---|---|
| UXB | Excavations | 1 | 1 | 1 | 1 | 5 | 5 | **Low** |
| | Boreholes/Piling | 1 | 1 | 1 | 1 | 4 | 4 | **Low** |
| Other UXO | Excavations | 1 | 1 | 1 | 1 | 4 | 4 | **Low** |
| | Boreholes/Piling | 1 | 1 | 1 | 1 | 3 | 3 | **Low** |
| **PE = Probability of Encounter; PD = Probability of Detonation; P = Likelihood** | | | | | | | | |

## Risk mitigation plan

The Table below, reproduced as Table 4 in the main report, summarises the UXO risk for proposed works on the Site and recommended actions.

**Summary of UXO risk and mitigation recommendations**

| Proposed Works | UXO Risk | Recommended Mitigation |
|---|---|---|
| Excavations |  | **UXO awareness briefing** – an UXO awareness briefing is recommended for staff involved in excavations. |
| Boreholes/Piling |  | **Proceed with works** |

In summary, it is recommended that staff involved in excavations are provided with a formal UXO awareness briefing so that they take appropriate action in the event of a suspect find.

## What do I do next?

If you require a quote for an UXO awareness briefing, contact us and we can help.

| | | | | | |
|---|---|---|---|---|---|
| | **01993 886682** | | **uxo@zetica.com** | | **zeticauxo.com** |

If you have requirements to identify other buried hazards (such as mapping utilities or obstructions) we can provide these surveys.

If proposed works on the Site change, or additional works are planned, contact Zetica for a re-assessment of the UXO risk and the risk mitigation requirements.

# CONTENTS

**ABBREVIATIONS** **VI**

**1 INTRODUCTION** **1**

1.1 Project outline

1.2 Sources of information

1.3 Data confidence level

**2 THE SITE** **3**

2.1 Site location

**3 MILITARY ACTIVITY** **5**

3.1 RAF Heywood

3.2 Defences

3.3 Military airfields

3.4 Explosives factories, munitions depots, and disposal areas

3.5 Firing ranges and military training areas

3.6 Aircraft crashes

3.7 Other military establishments

**4 BOMBING** **14**

4.1 WWI bombing

4.2 WWII bombing

**5 POST-WWII EXPLOSIVE ORDNANCE CLEARANCE (EOC) ACTIVITIES** **23**

5.1 EOC tasks

**6 UXO HAZARD ASSESSMENT** **24**

6.1 UXO hazard level

**7 UXO RISK ASSESSMENT** **25**

7.1 Proposed works

7.2 Risk assessment methodology

7.3 UXO risk level

**8 RISK MITIGATION PLAN** **27**

8.1 UXO risk summary

8.2 Risk mitigation techniques

8.3 What do I do next?

**APPENDICES** **28**

Appendix 1 Anticipated ordnance types

Appendix 2 Sources of UXO hazard

Appendix 3 Recent UXO finds

Appendix 4 Glossary and definitions

Appendix 5 Bibliography

# Figures, plates, & tables

Figure 1 Site location map ..... 3
Figure 2 Compiled map of RAF Heywood ..... 5
Figure 3 Extract of a plan of RAF Heywood PoW Camp, 1944 ..... 6
Figure 4 Extract of a plan of RAF Heywood munitions stores and ranges, 1944 ..... 8
Figure 5 Plan of dispersed site at RAF Heywood, 1944 ..... 9
Figure 6 Compiled bomb impact map for the vicinity of the Site ..... 17
Figure 7 UXO hazard zone plan of the Site ..... 24

Plate 1 Recent aerial photograph of the Site ..... 4
Plate 2 Aerial photograph, 12th June 1948 ..... 13
Plate 3 Luftwaffe target photograph of Heywood, December 1940 ..... 15
Plate 4 Aerial photograph (SD 855084), 9th May 1946 ..... 18
Plate 5 Aerial photograph (SD 83908584), 16th May 1948 ..... 19
Plate 6 Aerial photograph (SD 833073), 16th May 1948 ..... 20
Plate 7 Aerial photograph (SD 821088), 12th June 1948 ..... 21

Table 1 Bombing statistics ..... 16
Table 2 Estimated average maximum bomb penetration depths ..... 22
Table 3 UXO risk assessment for the Site ..... 26
Table 4 Summary of UXO risk and mitigation recommendations ..... 27

# Accompanying GIS data

P14015-24-R1-MAP01-B (UXO Desk Study)

## ABBREVIATIONS

| | |
|---|---|
| **AA** | Anti-Aircraft |
| **AAF** | Auxiliary Air Force |
| **AAP** | Air Acceptance Park |
| **ALARP** | As Low As Reasonably Practicable |
| **AP** | Anti-Personnel |
| **ARP** | Air Raid Precautions |
| **AXO** | Abandoned Explosive Ordnance |
| **BGS** | British Geological Survey |
| **CIRIA** | Construction Industry Research and Information Association |
| **DCLG** | Department of Communities and Local Government |
| **EO** | Explosive Ordnance |
| **EOC** | Explosive Ordnance Clearance |
| **EOR** | Explosive Ordnance Reconnaissance |
| **ERW** | Explosive Remnants of War |
| **ESA** | Explosive Substances and Articles |
| **HAA** | Heavy Anti-Aircraft |
| **HE** | High Explosive |
| **HER** | Historic Environment Record |
| **HQ** | Headquarters |
| **IB** | Incendiary Bomb |
| **IWM** | Imperial War Museum |
| **LAA** | Light Anti-Aircraft |
| **LSA** | Land Service Ammunition |
| **MoD** | Ministry of Defence |
| **MU** | Maintenance Unit |
| **NARA** | National Archives & Records Administration |
| **NCAP** | National Collection of Aerial Photography |
| **OB** | Oil Bomb |
| **OSNGR** | Ordnance Survey National Grid Reference |
| **PM** | Parachute Mine |
| **PoW** | Prisoner of War |
| **RAF** | Royal Air Force |
| **RE** | Royal Engineers |
| **SAA** | Small Arms Ammunition |
| **TA** | Territorial Army |
| **UED** | Universal Equipment Depot |
| **US** | United States |
| **UXAA** | Unexploded Anti-Aircraft |
| **UXB** | Unexploded Bomb |
| **UXO** | Unexploded Ordnance |
| **WO** | War Office |
| **WWI** | World War One |
| **WWII** | World War Two |
| **ZAA** | Rocket Anti-Aircraft |

# UXO DESK STUDY & RISK ASSESSMENT

**Please read:** Zetica has colour coded each paragraph. Paragraphs with black text on a white background provide site-specific information or information specifically researched as part of this project.

Boxed paragraphs in a dark green text with a green background provide general information and, where appropriate, links to online resources giving further detail. These are all available at www.zeticauxo.com. If you cannot gain access to these resources, Zetica can forward them on request.

## 1 INTRODUCTION

### 1.1 Project outline

Zetica Ltd was commissioned by Tetra Tech to carry out a detailed Unexploded Ordnance (UXO) Desk Study and Risk Assessment for an area of approximately 594 hectares (ha) between the M62 and M66 near Heywood, Greater Manchester (the 'Site').

The aim of this report is to gain a fair and representative view of the potential UXO hazard on or affecting the Site in accordance with the Construction Industry Research and Information Association (CIRIA) C681 'Unexploded Ordnance (UXO), a Guide for the Construction Industry'.

Where appropriate, this hazard assessment includes:

- Likelihood of ordnance being present.
- Type of ordnance (size, filling, fuze mechanisms).
- Quantity of ordnance.
- Potential for live ordnance.
- Probable location.
- Ordnance condition.

It should be noted that some military activity providing a source of UXO hazard may not be recorded and therefore there cannot be any guarantee that all UXO hazards affecting the Site have been identified in this report.

### 1.2 Sources of information

Zetica Ltd researched the World War One (WWI)/World War Two (WWII) bombing and military history of the Site and its surrounding area using a range of information sources. The main sources of information are detailed in the following sections and referenced at the end of this report.

#### 1.2.1 Zetica Ltd records

Zetica Ltd's in-house records were consulted, including the Zetica Ltd bomb risk maps (https://zeticauxo.com/guidance/risk-maps/), previous requests for information from government bodies, reference books, and archive materials from past work in the region.

Relevant documents have been cited in the bibliography of this report.

#### 1.2.2 Historical records, maps, and drawings

Numerous reference documents including historical maps, aerial photographs and drawings have been consulted from sources such as the National Archives, the US National Archives & Records Administration (NARA), the Imperial War Museum (IWM), Royal Air Force (RAF) Museum, Historic England, National Collection of Aerial Photography (NCAP), the Defence of Britain Project, and relevant archaeological bodies.

The British Geological Survey (BGS) was consulted for borehole information.

### 1.2.3 Local records

Rochdale Borough Council, Bury Borough Council, the Lancashire Record Office, Greater Manchester County Record Office, Manchester Central Library, Rochdale Local Studies and Archive, Bury Archives, local historical groups, and the Great Manchester Historic Environment Record (HER) were consulted for records.

## 1.3 Data confidence level

In general, there is a high level of confidence in the researched information sources used for this report. Further detail is given in the text of the report where appropriate.

| Definitions of data confidence level | | |
|---|---|---|
| **Data Confidence Level** | | **Definition** |
| | **Low** | There are very few sources of information, and/or those available are lacking in detail. |
| | **Moderate** | There is a limited range of available sources of information, a key source of information is missing, and/or some sources may be contradictory or lacking in detail. |
| ✓ | **High** | There is a wide range of available sources of information, which are detailed and corroborate each other. |

# 2 THE SITE

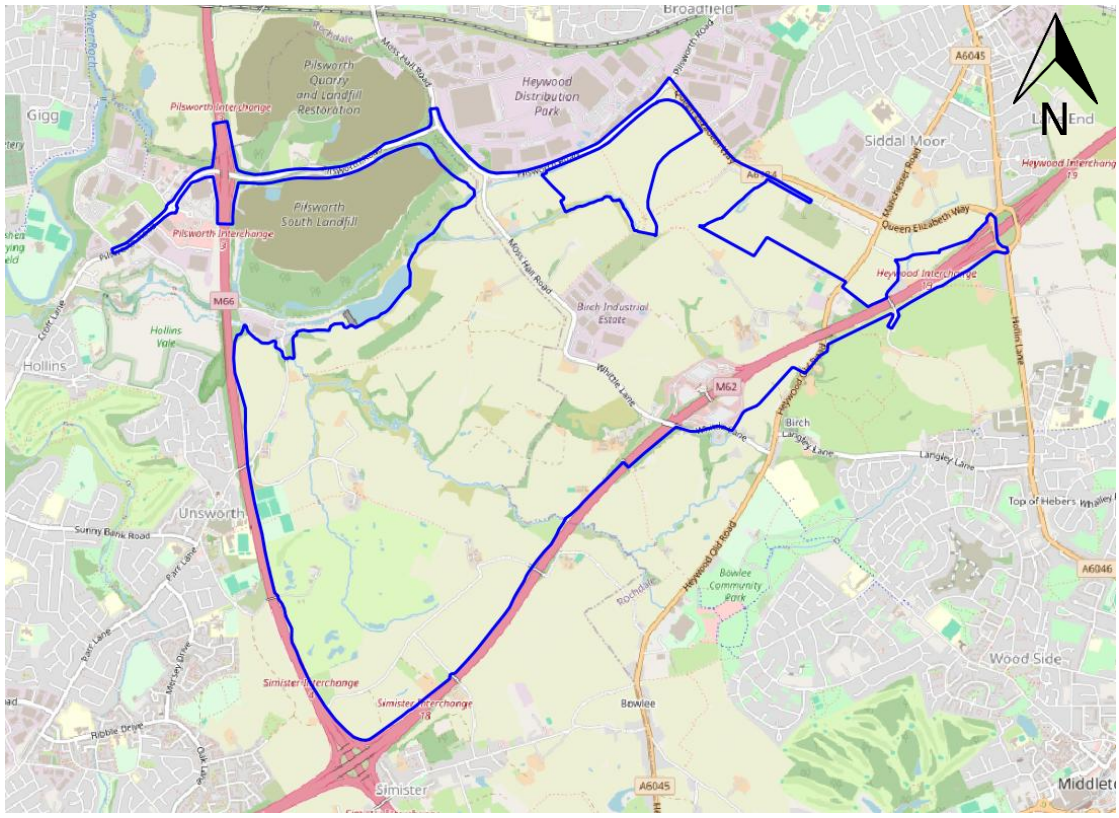
## 2.1 Site location

The Site is centred on Ordnance Survey National Grid Reference (OSNGR) SD 839078. It is located approximately 8km north of central Manchester.

The Site comprises commercial and agricultural buildings, roadways, hardstanding, open ground, and Pike Fold Golf Course. It is bounded to the north by Pilsworth Quarry and Heywood Distribution Park, to the east by the M62 and agricultural land, to the south by the M62 and M66, and to the west by the M66 and the Pilsworth Road Industrial Estate.

Figure 1 is a Site location map and Plate 1 is a recent aerial photograph of the Site.

**Figure 1 Site location map**




*Source: OpenStreetMap* *Not to Scale*

| **Legend** | Site boundary |
|---|---|

**Plate 1 Recent aerial photograph of the Site**




*Source: Google Earth* *Not to Scale*

| **Legend** | Site boundary |
|---|---|

# 3 MILITARY ACTIVITY

The following sections outline the recorded military activity on and in the vicinity of the Site. The potential UXO hazard from WWI and WWII bombing is detailed in Section 4.

## 3.1 RAF Heywood

Between 1939 and 1965 RAF Heywood encroached on the Site. A brief history is provided below.

### 3.1.1 Operational history

In June 1939, a Universal Equipment Depot (UED), known as RAF Heywood, was established on land encroaching onto the Site. The depot comprised several dispersed working areas for the storage and maintenance of equipment. Additional dispersed areas provided housing for officers, and sewage disposal.

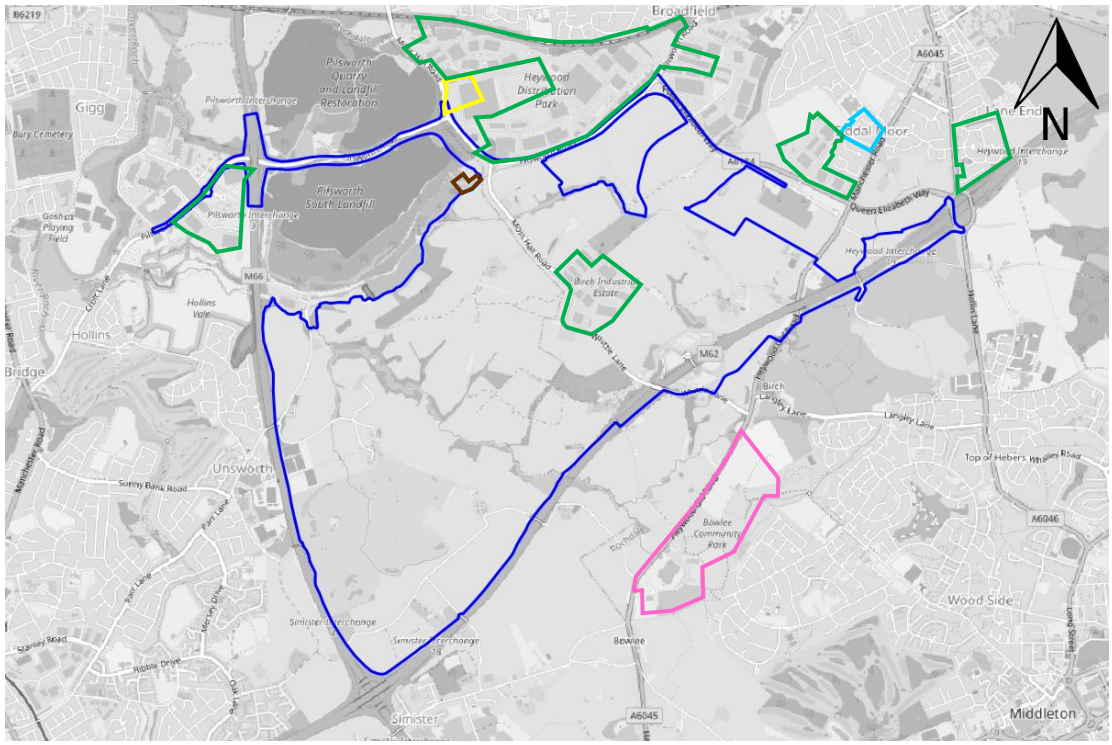
RAF Heywood was assigned to No. 35 Maintenance Unit (MU). This unit was responsible for storing a wide range of RAF equipment, including spares for aircraft, airframes, and engines, photographic stores, barrage balloons, propellor blades, gun turrets, marine craft, dinghies, and oil. It also maintained stocks for American and French military equipment.

Work at RAF Heywood was carried out by civilian staff operating under RAF direction.

By 1944, a Prisoner of War (PoW) camp had been established east of Moss Road, encroaching on the Site. It housed Italian PoWs, who were employed at RAF Heywood.

Figure 2 is a compiled map of RAF Heywood. RAF Bowlee (see Section 3.3) has also been identified.

**Figure 2 Compiled map of RAF Heywood**




*Source: RAF Museum* *Not to Scale*

| Legend | | | |
|---|---|---|---|
| | Site boundary | Working sites | PoW camp |
| | Sewage disposal site | Officers' housing | RAF Bowlee |

The Italian PoW camp closed in April 1946.

RAF Heywood continued in use as a UED until 1965. It was then closed and has since been repurposed for commercial use.

### 3.1.2 Military activities at RAF Heywood

Details of activities at RAF Heywood that may provide a source of UXO hazard are given in the sections below.

**Defences**

During WWII, anti-invasion defences, including machine gun posts, redoubts, and barbed wire entanglements were established to protect RAF Heywood against ground attack. No records have been found to indicate that any defences were established on the Site.

The nearest defensive structure was a sentry box at the entrance of the PoW camp (SD 833095), approximately 10m east of the Site. The PoW camp also had a guard room (SD 833095) and an armoury (SD 833094), both approximately 40m east of the Site.

Figure 3 is an extract of a plan of RAF Heywood, dating from 1944. The PoW camp and associated defences have been identified.

**Figure 3 Extract of a plan of RAF Heywood PoW Camp, 1944**




*Source: RAF Museum* *Not to Scale*

| Legend | Site boundary | RAF Heywood | PoW camp |
|---|---|---|---|
| | Sentry box | Guard room | Armoury |

The defences were initially manned by soldiers of the Territorial Army (TA), including the 2/6th Lancashire Fusiliers, 11th Manchester Regiment, and No. 101 National Defence Company. By 1942, they were manned by personnel of the RAF Regiment. RAF Heywood also had its own Home Guard unit, comprising approximately 600No. civilian personnel employed at the depot.

After WWII, the defences were removed.

#### Potential UXO hazard

Anti-invasion defences often had associated munitions caches which may have stored Small Arms Ammunition (SAA) and Land Service Ammunition (LSA), such as grenades and mortars.

Such caches were typically removed after the threat of invasion had passed, although the possibility for spillage or localised disposal cannot be discounted.

Anti-invasion defences are not considered to provide a significant source of UXO hazard to the Site.

**Military training**

During WWII, at least 3No. defence exercises took place at and in the vicinity of RAF Heywood, potentially including on the Site.

Recorded exercises occurred on the 5th and 26th October 1941, and the 18th October 1942. These involved units of the TA, RAF Regiment, and Home Guard, as well as civilian personnel, and were designed to test the depot's readiness in case of enemy attack.

Anecdotal evidence indicates that training activities may have taken place on the Site (see Section 3.5.1). No records have been found to confirm this.

### Potential UXO hazard

Defence exercises at RAF Heywood likely involved the use of dry training aids, including blank SAA, smoke grenades, and pyrotechnics. No records have been found to indicate that live munitions were used during these exercises.

The potential to encounter munitions associated with military training, whilst unlikely, cannot be totally discounted.

Military training is not considered to provide a significant source of UXO hazard to the Site.

**Munitions storage**

Munitions were stored at RAF Heywood for testing armaments stored at the depot, and for security purposes. 2No. ammunition stores (SD 844096), 1No. Home Guard armoury (SD 844097), and 2No. Home Guard grenade stores (SD 845098) were established north of Pilsworth Road, between approximately 30m and 0.2km north of the Site.

Figure 4 is an extract of a plan of RAF Heywood dating from 1944. Munitions stores and firing ranges have been identified.

**Figure 4 Extract of a plan of RAF Heywood munitions stores and ranges, 1944**




*Source: RAF Museum* *Not to Scale*

| | | | | |
|---|---|---|---|---|
| **Legend** | Site boundary | RAF Heywood | Grenade store | Armoury |
| | Ammunition store | MG & cannon range | Pistol range | |

Additionally, 1No. armoury was established within the PoW Camp (SD 833094), approximately 40m east of the Site (see Figure 3). It stored armaments used by the camp guards.

Munitions storage is not considered to provide a significant source of UXO hazard to the Site.

**Waste disposal**

RAF Heywood was equipped with at least 7No. destructor buildings. 1No. of these was located at a dispersed site north of Whittle Lane (SD 842083), on the Site (see Figure 2).

Figure 5 is a plan of a dispersed site at RAF Heywood, on the Site, dating from 1944. The destructor house has been identified.

**Figure 5 Plan of dispersed site at RAF Heywood, 1944**




*Source: RAF Museum* *Not to Scale*

| Legend | Site boundary | Dispersed site | Destructor house |
|---|---|---|---|

## Potential UXO hazard

Destructors would have been used to dispose of waste by burning. No records have been found to indicate that munitions were burned in the destructors, although the possibility cannot be totally discounted.

Waste disposal is not considered to provide a significant source of UXO hazard to the Site.

**Firing ranges**

1No. machine gun and cannon range and 1No. pistol range were established at RAF Heywood for testing armaments and training defensive forces, including the local Home Guard (see Section 3.2.2).

The machine gun and cannon range was located east of Pilsworth Road (SD 848097), approximately 0.2km northeast of the Site (see Figure 4).

The pistol range was located north of Pilsworth Road (SD 845098), approximately 0.2km north of the Site (see Figure 4).

Firing ranges are not considered to provide a source of UXO hazard to the Site.

## 3.2 Defences

For further information on military defences, and the potential UXO hazards associated with them, follow the links below:

- Anti-Aircraft Guns
- Anti-Invasion Defences
- Barrage Balloons
- Bombing Decoys
- Home Guard
- Mined Locations
- Mortar & Gun Emplacements
- Pillboxes

Other than those identified in Section 3.1.2, no military defences have been identified on the Site. The nearest are described below.

### 3.2.1 Anti-Aircraft (AA) guns

During WWI there were 8No. AA batteries recorded within 10km of the Site. The nearest was located at Rhodes (SD 850053), approximately 1.9km southeast of the Site. It was armed with 1No. 18-pounder (-pdr) gun.

During WWII there were 17No. Heavy AA (HAA) and Rocket AA (ZAA) batteries recorded within 10km of the Site. The nearest was located at Besses O' Th' Barn (SD 817040), approximately 2.1km southwest of the Site. Its armament is unknown.

The nearest recorded WWII AA shell incidents to the Site are described below.

**10th January 1941**

1No. AA shell fell on a field at Darn Hill Farm, approximately 0.6km north of the Site. It was recorded as an Unexploded AA (UXAA) shell.

**17th April 1941**

1No. AA shell fell on a field at Sand Field Farm, Simon Lane, approximately 0.3km southeast of the Site. It was recorded as an UXAA shell.

#### Potential UXO hazard

Given the number of AA batteries in the surrounding area, the potential for an UXAA shell to have fallen on the Site unnoticed, whilst unlikely, cannot be totally discounted.

### 3.2.2 Home Guard

During WWII, units from the 21st (Bury), 60th (Heywood & Radcliffe), and 64th (Middleton) Battalions of the Lancashire Home Guard were active in the vicinity of the Site. They were responsible for patrolling local transport infrastructure and key points.

They were also responsible for the security of strategic targets such as RAF Heywood, which had its own Home Guard unit (see Section 3.1).

### Potential UXO hazard

It should be noted that records of Home Guard activities were rarely kept. Storage and disposal of munitions by the Home Guard was poorly documented and surplus supplies were often buried.

Given the irregular nature of this activity, the possibility of items of UXO being discovered at any locations occupied by the Home Guard can never be totally discounted.

## 3.3 Military airfields

For further information on military airfields, and the potential UXO hazards associated with them, follow the link below:

- Military Airfields

No records of any military airfields on or in close proximity to the Site have been found.

During WWI, the nearest operational airfield was Alexandra Park Aerodrome, approximately 12km south of the Site.

The airfield opened in May 1918 and was designated No. 15 Air Acceptance Park (AAP). It was used for test flying and delivery of military aircraft used by A. V. Roe & Company Ltd. Alexandra Park Aerodrome closed on the 24th August 1924.

During WWII, the nearest operational airfield was RAF Bowlee, approximately 0.3km southeast of the Site (see Figure 2).

RAF Bowlee opened in October 1939 and was designated No. 10 Barrage Balloon Centre. It was the headquarters (HQ) and maintenance depot for barrage balloon defences in the Manchester area and hosted a number of units, including Nos. 924, 925 (East Lancashire), and 926 (East Lancashire) Balloon Squadrons of the Auxiliary Air Force (AAF).

The airfield comprised a technical and administrative area for the organisation, storage, and servicing of balloons, and several concrete pads for test flying.

After WWII, RAF Bowlee closed. It has since been partially redeveloped for commercial, residential, and recreational use.

Military airfields are not considered to provide a source of UXO hazard to the Site.

## 3.4 Explosives factories, munitions depots, and disposal areas

For further information on explosives factories, munitions depots and disposal areas, and the potential UXO hazards associated with them, follow the links below:

- Explosives Factories
- Munitions Depots
- Munitions Disposal Areas

Other than those described in Section 3.1.2, no records of any explosives factories, munitions depots, or munitions disposal areas on the Site have been found. The nearest are described below.

### 3.4.1 Middleton Road bomb cemetery

By the 11th September 1941, an emergency bomb cemetery had been established on land off Middleton Road, within approximately 0.2km east of the Site.

It was intended for the disposal of unexploded gas bombs dropped in the Heywood area. It is considered unlikely that any gas bombs were disposed of at the bomb cemetery, although the potential for the disposal of conventional ordnance such as UXBs cannot be discounted.

No records have been found to indicate that the Middleton Road bomb cemetery encroached onto the Site.

Middleton Road bomb cemetery is not considered to provide a source of UXO hazard to the Site.

### 3.4.2 Pike Fold Golf Course bomb cemetery

By the 21st February 1942, an emergency bomb cemetery has been established on land at Pike Fold Golf Course, approximately 2.7km southeast of the Site.

It was intended for the disposal of unexploded gas bombs dropped in the Manchester, Middleton, and Prestwich areas. After WWII the bomb cemetery closed, and Pike Fold Golf Course returned to recreational use.

In 1998, Pike Fold Golf Course closed to facilitate construction of the M60 motorway. A new golf course was subsequently opened on Back O'th Moss Farm, on the Site.

Pike Fold Golf Course bomb cemetery is not considered to provide a source of UXO hazard to the Site.

## 3.5 Firing ranges and military training areas

For further information on firing ranges and military training areas, and the potential UXO hazards associated with them, follow the links below:

- Artillery Ranges
- Bombing Ranges
- Military Training Areas
- Small Arms Ranges

Anecdotal evidence of a potential firing range on the Site has been provided by the Client. It is discussed below.

### 3.5.1 Practice firing/bombing in Heywood

Anecdotal evidence indicates that during WWII, bombing or firing practice took place on land southwest of Heywood, on the Site.

No records have been found to confirm this, and no evidence of military training, indicated by cratering or disturbed ground, has been identified on the Site on historical aerial photography (see Plates 2 – 7). The possibility that practice firing/bombing took place on the Site and went unrecorded cannot be totally discounted.

Practice firing/bombing in Heywood is not considered to provide a significant source of UXO hazard to the Site.

## 3.6 Aircraft crashes

For further information on military aircraft crashes, and the potential UXO hazards associated with them, follow the link below:

- Aircraft Crashes

No records of any aircraft crashes on or in close proximity to the Site have been found.

## 3.7 Other military establishments

### 3.7.1 Pilsworth Bleach Works

Anecdotal evidence indicates that Pilsworth Bleach Works, adjacent to the northwestern part of the Site, was requisitioned as a billet for personnel of the Green Howards and the United States (US) Army.

An area of trenching potentially associated with the presence of troops has been identified to the northwest of Pilsworth Bleach Works, within approximately 0.1km of the Site.

Plate 2 is an aerial photograph, dated the 12th June 1948. The area of trenching has been identified.

**Plate 2 Aerial photograph, 12th June 1948**




*Source: Historic England* *Not to Scale*

| Legend | Site boundary | Trenching |
|---|---|---|

After WWII, Pilsworth Bleach Works returned to civilian use. It has since closed and been redeveloped.

Pilsworth Bleach Works is not considered to provide a source of UXO hazard to the Site.

# 4 BOMBING

## 4.1 WWI bombing

For further information on WWI bombing in the UK, and the potential UXO hazard associated with it, see Appendix 2.1 or use the following link.

- WWI Bombing

No records have been found indicating that the Site was bombed during WWI.

## 4.2 WWII bombing

For further information on WWII bombing in the UK, and the potential UXO hazard associated with it, see Appendix 2.2 or use the following link.

- WWII Bombing

No records have been found indicating that the Site was bombed during WWII. Details of WWII bombing in the vicinity of the Site are provided in the following sections.

### 4.2.1 Bombing in Lancashire

Bombing raids on Lancashire began in the summer of 1940 and continued until 1944. Most attacks were concentrated on the large industrial centres of Manchester, approximately 8km south of the Site, and Liverpool, approximately 50km southwest of the Site.

Outlying towns and military establishments such as airfields, depots, and ballon centres were also targeted by smaller formations of aircraft. Bombing densities were typically low, but the region remained at risk from overspill and the jettisoning of bombs by aircraft en route to or returning from more important targets in the region.

It should be noted that although rural areas were bombed less heavily than urban districts, Air Raid Precautions (ARP) records may under-represent the number and frequency with which bombs fell in rural areas.

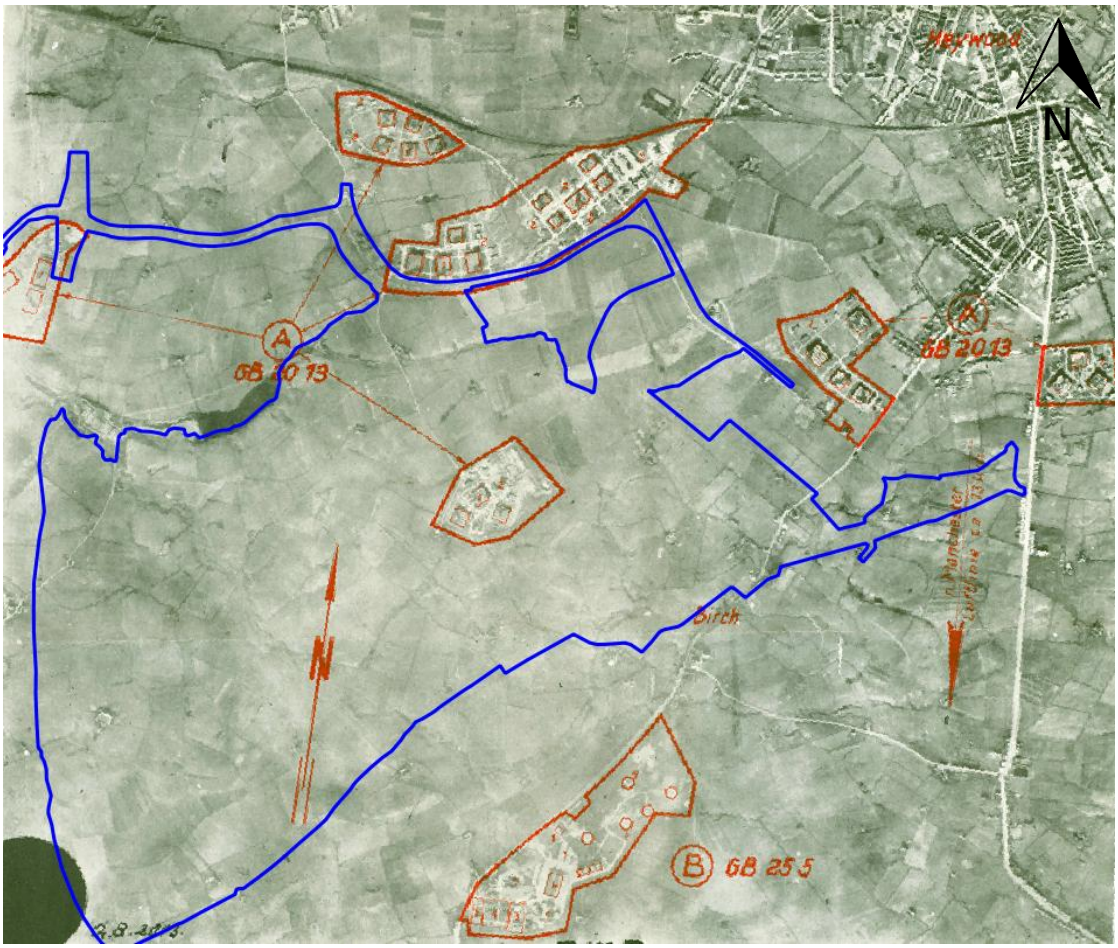
### 4.2.2 Strategic targets

From prior to the declaration of war in 1939, Britain was subjected to reconnaissance flights by the Luftwaffe which was building up a photographic record of potential targets.

The Site was located in an area which contained numerous strategic targets, including RAF Heywood, RAF Bowlee, aircraft manufacturing, chemical, engineering, and metal works, and Heaton Park Reservoir.

Plate 3 is a Luftwaffe target photograph of Heywood, dating from December 1940. This shows RAF Heywood (Target A, GB 20 13) and RAF Bowlee (Target B, GB 25 5).

**Plate 3 Luftwaffe target photograph of Heywood, December 1940**




*Source: NARA* *Not to Scale*

| Legend | Site boundary |
|---|---|

### 4.2.3 Bombing densities and incidents

Table 1 gives details of the overall bombing statistics recorded for the Local Authority Districts of the Site (highlighted by bold text) and surrounding districts. These were categorised as Rural Districts (RD), Urban Districts (UD), Municipal Boroughs (MB), Metropolitan Boroughs (MetB), and County Boroughs (CB). WWII bomb density levels are defined below:

<5 bombs per 405ha is a Very Low regional bombing density.

5-15 bombs per 405ha is Low.

15-50 bombs per 405ha is Moderate.

50-250 bombs per 405ha is High.

>250 bombs per 405ha is Very High.

Official UK bombing statistics have been compiled from both British and German sources. There were differences in the way the figures were originally reported and collated which has led to discrepancies in the summary data.

Note that Table 1 excludes the figures for Incendiary Bombs (IBs). Discrepancies between the below list and other records, such as bomb clearance records, demonstrate that this data is likely to under-represent actual bombing.

**Table 1 Bombing statistics**

| Area | Bombs Recorded | | | | |
|---|---|---|---|---|---|
| | High Explosive | Parachute Mines | Other | Total | Bombs per 405ha (1000 acres) |
| **Middleton MB** | **37** | **0** | **0** | **37** | **7.2** |
| **Whitfield UD** | **15** | **0** | **0** | **15** | **4.4** |
| **Bury CB** | **22** | **0** | **5** | **27** | **3.6** |
| **Heywood MB** | **4** | **0** | **0** | **4** | **0.5** |
| Salford CB | 406 | 29 | 16 | 451 | 86.7 |
| Manchester CB | 712 | 18 | 7 | 737 | 27.0 |
| Prestwich MB | 16 | 0 | 0 | 16 | 6.6 |
| Rochdale CB | 4 | 0 | 0 | 4 | 0.4 |
| Radcliffe MB | 1 | 0 | 0 | 1 | 0.2 |

It should be noted that during WWII, many Unexploded Bombs (UXBs) were mapped and subsequently removed as and when conditions and demands on Bomb Disposal teams allowed. Their removal was not always accurately recorded and sometimes records were later destroyed. In practice, most UXBs were probably removed and only a much smaller number were actually registered as officially abandoned bombs.

Details of the nearest recorded bombing incidents to the Site are given in the following section.

**2nd October 1940**

3No. High Explosive (HE) bombs fell on No. 7 Site at RAF Heywood, within approximately 0.1km west of the Site.

1No. Oil Bomb (OB) and several IBs fell on a field at Laws Farm, Whitelaw, approximately 0.8km west-southwest of the Site.

**15th December 1940**

1No. Explosive IB (EIB) fell on No. 7 Site at RAF Heywood, within approximately 60m west of the Site.

**23rd December 1940**

1No. HE bomb fell on Manchester Golf Course, approximately 0.6km east-northeast of the Site.

1No. HE bomb fell on the junction of Ashworth Street and Links Road, Heywood, approximately 0.9km north-northwest of the Site.

**7th March 1941**

9No. 50kg HE bombs and at least 12No. IBs fell on RAF Bowlee, approximately 0.9km southeast of the Site. 4No. of the HE bombs were recorded as UXBs.

**11th March 1941**

Several HE bombs fell on the airmen's huts at RAF Bowlee, approximately 0.7km southeast of the Site.

**1st June 1941**

Several HE bombs fell on a garage on No. 1 Site at RAF Heywood, approximately 0.2km north-north of the Site.

**12th – 13th October 1941**

2No. 1000kg HE bombs fell on open ground adjacent to the road leading to Pilsworth Bleach Works, approximately 0.2km northwest of the Site. These were recorded as UXBs.

**13th October 1941**

2No. HE bombs fell on the junction of Manchester Road and Coronation Avenue, Heywood, approximately 0.6km north-northwest of the Site.

**Date Unspecified**

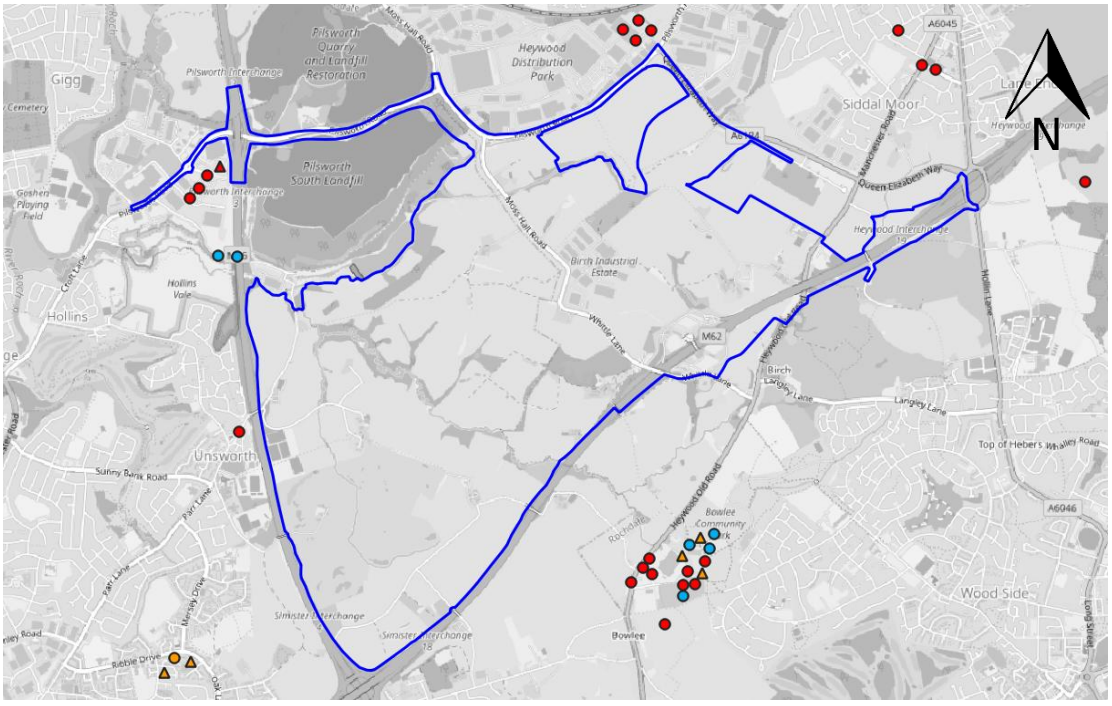
1No. HE bomb fell on a terraced house near Unsworth North Chapel, approximately 0.1km west of the Site.

Figure 6 is a map showing the approximate location of recorded bomb impacts in the immediate vicinity of the Site. IBs shown are indicative of larger numbers of similar devices that fell within the given area.

The map has been compiled from different sources, including air raid incident reports, historical aerial photographs, and bomb census maps.

The bomb map is also given in the accompanying P14015-24-R1-MAP01-B.

**Figure 6 Compiled bomb impact map for the vicinity of the Site**




*Source: OpenStreetMap* *Not to Scale*

| | | | |
|---|---|---|---|
| **Legend** | Site boundary | HE bomb | UXB |
| | EIB | OB | IBs |

Plates 4 – 7 are aerial photographs dating from 1946 and 1948. No bomb damage or cratering has been identified on or in the vicinity of the Site.

**Plate 4 Aerial photograph (SD 855084), 9th May 1946**




*Source: Historic England* *Not to Scale*

| **Legend** | Site boundary | RAF Heywood |
|---|---|---|

**Plate 5 Aerial photograph (SD 83908584), 16th May 1948**




*Source: Historic England* *Not to Scale*

| **Legend** | Site boundary | RAF Heywood |
|---|---|---|

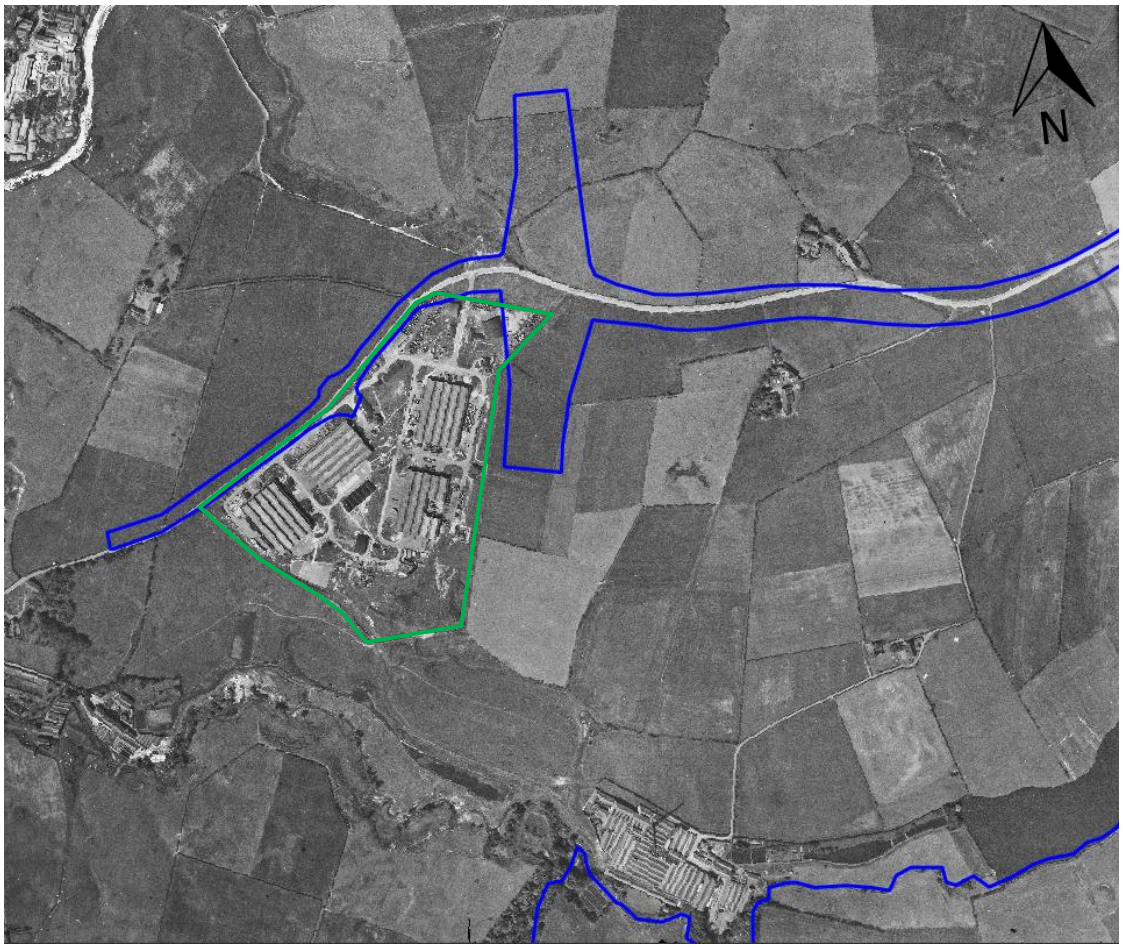
**Plate 6 Aerial photograph (SD 833073), 16th May 1948**




*Source: Historic England* *Not to Scale*

| Legend | Site boundary | RAF Heywood |
|---|---|---|

**Plate 7 Aerial photograph (SD 821088), 12th June 1948**




*Source: Historic England* *Not to Scale*

| Legend | Site boundary | RAF Heywood |
|---|---|---|

## Potential UXO hazard

No records have been found indicating that the Site was bombed, and no bomb damage has been identified on the Site on historical aerial photography.

WWII bombing is not considered to provide a significant source of UXO hazard to the Site.

### 4.2.4 Abandoned bombs

No records have been found indicating that any officially abandoned bombs are located on the Site.

### 4.2.5 Bomb penetration depths

BGS 1:50,000 Sheet 85 Manchester (Bedrock & Superficial) and BGS borehole records from nearby investigations have been consulted to get an indicative overview of the Site geology.

The WWII geology of the Site is understood to consist of Made Ground and open ground, over glacial deposits of clays to gravels, overlying the Pennine Coal Formations.

Table 2 provides an estimate of average maximum bomb penetration depths for the Site assuming WWII ground conditions of 0.5m of topsoil (modelled as soft clay), over 6.5m of sand, over 10.5m of stiff clay, overlying more than 20m of weak rock.

**Table 2 Estimated average maximum bomb penetration depths**

| Estimated average bomb penetration depths for anticipated geology | | |
|---|---|---|
| **Bomb Weight** | 50kg | 3.0m |
| | 250kg | 4.0m |
| | 500kg | 6.5m |

Where Made Ground was present, the estimated average bomb penetration depths are likely to be less than the ones given in Table 2.

These calculations can be refined on receipt of Site-specific information.

The estimated bomb penetration depths given in Table 2 are from the WWII ground level and are based on the following assumptions:

a) High-level release of the bomb resulting in an impact velocity of 260m/s (>5,000m altitude).

b) A strike angle of 10 to 15 ° to the vertical.

c) That the bomb is stable, both in flight and on penetration.

d) That no retarding units are fitted to the bomb.

e) That the soil type is homogenous.

Assuming the above, a bomb will enter the ground and travel on the same trajectory until momentum is nearly lost. The bomb will then turn abruptly to the horizontal before coming to rest. The horizontal distance between the centre of the entry hole and the centre of the bomb at rest is known as the 'offset'. A marked horizontal movement from the original line of entry is common.

Low-level attacks may have an impact angle of 45° or more, which will frequently lead to a much greater amount of offset movement during soil penetration.

The average offset is one third of the penetration depth. If hardstanding or Made Ground were present during WWII, bomb penetration depths would have been significantly reduced but offset distances may have been up to four times greater.

# 5 POST-WWII EXPLOSIVE ORDNANCE CLEARANCE (EOC) ACTIVITIES

Based on data from 1939 to 1945, War Office statistics indicate that 200,195No. HE bombs exploded within Great Britain. Additionally, 25,195No. HE bombs (approximately 11%) were recorded as UXBs. However, records from the Royal Engineers (RE) who were responsible for bomb disposal at the time indicate that by 27th February 1946, more than 45,000No. UXBs were disposed of.

On average, 8.5% of UXBs later self-exploded. In some cases, the bombs had delayed action fuzes or were never intended to explode, their purpose being to cause inconvenience and fear. Given the discrepancy in records and the fact that UXBs are still being found unexpectedly, it is clear that the original figures are understated and provide only an approximation of the number of potential UXBs in the UK.

War Office (WO) statistics also show that between October 1940 and May 1941 most UXBs (93%) were either 50kg or 250kg. It should be noted that details of the recovery and size of the UXB were not always accurately reported.

The larger WWII UXBs are often difficult to recover due to both penetration depths and the presence of two or more fuzes, combined with more sensitive fillings of explosive mixtures including Amatol and Trialen.

## 5.1 EOC tasks

Zetica holds the following records of post-WWII EOC tasks having taken place in the vicinity of the Site.

**9th January 2022**

1No. grenade was discovered in Glamis Avenue, Heywood, approximately 0.5km north-northeast of the Site. It was made safe and removed.

**29th April 2022**

1No. grenade was discovered in Gatesgarth Avenue, Middleton, approximately 1km southeast of the Site. It was made safe and removed.

# 6 UXO HAZARD ASSESSMENT

## 6.1 UXO hazard level

| Definitions of UXO Hazard Level for a Site | |
|---|---|
| **Hazard Level** | **Definition** |
| **Very Low** | There is positive evidence that UXO is not present, e.g. through physical constraints or removal. |
| **Low** | There is no positive evidence that UXO is present, but its occurrence cannot be totally discounted. |
| **Moderate** | There is positive evidence that ordnance was present or that other uncharted ordnance may be present as UXO. |
| **High** | There is positive evidence that UXO is present. |
| **Very High** | As high, but requires immediate or special attention due to the potential hazard. |

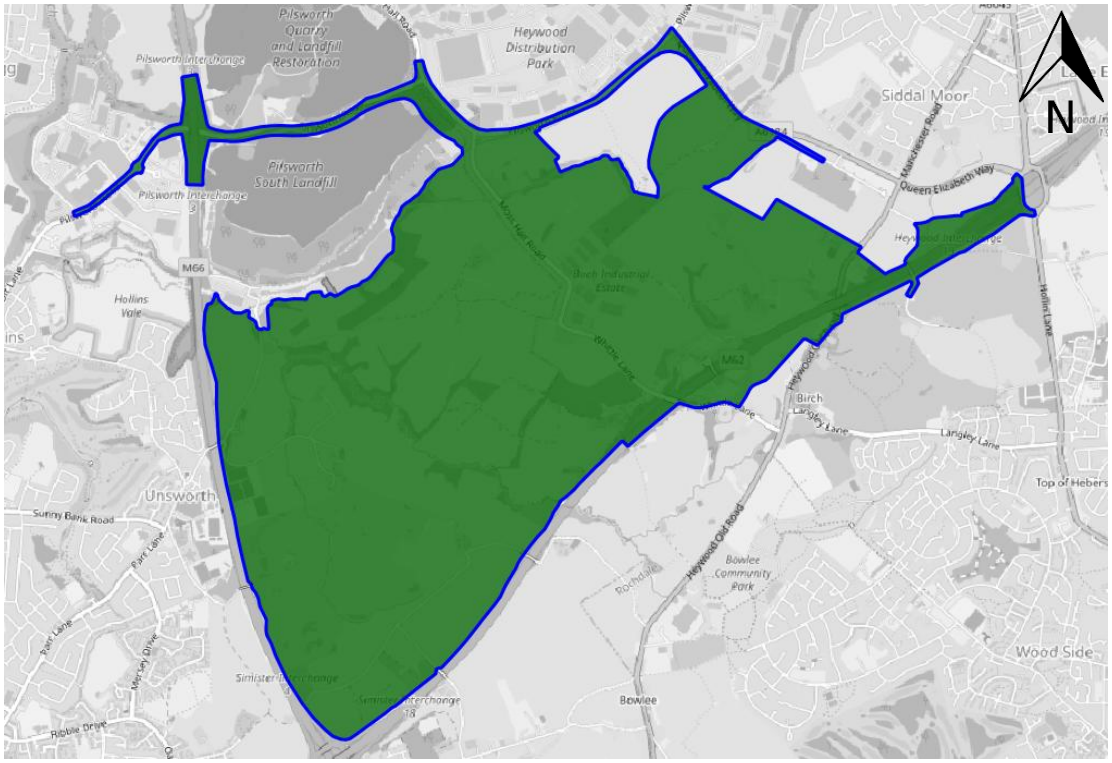
Between 1939 and 1965, RAF Heywood was located on the Site. It stored a wide range of military equipment, including airframes, propellors, gun turrets, marine craft, and oil.

No records have been found indicating that the Site was bombed and no other significant sources of UXO hazard have been identified on the Site.

Given this, it is considered that the Site has a low UXO hazard level, as shown in Figure 7.

The UXO hazard zone plan of the Site is also given in the accompanying P14015-24-R1-MAP01-B.

**Figure 7 UXO hazard zone plan of the Site**




*Source: OpenStreetMap* *Not to Scale*

| Legend | | | | | |
|---|---|---|---|---|---|
| | Very Low | | Low | | Moderate |
| | High | | Very High | | Site boundary |

# 7 UXO RISK ASSESSMENT

## 7.1 Proposed works

It is understood that works on the Site will be developed as commercial sheds. Initial works will comprise intrusive ground investigations, including boreholes and trial pits, and excavations.

It is assumed that future works on the Site may also include piling.

## 7.2 Risk assessment methodology

A UXO risk assessment has been undertaken for the proposed works, taking into consideration the identified UXO hazard(s).

Firstly, the probability of encountering UXO (PE) has been considered and rated for the proposed construction techniques, as detailed below.

| Probability of Encounter (PE) | Rating |
|---|---|
| Frequent, highly likely, almost certain. | 5 |
| Probable, more likely to happen than not. | 4 |
| Occasional, increased chance or probability. | 3 |
| Remote, unlikely to happen but could. | 2 |
| Improbable, highly unlikely. | 1 |
| Impossible | 0 |

Secondly, the probability of detonating an item of UXO (PD) has been considered and rated for the proposed construction techniques, as detailed below.

| Probability of Detonation (PD) | Rating |
|---|---|
| Frequent, highly likely, almost certain. | 5 |
| Probable, more likely to happen than not. | 4 |
| Occasional, increased chance or probability. | 3 |
| Remote, unlikely to happen but could. | 2 |
| Improbable, highly unlikely. | 1 |
| Impossible | 0 |

Next, the probability of encountering and detonating the UXO (PE x PD) have been used to generate an overall likelihood rating (P).

| P = PE x PD | LIKELIHOOD of Encounter and Detonation | Rating |
|---|---|---|
| 21 to 25 | Frequent, highly likely, almost certain. | 5 |
| 16 to 20 | Probable, more likely to happen than not. | 4 |
| 6 to 15 | Occasional, increased chance or probability. | 3 |
| 2 to 5 | Remote, unlikely to happen but could. | 2 |
| 1 | Improbable, highly unlikely. | 1 |
| 0 | Impossible | 0 |
| **P ranges from 25, a certainty of UXO being encountered and detonated on the Site by engineering activity, to 0, a certainty that UXO does not occur on the Site and will not be detonated by engineering activity.** | | |

The likelihood of encountering and detonating UXO during site works (P) is multiplied by the severity (S) of such an event occurring (P x S), to provide a risk level using the following matrix.

| Severity (S) | Rating |
|---|---|
| Multiple fatalities | 5 |
| Major injury, long term health issues, single fatality. | 4 |
| Minor injury, short term health issues, no fatalities. | 3 |
| First aid case but no lost time or ill health. | 2 |
| Minor injuries, no first aid. | 1 |
| No injuries. | 0 |

| UXO Risk Matrix | | | | | | | |
|---|---|---|---|---|---|---|---|
| | SEVERITY (S) | | | | | | |
| LIKELIHOOD (P) | | 5 | 4 | 3 | 2 | 1 | 0 |
| | 5 | 25 | 20 | 15 | 10 | 5 | 0 |
| | 4 | 20 | 16 | 12 | 8 | 4 | 0 |
| | 3 | 15 | 12 | 9 | 6 | 3 | 0 |
| | 2 | 10 | 8 | 6 | 4 | 2 | 0 |
| | 1 | 5 | 4 | 3 | 2 | 1 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## 7.3 UXO risk level

The UXO risk assessment for proposed works on the Site is given in Table 3.

**Table 3 UXO risk assessment for the Site**

| Potential UXO Hazard | Anticipated Works | PE | PD | P = PE x PD | Likelihood | Severity | Risk Rating | UXO Risk |
|---|---|---|---|---|---|---|---|---|
| UXB | Excavations | 1 | 1 | 1 | 1 | 5 | 5 | Low |
| | Boreholes/Piling | 1 | 1 | 1 | 1 | 4 | 4 | Low |
| Other UXO | Excavations | 1 | 1 | 1 | 1 | 4 | 4 | Low |
| | Boreholes/Piling | 1 | 1 | 1 | 1 | 3 | 3 | Low |
| PE = Probability of Encounter; PD = Probability of Detonation; P = Likelihood | | | | | | | | |

# 8 RISK MITIGATION PLAN

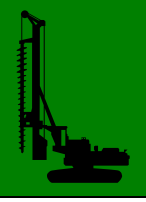
**Key findings:** No significant sources of UXO hazard have been identified.

**Key actions:** A UXO awareness briefing is prudent for staff involved in excavations.

## 8.1 UXO risk summary

Table 4 summarises the UXO risk for proposed works on the Site and recommended actions.

**Table 4 Summary of UXO risk and mitigation recommendations**

| Proposed Works | UXO Risk | Recommended Mitigation |
|---|---|---|
| Excavations |  | **UXO awareness briefing** – an UXO awareness briefing is recommended for staff involved in excavations. |
| Boreholes/Piling |  | **Proceed with works** |

In summary, it is recommended that staff involved in excavations are provided with a formal UXO awareness briefing so that they take appropriate action in the event of a suspect find.

## 8.2 Risk mitigation techniques

### 8.2.1 UXO awareness briefing

It is recommended that all staff involved in intrusive works are provided with a formal UXO awareness briefing.

The briefing should offer some recognition skills for typical UXO, and suitably sensitise staff to be vigilant during site works.

A UXO awareness briefing ensures that in the unlikely event that UXO is encountered:

- All site staff take appropriate action.
- A support mechanism and points of contact are established.
- The likelihood of harm to people or property is reduced.
- Significant delays to site work are prevented.

## 8.3 What do I do next?

If you require a quote for a UXO awareness briefing, contact us and we can help.

| | | | | | |
|---|---|---|---|---|---|
|  | **01993 886682** |  | **uxo@zetica.com** |  | **zeticauxo.com** |

If you have requirements to identify other buried hazards (such as mapping utilities or obstructions) we can provide these surveys.

If proposed works on the Site change, or additional works are planned, contact Zetica for a re-assessment of the UXO risk and the risk mitigation requirements.

# APPENDICES

## Appendix 1 Anticipated ordnance types

For a more comprehensive set of ordnance data sheets, see https://zeticauxo.com/guidance/ordnance-data-sheets/.

# Information Data Sheet

## Small Arms Ammunition



.303" British SAA



Spent SAA cartridges



Loose SAA



Belted 0.5" SAA

Small Arms Ammunition (SAA) refers to a wide variety of cartridges with projectiles up to ~12.7mm (0.5") in calibre. Weapons using SAA may be man-portable or mounted on vehicles such as tanks and aircraft.

SAA may be found loose, or in belts, magazines, or clips. Rounds may be spent (fired) or unspent (intact). Encounters with SAA are particularly common around military establishments such as ranges, training areas, and airfields. Aircraft crashes and shipwrecks are other common sources of SAA encounter.

Generally, SAA presents a low risk to Site works, but it should still be treated with respect. Any SAA encountered should be stored in a metal box kept in a secure location. Once ~12 rounds have accumulated, they should be handed to police with an explanation of how and where they were found.

Some varieties of SAA may contain fuzes and/or explosive fillings (e.g., High Explosive/Incendiary (HE/I)). This is most common for rounds with projectiles over 10mm (0.4") in calibre. Where these varieties of SAA are anticipated or encountered, any SAA found should be treated in the same way as larger UXO.




The above is an indicative selection of some of the most common calibres of SAA. It is not exhaustive. The appearance of SAA can vary considerably depending on their origin and intended purpose.

*Information is accurate for indicative purposes. Photographs used are in the public domain. Any use of copyrighted © material is unintentional.*

# Information Data Sheet

## 'Dry' Training Munitions



*Blank SAA*



*Blank SAA & Smoke Grenade*




*WWII & Contemporary Pyrotechnics*



*Flare pack*

'Dry' training is training in which no 'live' ammunition is used. Common 'dry' training munitions include blank Small Arms Ammunition (SAA), smoke grenades, flares, and pyrotechnic simulators. These simulate the noises and sights of battle to provide a realistic training environment without unacceptable risk.

'Dry' munitions are not designed to be lethal but can still cause harm if mishandled. 'Dry' training areas may also have been used for 'live' training, particularly during WWII. It is important to maintain recognition skills and treat all munitions ('dry' or 'live') with appropriate respect.



*Clockwise from left: 2No. Thunderflashes, 1No. flare pack, 11No. blank SAA rounds, 1No. smoke grenade.*

*Information is accurate for indicative purposes. Photographs used are in the public domain. Any use of copyrighted © material is unintentional.*

# Information Data Sheet

## Grenades



*No. 23 Rifle Grenade c. WWI*




*No. 73 'Thermos' Grenade c. WWII*



*No. 68 AT Rifle Grenade c. WWII*



*L2 Fragmentation Grenade c. 1970*



*L109 A1 Fragmentation Grenade c. 2000*

Grenades are small items of explosive ordnance. They may be hand-thrown or launched from a rifle (as 'Rifle Grenades') or dedicated launcher. The filling of a grenade varies with its intended function and High Explosive (HE), Fragmentation, Anti-Tank (AT), Smoke, Stun, Incendiary, and Gas grenades are all common.

The design of a grenade may vary considerably depending on when, where, and for what purpose it was designed. The image below shows an indicative selection of WWII-era British and American grenades.



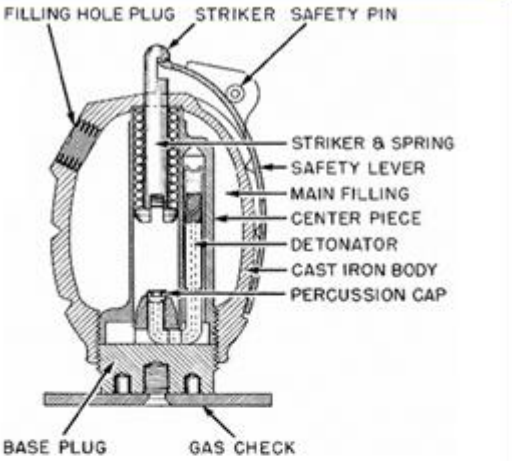
*Information is accurate for indicative purposes. Photographs used are in the public domain. Any use of copyrighted © material is unintentional.*

# Information Data Sheet

## 'Mills Bomb' Grenade



*No. 5 (c. 1916) and No. 36 (c. 1940) 'Mills Bomb' Grenades*












## Specifications

| | | | |
|---|---|---|---|
| **Description** | Segmented egg-shaped body with base plug and safety lever | **Function** | Anti-Personnel (Fragmentation) |
| **Dimensions** | 95mm x 58mm (3.7" x 2.3") | **Activation by** | Time fuze |
| **Material** | Steel | **Variations** | Optional gas check baseplate or rod for use as a Rifle Grenade |

*Information is accurate for indicative purposes. Photographs used are in the public domain. Any use of copyrighted © material is unintentional.*

# Information Data Sheet

## Improvised Grenades



*Production of improvised grenades*



*Improvised grenades and launcher*



*Home Guard with improvised grenades*

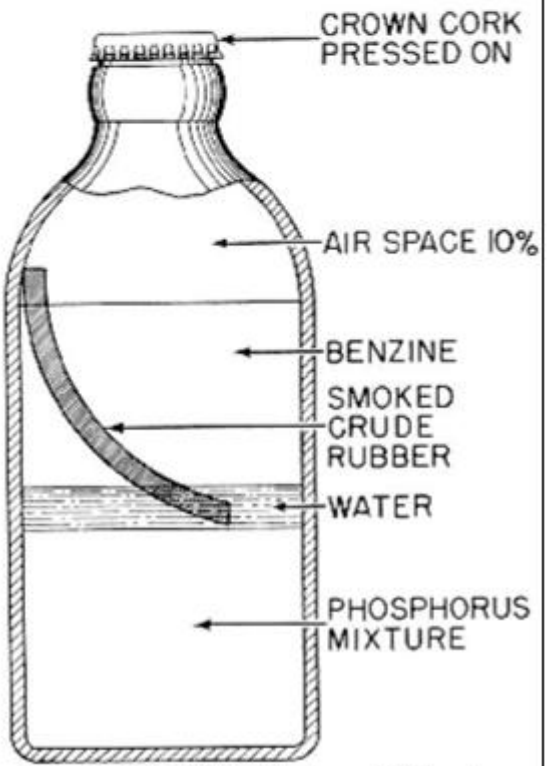
During WWII, improvised grenades were created by combining suitable containers with explosive or incendiary fillings. Such weapons were often made to cover munitions shortages. They were widespread among units such as the Home Guard and include the colloquially named 'Molotov Cocktail'.

The most common British improvised grenade was the No. 76 Self-Igniting Phosphorus (SIP) Grenade (or 'AW Bomb'). These were glass bottles (typically 284ml or ½ pint) containing a mix of White Phosphorus, Benzene, Water, and Rubber, which would self-ignite on contact with air. They could be hand-thrown or fired from a Northover Projector. Approximately 6,000,000No. SIP Grenades had been produced by August 1941.

Improvised grenades may not be immediately obvious as items of UXO. It is important to maintain recognition skills and exercise additional caution in areas where they may be encountered.








*Typical No. 76 Self-Igniting Phosphorus (SIP) Grenade.*

*Information is accurate for indicative purposes. Photographs used are in the public domain. Any use of copyrighted © material is unintentional.*

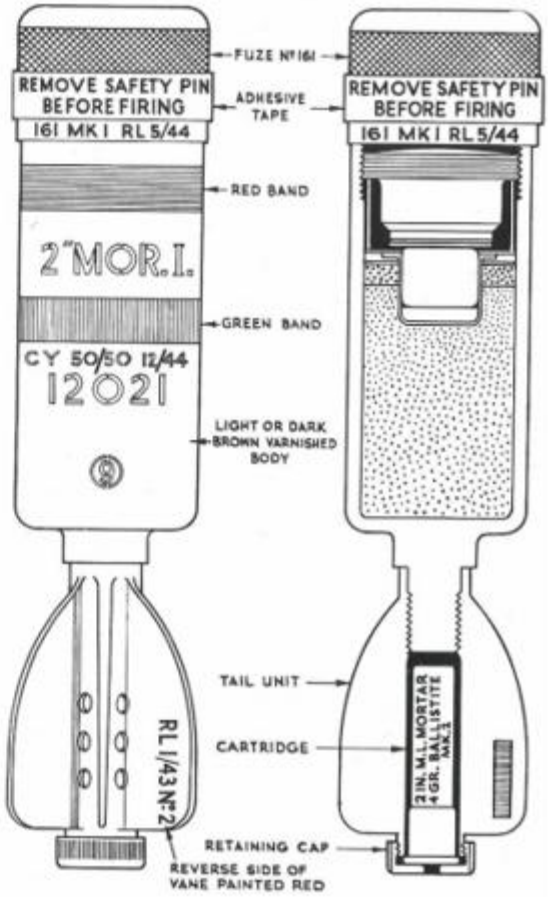
# Information Data Sheet

## 2" Mortar










## Specifications

| | | | |
|---|---|---|---|
| **Description** | Cylindrical body with six- or eight-vane perforated tail | **Function** | Anti-Personnel (Fragmentation), Incendiary, Smoke, or Illumination |
| **Dimensions** | **Total** 290mm x 50mm (11.4" x 2")<br>**Body** 145mm x 50mm (5.7" x 2") | **Activation by** | Impact or Time fuze |
| **Material** | Steel | **Variations** | Minor variations in length and shape dependent on function |

*Information is accurate for indicative purposes. Photographs used are in the public domain. Any use of copyrighted © material is unintentional.*

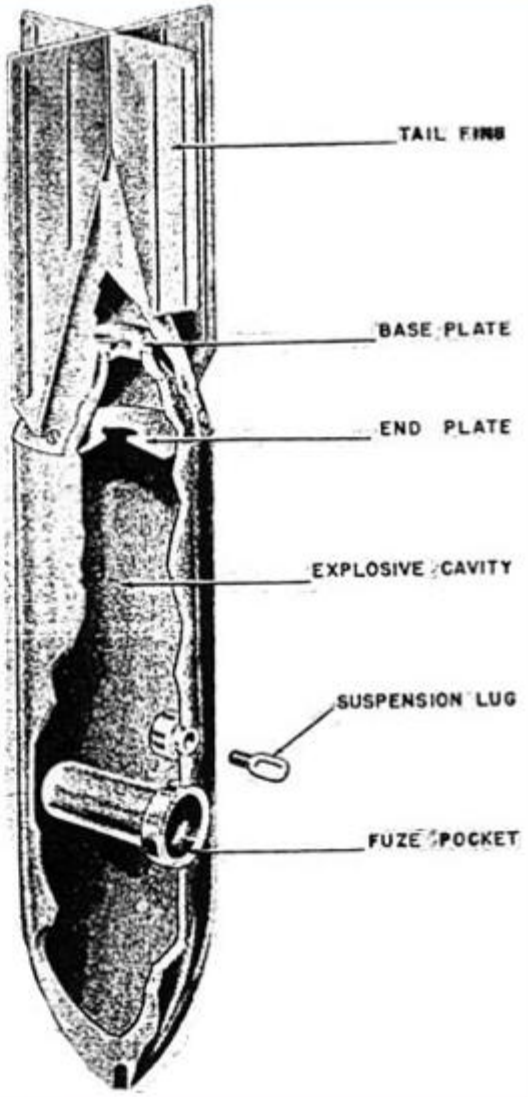
# Information Data Sheet

## 50kg High Explosive Bomb










## Specifications

| | | | |
|---|---|---|---|
| **Description** | Cylindrical with pointed nose and four-fin tail | **Function** | General Purpose (Blast and Fragmentation) |
| **Dimensions** | **Total** 1090mm x 280mm (42.9" x 11") **Body** 766mm x 200mm (30.2" x 7.9") | **Activation by** | Impact, Time, or Tamper fuze |
| **Material** | Steel | **Variations** | Minor variations in length |

*Information is accurate for indicative purposes. Photographs used are in the public domain. Any use of copyrighted © material is unintentional.*

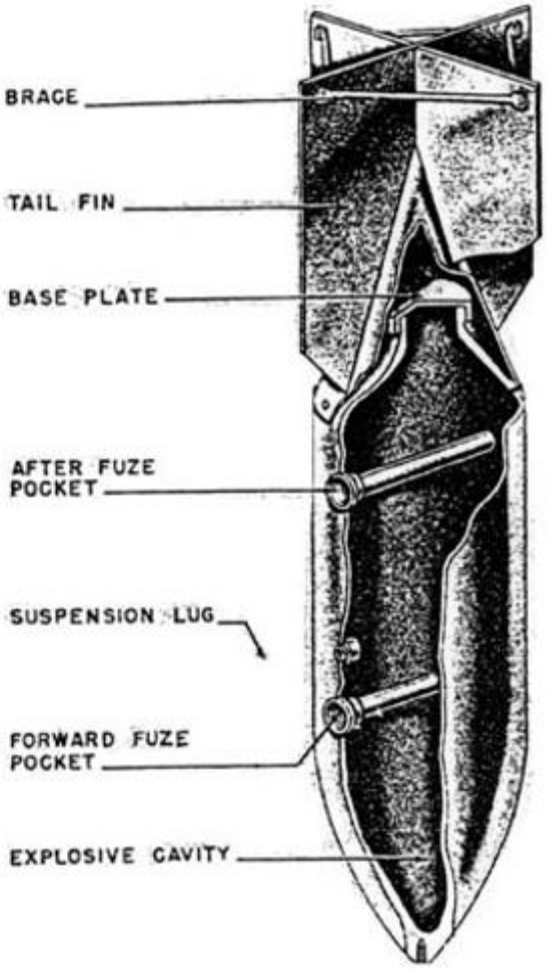
# Information Data Sheet

## 250kg High Explosive Bomb










## Specifications

| | | | |
|---|---|---|---|
| **Description** | Cylindrical with pointed nose and braced four-fin tail | **Function** | General Purpose (Blast and Fragmentation) |
| **Dimensions** | **Total** 1640mm x 512mm (64.6" x 20.2")<br>**Body** 1172mm x 368mm (46" x 14.5") | **Activation by** | Impact, Time, or Tamper fuze |
| **Material** | Steel | **Variations** | Minor variations in length |

*Information is accurate for indicative purposes. Photographs used are in the public domain. Any use of copyrighted © material is unintentional.*

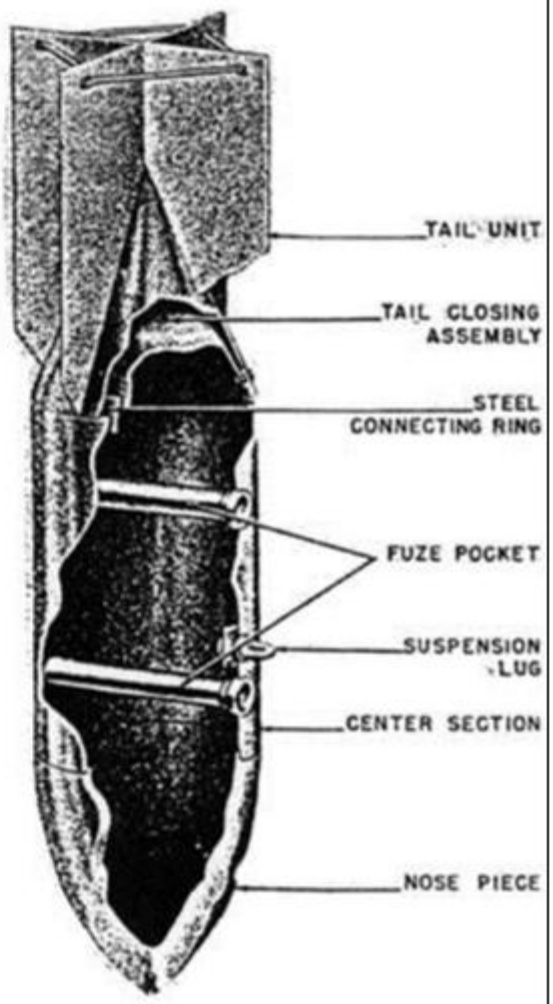
# Information Data Sheet

## 500kg High Explosive Bomb










## Specifications

| | | | |
|---|---|---|---|
| **Description** | Cylindrical with pointed nose and braced or ring-bound four-fin tail | **Function** | General Purpose (Blast and Fragmentation) |
| **Dimensions** | **Total** 1957mm x 640mm (77" x 25.2")<br>**Body** 1423mm x 470mm (56" x 18.5") | **Activation by** | Impact, Time, or Tamper fuze |
| **Material** | Steel body, Steel or Magnesium Alloy tail | **Variations** | Minor variations in length |

*Information is accurate for indicative purposes. Photographs used are in the public domain. Any use of copyrighted © material is unintentional.*

# Information Data Sheet

## Anti-Aircraft Shells


3" AA Shell


3.7" AA Shell


3.7" AA Shell

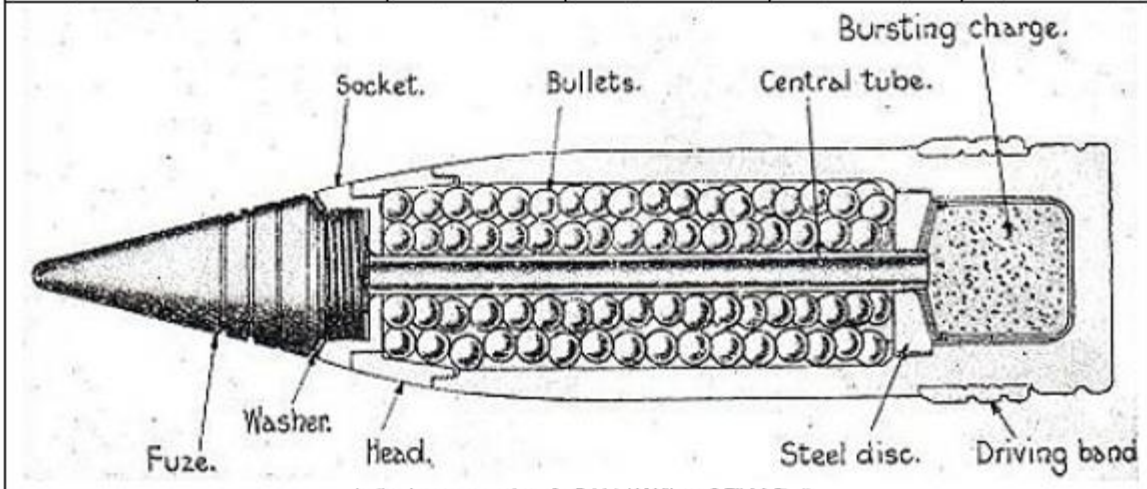

4.5" AA Shell


AA Nose Fuze

Anti-Aircraft (AA) guns are artillery pieces designed to engage aircraft. They may be classed as Heavy AA (HAA) or Light AA (LAA). HAA shells are typically streamlined, made of steel, and equipped with driving bands. They usually carry a High Explosive (HE) or shrapnel filling and use time or proximity fuzes. LAA guns are often autocannons. Indicative specifications for common British HAA shells are given below.

## Specifications

| Shell | Dimensions | Shell | Dimensions | Shell | Dimensions |
|---|---|---|---|---|---|
| 6-pdr *(c. WWI)* | 307mm x 57mm (12.1" x 2.2") | 13-pdr *(c. WWI)* | 294mm x 76mm (11.6" x 3") | 3.7" *(c. WWII)* | 675mm x 94mm (26.6" x 3.7") |
| 75mm *(c. WWI)* | 350mm x 75mm (13.8" x 3") | 3" *(c. WWI)* | 420mm x 76mm (16.5" x 3") | 4.5" *(c. WWII)* | 695mm x 113mm (27.4" x 4.5") |
| 12-pdr *(c. WWI)* | 445mm x 102mm (17.5" x 4") | 4" *(c. WWI)* | 445mm x 102mm (17.5" x 4") | 5.25" *(c. WWII)* | 782mm x 133mm (30.8" x 5.25") |



*Indicative cross-section of a British WWII-era 3.7" AA Shell*

*Information is accurate for indicative purposes. Photographs used are in the public domain. Any use of copyrighted © material is unintentional.*

## Appendix 2 Sources of UXO hazard

The sections below provide background information on the potential sources of UXO hazard affecting the Site. For a more comprehensive set of UXO information sheets, see https://zeticauxo.com/guidance/uxo-hazard-sources/.

### Appendix 2.1 WWI bombing

# Information Data Sheet

**Category** World War One (WWI) Bombing

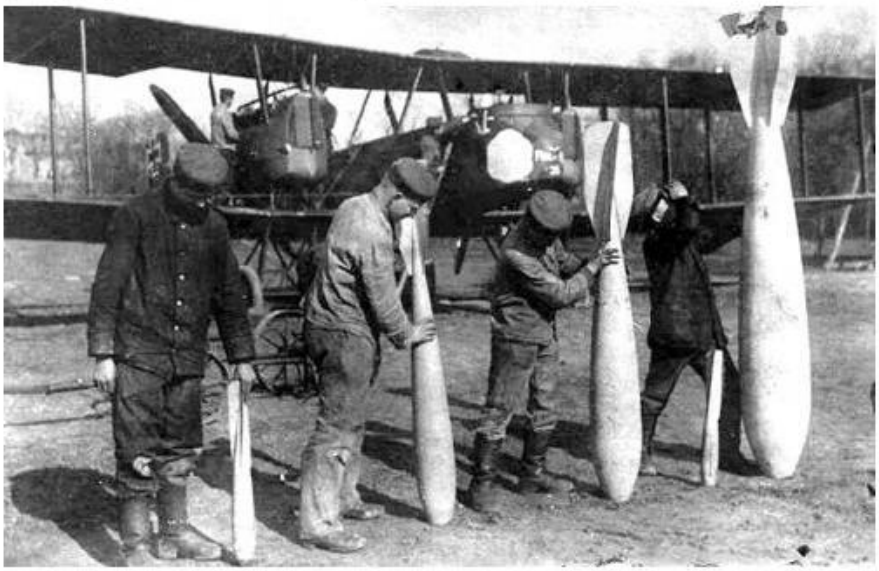
**Description:**

During WWI, significant bombing took place across some areas of the UK. An estimated 9,000No. German bombs were dropped on Britain during the course of 51No. airship and 52No. aircraft raids. It was the first time that strategic aerial bombardment had been used.

Nearly 100No. air raids were carried out on London and Southeast England, over 40No. of which were by Zeppelin airships. Areas along the East Coast was also targeted regularly due to their proximity to the European continent. Bombing raids further inland were rare and West England and Wales were out of reach for German aircraft of the time.

Aerial bombing during WWI initially relied on visual aiming, with bombsights not developed until later in the war. The inaccuracy inherent in this method meant that bombs often fell some way from their intended targets.

The first recorded raid against England occurred on the 21st December 1914 when 2No. High Explosive (HE) bombs fell near the Admiralty Pier at Dover. Zeppelin raids intensified during 1915 and 1916, with aircraft raids becoming more frequent after 1917. The last raid of WWI took place on the 19th May 1918, when 38 Gotha and 3 Giant aircraft bombed London and surrounding districts, dropping a total of more than 2,500lbs of bombs.



**A variety of WWI German bombs**

**Hazard:**

The potential of coming across an Unexploded Bomb (UXB) from WWI is far less likely than an UXB from World War Two (WWII), given the lower bombing densities during raids in WWI.

Some areas which were subjected to sustained bombing raids recorded a higher number of UXBs. In these areas, where there has been no significant development for the last century, the potential of a UXB remaining from WWI cannot be totally discounted.

**Appendix 2.2 WWII bombing**

# Information Data Sheet

**Category** World War Two (WWII) Bombing

**Description:**

Bombing raids began in summer 1940 and continued until the end of WWII. Bombing densities generally increased towards major cities, such as London, Birmingham, Coventry, and Hull, or strategic targets such as docks, harbours, industrial areas, and airfields. Coastal towns, such as Eastbourne, and cathedral cities, such as Canterbury were also heavily targeted.

The German bombing campaign saw the extensive use of both High Explosive (HE) bombs and Incendiary Bombs (IBs). 50kg and 250kg HE bombs were most commonly used, although 500kg were also used to a lesser extent. More rarely 1,000kg, 1,400kg and 1,800kg bombs were dropped. HE bombs tended to contain about half of their weight in explosives and were fitted with one or two fuzes. Not all HE bombs were intended to explode on impact and some contained timing mechanisms where detonation could occur more than 70 hours after impact.

Incendiary devices ranged from small 1kg thermite filled, magnesium bodied IBs, to 250kg and 500kg Oil Bombs (OB). Occasionally IBs were fitted with a bursting charge which exploded after the bomb had been alight for a few minutes, causing burning debris to be scattered over a greater area. Large OBs were similar in appearance to HE bombs, although their design was sufficiently different to warrant a specially trained unit of the Royal Engineer (RE) to deal with their disposal.




**Variety of WWII bombs**

Anti-Personnel (AP) bombs and Parachute Mines (PMs) were also deployed. The most common AP bombs were 1kg and 2kg, which could inflict injury across an area up to 150m away from the impact. PMs could be up to 4m in length and were typically detonated either magnetically or by noise/vibration. Anti-shipping PMs were commonly dropped over navigable rivers, dockland areas, and coastlines. Whilst the Royal Navy (RN) was responsible for ensuring that anti-shipping PMs were made safe, their removal and disposal was still the responsibility of the RE.

In 1944, new offensive weapons were introduced. The Flying Bomb (V1), a pilotless guided missile, exploded on impact and could cause significant damage. The Long Range Rocket (V2), a ballistic missile rocket, travelled at such speed that no one could see or hear its approach.

WWII bomb targeting was inaccurate, especially in the first year of the war. A typical bomb load of 50kg HE bombs mixed with IBs aimed at a specific location might not just miss the intended target but could fall a considerable distance away.

Local Civil Defence authorities in urban areas typically had a comprehensive system for reporting bomb incidents and dealing with Unexploded Bombs (UXB). In more rural and coastal areas where fewer bombing raids occurred, it is known that Air Raid Precaution (ARP) records under-represent the number and frequency of bombs falling. Bombs could be released as part of 'tip and run' raids where bomber crews would drop their bombs to avoid Anti-Aircraft (AA) fire or Allied fighter aircraft, on route to and from other strategic targets. Bombs dropped as a result of poor targeting or 'tip and run' raids often went unrecorded or were recorded as 'fell in open country' or 'fell in the sea'. The Luftwaffe are thought to have dropped approximately 75,000 tons of bombs on Britain throughout WWII and an estimated 11% of all bombs dropped during the war failed to detonate.



**Removal of an UXB**

## Hazard:

The potential for a UXB hazard to exist on a site depends on a variety of factors:

- Were their strategic targets in the surrounding area?
- Was the site bombed and how heavy were the raids?
- Could an UXB impact have been missed, masked by rubble or debris?

Even in rural areas, the potential for UXBs cannot be totally discounted and therefore it is essential that detailed local bombing records are obtained when assessing the UXB hazard on any site.

## Appendix 2.3 Anti-Aircraft defences

# Information Data Sheet

**Category** Anti-Aircraft (AA) Defences

**Description:**

As aerial bombardment first began during World War One (WWI), AA gun batteries were gradually established throughout much of England to counter German bombing raids. By June 1916, there were approximately 271No. AA guns and 258No. searchlight installations defending London alone.

Common WWI AA defences included 3", 75mm, 6-pounder (pdr), and 1pdr guns. Many of these guns were mobile and would follow the course of an airship, firing from areas of open land.

During WWI, Unexploded AA (UXAA) shells, could land up to 13km from the firing point, although they more typically fell within 10km.



**WWI 3-pdr mobile Vickers AA gun**



**WWII 3.7" static AA gun**

During World War Two (WWII), AA gun batteries were used extensively to counter the threat posed by enemy aircraft. AA shells could be distributed over a wide area and could land up to 27km from the firing point, although they more typically fell within 15km.

3No. types of AA batteries existed:

- Heavy AA (HAA) – typically 3.7", 4.5", and 5.25" calibre guns designed to engage high flying bomber aircraft. These tended to be permanent gun emplacements.
- Light AA (LAA) – typically used 40mm shells and machine gun ammunition and designed to counter low flying aircraft. These were often mobile and were moved periodically.
- Rocket AA (ZAA) – fired 3" or 3.7" AA rockets with a maximum altitude of 5,800m and a ground range of 9km. These tended to be permanent gun emplacements.

**Hazard:**

AA batteries had munitions stores which stored shells for the batteries and Small Arms Ammunition (SAA) for troops manning the position. Such stores were typically removed at the end of WWII, although some disposal may have occurred in the immediate vicinity of the gun battery.

In areas heavily protected by AA batteries, it is prudent to consider the potential for UXAA shells in the area surrounding a battery, taking into consideration the likely extent within which shells would have fallen. Finding an UXAA shell immediately adjacent to a former gun battery is less likely.

## Appendix 3 Recent UXO finds

# Information Data Sheet

**Category** Recent UXO Finds

UXO finds in the UK are a regular occurrence, although they almost never result in an accidental detonation.

Explosives rarely lose effectiveness with age. In some instances, mechanisms such as fuzes and gaines can become more sensitive and more prone to detonation, regardless of whether the device has been submersed in water or embedded in silt, clay, or similar materials.

Zetica Ltd, and other commercial EOD companies, uncover and make safe thousands of items of UXO each year, though details are rarely made public knowledge.

Publicly recorded discoveries also occur regularly, as shown by the list of recent significant UXO finds in the UK below. Click here to keep up to date with the latest UXO finds.

On the 26th February 2021, a 1,000kg German "Hermann" UXB was discovered by builders at Exeter University campus (see below). It was investigated and detonated in-situ following the evacuation of nearby properties and University halls of residence.



**1,000kg German UXB discovered in Exeter, 2021**

On the 29th March 2021, 1No. 250lb UXB was discovered on the seabed near Hinkley Point C harbour, Bristol. A maritime exclusion was imposed while the item was investigated and then destroyed in a controlled explosion.

On the 1st June 2021, a cache of approximately 100No. WWII-era hand grenades were found in a Nottinghamshire forest, a possible relic from nearby WWII camps. They were destroyed.

On the 24th July 2021, 1No. 500lb British UXB was uncovered during construction works in Goole, East Yorkshire. Reports indicated that the UXB had been jettisoned by a Lancaster bomber aircraft prior to crashing nearby in WWII. The item was investigated and destroyed.

On the 18th August 2021, 1No. UXB was found by construction workers on a Site in Earl Sterndale, Derbyshire. Upon inspection the UXB was deemed to be dangerous, and a controlled detonation was undertaken.

On the 10th September 2021, EOD teams destroyed 25No. mortar bombs which had been washed up onto beaches around Nairn and Ardersier in Morayshire. These beaches had been used during WWII for training prior to the D-Day landings in Normandy.



**Mortar bombs found on beaches in Nairn and Ardersier, 2021**

On the 15th December 2021, approximately 200No. artillery shells were discovered at a construction site located within the former Royal Ordnance Factory at Swynnerton in Staffordshire. The shells were removed and destroyed.

On the 2nd January 2022, 1No. heavily deteriorated 105mm artillery shell was discovered by dogwalkers on a beach in Cumbria. This may have originated on one of the several offshore ranges which have been operational along the nearby coastline since WWII.

Between the 24th and 27th January 2022, 5No. empty artillery shells were uncovered at a construction site in Manchester. These were likely linked to a shell-production factory which had been active on the site during WWII.

On the 14th July 2022, 1No. 2" mortar bomb and several Small Arms Ammunition rounds were discovered on a beach near Ardnamurchan. An EOD team disposed of the items.

On the 28th November 2022, 45No. Self-Igniting Phosphorus grenades were discovered during construction works at a school in Swindon. They were disposed of by an EOD team.

On the 5th December 2022, 1No. UXB was discovered during construction at Biggin Hill Airport. An EOD team removed the UXB for safe disposal.

On the 7th February 2023 1No. 250kg bomb was found during dredging works in the River Yare, Great Yarmouth. It detonated unplanned whilst being disarmed by an Army EOD team.

On the 17th April 2023, 1No. unexploded mortar bomb was discovered at Cavenham Heath Nature Reserve. It was destroyed in a controlled explosion by an EOD team. This followed 2No. other similar discoveries on the 7th March and 12th March in the same stretch of canal.

On the 27th July 2023, 1No. 250kg WWII bomb was discovered off the coast of Guernsey by a recreational diver. It was detonated in situ by a Royal Navy EOD diver team.

## Appendix 4 Glossary and definitions

| | |
|---|---|
| **Abandoned Explosive Ordnance (AXO)** | Explosive ordnance that has not been used during an armed conflict, that has been left behind or disposed of by a party to an armed conflict, and which is no longer under control of that party. Abandoned explosive ordnance may or may not have been primed, fuzed, armed or otherwise prepared for use. |
| **Demil** | Derived from the term 'Demilitarisation', demil refers to the break down and the recycling or disposal of ordnance components. |
| **Detonation** | The high-speed chemical breakdown of an energetic material producing heat, pressure, flame, and a shock wave. |
| **Device** | Any component, sub-assembly or completed ordnance, which may or may not have an explosive risk. It can apply to detonators, primers, gaines, fuzes, shells, or bombs. |
| **Explosive** | Compounds forming energetic materials that under certain conditions chemically react, rapidly producing gas, heat, and pressure. These are extremely dangerous and should only be handled by qualified professionals. |
| **Explosive Ordnance (EO)** | All munitions containing explosives, nuclear fission or fusion materials, and biological and chemical agents. This includes bombs and warheads, missiles, artillery, mortar, rocket, Small Arms Ammunition, mines, torpedoes, depth charges, pyrotechnics, cluster bombs and dispensers, cartridge and propellant devices, electro-explosive devices, clandestine and improvised explosive devices, and all related items/components which are explosive in nature. |
| **Explosive Ordnance Clearance (EOC)** | The operation of ordnance detection, investigation, identification, and removal, with Explosive Ordnance Disposal being a separate operation. |
| **Explosive Ordnance Disposal (EOD)** | The detection, identification, on-site evaluation, rendering safe, recovery, and final disposal of Unexploded Ordnance. |
| **Explosive Ordnance Reconnaissance (EOR)** | The detection, identification, and on-site evaluation of Unexploded Ordnance before Explosive Ordnance Disposal. |
| **Explosive Remnants of War (ERW)** | Unexploded Ordnance and Abandoned Explosive Ordnance, excluding landmines. |
| **Explosive Substances & Articles (ESA)** | Explosive substances are solid or liquid substances (or a mixture) which are either: capable by a chemical reaction of producing gas at a speed, temperature, and pressure to cause damage to the surroundings; or designed to produce an effect by heat, light, sound, gas, or smoke (or a combination) as a result of a non-detonative, self-sustaining, exothermic reaction.<br><br>One or more explosive substances form an explosive article. |

| | |
|---|---|
| **Fuze** | The part of an explosive device that initiates the main explosive charge to function. In common usage, the word fuze is used indiscriminately, but when being specific (and especially in a military context), fuze is used to mean a more complicated device, such as a device within military ordnance. |
| **Gaine** | Small explosive charge that is sometimes placed between the detonator and the main charge to ensure ignition. |
| **Geophysical survey** | A range of methods that can be used to detect objects or identify ground conditions without the need for intrusive methods (such as excavation or drilling). This is particularly suited to ordnance, as disturbance of ordnance is to be avoided where possible. |
| **High Explosive (HE)** | Secondary explosives (commonly known as HE) make up the main charge or filling of an ordnance device. They are usually less sensitive than primary explosives. Examples of secondary explosives are Nitro-glycerine (NG), Trinitrotoluene (TNT), Amatol (Ammonium nitrate and TNT), gunpowder, and Cyclotrimethylenetrinitramine (RDX). |
| **Land Service Ammunition (LSA)** | Items of ordnance thrown, propelled, or placed during land warfare, to include grenades, mortar bombs, projectiles, rockets, and landmines. |
| **Munition** | The complete device charged with explosives, propellants, pyrotechnics, initiating composition, or nuclear, biological, or chemical material for use in military operations, including demolitions. This includes those munitions that have been modified for use in training, ceremonial, or non-operational purposes.<br><br>These fall into three distinct categories: inert (contain no explosives), live (contain explosives and have not been fired), and blind (have fired but failed to function as intended.) |
| **Primary Explosive** | Explosives used to initiate less sensitive explosives and usually extremely sensitive to friction, heat, and pressure. Primary explosives are commonly found in detonators. Examples of primary explosives are lead azide, lead styphnate, and mercury fulminate. |
| **Propellants** | Provide ordnance with the ability to travel in a controlled manner and deliver the ordnance to a predetermined target. Propellants burn rapidly producing gas, pressure, and flame. Although usually in solid form they can be produced in liquid form. Examples of propellants are ballistite, often in flake form, and cordite, often in string form. |
| **Pyrotechnic** | An explosive article or substance designed to produce an effect by heat, light, sound, gas, or smoke (or a combination), as a result of non-detonative, self-sustaining, exothermic chemical reactions. |
| **Small Arms Ammunition (SAA)** | Projectiles around 12mm or less in calibre and no longer than approximately 100mm. They are fired from a variety of weapons, including rifles, pistols, shotguns, and machine guns. |

| | |
|---|---|
| **Unexploded Anti-Aircraft (UXAA) Shell** | Ordnance containing High Explosives, although they can also contain pyrotechnic compounds that produce smoke. They ranged from 2" to 5.25" calibre, although most common were 3.7" and 4.5" HE shells. |
| **Unexploded Bomb (UXB)** | A common term for unexploded air-dropped munitions. |
| **Unexploded Ordnance (UXO)** | Explosive ordnance that has been primed, fuzed, armed, or prepared for use and subsequently fired, dropped, launched, projected, or placed in such a manner as to present a hazard to operations, persons, or objects, and remains unexploded either by malfunction or design. |
| **V1** | The Vergeltungswaffe-1, also designated Fieseler Fi 103/FZG-76, known colloquially in English as the Flying Bomb, Pilotless Aircraft, Buzz Bomb, or Doodlebug, was the first guided missile used in WWII and the forerunner of today's cruise missile. |
| **V2** | The Vergeltungswaffe 2 ('Reprisal Weapon 2') was the first ballistic missile. It was used primarily against Belgian and British targets during the later stages of WWII. It was also the first man-made object launched into space, during test flights in 1944. |

## Appendix 5 Bibliography

Anon., Our Blitz: Red Skies over Manchester, 1999

Bulloch G, Steeds J E, Green K, Sainsbury M G, Brockwell J S & Slade N J, Land Contamination: Technical Guidance on Special Sites: MoD Land

Bulloch G, Steeds J E, Green K, Sainsbury M G, Brockwell J S & Slade N J, R&D Technical Report P5-042/TR/03, Land Contamination: Technical Guidance on Special Sites: Explosives Manufacturing & Processing Sites

CIRIA, Unexploded Ordnance (UXO), a Guide for the Construction Industry, 2009

Clarke N J, Luftwaffe Target Reconnaissance, German Aerial Photography 1939-1942, 1996

Cocroft W D, Dangerous Energy, 2000

Cocroft W D, Thomas R J, Cold War, 2003

Department of the Environment, Sampling Strategies for Contaminated Land, Department of the Environment: Contaminated Land Research Report, CLR Report No. 4, 1994

Dobinson C S, Twentieth Century Fortifications in England, Vols I – XI, Council for British Archaeology, 1996

Dobinson C S, Fields of Deception, Britain's Bombing Decoys of World War II, 2000

Dobinson C S, AA Command, 2001

Freethy R, Lancashire: The Secret War, 1939-1945, 2005

Hardy C, Manchester at War, 1986

Morris J, German Air Raids on Britain 1914-1918, 1993

Phythian G, Blitz Britain: Manchester and Salford, 2015

Price A, Blitz on Britain 1939-45, 2000

Ramsey W, The Blitz Then and Now, Vol 1, 1987

Ramsey W, The Blitz Then and Now, Vol 2, 1988

Ramsey W, The Blitz Then and Now, Vol 3, 1990

Robinson B R, Aviation in Manchester: A Short History, 1977

Smith P J C, Luftwaffe over Manchester: The Blitz Years, 1940-1944, 2003

Zetica, ZeticaUXO Handbook: a guide to dealing with UXO during construction, 2018

## Appendix 6 General Notes

1. This report has been prepared in relation to the specific requirement of the contract or commission.
2. The report should not be used by third parties without prior consultation with Zetica Ltd. The copyright for this report remains with Zetica Ltd.
3. No part of this report may be reproduced, published or amended without prior written consent from Zetica Ltd.
4. The report refers to the conditions of the Site at the time of investigation/reporting. Zetica Ltd cannot accept liability for subsequent changes of Site conditions.
5. Zetica Ltd may have relied on externally provided information. Zetica Ltd cannot be held responsible for the accuracy of such information or data supplied.
6. The report has been written utilising relevant guidance and legislation in use at the time of report compilation. Subsequent improvement in techniques, changes in legislation or in site conditions may render parts of this report obsolete. If the report is utilised after such changes have occurred or at a time in excess of 1 year of the issue date, it would be prudent to contact Zetica Ltd to reassess the report under a new contract (see pg. ii).

zeticauxo

**Established for over 33 years, Zetica's services include**

- ☑ Desk studies
- ☑ Unexploded ordnance risk assessments and risk mitigation
- ☑ Utility services detection
- ☑ Environmental and engineering geophysical surveys
- ☑ Transport infrastructure surveys
- ☑ Pipeline & cable route surveys
- ☑ Intrusive ground investigations

More details are available at

www.zetica.com

# APPENDIX G – CIRIA C552 RISK METHODOLOGY

The following tables are derived from CIRIA C552 and have been used to define the risk rating presented in the Qualitative Risk Assessment matrix.

**Classification of consequence**

| Classification | Definition |
|---|---|
| **Severe** | Short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short term risk of pollution (note; Water Resources Act contains no scope for considering significant pollution) of sensitive water resource. Catastrophic damage to building/property. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem. (Note the definitions of ecological systems within the Draft Circular on Contaminated Land DETR, 2000). |
| **Medium** | Chronic damage to human health ('significant harm', as defined In DETR, 2000). Pollution of sensitive water resources (note; Water Resources Act contains no scope for considering significant pollution). A significant change in a particular ecosystem, or an organism forming part of such an ecosystem. (Note the definitions of ecological systems within the Draft Circular on Contaminated Land DETR, 2000). |
| **Mild** | Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm', as defined In DETR, 2000). Damage to sensitive buildings/structures/services or the environment. |
| **Minor** | Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services. |

**Classification of probability**

| Classification | Definition |
|---|---|
| **High likelihood** | There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term or there is evidence at the receptor of harm or pollution. |
| **Likely** | There is a pollutant linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term. |
| **Low likelihood** | There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period that such an event would take place, and is even less likely in the shorter term. |
| **Unlikely** | There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term. |

**Matrix of consequence against probability to gain a risk classification**

| | | Consequence | | | |
|---|---|---|---|---|---|
| | | **Severe** | **Medium** | **Mild** | **Minor** |
| **Probability** | **High Likelihood** | Very High Risk | High Risk | Moderate Risk | Moderate/Low Risk |
| | **Likely** | High Risk | Moderate Risk | Moderate/Low Risk | Low Risk |
| | **Low likelihood** | Moderate Risk | Moderate/Low Risk | Low Risk | Very Low Risk |
| | **Unlikely** | Moderate/Low Risk | Low Risk | Very Low Risk | Very Low Risk |