

Appendix C – Historical BGS Boreholes

RECORD OF WELL (SHAFT OR BORE)

For Survey use only

N

At Eagle Raising + Finishing Co., Ltd.

Licence No.

EXACT SITE
OF WELL

Town or Village. Smallbridge - Rochdale

County Lancashire

...Six-inch quarter sheet.....81 SW/W

For State whether owner, tenant, builder,
contractor, consultant, etc.:—

Address (if different from above)

Level of ground surface above sea-level (O.D.) 430 (131.00m) ft.

If well-top is not at ground level, state how far .. { above: ft.
below: ft.

SHAFT.....ft.; diameter.....ft.; Full details of headings (dimensions and directions)

BORE 49' 6" (152.25m) diameter of bore: at top _____ ins.; at bottom _____ ins.

Full details of permanent lining tubes (position, length, diameter, plain, slotted etc.).

Water struck at depths of.....ft. below well-top.

TEST CONDITIONS

Rest level of water.....ft. above well-top. Suction at.....ft. Yield on.....hours' test
below days'
pumping at.....galls. per.....with depression to.....ft. below well-top.
Recovery to rest-level in.....mins. Capacity of pump.....g.p.h. Date of measurements.....
hours

DESCRIPTION OF PERMANENT PUMPING EQUIPMENT:

NORMAL
CONDITIONS

Make and/or type Submersible Motive power.....

Capacity.....gallons per hour. Suction at.....ft.

Amount pumped.....galls. per day. Estimated consumption.....galls. per week.

Well made by..... Date of well.....

Information from.....

ADDITIONAL NOTES

ANALYSIS (please attach copy if available)

Over a period of years the pumping level has gone down. The amount pumped has remained constant. The R.W.L. has not shown an equivalent depression. Sited on Lanco 815W/W, vicinity. O.D. 430'.
On 31-10-55 R.W.L. 15' below well top. Rate 870 gph. (See Sec. 6. returns).
P.W.L. 93' " " " M.H.P. 24-4-56.

LOG OF STRATA OVERLEAF.

GEOLOGICAL SURVEY AND MUSEUM,
SOUTH KENSINGTON,
LONDON, S.W.7.

Section 6.

Date
Received

1" O.S. Map
No.

Site marked
on 1" Map

(use symbol)
on 6" Map



SD 91SW *ancs 81 6.11*

Journal of Borehole at Eagle Raising &
Small bridge
Finishing Co., Ltd. < Rochdale.

Ft. ins.		Strata	Ft. ins. m	
5	0	Made up ground	5	0 1.52
4	0	Yellow clay	9	0 2.74
4	0	Brown sandy clay	13	0 3.96
2	6	Peat	15	6 4.72
5	6	Clay and gravel	21	0 6.40
3	3	Red Clay	24	3 7.39
36	3	Red Loamy Sand.	60	6 18.44
11	6	Dark Shale with ironstone	72	0 21.95
66	0	<i>Milnrow St</i> Broken grey sandstone	138	0 42.06
1	3	Sandy shale	139	3 42.44
2	9	Grey sandstone	142	0 43.28
1	3	Soft shale	143	3 43.66
3	9	broken grey sandstone	147	0 44.81
15	0	broken sandy shale	162	0 49.38
7	0	broken grey rock.	169	0 51.51
4	0	Sandy shale	173	0 52.73
3	0	Broken grey rock.	176	0 53.64
4	6	Soft shale	180	6 55.02
25	0	Broken blue shale	205	6 62.64
11	6	Dark shale	217	0 66.46
5	0	Soft dark shale	222	0 67.67
16	0	Strong dark shale	238	0 72.54
5	6	Sandy shale	243	6 74.22
	2	Pyrites	243	8 74.27
5	0	Blue shale	248	8 75.79
8	9	broken grey rock	257	5 78.46
19	1	broken dark shale	276	6 84.28
6	0	<i>UMM ?</i> Very soft dark shale <i>? COAL M</i>	282	6 86.11
21	0	Soft dark shale with hard bands of sandy shale.	303	6 92.51
5	0	Sandy shale.	308	6 94.03
6	0	Grey rock & sandy shale	314	6 95.86
40	0	Light grey broken sandstone	354	6 108.05
9	6	<i>Helpier</i> Soft grey sandstone (no core)	364	0 110.95
5	0	<i>Edge</i> Dark grey sandstone.	369	0 112.47
9	0	<i>Rock</i> Light grey sandstone (broken)	378	0 115.21
19	3	<i>M-m-n</i> Dark shale (broken)	397	3 121.08
1	5	Coal	398	8 121.51
6	6	Grey rock & shale.	405	2 123.50
31	7	Blue shale	436	9 133.12
1	3	Coal	438	0 133.50
4	0	Fireclay (soft)	442	0 134.72

SD91SW/11 7

2.

Ft. ins.

Strata

Ft. ins.

21	0	Grey shale (part soft)
8	0	Broken dark shale
—	9	Coal
16	0	Soft dark shale (no core)
10	0	Blue and sandy shale
1	9	Hard sandy shale

442	0	134-72
453	0	141-12
471	0	143-56
471	9	143-79
487	9	148-67
497	9	151-71
499	6	152-25

Carbonaceous here

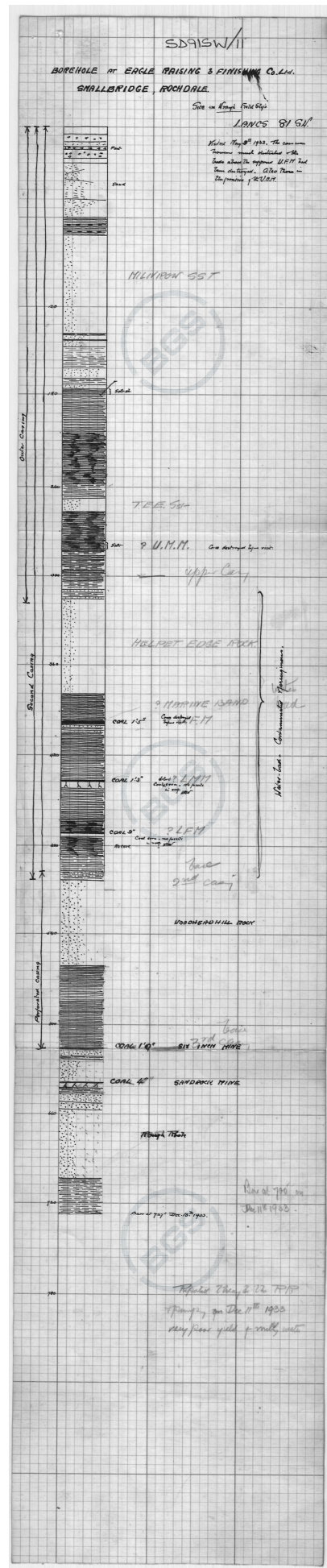
SDS on 17/9 1933

The section is from the same level
should be there - for H. Thomas
Benger

5'	Sandy shale
56' - 6"	Soft grey s/stone No core
55'	dark shale
1'	coal
5'	grit
2'-9	sandy shale
14-3	grit
4"	coal
3	fireclay
4'	sandy shale
5'-8"	Grey s/stone
5-b	Milstone Grit
47	RR
22-6	Sandy shale

27
24
21"
18"
15"
13"

504 -	6
561	
616	
617	
622	
624 -	9
639	
639	4
642	
646	
652	6
657	6
704	6
727	-



Inf: from A.R.L. "Works closed down under bottom Industry Reorganization Scheme on 24 March 1961, and all records have been destroyed." *Approved* *12/1/64* *SD 911*

RECORD OF WELL (SHAFT OR BORE)

SD9129 1487

11 Eagle Rising & Finishing Co., Ltd.

Town or Village Smallbridge - Rochdale

County Lancashire

For

Six-inch quarter sheet 81 SW/W
State whether owner, tenant, builder,
contractor, consultant, etc. :-

Address (if different from above).....

Level of ground surface

above sea-level (O.D.) 430 ft.

If well-top is not at ground level, state how far { above;
below; _____ ft.

SHAFT ft.; diameter ft.; Full details of headings (dimensions and directions)

BORE 499' 6" diameter of bore: at top ins.; at bottom _____ ins.

Full details of permanent lining tubes (position, length, diameter, plain, slotted etc.)

Water struck at depths of

Rest level of water ft. above
below well-top. Suction at _____ ft. Yield on _____ hours' test
_____ down' test

pumping at _____ galls. per _____ with depression to _____ ft. below well-top.

Recovery to test-level in _____ mins.
_____ hours Capacity of pump _____ g.p.h. Date of measurements _____

DESCRIPTION OF PERMANENT PUMPING EQUIPMENT:

Make and/or type Submersible Motive power _____

Capacity _____ gallons per hour. Suction at _____ ft.

Amount pumped _____ galls. per day. Estimated consumption _____ galls. per week.

Well made by _____ Date of well _____

Instructions from

ADDITIONAL NOTES

ANALYSIS (please attach copy if available)

Over a period of years the pumping level has gone down. The amount pumped has remained constant. The R.W.L. has not shown an equivalent depression. Sited on Lance 816W/W, visited, O.D. 430'.
On 31-10-55 R.W.L. 15' below well top. Rate 870 gph. (See Sec. 6. returns).
P.W.L. 93' " " M.H.P. 24-4-56.

LEX. OF STRATA OVERLEAF

1. THEORY AND PRACTICE
2. THEORY AND PRACTICE
3. THEORY AND PRACTICE

Date	1" or 6" Map	Site marked	(use symbol)
Received	No.	on 1" Map	on 6" Map

SD 91/1 74
76/74
Lancs 81 61/

Journal of Borehole at Eagle Raising &
Small bridge
Finishing Co., Ltd. Rochdale.

Ft.	ins.	Strata	Ft.	ins.
5	0	Made up ground	5	0
4	0	Yellow clay	9	0
4	0	Brown sandy clay	13	0
2	6	peat	15	6
5	6	Clay and gravel	21	0
3	3	Red Clay	24	3
36	3	Red Loamy Sand.	60	6
11	6	Dark Shale with ironstone	72	0
66	0	Broken grey sandstone	138	0
1	3	Sandy shale	139	3
2	9	Grey sandstone	142	0
1	3	Soft shale	143	3
3	9	Broken grey sandstone	147	0
15	0	Broken sandy shale	162	0
7	0	Broken grey rock.	169	0
4	0	Sandy shale	173	0
3	0	Broken grey rock.	176	0
4	6	Soft shale	180	6
25	0	Broken blue shale	205	6
11	6	Dark shale	217	0
5	0	Soft dark shale	222	0
16	0	Strong dark shale	238	0
5	6	Sandy shale	243	6
	2	Pyrites	243	8
5	0	Blue shale	248	8
8	9	Broken grey rock	257	5
19	1	Broken dark shale	276	6
6	0	Very soft dark shale	282	6
21	0	Soft dark shale with hard bands of sandy shale.	303	6
5	0	Sandy shale.	308	6
6	0	Grey rock & sandy shale	314	6
40	0	Light grey broken sandstone	354	6
9	6	Soft grey sandstone (no core)	364	0
5	0	Dark grey sandstone.	369	0
9	0	Light grey sandstone (broken)	378	0
19	3	Dark shale (broken)	397	3
1	5	Coal	398	8
6	6	Grey rock & shale.	405	2
31	7	Blue shale	436	9
1	3	Coal	438	0
4	0	Fireclay (soft)	442	0

Visited & sited on Lancs 81SW/W.

OD. = 430'

R.W.L. = 20' - has lowered in recent years but not so much as
the pumping water level. See Sec 6 returns.

P.W.L. = 93'

Rate of pumping 870 g.p.h..

H.P. 23.4.56.

76/74 SD91/L

2.

Ft.	ins.	Strata	Ft.	ins.
			442	0
21	0	Grey shale (part soft)	463	0
8	0	Broken dark shale	471	0
	9	Coal	471	9
16	0	Soft dark shale (no core)	487	9
10	0	Blue and sandy shale	497	9
1	9	Hard sandy shale	499	6

Carbonaceous line

SDS on 17/9/1980

*The section is somewhat
similar to those of the
Dunlop*

5'	Sandy shale			504 -	6
56' - 6"	Soft grey s/stone No core			561	
55'	dark shale	50'	27	616	
1'	coal	120'	24	617	
5'	grit	236'	21"	622	
2'-9	sandy shale	231'	18"	624 -	9
14-3	grit	126'	15"	639	
4"	coal		13"	639	4
3	fireclay			642	
4'	sandy shale			646	
5'-8"	Grey s/stone			652	0
5-6	Millstone Grit			657	6
47	RR			704	6
22-6	Sandy shale			727 -	

Appendix D – Zetica UXO Unexploded Bomb Risk Map

Location: OL16 2SH,
Map Centre: 391044,414653



LEGEND

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Appendix E – Risk Evaluation

RISK EVALUATION

The method for risk evaluation is a qualitative method of interpreting the output from the risk estimation stage of the assessment, based on CIRIA 552¹⁸. It involves the classification of the:

- Magnitude of the potential consequence (severity) of the risk occurring (Table A).
- Magnitude of the probability (likelihood) of the risk occurring (Table B).

Consequence (Severity)		
Classification	Definition	Example
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 significance of pollution) of sensitive water resource. Catastrophic damage to buildings/properties. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem (note: the definition of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000).	High Concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled waters. Explosion, causing building collapse (can also equate to short term human health risk if buildings are occupied).
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 significance of pollution). A significant change in a particular ecosystem, or organism forming part of such ecosystem.	Concentrations of a contaminant from site exceed generic, or site-specific assessment criteria. Leaching of contaminants from a site to a major or minor aquifer (Principal and Secondary). Death of a species within a designated nature reserve.
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.	Pollution of non-classified groundwater. Damage to building rendering it unsafe to occupy (e.g., foundation damage resulting in instability).
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 damage to buildings, structures, and services.	The presence of contaminants at such concentrations that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discoloration of concrete.

Table A. Classification of Consequence

Probability (Likelihood)	
Classification	Definition
High Likelihood	There is a pollutant 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 pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place and is less likely in the shorter term.
Unlikely	There is a pollutant linkage, but circumstances are such that it is improbable that an event would occur in the very long term.

Table B. Classification of Probability.

These classifications are then compared to indicate the risk presented by each pollutant linkage (Table C). It is important that this classification is only applied where there is a possibility (which can range from high likelihood to unlikely) of a pollutant linkage existing.

		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

Table C. Comparison of Consequence against Probability

Once the risk has been determined the corresponding action can be assessed (Table D).

Risk	Action Required
Very High Risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not already undertaken) and remediation are likely to be required.
High Risk	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term.
Moderate Risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Low Risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very Low Risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

Table D. Description of the Classification and Likely Action Required.

Where a very low risk is identified no specific remediation is required.

Where a low risk is identified, some form of remediation may be required depending on the pollutant linkage, the type and concentration of contaminants present and the proposed development.

Where there is a moderate/low risk identified, an assessment will be undertaken to establish what category the pollutant linkage will fall into.

Where LKC identifies a moderate or higher risk, remediation or further investigation work is recommended.

Appendix F - References

- ¹ Environment Agency, October 2020, "Land contamination risk management (LCRM). How to assess and manage the risks from land contamination".
- ² Ministry of Housing, Communities and Local Government, December 2024, "National Planning Policy Framework".
- ³ Environment Agency, October 2020, "Land contamination risk management (LCRM). How to assess and manage the risks from land contamination".
- ⁴ DEFRA & Environment Agency, March 2002, "Potential Contaminants for the Assessment of Land", R&D Publication CLR 8.
- ⁵ DEFRA & Environment Agency, March 2002, "Potential Contaminants for the Assessment of Land", R&D Publication CLR 8.
- ⁶ Department of the Environment, 1996, "Textile works and dye works", Industry Profile, ISBN 1 85112 307 5.
- ⁷ Department of the Environment, 1996, "Textile works and dye works", Industry Profile, ISBN 1 85112 307 5.
- ⁸ Department of the Environment, 1996, "Textile works and dye works", Industry Profile, ISBN 1 85112 307 5.
- ⁹ CL:AIRE, October 2021, "Good Practice for Risk Assessment for Coal Mine Gas Emissions".
- ¹⁰ Environment Agency, January 2009, "Updated technical background to the CLEA model", Science Report SC050021/SR3.
- ¹¹ CIRIA, January 2001, "Contaminated land risk assessment. A guide to good practice", C552.
- ¹² Health & Safety Executive, 1991, "Protection of Workers and the General Public during the Development of Contaminated Land", HSG66.
- ¹³ The British Standards Institution (BSI), December 2017, "Investigation of potentially contaminated sites. Code of practice - Code of practice", BS 10175:2011+A2:2017.
- ¹⁴ The British Standards Institution (BSI), May 2020, "Code of practice for ground investigations", BS 5930:2015+A1:2020.
- ¹⁵ CIRIA, December 2007, "Assessing risks posed by hazardous ground gases to buildings", C665.
- ¹⁶ CL:AIRE, November 2012, "A Pragmatic Approach to Ground Gas Risk Assessment", RB 17.
- ¹⁷ The British Standards Institution (BSI), January 2019, "Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings", BS 8485:2015+A1:2019.
- ¹⁸ CIRIA, January 2001, "Contaminated land risk assessment. A guide to good practice", C552.

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